# MICRON SEMICONDUCTOR FABRICATION

# CLAY, NY

# USACE/NYSDEC JOINT PERMIT APPLICATION

# PERMIT APPLICATION APPENDIX

# VOLUME IV – PART 1

## FINAL PUBLIC COMMENT VERSION

## APPLICATION NO: LRB-2000-02198

July 7, 2025

**Ver. 6.00**

# APPENDICES

**Volume I**

| | |
|---|---|
| APPENDIX A | USACE REQUEST FOR ADDITIONAL INFORMATION COMMENT RESPONSE MATRICES |
| APPENDIX B | RESPONSE TO NYSDEC NOTICE OF INCOMPLETE APPLICATION |
| APPENDIX C | RESPONSE TO NYSDEC FOLLOWUP TO NOTICE OF INCOMPLETE APPLICATION |
| APPENDIX D | RESPONSES TO USEPA; USFWS; AND ONONDAGA NATION COMMENTS ON THE USACE PERMIT PUBLIC NOTICE |
| APPENDIX E | SEQRA FULL EAF (“FEAF”) |
| APPENDIX F | POSITIVE DECLARATION |
| APPENDIX G | SEQRA SCOPING DOCUMENT |

**Volume II**

| | |
|---|---|
| APPENDIX H | USACE AND NYSDEC WETLANDS JURISDICTIONAL DETERMINATION LETTERS |
| APPENDIX I | UPDATED WETLANDS DELINEATION REPORT |
| APPENDIX J | WETLANDS FUNCTIONAL ASSESSMENT REPORT |

**Volume III**

| | |
|---|---|
| APPENDIX K | YOUNGS CREEK QUALITATIVE EVALUATION RESULTS |
| APPENDIX L | YOUNGS CREEK QUANTITATIVE ASSESSMENT RESULTS |
| APPENDIX M | CLEAN WATER ACT SECTION 404(B)(1) ANALYSIS |

**Volume IV**

| | |
|---|---|
| APPENDIX N | WETLANDS & STREAM MITIGATION PLAN AND WETLAND MITIGATION & NYSROA STREAM MITIGATION ANALYSIS; & RESPONSE TO COMMENT MATRICES (MICRON SECTION ONLY) |

**Volume V**

| | |
|---|---|
| APPENDIX O | WETLAND ASSESSMENT AND MONITORING PLAN |
| APPENDIX P | REMOVED BIOLOGICAL ASSESSMENT |
| APPENDIX Q | STATE INCIDENTAL TAKE PERMIT |

| | |
|---|---|
| APPENDIX R | SHPO CONSULTATION INFORMATION |
| APPENDIX S | UPDATED GENERAL RESPONSES TO PUBLIC COMMENTS ON THE USACE PERMIT PUBLIC NOTICE |
| APPENDIX T | WETLANDS MITIGATION SITE PERMIT INFORMATION |
| APPENDIX U | SOILS MATERIAL MANAGEMENT PLAN |
| APPENDIX V | INVASIVE SPECIES MANAGEMENT PLAN |
| APPENDIX W | TREE CLEARING PLAN |
| APPENDIX X | NYSDEC ISSUANCE WEIGHING STANDARDS REPORT |

# MICRON JPA Appendix Volume IV

| | |
|---|---|
| APPENDIX N | WETLANDS AND STREAM MITIGATION PLAN & NYSROA STREAM MITIGATION ANALYSIS; AND MICRON WETLAND MITIGATION RESPONSE TO AGENCY COMMENTS |

# *Appendix N*

# *Compensatory Wetland/Stream Mitigation Plan & NYSROA Stream Mitigation Analysis; And Micron Wetland Mitigation Response to Agency Comments*

| MITIGATION PLAN | | | | |
|---|---|---|---|---|
| Rpw | Date & Agency | Comment Number | Agency Comment | Micron Response |
| 4 | 11.13.24_USEPA | 1 | Section 1.2 mentions that the types of mitigation to be provided are establishment and re-establishment. From ongoing discussions, EPA understands that enhancement is beingproposed as well. Please clarify if enhancement will be a component of this plan and identifythe project sites where enhancement (as defined in the 2008 Federal Mitigation Rule) willoccur, proposed enhancement ratios, and construction activities. | The 384 wetland mitigation acres proposed in this section were all establishment acres. Rehabilitation and enhancement acres were not included in this number, however all mitigation types (establishment, enhancement, rehablilation) will be included in the Addendum 1 submission. |
| 5 | 11.13.24_USEPA | 2 | Section 1.2 states, "Micron proposes to restore approximately 17,850 linear ft of stream tooffset impacts to 6,716 linear ft of streams impacted by the Micron Project." Since detailed work plans are not yet proposed, it is unclear if proposed work meets the definition of"restoration" defined in the 2008 Federal Mitigation Rule. Additional information is needed todetermine if EPA concurs with use of "restore" in this instance. | Detailed work plans will be provided in the TWT Stream/Wetland Mitigation Plan. |
| 6 | 11.13.24_USEPA | 3 | Table 2-1 does not have a description. Please clarify what the difference is between the last two columns, both of which are labeled "Acres USACE JD". | The last two columns of Table 2-1 have been corrected in the CWSMP submitted in January 2025. |
| 7 | 11.13.24_USEPA | 4 | Section 2.1.3 – As stated in a previous meeting, the use of the New England HighwayMethodology to determine wetland functions and services is not an appropriate methodologyby itself. EPA has requested additional information on the wetlands to be impacted and looksforward to reviewing this information upon submission. | **Please see Response 26 of the 11.8.24_USACE Comment (row 97) in the USACE tab:** *Use of The Highway Methodology is consistent with the following excerpt from the Final Mitigation Rule:*<br>*(f) Amount of compensatory mitigation. (1) If the district engineer determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. If a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used.*<br><br>*As stated in the Highway Methodology Supplement, this assessment tool "can be used for any project where the characterization of wetland resources is necessary for Section 404 permit requirements." Consistent with this statement, this methodology has been used and approved under the Clean Water Act by the USACE and NYSDEC for a wide range of projects since its publication that involve significant impact to, and mitigation of, aquatic resources for the purpose of commercial and industrial development.* |
| 8 | 11.13.24_USEPA | 5 | Section 2.1.5 discusses the watershed approach but does not identify any existing watershedmanagement plans. There are existing plans in place for the Great Lakes watersheds asreferenced in EPA's comments on the public notice and joint permit application. Please identifycomponents of the Great Lakes Restoration Initiative (GLRI) Action Plan that may benefit fromthe planned mitigation projects. | **Please see Response 7a of the 11/8/24_USACE Comment (row 10) in the USACE tab:** *The Oneida Lake Nine Element (9E) Plan is in draft form and not ready for public visibility. A link can be provided to the webpage that describes the 9E plan, but no draft is yet available. As the plan is developed, Micron will continue to coordinate with the Central New York Regional Planning & Development Board to allign the Micron wetland and stream mitigation plan with the goals and vision of the Oneida Lake 9E plan. The GLRI Action plan components that would benefit from the Micron mitigation projects are discussed in section 2.1.5 Aquatic Resource Needs of the Watershed. The Addendum 1 CWSMP submission will expand this section to include more information on how the mitigation plan will accelerate progress towards GLRI long-term goals.* |
| 9 | 11.13.24_USEPA | 6 | Section 3.1 – This section on alternatives mentions 9 credits that will be purchased through the in-lieu fee (ILF) program. Please provide the name of the ILF program and the site(s) where the credits originate (if they are released credits). If a letter of credit availability or commitment is available, please provide this as well. EPA recommends including a statement on why this provider was chosen for the 9 credits. | Credits are being purchased from the Oneida Service Area at Johnson Farm Preserve. **Please see Response 28 of the 3.11.25_USACE Comment (row 33) in the USACE tab**: *At project inception, DU indicated that they did not have sufficient ILF credits for the full compensatory mitigation requirement for the project. Therefore, Micron began working with TWT to a) purchase all avialble ILF credits they had and b) to develop a permittee responsible mitigation plan. Micron negotiated to purchase all available (9) ILF credits through TWT and TWT had progressed the mitigation plan for the full range of required credits, including land purchase, by the time sufficient DU credits became available. It should also be noted that Micron is purchasing ILF credits from DU to satisfy the mitigation requirements associated with the National Grid Substation associated with the project.*<br><br>*Further, in preliminary permitting and mitigaiton discussions between 2023 and 2024, USACE and USEPA indicated that they would not support exhaustion of the credit supply at DU's Black Creek ILF site or the additional ILF sites within the watershed.* |

| | | | | |
|---|---|---|---|---|
| | | | | **Please see Response 31 of the 03.11.25_USACE Comment (row 36) of the USACE tab:** *The wetland and WOTUS regulatory programs (i.e., Sections 404 and 401 of the Clean Water Act, Articles 15 and 24 of the ECL) that are administered by the USACE, USEPA, and NYSDEC are designed to regulate any proposed impacts to the resources. Therefore, any proposed impacts to remaining on-site wetlands and WOTUS will require agency review and authorization prior to implementation, thereby ensuring that the functions and values of these resources is maintained within the watershed without perpetual protection.*<br><br>*There currently is not a plan to permanently protect on-site remaining wetlands, nor is Micron seeking credit for preserving those wetlands. However, Micron has committed to the agencies to monitor and adaptively manage remaining on-site wetlands to maintain their existing functions and services through implemetation of the proposed Wetland Assessment and Monitoring Plan to be provided as part of the JPA Addendum 1.* |
| 10 | 11.13.24_USEPA | 7 | Section 4 – Site protection instruments are proposed to protect mitigation sites in perpetuity.EPA recommends the applicant explore preservation of wetlands proposed to remain undisturbed on the Micron Main Campus site, the Rail Spur Site, and the Family-Child CareCenter Site. | |
| 11 | 11.13.24_USEPA | 8 | Section 6.1 mentions PEM, PSS, PFO, and POW creation; however, table 6-1 only mentions re-establishment, which is a form of restoration, not creation. The terms creation, establishment,re-establishment, and rehabilitation are not used consistently in this section. Please clarify thetype of mitigation that will be provided at each site, consistent with definitions in the 2008 Federal Mitigation Rule. A table clearly displaying this information would be helpful. | Comment acknowledged. The requested information will be provided in the CWSMP and the TWT Stream/Wetland Mitigation Plan. |
| 12 | 11.13.24_USEPA | 9 | Section 9.1 - As an invasive species performance standard, relative cover of reed canary grass isproposed not to exceed 10%. EPA recommends a goal of less than 5% for all non-Typhaspecies. | There currently is not a plan to permanently protect on-site remaining wetlands, nor is Micron seeking credit for preserving those wetlands. However, Micron has committed to the agencies to monitor and adaptively manage remaining on-site wetlands to maintain their existing functions and services through implemetation of the proposed Wetland Assessment and Monitoring Plan to be provided as part of the JPA Addendum 1. |
| 13 | 11.13.24_USEPA | 10 | The final wetland performance standards to be achieved by year 10 are not as stringent asapproved ILF sites across the district. EPA recommends increasing the percent cover of native,perennial hydrophytes to 90%. | Comment acknowledged. Performance standard for native perennial hydrophytes changed to 90% in the TWT Offsite Compensatory Mitigaiton Plans. |
| 14 | 11.13.24_USEPA | 11 | The applicant should consider monitoring with groundwater wells to ensure establishment of wetland hydrology in wetland mitigation areas and indicator of reduction in soils (IRIS) tubes toensure hydric soil conditions. All instruments should be installed according to Corps documentation. | Groundwater monitoring wells will be installed and locations included on site maps. |
| 15 | 11.13.24_USEPA | 12 | EPA recommends including more specific performance standards for streams. A good referencefor strong performance standards, both interim and final, can be found in the Ohio ILF StreamMitigation guidebook. | Comment acknowledged. The requested information will be provided in the TWT Stream/Wetland Mitigation Plan. |
| 16 | 11.13.24_USEPA | 13 | The monitoring plan in the CWSMP should relate to the performance standards and includesuccess criteria to determine if the site is on a successful ecological trajectory. For example,please describe what indicators will be monitored for channel alignment stability, channel bankstability, channel bed stability, riparian vegetation establishment, and macroinvertebratecolonization and the range of values for each to determine success or failure. To betterunderstand what will be monitored and when it will be monitored, EPA recommends adding atable to illustrate this information. Additionally, a map displaying monitoring locations andwhat will be monitored at those locations should be included. | **Please see Response 38 of the 11.8.24_USACE Comment (row 109) in the USACE tab:** *Micron has proposed using the Natural Resource Conservation Service (NRCS) Stream Visual Assessment Protocol Version 2 (SVAP 2; USDA NRCS 2009) as this is an accepted monitoring method for stream assessment in New York State. The proposed performance standards are consistent with the SVAP 2.* |
| 17 | 11.13.24_USEPA | 14 | EPA recommends further developing the Adaptive Management Plan in the CWSMP to address measures to be taken if the mitigation sites fail to meet the performance standards. Actions should be specified for common problems of mitigation sites such as, but not limited to, inadequate or excess hydrology, invasive species colonization, erosion, and herbivory. Limits should be identified for each potential problem that would trigger management intervention. It should also be clearly stated how potential problems within the site will be monitored and how often inspections will take place. | The monitoring, performance standards, maintenance, and adaptive management elements described in the TWT Stream/Wetland Mitigation Plan will be completed after construction of the mitigation areas so that impacted functions and values are compensated for. |
| 18 | 11.13.24_USEPA | 15 | It is difficult to provide more specific comments when the CWSMP does not provide detailed information on baseline conditions of the stream and wetland areas to be restored and/or enhanced. More information is needed on stream restoration design, including the calculations that were used to derive sinuosity, channel dimensions, bankfull width and height, floodplain width, etc. Reference stream reaches should be identified where possible and site designs should use empirical, regional data to inform construction. | The revised TWT Offsite Compensatory Mitigation Plan has been updated to include the information requested. |
| 19 | 11.13.24_USEPA | 16 | Ratios: Overall, as previously discussed, the ratios proposed are on the low side whencompared to other projects across the District. Suggest PEM be rated a range no less than 1.25-2:1, PSS no lower than 1.5:1, and PFO range no less than 2.75-3:1. Also, as previously suggested, in referencing Table B-1, these calculated averages should be weighted. | **Please see Response 10 of the 03.11.25_USACE Comment (row 14) in the USACE tab:** *Ratios will be updated with the latest acres proposed by TWT in the Addendum 1 submission. We will also expand the acres proposed to include all mitigation acre types (establishment, enhancement, rehabilitation) as well as the 9 ILF credits already secured. This will ensure an overall replacement ratio of at least 2:1.* |
| 20 | 11.13.24_USEPA | 17 | Any existing wetlands would not be eligible for wetland re-establishment/establishment since they already meet the definition of a wetland (albeit maybe in a degraded state). Work in these areas would be considered either rehabilitation or enhancement depending on what isproposed. Crediting for this type of work is less than 1:1. | **Please see Response 51 of the 11.08.24_USACE Comment (row 122) in the USACE tab:** This has been updated in the TWT Offsite Compensatory Mitigation Plan. Work in areas with existing wetlands will be rehabilitation/enhancement, which has been proposed at 3.5:1. |

| MITIGATION PLAN | | | | |
|---|---|---|---|---|
| Row | Date & Agency | omment Numb | Agency Comment | Micron Response |
| 4 | 03.11.25_USACE | 1 | Long-term management appears to be missing from the plan. | Long-term management is included in the TWT Stream/Wetland Mitigation Plan. Section 4 of the CWSMP will include language on where to find long-term management in the TWT Stream/Wetland Mitigation Plan. |
| 5 | 03.11.25_USACE | 2 | Is the page numbering off? | The page numbering will be corrected in the Addendum 1 submission. |
| 6 | 03.11.25_USACE | 3 | Strike and instead indicate that the proposed facility does not entail a proposed discharge to a federally regulated wetland. (If you want to indicate a permit will be filed separately with the NYSDEC for buffer impacts at a later date that is ok with USACE).Also, table 5-1 still has child care impact identified. | A statement will be added to indicate the proposed Childcare facility will not discharge to federal or state regulated wetlands (including state buffer areas). Childcare impacts will also be removed from table 5-1 in Addendum 1. |
| 7 | 03.11.25_USACE | 4 | Reminder to update accordingly. | Permanant and temporary impacts will be updated in the Addendum 1 submission. |
| 8 | 03.11.25_USACE | 5 | This is backwards. | Addendum 1 will correct the jurisdictional acrage discrepencies between federal and state wetlands. |
| 9 | 03.11.25_USACE | 6 | This is being done by NG not Micron. USACE has requested more detail on the order and responsible party doing the impacts, to include details on tree clearing activities, to determine if there is a discharge of dredged / fill material associated with the clearing activities. | Additional information has been provided to USACE that breaks down National Grid (NG) and Micron permanant and temporary impacts in the duct bank area. NG will address all permanant and temporary impacts within thier scope of work within the NG permit. Micron will include all impacts within their scope of work within the Micron permit. Both the NG and Micron permits will include references to the TWT Stream/Wetland Mitigation Plan for compensation for the lost functions and services of wetlands permanantly impacted or converted within the duct bank area. The TWT Stream/Wetland Mitigation Plan will have a seperate chapter for the NG permanant impacts, similar to how this will be handled for the loss of the existing Wooding mitigation site. |
| 10 | 03.11.25_USACE | 7a | Is there more detail on this plan and how the proposed mitigation is in line with the objectives of the watershed plan? Suggest in addition to providing summary of plan, provide link or copy of the plan. | The Oneida Lake Nine Element (9E) Plan is in draft form and not ready for public visibility. As the plan is developed, Micron will continue to coordinate with the Central New York Regional Planning & Development Board to allign the Micron wetland and stream mitigation plan with the goals and vision of the Oneida Lake 9E plan. The GLRI Action plan components that would benefit from the Micron mitigation projects are discussed in section 2.1.5 Aquatic Resource Needs of the Watershed. The Addendum 1 CWSMP submission will expand this section to include more information on how the mitigation plan will accelerate progress towards GLRI long-term goals. |
| 11 | 03.11.25_USACE | 7b | Also, per EPA comment No. 5:<br>"There are existing plans in place for the Great Lakes watersheds as referenced in EPA's comments on the public notice and joint permit application. Please identify components of the Great Lakes Restoration Initiative (GLRI) Action Plan that may benefit from the planned mitigation projects."<br>This was not clear in the updated plan. | The CWSMP Section 2.1.5 has been updated to include additional language that expands on how the Micron CWSMP will accelerate GLRI long-term goals. |
| 12 | 03.11.25_USACE | 8 | This should be deleted, as rehabilitation or enhancement is to existing wetlands for example. Just delete this portion of the sentence and it should still make sense. | The JPA Addendum 1 submission will omit this section of the sentence. |
| 13 | 03.11.25_USACE | 9 | Is all of this establishment? or is there some rehabilitation and/or enhancement, etc. Make consistent with language in the USACE mitigation rule. | The 384 acres proposed in this sentance was proposed to be establishment acres. Rehabilitation and enhancement acres/credits were not included in this number, however we will include all mitigation acre types (establishment, enhancement, rehablilation) in the Addendum 1 submission. All language will also be consistant with what is outlined in the USACE mitigation rule. |
| 14 | 03.11.25_USACE | 10 | Prior USFWS comment - how was this addressed?<br>This replacement ratio is only 1.7 to 1, below the typical ratio used in NY. A ratio of 3:1 for PFO, 2:1 for PSS and 1:1 for PEM is typical (combine ratio of 2:1). | Ratios will be updated with the latest acres proposed by TWT in the Addendum 1 submission. We will also expand the acres proposed to include all mitigation acre types (establishment, enhancement, rehabilitation) as well as the 9 ILF credits already secured. This will ensure an overall replacement ratio of at least 2:1. |
| 15 | 03.11.25_USACE | 11 | Is restore the correct word here? Above it says restore, enhance and/or preserve. | Yes. Micron proposes to replace the functions and services of streams lost by restoring streams within the Oneida River Watershed. |
| 16 | 03.11.25_USACE | 12 | I don't understand what this means? | Comment noted. The referenced sentence will be removed. |
| 17 | 03.11.25_USACE | 13 | Prior USACE comment no. 14 not addressed:<br>Page 12 (pdf page 19): Section 2.1.4 should include an IPAC report of listed species for each of the mitigation sites, and an overview of potential effects to each listed species. For instance, identify if any tree removal is proposed for the construction at the mitigation sites. | The CWSMP section 2.1.4 Threatened and Endangerd Species is specific to the Micron Site. The IPAC listed species, associated with mitigation properties, will be included in Appendix D of the TWT Stream/Wetland Mitigation Plan. There is no tree removal work proposed on the mitigaiton sites. |
| 18 | 03.11.25_USACE | 14 | This is the wetland section. | The word "stream" will be removed from this sentence. |
| 19 | 03.11.25_USACE | 15 | This should clarify that this is referring to Appendix P of the JPA (Not Appendix P of this mitigation plan). | There are no appendices for the Mitigation plan (only attachments A, B, and C). Any reference to appendices will be for the JPA unless otherwise specified. |
| 20 | 03.11.25_USACE | 16 | Suggest an additional sentence that notes that this mitigation plan does not address the ESA mitigation requirements. | The following sentence will be added, "This plan addresses the compensatory mitigation proposed for impacts to functions and values provided by existing wetlands and streams; compensatory mitigation associated with other resources (e.g., endangered species habitat) is addressed under separate plans (e.g. Biological Assessment, Net Conservation Benefit Plan)." |

| | | | | |
|---|---|---|---|---|
| 21 | 03.11.25_USACE | 17 | of the JPA | See response to Comment 15: *There are no appendices for the Mitigation plan (only attachment A, B, and C) Any reference to appendices will be for the JPA unless otherwise specified.* |
| 22 | 03.11.25_USACE | 18 | Clarify that this mitigation plan does not address the mitigation requirements of the state T&E species. | The following sentence will be added to the end of this paragraph: "This mitigation plan does not address the mitigation requirements of New York State threatened and endangered species. That information can be found in the Incidental Take Permit - Net Conservation Benefit Plan." |
| 23 | 03.11.25_USACE | 19 | What is in this plan as goals for the watershed?<br>Prior USACE comment 15:<br>Section 2.1.5 should identify if there is a watershed plan and if so, what the goals, etc of the plan are. As noted in item 6 above, if there is a watershed plan, it should be referred to throughout the mitigation plan to demonstrate if the mitigation plan is meeting the suggestions of the plan if appropriate. It is suggested that you look at the comments made in the USEPA letter, which references the Great Lakes Restoration Initiative (GLRI) Action Plan to guide restoration and protection of the Great Lakes ecosystems and accelerate progress towards long term goals. | **Please see Response 7a of the 03.11.25_USACE Comment (row 10) of this USACE tab :**<br>*The Oneida Lake Nine Element (9E) Plan is in draft form and not ready for public visibility. As the plan is developed, Micron will continue to coordinate with the Central New York Regional Planning & Development Board to allign the Micron wetland and stream mitigation plan with the goals and vision of the Oneida Lake 9E plan. The GLRI Action plan components that would benefit from the Micron mitigation projects are discussed in section 2.1.5 Aquatic Resource Needs of the Watershed. The Addendum 1 CWSMP submission will expand this section to include more information on how the mitigation plan will accelerate progress towards GLRI long-term goals.* |
| 24 | 03.11.25_USACE | 20 | and rehabilitated and/or enhanced? | This sentence will be simplified to just state "wetlands" to imply all wetland types (re-established/restored, rehabilitated/enhanced, and preserved) will improve the overall value of aquatic resources within the watershed. |
| 25 | 03.11.25_USACE | 21 | This is the first part of the equation (impact side) to figure out the amount of "credits" that the compensatory mitigation proposal will need to provide. | Micron acknowledges this comment. |
| 26 | 03.11.25_USACE | 22 | PJDs do not concur nor refuted flow regime. | The Addendum 1 submission will replace this sentence with the following, "As part of the jurisdictional determination process, Micron provided justification for the flow regime for the resources identified based on the information available, including utilization of the USACE Antecedent Precipitation Tool and the characteristics observed in the field. An Approved Jurisdictional Determination, Preliminary Jurisdictional Determination, and Delineation Verification for Department of the Army Processing No. LRB-2000-02198 were issued on February 12, 2024." |
| 27 | 03.11.25_USACE | 23 | I think they are saying that even if the flow regime changes the NYSROA mitigation amounts will not change. I don't think this is necessary to include here. Suggest either ellaborating or removing. | The Addendum 1 submission will omit this sentence. |
| 28 | 03.11.25_USACE | 24 | Most of these were included in the PJD which do not confirm or refute flow regime. | Please see the response to 24b below. |
| 29 | 03.11.25_USACE | 24b | The table may be used, but the following footnote must be added to each water: Consistent with the request from Micron, stream reach and extent verified via preliminary jurisdictional determination (PJD)from USACE, which merely verifies the boundaries and extent of the waters. No final determination was made by USACE regarding flow regime or jurisdictional status. Consistent with Regulatory Guidance Letter 16-01, permit applications evaluated using a PJD treat all identified waters as regulated under the Clean Water Act. (This is consistent with USACE comment in the PDEIS). | This table is repeated in section 6.2.3 and is labled there as Table 6-4. The identical table will be removed from this section in the Addendum 1 submission. This same comment (Comment 55) was made on table 6-4 so please refer to Comment 55 Response: *"Consistent with the request from Micron, stream reach and extent were verified for each stream via preliminary jurisdictional determination (PJD) from USACE, which merely verifies the boundaries and extent of the waters. No final determination was made by USACE regarding flow regime or jurisdictional status. Consistent with Regulatory Guidance Letter 16-01, permit applications evaluated using a PJD treat all identified waters as regulated under the Clean Water Act."* |
| 30 | 03.11.25_USACE | 25 | Suggest a footnote referring to the Appendix with detail on how these scores were calculated. | The suggested footnote will be added to Table 3-1 Jurisdictional On-Site Stream Resources in the Addendum 1 submission. |
| 31 | 03.11.25_USACE | 26 | This is the stream section. This was already stated above in the wetland section. | The Addendum 1 submission will replace the word "wetlands" with the word "streams" in this sentance. |
| 32 | 03.11.25_USACE | 27 | The Mitigation Rule hierarchy goes:<br>-Mitigation Bank credits<br>- In-lieu Fee credits<br>- Permittee-responsible mitigation (PRM) based on a watershed approach<br>- PRM - in-kind and/or on-site<br>- PRM - out-of-kind and/or off-site | The written order within this paragraph will be udated to reflect the Mitigation Rule Hierarchy in the Addendum 1 submission. |
| 33 | 03.11.25_USACE | 28 | Prior comment not addressed:<br>The Mitigation rule hierarchy starts with mitigation banks, then ILF, then PRM. There are no active banks in NY for Buffalo District. DU has an ILF program and has available credits in this service area. Has Micron considered purchasing more available ILF credits for the remaining USACE regulated wetland impacts that NYSDEC does not regulate? Mitigation does not have to be through one entity.<br>(I think there is confusion between bank with ILF here. Micron is saying they aren't using the bank b/c DEC won't let them because it is only enhancement and DEC wouldn't accept it. The DU site is an ILF site, not a bank.) | At project inception, DU indicated that they did not have sufficient ILF credits for the full compensatory mitigation requirement for the project. Therefore, Micron began working with TWT to a) purchase all avialble ILF credits they had and b) to develop a permittee responsible mitigation plan. Micron negotiated to purchase all available (9) ILF credits through TWT and TWT had progressed the mitigation plan for the full range of required credits, including land purchase, by the time sufficient DU credits became available. It should also be noted that Micron is purchasing ILF credits from DU to satisfy the mitigation requirements associated with the National Grid Substation associated with the project.<br><br>Further, in preliminary permitting and mitigaiton discussions between 2023 and 2024, USACE and USEPA indicated that they would not support exhaustion of the credit supply at DU's Black Creek ILF site or the additional ILF sites within the watershed. |
| 34 | 03.11.25_USACE | 29 | Need to re-order as mitigation banks should be the first consideration | The order will be updated based on Mitigation Rule Hierarchy in the Addendum 1 submission |
| 35 | 03.11.25_USACE | 30 | Banks are the highest preference followed by ILF credits. Neither of those options are available within Buffalo District's portion of NY for stream mitigation. | The language in this section will be updated to state that Banks and ILF credits are not available within the Buffalo District |

| | | | | |
|---|---|---|---|---|
| 36 | 03.11.25_USACE | 31 | Prior comment not addressed:<br>What about remaining on-site wetland protection?<br><br>Also noted in EPA comment no. 7:<br><br>Site protection instruments are proposed to protect mitigation sites in perpetuity. EPA recommends the applicant explore preservation of wetlands proposed to remain undisturbed on the Micron Main Campus site, the Rail Spur Site, and the Family-Child Care Center Site | The wetland and WOTUS regulatory programs (i.e., Sections 404 and 401 of the Clean Water Act, Articles 15 and 24 of the ECL) that are administered by the USACE, USEPA, and NYSDEC are designed to regulate any proposed impacts to the resources. Therefore, any proposed impacts to remaining on-site wetlands and WOTUS will require agency review and authorization prior to implementation, thereby ensuring that the functions and values of these resources is maintained within the watershed without perpetual protection.<br><br>There currently is not a plan to permanently protect on-site remaining wetlands, nor is Micron seeking credit for preserving those wetlands. However, Micron has committed to the agencies to monitor and adaptively manage remaining on-site wetlands to maintain their existing functions and services through implementation of the proposed Wetland Assessment and Monitoring Plan to be provided as part of the JPA Addendum 1. |
| 37 | 03.11.25_USACE | 32 | TWT should identify the holder of the protection instruments (i.e. who will be the conservation easement holder) | Information on the holder of the protection instruments will be included in the TWT Stream/Wetland Mitigation Plan. |
| 38 | 03.11.25_USACE | 33 | Deed restrictions are typically not sufficient to provide adequate site protection for mitigation sites. They tend to be more of a notification tool to help inform the landowner of the on-site waters and reduce unauthorized discharges | Conservation easements will be used. |
| 39 | 03.11.25_USACE | 34 | This needs to be removed as it is not consistent with the JPA. Micron has indicated that this impact will be avoided (spanned). | The 0.06 acre wetland impact to W52 on the Child Care site will be avoided. This impact will be removed from Table 5-1 in the Addendum 1 submission. |
| 40 | 03.11.25_USACE | 35 | Continuous surface connection (CSC) does not apply to streams. Recommend removing 'and streams' here or change 'and' to 'to'. | The words "and streams" will be removed from this sentence in Addendum 1. |
| 41 | 03.11.25_USACE | 36 | Portions were used for hay. Portions of the site were forested by this time. This is misleading. | Addendum 1 will replace the following sentence, "*Based on review of historical aerial photographs from the 1930s, 1950s, 1970, 1980s and 2000s, the Micron Site has historically been in agricultural production until as recent as the early 2020s and is now in a successional stage of development.* " with "*Based on review of historical aerial photographs from the 1930s, 1950s, 1970, 1980s and 2000s, the Micron Site has historically been in agricultural production. Some areas have even been in agricultural production until as recent as the early 2020s. Portions of the site are now in a successional stage (scrub-shrub and forested).* " |
| 42 | 03.11.25_USACE | 37 | This was the Buffalo District. Also note - the USACE did not require the on-site mitigation. This was a NYSDEC requirement. This needs to be corrected here and below. | The text "*New York District* " will be replaced with "*Buffalo District* " in Addendum 1. |
| 43 | 03.11.25_USACE | 38 | established, re-established, rehabilitated and enhanced | Rehabilitation and enhancement will be included in this sentence in the Addendum 1 submission. |
| 44 | 03.11.25_USACE | 39 | and enhanced | Enhancement will be included in this sentence in the Addendum 1 submission. |
| 45 | 03.11.25_USACE | 40 | again - keep consistent for what is proposed | Rehabilitation and enhancement will be included in this sentence in the Addendum 1 submission. |
| 46 | 03.11.25_USACE | 41 | are there any areas of rehabilitation or enhancement? | Table 5-3 will be updated in the Addendum 1 submission to include all types of mitigation. |
| 47 | 03.11.25_USACE | 42 | is the wetland acreage of preservation called out separately from upland anywhere? | Preservation acres and buffer acres were called out seperately in table 6-1 in the January CWSMP submission. Table 5-3 will be updated in the Addendum 1 submission to show establish/re-establish, rehabilitation/enhancement acres proposed. Micron is no longer seeking credit for preservation of existing, good-quality wetlands or wetland buffer acres on mitigation properties. |
| 48 | 03.11.25_USACE | 43 | rehabilitation or enhancement too? | Addendum 1 will include rehabilitation/enhancement in this paragraph. |
| 49 | 03.11.25_USACE | 44 | Combine into establishment/creation as they are the same method just different terms used by USACE and DEC | The terms establishment/creation will be combined in the Addendum 1 submission. |
| 50 | 03.11.25_USACE | 45 | update accordingly | Permanant impacts will be updated in the Addendum 1 submission. |
| 51 | 03.11.25_USACE | 46 | This should be consistent with the acreage in the following paragraph. | Comment noted. The language will be corrected. |
| 52 | 03.11.25_USACE | 47 | This should be consistent with number in preceding paragraph. | Comment noted. The language will be corrected. |
| 53 | 03.11.25_USACE | 48 | Prior USFWS comment: These ratios do not align with what has been previously used for other development projects. We typically recommend using at least a 3:1 replacement ratio for PFO, 1.5:1 ratio for PSS and 1.25:1 ratio for PEM.<br>--Please add ratios to this list | **Please see Response 10 of the 03.11.25_USACE Comment (row 14) of this USACE tab:** *Ratios will be updated with the latest acres proposed by TWT in the Addendum 1 submission. We will also expand the acres proposed to include all mitigation acre types (establishment, enhancement, rehabilitation) as well as the 9 ILF credits already secured. This will ensure an overall replacement ratio of at least 2:1,*<br><br>Tables 1-1 and 1-2 will further break down replacement ratios by cover type to meet or exceed the typical ratios used in New York. |
| 54 | 03.11.25_USACE | 48b | Also, EPA concurred with prior USACE comment:<br>Ratios: Overall, as previously discussed, the ratios proposed are on the low side when compared to other projects across the District. Suggest PEM be rated a range no less than 1.25-2:1, PSS no lower than 1.5:1, and PFO range no less than 2.75-3:1. Also, as previously suggested, in referencing Table B-1, these calculated averages should be weighted."<br>Based upon table below it does not appear that ratios were adjusted. | **Please see Response 10 of the 03.11.25_USACE Comment (row 14) of this USACE tab:** *Ratios will be updated with the latest acres proposed by TWT in the Addendum 1 submission. We will also expand the acres proposed to include all mitigation acre types (establishment, enhancement, rehabilitation) as well as the 9 ILF credits already secured. This will ensure an overall replacement ratio of at least 2:1,*<br><br>Tables 1-1 and 1-2 will further break down replacement ratios by cover type to meet or exceed the typical ratios used in New York. |
| 55 | 03.11.25_USACE | 49 | Establishment.<br><br>Also - suggest adding the 9 acres of ILF here with a total summary and ratio of what is proposed as mitigation for USACE. | The Addendum 1 submission will update the acreages in this section and will include the 9 ILF acres. |
| 56 | 03.11.25_USACE | 50 | Suggest separating wetland and upland here. | The Addendum 1 submission will update this paragraph to separate existing wetlands and existing upland habitat. |

| | | | | |
|---|---|---|---|---|
| 57 | 03.11.25_USACE | 51 | Not sure this should be identified in here, and if it is, it should clarify that this mitigation is being addressed elsewhere for the requirements of ESA | Micron apprecieates this comment, however we believe these bullets provide a holistic view of all mitigation acres that will be protected in-perpetuity accross mitigation properties, including for mitigation required for impacts to federal and state threatened and endangered species. Addendum 1 will clarify that wetland and upland habitat protected seperately through the State Incidental Take Permit - Net Conservation Benefit Plan and the Biological Assesment are not counted toward wetland and stream mitigation credits. |
| 58 | 03.11.25_USACE | 52 | Clarify if wetland preservation. | The preservation acres and credits presented in Table 6-1 are wetlands, however this table will be updated in the Addendum 1 submission as Micron is no longer seeking credit for preservation of existing, good-quality wetlands or wetland buffers on mitigation sites. |
| 59 | 03.11.25_USACE | 52b | Also need to justify preservation based on the requirements listed in the Mitigation Rule (e.g. demonstrated threat, high quality, etc.)a one-size fits all ratio may not be appropriate if some of the wetlands to be preserved are high quality and others are less. Baseline information (e.g. VIBI-FQ score) for each preservation area should be collected to help justify crediting for wetland preservation at each site | Micron is not currently seeking credit for preservation of existing wetlands on the mitigaiton sites but there are approximately 92 acres of wetland that will be protected in perpetuity via conservation easement. |
| 60 | 03.11.25_USACE | 53 | It is unclear if this buffer work is re-establishment, enhancement, or preservation (or a combination). Different types of buffer work typically warrant different amounts of credit/different ratios | Buffer acres and preservation acres are no longer being considered for credit in the CWSMP but there are approximately 92 acres of wetland and 440 acres of upland buffer that will be protected in perpetuity via conservation easement. |
| 61 | 03.11.25_USACE | 54 | This table is repeated - is provided earlier in document | The table provides valuble information for both chapters. |
| 62 | 03.11.25_USACE | 55 | This needs to have a qualifier similar to what was suggested to be written into the DEIS: The table may be used, but the following footnote must be added to each water: Consistent with the request from Micron, stream reach and extent verified via preliminary jurisdictional determination (PJD)from USACE, which merely verifies the boundaries and extent of the waters. No final determination was made by USACE regarding flow regime or jurisdictional status. Consistent with Regulatory Guidance Letter 16-01, permit applications evaluated using a PJD treat all identified waters as regulated under the Clean Water Act. | The following footnote will be added to Table in the Addendum 1 submission, " *Consistent with the request from Micron, stream reach and extent were verified for each stream via preliminary jurisdictional determination (PJD) from USACE, which merely verifies the boundaries and extent of the waters. No final determination was made by USACE regarding flow regime or jurisdictional status. Consistent with Regulatory Guidance Letter 16-01, permit applications evaluated using a PJD treat all identified waters as regulated under the Clean Water Act."* |
| 63 | 03.11.25_USACE | 56 | These are "up to" ratios and not all projects warrant the best credit ratio. Considerations include size/drainage area of streams being restored, flow regime, baseline conditions and targeted level of functional lift, etc. Additional information regarding the specifics of the proposed work for each stream mitigation project will be needed to assess credit potential. | While Micron believes that the 1.5:1 ratio is consistent with the USACE methodology, the remainder of that paragraph states that sufficent credits are provided via this mitigation plan if the minimum crediting ratio of 1:1 is used instead: "Assuming that the minimum credit ratio for this is 1:1 (i.e., the credit ratio for Activity Level 4, Channel Enhancement), the proposed 13,574 LF of proposed mitigation equates to 13,574 credits." Therefore, no matter the accounting, through the NYSROA Method, the USACE Method, or the Linear Foot methodology, the proposed mitigation meets the ratios provided by the guidance documents. |
| 64 | 03.11.25_USACE | 57 | For simplicity, just revise to say that Micron is providing the financial assurance. They are the permittee that is ultimately responsible so mentioning TWT is not necessary. | Addendum 1 will update the language in the Section 7 to state that Micron is providing financial assurances. |
| 65 | 03.11.25_USACE | 58 | Detail not provided yet. Assuming one for each plan. Need final amounts and justification for amounts. | Financial assurances will be combined for all mitigaiton sites. |
| 66 | 03.11.25_USACE | 59 | Switch to "permit" throughout this section | Addendum 1 will update "amendment" to "permit" throughout this section. |
| 67 | 03.11.25_USACE | 60 | No need to mention TWT as they are not the responsible party | The reference to TWT will be removed from these two paragraphs in Addendum 1. |
| 68 | 03.11.25_USACE | 61 | Remove | The reference to TWT will be removed from these two paragraphs in Addendum 1. |
| 69 | 03.11.25_USACE | 62 | Prior USACE comment no. 29 not addressed for any of the wetlands in this table.<br>'Suggest PEM be rated a range no less than 1.25-2:1, PSS no lower than 1.5:1, and PFO range no less than 2.75-3:1. Also, as previously suggested, in referencing Table B-1, these calculated averages should be weighted.' | Table A-1 will be updated or provide justifications for why lower ratios were proposed for some existing onsite wetlands. It should be noted that although some wetlands may have a lower proposed mitigation ratio (based on quality) some have a higher replacement ratio (again based on quality) so the overall weighted ratios will meet the suggested range provided by USACE. |
| 70 | 03.11.25_USACE | 63 | Did not read past here - TWT is updating this plan and requested we wait for the new version. | The Overview Chapter and Buxton Creek Chapter of the TWT Stream/Wetland Mitigation Plan was provided for agency review on 4/10/25. |
| 71 | 11.08.24_USACE | 1 | Cover Page (pdf page 1): Overall Comment: National Grid proposes to mitigate through In Lieu Fee. Request that National Grid substation expansion mitigation be removed from Micron's mitigation plan. | The National Grid (NG) substation expansion mitigation has been removed from the Micron Compensatory Wetlands & Streams Mitigation Plan (CWSMP). |
| 72 | 11.08.24_USACE | 2 | Cover Page (pdf page 1): The Plan contains multiple references throughout to conflicting Appendices. Also, USACE recommends that only one Plan be provided, as this Plan contained an overall mitigation plan with The Wetland Trust mitigation plan attached as an Appendix. There was a lot of overlap between the two and the document was hard to follow. For ease of future review, one document is requested. Also suggested that an appendix be created for each mitigation site, to separate what is proposed at different locations. Each site may have it's own set of work plans, performance goals, adaptive management, financial assurance, etc. | The conflicting appendices included with the CWSMP submission have been consolidated and renamed "Attachments". All references to appendices will be appendices of the full JPA package. A breakdown of Appendices of the JPA (Appendix A - Appendix S) are included in the Permit Narrative. A breakdown of Attachments to the CWSMP (Attachment A - Attachment C) are included in the CWSMP. |
| 73 | 11.08.24_USACE | 3 | Page 1 (pdf page 8): USACE anticipates that the impacts identified will be reduced, and that there will be temporary impacts associated with the proposed project. | Temproary impacts have been accounted for in the Addendum 1 submission. As site design advances, additional areas of temporary impact may be identified. All other areas are permanant impacts. |
| 74 | 11.08.24_USACE | 4 | Page 2 (pdf page 9): Fourth bullet – as noted in item 1 above, the mitigation for the National Grid substation expansion should not be included here. | **Please see Response 1 of the 11.08.24_USACE Comment (row 72) of this USACE tab:** *The National Grid (NG) substation expansion mitigation has been removed from the Micron Mitigation Plan (CWSMP).* |
| 75 | 11.08.24_USACE | 5 | Page 2 (pdf page 9): The first sentence of the last paragraph uses the term 'creation' where it appears the most appropriate word would be 'mitigation'. 'The acreage of wetlands creation and linear feet of stream mitigation proposed …'. Creation is also used later in that paragraph, where 'mitigated' may be a more appropriate term. | This wording has been updated in the final submission of the Micron CWSMP |

| | | | | |
|---|---|---|---|---|
| 76 | 11.08.24_USACE | 6 | Page 3 (pdf page 10) notes that with the exception of 9 credits of in-lieu fee (ILF) mitigation, the majority of proposed mitigation is in the form of permittee responsible compensatory mitigation (PRM). In accordance with the 2008 Mitigation Rule, 33 CFR 332.2(b)(1) notes that in general, the required compensatory mitigation should be located within the same watershed as the impact site, and should be located where it is most likely to successfully replace lost functions and services, taking into account such watershed scale features as aquatic habitat diversity, habitat connectivity, relationships to hydrologic sources (including the availability of water rights), trends in land use, ecological benefits, and compatibility with adjacent land uses. Mitigation needs to be considered in the hierarchy identified in the regulation. The first PRM option that needs to be considered if under a watershed approach (33 CFR 332.2(c)). Please update the plan to discuss the considerations under 33 CFR 332.2(c)(2), including a watershed plan if there is one. | **Please see Response 27 of the 3.12.25_USACE Comment (row 32) of this USACE tab:** *The written order within this paragraph will be udated to reflect the Mitigation Rule Hierarchy in the Addendum 1 submission.* |
| 77 | 11.08.24_USACE | 7 | Page 3 (pdf page 10): The first sentence of the second full paragraph notes that Micron proposes mitigation in the form of establishment and reestablishment. Based upon our knowledge of the mitigation sites, it is the Corps' understanding that enhancement will also be included in the mitigation plan. | The Addendum 1 submission will include all types of mitigation proposed, including establishment/re-establishemnt, and enhancement/rehabilitation. |
| 78 | 11.08.24_USACE | 8 | Page 3 (pdf page 10) It is recommended that a final chart be identified, that clearly notes what the overall number of ILF credits are proposed, and number of wetland credits proposed to be generated through ILF, with an overview of USACE impacts. It might be helpful to identify the NYSDEC impacts on a similar separate chart, as there is a lot of overlap but yet differences in regulated resources. | Addendum 1 will include an updated table that clearly displays all mitigation credits proposed, including the 9 ILF acres already acquired. This information will be included in Tables 1-1 and 1-2, and 6-1 of the CWSMP. |
| 79 | 11.08.24_USACE | 9 | Page 3 (pdf page 10) references 5 wetland mitigation properties. Reminder to update this accordingly. | This reference has been updated to 6 wetland mitigaiton properties in the final CWSMP submission. |
| 80 | 11.08.24_USACE | 10 | Page 3 (pdf page 10) notes that Micron proposes to restore approximately 17,850 linear feet of stream. There are no details in the plan to explain what is proposed for stream mitigation, or for USACE to determine if we concur that restore would be the correct term. | **Please see Response 11 of the 3.12.25_USACE Comment (Row 15) of this USACE tab.** |
| 81 | 11.08.24_USACE | 11 | Page 6 (pdf page 13): The regulatory references are incorrect. 40 CFR 232.2 is the definition section, and the reference to 40 CFR Part 332 should be 33 CFR Part 332. | This has been corrected in the CWSMP final submission. |
| 82 | 11.08.24_USACE | 12 | Page 7 (pdf page 14): The first bullet of Section 2.1.1 notes that one of the primary objectives of this Plan are to offset impacts authorized by USACE pursuant to Section 401 and 404 of the CWA. The USACE only has authority under Section 404. The NYSDEC is the agency reviewing 401 applications. | This has been corrected in the CWSMP final submission. |
| 83 | 11.08.24_USACE | 13 | Page 8 (pdf page 15): Table 2-1 contains two columns with the same heading. Assuming the fourth column should be 'USACE acres impacted'? | This has been corrected in the CWSMP final submission. |
| 84 | 11.08.24_USACE | 14 | Page 12 (pdf page 19): Section 2.1.4 should include an IPAC report of listed species for each of the mitigation sites, and an overview of potential effects to each listed species. For instance, identify if any tree removal is proposed for the construction at the mitigation sites. | **Please see Response 13 of the 3.12.25_USACE Comment (row 17) of this USACE tab:** *The CWSMP section 2.1.4 Threatened and Endangerd Species is specific to the Micron Site. The IPAC listed species, associated with mitigation properties, will be included in Appendix D of the TWT Stream/Wetland Mitigation Plan. There is no tree removal work proposed on the mitigaiton sites.*<br><br>Section 2.1.4 will be updated to spcify where in the TWT Stream/Wetland Mitigation Plan this can be found. Similarly, each mitigation site chapter in the TWT Stream/Wetland Mitigation Plan will include any tree removal proposed in section 5. |
| 85 | 11.08.24_USACE | 15 | Page 13 (pdf page 20): Section 2.1.5 should identify if there is a watershed plan and if so, what the goals, etc of the plan are. As noted in item 6 above, if there is a watershed plan, it should be referred to throughout the mitigation plan to demonstrate if the mitigation plan is meeting the suggestions of the plan if appropriate. It is suggested that you look at the comments made in the USEPA letter, which references the Great Lakes Restoration Initiative (GLRI) Action Plan to guide restoration and protection of the Great Lakes ecosystems and accelerate progress towards long term goals. | **Please see Response 7a of the 3.12.25_USACE Comment (Row 10) of this USACE tab:** *The Oneida Lake Nine Element (9E) Plan is in draft form and not ready for public visibility. A link can be provided to the webpage that describes the 9E plan, but no draft is yet available. As the plan is developed, Micron will continue to coordinate with the Central New York Regional Planning & Development Board to allign the Micron wetland and stream mitigation plan with the goals and vision of the Oneida Lake 9E plan.* Additional information will be included in section 2.1.5 of the Addendum 1 submission that demonstrates how the mitigation plan will accelerate progress towards GLRI long-term goals. |
| 86 | 11.08.24_USACE | 16 | Page 14 (pdf page 21): first sentence should include stream resource needs in addition to the listed wetland. | This has been corrected in the CWSMP final submission. |
| 87 | 11.08.24_USACE | 17 | Page 14 (pdf page 21): Section 2.1.7 second paragraph notes that mitigation is proposed within upland active agricultural fields. Based upon our review of the delineation these are not all upland. | This has been corrected in the CWSMP final submission. |
| 88 | 11.08.24_USACE | 18 | Page 15 (pdf page 22): This section talks about planting riparian buffers per the NYSROA. What about in-stream and restoration of stream sections? It sounds like the updated stream mitigation plan includes this and the plan needs to reflect this accordingly. Also, consider removing culverts from the farm fields in streams as a portion of stream mitigation credit. | The updated TWT Stream/Wetland Mitigaiton Plan will no longer include buffer credits. |
| 89 | 11.08.24_USACE | 19 | Page 16 (pdf page 23): USACE requests the data associated with the analysis done using the NYSROA tool. | NYSROA Data Sheets were included as Attachment C to the CWSMP. |

| | | | | |
|---|---|---|---|---|
| 90 | 11.08.24_USACE | 20 | Page 16 (pdf page 23): It would be helpful to include a table that shows each stream, flow regime, substrate, quality if you had them assess that, impact length, and then the proposed mitigation ratio associated with that impact (something similar to Table B-1 but for streams.) Table 2-2 has some of that info but doesn't tie it all together. | Comment acknowledged. |
| 91 | 11.08.24_USACE | 21 | Page 16 (pdf page 23): Section 2.2.1 refers to Table 2-2 and the hydrologic flow regimes based upon the Approved Jurisdictional Determination issued by USACE. Note that many of these streams were included within the Preliminary Jurisdictional Determination. While many of the streams that were included in the PJD are identified as ephemeral streams in Table 2-2, based upon the recent geotechnical studies and the observed high water table, it is expected that some of these may be intermittent features. | The February 12, 2024, Approved Jurisdictional Determination, Preliminary Jurisdictional Determination, and Delineation Verification for Department of the Army Processing No. LRB-2000-02198 provided concurrence with the flow regime for the resources identified based on the information available, including utilization of the USACE Antecedent Precipitation Tool, and the characteristics observed in the field. No modifications to the flow regimes are proposed. Further, the jurisdictional resources are being mitigated based on the analysis performed with the NYSROA which will not be changed with modification of the existing flow regime. |
| 92 | 11.08.24_USACE | 22 | Page 20 (pdf page 27): Section 2.2.6 notes that the streams proposed to be impacted have been significantly impacted by anthropogenic activities, using the term significant twice. This is a strong statement considering the streams that are involved in this review. Very few of these sections are straight and have naturalized since the heavy agricultural activities in the past. The second paragraph lists some functions provided by the streams. This is not all encompassing. | The text in this section was revised in the CWSMP final submission. Ramboll contacted the USFWS in February 2024 in an attempt to identify potential stream mitigation projects. The USFWS recommended the following (each of which is consistent with the stream mitigation that is proposed):<br><br>1. Target on straightened farm channels in the northern portion of the HUC12<br>2. Focus mitigation efforts on targeted corridors to "return them to their former glory".<br>3. Incorporate wetland mitigation into the same targeted locations.<br><br>The proposed mitigation plan accomplishes each of these objectives. |
| 93 | 11.08.24_USACE | 23 | Page 20 (pdf page 27): Section 2.2.6 third paragraph indicates that stream resources would be replaced. Suggest modify term to 'compensate'. | This has been corrected in the CWSMP final submission. |
| 94 | 11.08.24_USACE | 24 | Page 21 (pdf page 28): The Mitigation rule hierarchy starts with mitigation banks, then ILF, then PRM. There are no active banks in NY for Buffalo District. DU has an ILF program and has available credits in this service area. Has Micron considered purchasing more available ILF credits for the remaining USACE regulated wetland impacts that NYSDEC does not regulate? Mitigation does not have to be through one entity. | **Please see Response 28 of the 3.11.25_USACE Comment (row 33) of this tab:** *At project inception, DU indicated that they did not have sufficient ILF credits for the full compensatory mitigation requirement for the project. Therefore, Micron began working with TWT to a) purchase all avialble ILF credits they had and b) to develop a permittee responsible mitigation plan. Micron negotiated to purchase all available (9) ILF credits through TWT and TWT had progressed the mitigation plan for the full range of required credits, including land purchase, by the time sufficient DU credits became available. It should also be noted that Micron is purchasing ILF credits from DU to satisfy the mitigation requirements associated with the National Grid Substation associated with the project.*<br><br>*Further, in preliminary permitting and mitigaiton discussions between 2023 and 2024, USACE and USEPA indicated that they would not support exhaustion of the credit supply at DU's Black Creek ILF site or the additional ILF sites within the watershed.* |
| 95 | 11.08.24_USACE | 25 | Page 34 (pdf page 41): What about remaining on-site wetland protection? | Please see Response 31 of the 3.11.25_USACE Comment (row 36). *The wetland and WOTUS regulatory programs (i.e., Sections 404 and 401 of the Clean Water Act, Articles 15 and 24 of the ECL) that are administered by the USACE, USEPA, and NYSDEC are designed to regulate any proposed impacts to the resources. Therefore, any proposed impacts to remaining on-site wetlands and WOTUS will require agency review and authorization prior to implementation, thereby ensuring that the functions and values of these resources is maintained within the watershed without perpetual protection.*<br><br>*There currently is not a plan to permanently protect on-site remaining wetlands, nor is Micron seeking credit for preserving those wetlands. However, Micron has committed to the agencies to monitor and adaptively manage remaining on-site wetlands to maintain their existing functions and services through implemetation of the proposed Wetland Assessment and Monitoring Plan to be provided as part of the JPA Addendum 1.* |
| 96 | 11.08.24_USACE | 26 | Page 41 (pdf page 48): Reminder that the reference to the Highway Methodology needs to be updated and bolstered based upon USEPA's requests. | Use of The Highway Methodology is consistent with the following excerpt from the Final Mitigation Rule:<br>(f) Amount of compensatory mitigation. (1) If the district engineer determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. If a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used.<br><br>As stated in the Highway Methodology Supplement, this assessment tool "can be used for any project where the characterization of wetland resources is necessary for Section 404 permit requirements." Consistent with this statement, this methodology has been used and approved under the Clean Water Act by the USACE and NYSDEC for a wide range of projects since its publication that involve significant impact to, and mitigation of, aquatic resources for the purpose of commercial and industrial development. |

| | | | | |
|---|---|---|---|---|
| 97 | 11.08.24_USACE | 27 | Page 42 (pdf page 49): This section needs to clarify that the on-site mitigation was not required by USACE (since NG purchased ILF separately), and therefore this is only for NYSDEC mitigation. | This has been corrected in the CWSMP final submission. |
| 98 | 11.08.24_USACE | 28 | Page 46 (pdf page 53): More detail should be included on the clearing within forested wetland by the prior owner, and the enhancement proposed associated with it. | Enhancements to the existing conditions will be discussed in the TWT Stream/Wetland Mitigation Plan. Clearing by the former owner was done prior to property acquisition and without discussion or coordination with TWT/Micron. |
| 99 | 11.08.24_USACE | 29 | Page 47 (pdf page 54): Ratios: Overall, as previously discussed, the ratios proposed are on the low side when compared to other projects across the District. Suggest PEM be rated a range no less than 1.25-2:1, PSS no lower than 1.5:1, and PFO range no less than 2.75-3:1. Also, as previously suggested, in referencing Table B-1, these calculated averages should be weighted. | Please refer to Table 2 - Mitigation Replacement Ratios and Acreages (Weighted/F&V Derived Ratios) for updated weighted mitigation ratio proposals. Table 1 has also been included for reference and contains the previously proposed ratios. We believe that the weighted ratio calculations provide sufficient compensation for the functions and values provided by the impacted aquatic resources.<br><br>The wetland and WOTUS regulatory programs (i.e., Sections 404 and 401 of the Clean Water Act, Articles 15 and 24 of the ECL) that are administered by the USACE, USEPA, and NYSDEC are designed to regulate proposed impacts to the resources. Therefore, proposed impacts to wetlands and WOTUS will require agency review and authorization prior to implementation, thereby ensuring that the functions and values of these resources is maintained within the watershed without perpetual protection. In addition to the proposed mitigation ratios set forth in Table 2, Micron seeks mitigation crediting for other overall benefits of Micron's mitigation plan including considerable perseveration, increased buffer area, and temporal gain by implementing mitigation in advance of impacts (Phase II). Micron requests consideration of the total proposed mitigation package, consistent with the following:<br>1. USACE's Final Compensatory Mitigation Rule for Losses of Aquatic Resources (40 CFR Part 332) which includes the following elements that support preservation as a means of providing compensatory mitigation:<br>a. Compensatory mitigation means the restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.<br>b. Amount of compensatory mitigation:<br>1. If the district engineer determines that compensatory mitigation is necessary to offset |
| 100 | 11.08.24_USACE | 30 | Page 55 (pdf page 63): It is unclear how the raw composite and normalized scores as well as the raw percent ranks were developed. | Raw composite and normalized scores and raw percent ranks will be provided in an excel file as part of the JPA Addendum 1 submission. |
| 101 | 11.08.24_USACE | 31 | Page 62 (pdf page 69): It appears that using the USACE method, it was assumed that the proposed mitigation work is the highest level of restoration and would receive the maximum crediting. This is the highest end of the range and more detail is needed for USACE to concur with applying this ratio. Activity Level 1 applies to both perennial and intermittent streams. The associated activities may include, but are not limited to a full-extent channel restoration involving dimension, pattern and profile work to provide for a stable stream that is reconnected to its original floodplain by using a relic channel or constructing a new channel. Stream restoration plans should be developed in conjunction with a reference reach assessment. Stream size may influence the credit determination. Additional information and new analysis is needed for the updated proposed stream sites. | Per the guidance in the USACE method, the maximum credits that could be required for the proposed 6,283 lf of stream impacts, assuming that it was all Group 3 water (ignoring that the bulk of the on-site streams are ephemeral or intermittent resources with silt bottoms; Group 1 or 2 stream types), is 20,148 credits based on a 3:1 debiting ratio.<br>Per the guidance in the USACE method, the following credits should be required based on the proposed impacts based on the documented flow regime and substrate:<br>3,698 lf of Ephemeral Stream with silt dominated substrate x 1:1 ratio = 3,698 Credits<br>2,505 lf of Intermittent Stream with silt dominated substrate x 1.5:1 ratio = 3,758 Credits<br>Total = 7,456 CREDITS REQUIRED<br><br>The recommended crediting for the restoration or enhancement of perennial, intermittent, and ephemeral stream through Channel Restoration (i.e., Activity Level 3) as included in the proposed mitigation plan is up to 1.5:1. Applying this ratio to the proposed 14,030 lf of mitigation, this equates to 21,045 credits. Assuming that the minimum credit ratio for this is 1:1 (i.e., the credit ratio for Activity Level 4, Channel Enhancement), the proposed 14,030 lf of proposed mitigation equates to 14,030 credits. Therefore, no matter the accounting, through the NYSROA Method, the USACE Method, or the Linear Foot methodology, the proposed mitigation meets the ratios provided by the guidance documents. |
| 102 | 11.08.24_USACE | 32 | Page 76 (pdf page 83): Section 8.1 notes that agency approval will be obtained for any significant adjustments, such as earthwork. This section needs to specifically state what maintenance activities could occur without prior agency approval (invasive species control, etc.). (Note that this would also need to be addressed in the TWT portion of the mitigation plan). | TWT will continue to consult with USACE to determine what specific maintenance activities could occur without prior agency approval. |
| 103 | 11.08.24_USACE | 33 | Page 79 (pdf page 86): PEM vegetative performance standard: This is typically required to be native perennial hydrophytes. For consistency, for ILF sites, we typically do not set interim goals until the third interim release (65% is the goal) as we acknowledge that it may take time to stabilize a native perennial hydrophyte community and more annuals and/or invasives may be present earlier in the monitoring period. | Comment acknowledged, the TWT Stream/Wetland Mitigaiton Plan will be updated. TWT will use these goals to assess the progress of each site towards the final performance standards. These goals will be used to determine whether adaptive management measures need to be implemented to meet the final standards. Annual reporting will also assess the current progress of mitigation progress in relation to the final performance standards. |

| | | | | |
|---|---|---|---|---|
| 104 | 11.08.24_USACE | 34 | Page 79 (pdf page 86): As previously discussed, the proposed monitoring schedule of years 1, 3, 5, 7 and 10 are not sufficient. If proposing to skip a year of monitoring, it would have to be based upon prior year success and spelled out accordingly. Waiver of monitoring of a particular year would only occur if the site is meeting its performance standards and USACE has approved in writing. | This has been corrected in the TWT Stream/Wetland Mitigation Plan. |
| 105 | 11.08.24_USACE | 35 | Page 79 (pdf page 86): PFO – Are you proposing to include volunteer species? If so, additional discussion needed (e.g., green ash shouldn't be counted). | Volunteer species will be included. While green ash will not be planted, it has never before been excluded from volunteer counts and overall tree/shrub counts per acre. The following is the USACE SOP, which does not exclude green ash volunteers:<br><br>NEW ENGLAND DISTRICT COMPENSATORY MITIGATION STANDARD OPERATING PROCEDURES (USACE 2020)<br><br>There should be at least 500 trees and shrubs per acre, when appropriate for the site, of which at least 350 per acre are trees for proposed forested cover types, that are healthy and vigorous and are at least 18" tall in each cover type (PFO, PSS) AND at least the following number of non-invasive species including planted and volunteer species. Volunteer species should support functions consistent with the design goals. To count a species, it should be well represented on the site (e.g., at least 50 individuals of that species per acre). |
| 106 | 11.08.24_USACE | 36 | Page 80 (pdf page 87): USACE questioning if the PFO goal for Phase 2 construction is needed. Concern that it may add unnecessary burden to the applicant. | This has been corrected in the TWT Stream/Wetland Mitigation Plan. |
| 107 | 11.08.24_USACE | 37 | Page 80 (pdf page 87): ILF sponsors have proposed to increase the amount of invasives, other than Typha, and USACE/IRT has consistently held them to 5%. If they are treating invasives before and during monitoring, we have seen that the goal of less than 5% is achievable in most cases. If invasives are a major concern, selecting another site may be a more appropriate option rather than lowering the standards. | This has been corrected in the TWT Stream/Wetland Mitigation Plan. |
| 108 | 11.08.24_USACE | 38 | Page 80 (pdf page 87): The stream performance standards are very minimal and lacking. Suggest referring to the examples in the final and interim standards attached used for Ohio ILF sites. | Micron has proposed using the Natural Resource Conservation Service (NRCS) Stream Visual Assessment Protocol Version 2 (SVAP 2; USDA NRCS 2009) as this is an accepted monitoring method for stream assessment in New York State. The proposed performance standards are consistent with the SVAP 2. |
| 109 | 11.08.24_USACE | 39 | Page 80 (pdf page 87): Section 9.2 second sentence says 'For intermittent and ephemeral perennial stream reaches…'. Which flow regime are you referring to? | Comment noted. The text was corrected |
| 110 | 11.08.24_USACE | 40 | Page 80 (pdf page 87): There is a lack of details on when adaptive management would be necessary. For example, how is scour assessed? When is too much present and needs to be fixed? | For each reach where the SVAP score is less than 7 based on the results of a monitoring event, adaptive management actions, including those specified in Sections 11 and 12, will be employed such that each mitigation reach achieves an overall SVAP score of at least 7. |
| 111 | 11.08.24_USACE | 41 | Page 81 (pdf page 88): Recommend spelling out specific stream buffer/riparian vegetation goals and identifying the specific areas on the maps/designs that must meet those goals. | The TWT Stream/Wetland Mitigation Plan will include goals for the vegetated buffers and riparian areas associated with the proposed mitigation areas. |
| 112 | 11.08.24_USACE | 42 | Page 82 (pdf page 89): This section is deficient and lacks specifics on what will be done for wetlands, what will be done for streams, and when things will be done. It is recommended that they provide tables that outline the monitoring years and what measurements will be taken each year. | Table 6 has been included in the TWT Offsite Compensatory Mitigaiton Plan Overview Chapter, which outlines the proposed mitigation site work progression, and also includes montioring years. Additional details on measurements that will be taken each year are also outlined in each site specific chapter in section 7 or 10. |
| 113 | 11.08.24_USACE | 43 | Page 82 (pdf page 89): This should specify the requirements of the as-built report as there may be different items provided in annual monitoring reports. Also, the boundaries of the wetland need to be delineated on an annual basis to verify required acreages. This requirement needs to be built into the monitoring requirements. | This has been corrected in the TWT Stream/Wetland Mitigation Plan. |
| 114 | 11.08.24_USACE | 44 | Page 82 (pdf page 89): Remedial action - Again, the plan needs to iron out what can/can't be done without prior agency approval. (Note that this would also need to be addressed in the TWT portion of the mitigation plan). | TWT will continue to consult with USACE to determine what specific maintenance activities could occur without prior agency approval. |
| 115 | 11.08.24_USACE | 45 | Page 83 (pdf page 90): The reference to the SVAP is not listed as part of the performance standards. The evaluation of performance standards need to tie to the monitoring. | The SVAP will be used to evaluate conditions throughout the monitoring period. Results of these efforts will be compared to the performance standards in the CWSMP for use to identify and impelement adaptive management strategies needed to achieve the targeted SVAP numbers. |
| 116 | 11.08.24_USACE | 46 | Page 83 (pdf page 90): Requested that the plan provide anticipated monitoring location information based on the design. It is unclear how many monitoring locations are proposed. | Each site plan has been updated to include monitoring locations. |
| 117 | 11.08.24_USACE | 47 | Page 85 (pdf page 92): It is unclear if use of the SVAP is an acceptable monitoring approach. It is recommended that performance standards be developed and monitoring be tailored to assess whether the mitigation project is meeting those standards. | **See Response #39 of the 11.08.24_USACE Comment (Row 109 of this USACE tab):** *Micron has proposed using the Natural Resource Conservation Service (NRCS) Stream Visual Assessment Protocol Version 2 (SVAP 2; USDA NRCS 2009) as this is an accepted monitoring method for stream assessment in New York State. The proposed performance standards are consistent with the SVAP 2.* |
| 118 | 11.08.24_USACE | 48 | Page 89 (pdf page 96): The permittee must provide financial assurances, not the mitigation provider. (Ensure that responsible party throughout document is Micron, not TWT (except long-term management)). | This has been corrected in the TWT Stream/Wetland Mitigation Plan. |
| 119 | 11.08.24_USACE | 49 | Pdf page 127 (Appendix B): recommended that only one mitigation plan be provided. | The Micron CWSMP will pertain to on-site impacts. The TWT Stream/Wetland Mitigation Plan will address all PRM mitigation across 6 properties. The TWT plan will include an Overview Chapter and 6 site specific chapters, one for each mitigaiton property. |

| | | | | |
|---|---|---|---|---|
| 120 | 11.08.24_USACE | 50 | Pdf page 132 (page iv of TWT plan): Recommend including several types of PEM, based upon what is proposed to be impacted, as several PEM habitat types are on site. | Impacts to existing NYSFW-jurisdictional wetlands have been identified based on the covertypes provided in the New York State Ecological Communities – Second Edition (Edinger et al 2014). The proposed mitigation plans have been developed to compensate for these covertypes. |
| 121 | 11.08.24_USACE | 51 | Pdf page 137: We have found additional undelineated existing wetlands within the agricultural fields. Any existing wetlands would not be eligible for wetland re-establishment/establishment since they already meet the definition of a wetland (albeit maybe in a degraded state). Work in these areas would be considered either rehabilitation or enhancement depending on what is proposed. Crediting for this type of work is less than 1:1. | This has been corrected in the TWT Stream/Wetland Mitigation Plan. Work in areas with existing wetlands will be rehabilitation/enhancement, which has been proposed at 3.5:1. |
| 122 | 11.08.24_USACE | 52 | Pdf page 138: request that NWI layer be removed from maps. | The NWI layer has been removed from the maps. |
| 123 | 11.08.24_USACE | 53 | Pdf page 138: Streams need to be delineated as well. | Streams have been delineated and will be included in TWT Stream/Wetland Mitigation Plan figures. |
| 124 | 11.08.24_USACE | 54 | Pdf page 139: The entire site is mapped as wetland. This would either be rehabilitation or enhancement. | This site has been omitted in the CWSMP final submission. |
| 125 | 11.08.24_USACE | 55 | Pdf page 144 (Table 5-1): Much of the work will not be re-establishment and would not generate a 1:1 credit ratio. Existing wetland areas could be rehabilitated or enhanced but the ratio for this type of mitigation type is lower than 1:1. Additional mitigation sites/options may be needed. | Establishment/Re-establishment is the same as "creation" and would generate 1:1 credit ratios. Rehabilitation/enhancement has been proposed at 3.5:1. Micron is no longer seeking credit for preservation of existing, good-quality wetlands on mitiagation sites. |
| 126 | 11.08.24_USACE | 56 | Pdf page 146 (Section 6): Mitigation Work Plans for each site should be developed as each site will have site-specific needs. The same work is not being performed on all sites so specific information to each site is needed. | TWT has prepared site specific Mitigation Work Plans which will be provided in Addendum 1. |
| 127 | 11.08.24_USACE | 57 | Pdf page 148 (and for each map): It would be good to show the delineated wetlands on these maps to help show the re-establishment areas in relation to existing wetlands. There appears to be a good amount of topography on the sites which reduce the likelihood of re-establishing wetlands across the entire work area unless large berms or heavy excavation is performed. Neither of those option is preferred as more passive restoration techniques should be used as much as possible. | Updated plans have been prepared and will be submitted as part of the JPA Addendum 1. |
| 128 | 11.08.24_USACE | 58 | Pdf page 158 (Section 6.2): Recommend providing maps identifying existing tiles, ditches, etc. | All known tiles, ditches, etc. have been identified on site maps. |
| 129 | 11.08.24_USACE | 59 | Pdf page 158 (Section 6.2.1): As mentioned earlier, site specific plans should be provided as not all sites will include this type of work or all of the types listed after this subsection (i.e. ditch plugs). | TWT has prepared site-specific plans which will be provided as 6 seperate chapters in the TWT Stream/Wetland Mitigation Plan. |
| 130 | 11.08.24_USACE | 60 | Pdf page 162 (Restored wetland profile): How thick is the existing topsoil and will stripping it and sidecasting it somewhere else negatively affect the proposed wetland restoration areas? | Sidecast is not anticipated, as topsoil is planned to be incorporated back into the work area. |
| 131 | 11.08.24_USACE | 61 | Pdf page 164 (Section 6.2.5): Items like this should be depicted on the design maps. | This has been corrected in the TWT Stream/Wetland Mitigation Plan. |
| 132 | 11.08.24_USACE | 62 | Pdf page 165 (Section 6.3): Stream projects generally required 50' on each side of the stream, measured from top of bank as part of their riparian buffer. This is considered part of the stream "credit" so additional wetland credits should not be generated from this same area (i.e. double-dipping). | The goal of the proposed stream mitigation plan is to create stream and wetland complexes that maximize the functions and values provided to the watershed. Such a complex is consistent with the primary “Ecological Health Indicators” that are identified and promoted in the NYSROA; i.e., that the presence of wetlands within riparian buffers of streams is indicative of watershed health and should be encouraged:<br><br>Floodplain Complexes: “Proportion of the delineated riparian buffer that is within a Floodplain Complex (i.e., a diversity of habitat types within a floodplain, including natural upland and wetland patches), that provides an indication of vegetative and riparian connectivity independent of large tracts of forest).”<br><br>Natural Cover: "All vegetation, not just forest, can potentially protect water quality by intercepting sediment from disturbances in the watershed (Dosskey et al. 2010). This indicator describes the proportion of the landscape composed of non crop, non-impervious surface, and undeveloped land use classes, including scrub/shrub, forest, and wetlands.”<br><br>The NYSROA also identifies “The purpose of the Wetland Resiliency theme is to identify those areas along streams with greater flood capacity due to the presence of intact wetland habitat. We compared the riparian buffers to the National Wetlands Inventory (NWI) dataset and estimated the relative contribution of wetlands to the area of buffer. The least resilient basins would be those with fewer wetlands in the riparian zone. Conversely, the most resilient basins would be those with the highest proportion of wetlands in the stream corridor.”<br><br>Further, the USACE Wilmington District’s Stream Mitigation Guidelines (USACE 2003) that was prepared in conjunction with the USEPA provides the following definitions that |
| 133 | 11.08.24_USACE | 63 | Pdf page 166 (Section 6.3.1): Project specific work plans need to be provided. It is unclear what is a proposed for each stream project. More details and detailed designs needed before detailed feedback can be provided. | Additional detail has been provided in the TWT Stream/Wetland Mitigation Plan. |

| | | | | |
|---|---|---|---|---|
| 134 | 11.08.24_USACE | 64 | Pdf page 172 (Section 8.2): Without knowing the baseline conditions of each stream to be restored, performance standards and crediting cannot be developed. | The proposed stream restoration reaches were evaluated quantitatively using the NYSROA tool and each reach was field evaluated. The results of these evaluations are provided in the CWSMP that will be submitted as part of the JPA Addendum 1. |
| 135 | 11.08.24_USACE | 65 | Pdf page 173 (Section 9): Detail where data point locations are proposed need to be included in the document. Also, suggest reading through USEPA's 7-30-2024 comment letter to the Public Notice, specifically 4(v): To better understand what will be monitored and when it will be monitored, EPA recommends adding a table to illustrate this information. Additionally, a map displaying monitoring locations and what will be monitored at those locations should be included. | Each site plan has been updated to include monitoring locations. |
| 136 | 11.08.24_USACE | 66 | Pdf page 178 (Section 12): Applicant needs to secure financial assurances. | Micron as the applicant will secure financial assurances. |
| 137 | 11.08.24_USACE | 67 | Pdf page 178 (Section 12): It might be beneficial to have separate policies for each mitigation project. Some projects may be more successful than others or may progress at different rates. If they are all tied up under one policy, it may make it more difficult to handle step-downs when one project has issues. | Financial assurances will be combined for the mitigaiton sites. |
| 138 | 11.08.24_USACE | 68 | Pdf page 178 (Section 12): The proposed amount and justification of financial assurances needs to be provided. In general, this can be calculated using the amount of credits needed times the cost of bank or ILF credits in the service area for those type of credits. There are no stream ILF Programs in NY so it might be appropriate to use OH pricing to estimate the appropriate amount. Stream credits in OH range from $335 to $575 per credit. | General amounts and justificaitons have been provided in the January 2025 CWSMP Submission. |
| 139 | 11.08.24_USACE | 69 | Pdf page 179 (Table 12-1): Credit releases are not granted for PRM. | Comment aknowledged. |
| 140 | 11.08.24_USACE | 70 | Pdf page 180 (Section 12.2): Each site should have its own long-term management plan and funding as each site will have its own needs. | Each site will have its own long-term management plan. |
| 141 | 11.08.24_USACE | 71 | Pdf page 216: Additional detail for proposed stream mitigation is needed before deemed if appropriate. Note that it appears that much of the stream restoration work will be done immediately adjacent to wetland work. While this is a good thing ecologically, the applicant must ensure that double-dipping is not occurring for wetland credits within the required 100' (50' on each side) riparian stream buffer. | Please see Comment Response 62: *The goal of the proposed stream mitigation plan is to create stream and wetland complexes that maximize the functions and values provided to the watershed. Such a complex is consistent with the primary "Ecological Health Indicators" that are identified and promoted in the NYSROA; i.e., that the presence of wetlands within riparian buffers of streams is indicative of watershed health and should be encouraged:*<br><br>*Floodplain Complexes: "Proportion of the delineated riparian buffer that is within a Floodplain Complex (i.e., a diversity of habitat types within a floodplain, including natural upland and wetland patches), that provides an indication of vegetative and riparian connectivity independent of large tracts of forest)."*<br><br>*Natural Cover: "All vegetation, not just forest, can potentially protect water quality by intercepting sediment from disturbances in the watershed (Dosskey et al. 2010). This indicator describes the proportion of the landscape composed of non crop, non-impervious surface, and undeveloped land use classes, including scrub/shrub, forest, and wetlands."*<br><br>*The NYSROA also identifies "The purpose of the Wetland Resiliency theme is to identify those areas along streams with greater flood capacity due to the presence of intact wetland habitat. We compared the riparian buffers to the National Wetlands Inventory (NWI) dataset and estimated the relative contribution of wetlands to the area of buffer. The least resilient basins would be those with fewer wetlands in the riparian zone. Conversely, the most resilient basins would be those with the highest proportion of wetlands in the stream corridor."*<br><br>*Further, the USACE Wilmington District's Stream Mitigation Guidelines (USACE 2003)* |
| 142 | 11.08.24_USACE | 72 | Overall comment: It may be easier to track if the stream mitigation plan is kept within a separate document. Also, we don't have detailed plans to review at this time, but USACE has an overall concern for the design of the stream mitigation sites. We are concerned for the extent of the sinuosity developed into the Buxton Creek site. In addition, we are concerned for the amount of stream channel proposed on the Perry Site, coupled with the ability to restore wetland and create streams. The restoration of the main stream channel in the center of the site is understood, but more channels might not maximize the ability to restore wetland on the site. | Comment aknowledged. It was decided, after further discussions with agencies, to maintain a sigular mitigation package with seperate chapters for each mitigation property. The two mitigation sites that include stream restoration will have seperate sections within thier respective chapters. |
| 143 | 11.08.24_USACE | 73 | Overall comment: It is suggested that the mitigation plan tie back into how it will compensate for the functions and services of the wetlands and streams impacted, using the information gathered from the impact site, including the Youngs Creek Stream Qualitative Assessment Report. Suggest referring to USEPA 7-30-2024 letter, comment 4(viii). | This topic is addressed in the Micron CWSMP. The TWT Stream/Wetland Mitigaion Plan focuses on the mitigation sites themselves. |

| MITIGATION PLAN | | | | |
|---|---|---|---|---|
| Row | Date & Agency | Comment Number | Agency Comment | Micron Response |
| 4 | 04.02.25_NYSDEC | 8 | DEC acknowledges Micron's wetland mitigation plan is still under development. On December 13, 2024, DEC provided comments on the previous version of the wetland mitigation plan, and they are attached to this notice. Micron must include these acres in the revised mitigation plan which is forthcoming. | Micron acknowledges this comment. |
| 5 | 04.02.25_NYSDEC | 9 | Ratios – DEC determined that some of the wetland mitigation ratios proposed by Micron are smaller than anticipated based on the quality and characteristics of the wetland cover type at these locations. As such, the Micron Mitigation Planshould be updated to include the following the mitigation ratios for the wetlands identified in the table below. Following the table is further justification for the suggested revisions. The following palustrine forested wetlands (PFO) strongly correlate to areas on the White Pine site that are readily visible in a forested condition on aerial<br>imagery going back as far as 1956 and beyond. As a result, some of the trees in these stands are over 100 years old and represent the most mature natural areas on the site. They began as critical island refugia and have evolved into a larger connective corridor through the heart of what is a predominantly agricultural site.<br>As such, they warrant a higher mitigation ratio than other forested wetland areas on the project.<br>• W2 PFO (Floodplain Forest, Hemlock-Hardwood Swamp, Red Maple Hardwood Swamp)<br>• W3 PFO (Floodplain Forest)<br>• W5 PFO (Floodplain Forest)<br>• W6a PFO (Hemlock-Hardwood Swamp, Red Maple-Hardwood Swamp)<br>• W35 PFO (Floodplain Forest, Red Maple-Hardwood Swamp)<br>The following Palustrine Emergent Marsh (PEM) areas were observed to have greater species diversity and community assemblage than other agricultural wetlands in a state of reversion.<br>• W1 PEM (Shallow Emergent Marsh)<br>• W11 PEM (Deep Emergent Marsh) | The NYSDEC mitigation ratio table has been revised to reflect the agency comments. These ratios have also been applied to the USACE mitigation table accordingly with the exception of W11 PEM wetlands which occur on inactive agricultural fields. While it appears that the basis for the NYSDEC to increase the mitigation ratio for shallow and deep emergent wetlands from 1.25:1 to 1.5:1 and 2:1, respectively, for W11 is based on the presence of a state threatened sedge species (Carex frankii), the Micron site is at the northen range of this species and this species is considered to be globally secure, therefore the ratios for USACE have been left at 1.25:1 for PEM portions of W11. |
| 6 | 04.02.25_NYSDEC | 10 | DEC's freshwater wetland mapping regulation have been amended and there is a new process for determining the states' jurisdiction over wetlands within a project boundary.<br>Details can be found at https://dec.ny.gov/nature/waterbodies/wetlands/freshwater wetlands-program/freshwater-wetland-jurisdictional-determination<br>For larger projects where a consultant has delineated the project LOD, DEC recently created instructions and an SOP for consultants to complete a Parcel Jurisdictional Determination Report which will then be reviewed by the regional Bureau of Ecosystem Health. The intent and expectation are that this process will be faster than submitting a request to Albany for a DEC Parcel JD. 10.Please complete a parcel jurisdictional determination using the consultant option directions found below. Please submit this information to jean.foley@dec.ny.gov and kevin.balduzzi@dec.ny.gov<br>https://dec.ny.gov/sites/default/files/2025-02/parceljdconsultant.pdf<br>https://dec.ny.gov/sites/default/files/2025-01/sopfwwremotejd.pdf<br>The Parcel JD should be completed prior to submitting the article 24 freshwater wetland permit applications for mitigation project disturbances within the regulated boundaries to NYS freshwater wetlands on the mitigation sites. | TWT has been in contact with DEC and is following the new protocols. |
| 7 | 12.13.24_NYSDEC | 1 | The submitted mitigation plan contains two separate, but related plans in one document. The first plan was developed by Ramboll Engineering (PDF pg.1-127), while the second plan, developed by The Wetland Trust (TWT), is attached as appendix B of the Ramboll plan (PDF pg. 127-227). As much of the information contained in both plans is the same, the inclusion of two separate plans is redundant and complicates review. Please consolidate both plans into one single, well organized document. | The TWT Offsite Compensatory Mitigation Plan has been amended to not include information already provided in the CWSMP. TWT site designs, planting plans, success criteria etc. for each individual site have been provided as separate chapters to one single mitigation plan, which provides agencies a guide to inspect/assess mitigation site success. |
| 8 | 12.13.24_NYSDEC | 2 | The overall formatting and organization of the mitigation plan is inconsistent and confusing. Please ensure all appendices and figures are ordered in a consistent and logical way and sequential page numbers are included throughout the entire document. | Micron acknowledges this comment. |
| 9 | 12.13.24_NYSDEC | 3 | As each of the proposed mitigation sites are their own distinct projects with site-specific design requirements, please separate each mitigation site work proposal into individual and stand-alone appendices. | As indicated in Response 1 of the 12.13.24_NYSDEC Comment (row 7) of this NYSDEC tab, each mitigation site will have have a stand-alone chapter. |
| 10 | 12.13.24_NYSDEC | 4 | Prior to finalizing acreages for mitigation, the applicant must first satisfy avoidance and minimization of impacts resulting from the proposed White Pine development and associated supporting development. To date, DEC has not received sufficient information to evaluate avoidance or minimization. Impact calculations are also subject to change. | Please see NYSDEC Weighing Standards Report in Appendix X |
| 11 | 12.13.24_NYSDEC | 4ai | Childcare Facility (to be handled under a seperate permit): Avoidance and minimization of impacts to wetland buffers has not been discussed for this site. | Childcare avoidance and minimization of impacts to wetlands and wetland buffers will be discussed seperately from the CWSMP and in a separate Article 24 permit. |
| 12 | 12.13.24_NYSDEC | 4aii | Childcare Facility (to be handled under a seperate permit): On-site mitigation is the initial preferred option followed by mitigation within the same watershed (i.e. Youngs Creek) in accordance with DEC guidance. The property identified for the Childcare facility is the only off-site property directly within the flood plain of, and containing tributaries to, Youngs Creek. This makes it uniquely suited for mitigation of some of the impacts to the Youngs Creek drainage. Please consider the Childcare Center and other locations within the Youngs Creek watershed for potential mitigation sites. If mitigation is not possible at the Childcare Center location (or other on-site areas) justification for not considering these locations is necessary. | Micron has worked with the agencies throughout the mitigation process to evaluate compensatory mitigation alternatives, including on-site and off-site permittee-responsible mitigation. Based on this evaluation, off-site mitigation within the Oneida River watershed through TWT has been determined to be the mitigation strategy that:<br><br>1) Best compensates for the impacted functions and values within the Oneida River watershed.<br>2) Allows for the Micron campus and Childcare Center to be developed to meet the requirements of the planned Micron development. |
| 13 | 12.13.24_NYSDEC | 4b | The National Grid Wooding mitigation site will need further discussion with New York State Department of Public Services (NYSDPS), specifically regarding the removal of the existing conservation easement and the recreation of the original mitigation plan for the Wooding site. DEC will need details on how the recreation of the National Grid Wooding site will follow the agreed upon mitigation plan by National Grid and NYSDPS. Recreation of the Wooding site along with the Duct Bank mitigation must be in a specific location with its own plan and monitored separately. | **Please see Response 6 of the 03.11.25_USACE Comment (row 9) in the USACE tab:** Additional information has been provided to USACE that breaks down National Grid (NG) and Micron permanant and temporary impacts in the duct bank area. NG will address all permanant and temporary impacts within thier scope of work within the NG permit. Micron will include all impacts within their scope of work within the Micron permit. Both the NG and Micron permits will include references to the TWT Stream/Wetland Mitigation Plan for compensation for the lost functions and services of wetlands permanantly impacted or converted within the duct bank area. The TWT Stream/Wetland Mitigation Plan will have a seperate chapter for the NG permanant impacts, similar to how this will be handled for the loss of the existing Wooding mitigation site. |
| 14 | 12.13.24_NYSDEC | 5 | DEC restricts creation of jurisdictional wetland to within 100 feet of any property boundary to prevent mitigation projects from pushing the State's jurisdiction onto adjacent properties. In locations where the adjacent property is already under state jurisdiction due to the presence of regulated wetland or 100-foot adjacent area, the 100-foot property boundary offset from mitigation wetland is not required provided it results in no new jurisdictional area(s) off-site AND fully functioning natural buffers are present. Written consent from the adjacent landowner may also be considered at DEC's discretion. However, loss of functional wetland buffers for the mitigation wetland (i.e. agriculture or lawn adjacent) would weigh heavily in that determination. | Micron acknowledges this comment. |
| 15 | 12.13.24_NYSDEC | 6 | Pg. 8-10 (PDF pg.15-17), Table 2-1. Proposed Impacts to USACE Jurisdictional Wetlands: | N/a |
| 16 | 12.13.24_NYSDEC | 6a | This table does not detail DEC jurisdictional wetlands, or the column heading is mislabeled. Revise this table to show DEC jurisdictional wetlands. | A column showing Proposed Impacts to NYSDEC Jurisdictional Wetlands will be included in the Addendum 1 submission. An impact table specific to NYSDEC jurisdictional wetlands and cover types, developed for January JPA submittal, will also be updated for Addendum 1. |
| 17 | 12.13.24_NYSDEC | 6b | Please provide mapping that clearly depicts the impact areas as they correlate to this table, including labels with wetland number and cover type. | Table 2-2 identifies proposed impacts to NYSDEC jurisdictional wetlands. Wetlands and cover types are shown on figures PMTC0-0002 through PMTC0-0920. |
| 18 | 12.13.24_NYSDEC | 6c | Forested wetland conversion impacts such as for the National Grid route on both sides of the right-of-way (ROW) need to be identified, quantified, and factored into the ratios and mitigation acreage. Please coordinate further with DEC to accurately calculate forested wetland conversion impacts by identifying, quantifying, and factoring ratios and mitigation acreage. | Table 5-2 identifies the proposed impacts to jurisdictional wetlands throughout the project area, including where existing forested habitat will be permanently converted to emergent or scrub-shrub habitat. These impacts were included in the calculations and ratios that were used to develop the CWSMP. |

| | | | | |
|---|---|---|---|---|
| 19 | 12.13.24_NYSDEC | 6ci | The current limits-of-disturbance (LOD) will sever some on-site wetlands from their hydrologic connections and potentially degrade wetlands due to the resultant hydrologic and habitat fragmentation. Please evaluate the potential impacts such as changes to hydrology, changes in vegetative structure and reduced patch size to the remaining hydrologically isolated wetlands to determine if there could be additional wetland impacts not included in the current mitigation plan. Further investigation is required to determine the impacts of these wetland losses and what compensatory mitigation will be required as a result. This will require Micron to perform ongoing on-site monitoring for impacts, and if impacts are found may require on-site habitat conservation work, or additional off-site mitigation. | Micron has completed a Hydraulic and Hydrologic (H&H) analysis to evaluate surface water conditions under both existing and proposed conditions along with a groundwater monitoring plan to monitor groundwater conditions as the Micron site is developed. The H&H analysis and groundwater montoring plan is expected to provide information regarding potential changes to hydrologic conditions within these resources over time. Further, the Wetland Assessment and Monitoring Plan details how potential changes to remaining wetlands outside of the LOD will be assessed over time. Adaptive management strategies will be employed as necessary to address such changes. The Wetland Assessment and Monitoring plan will be included as Appendix O to the Addendum 1 submission. |
| 20 | 12.13.24_NYSDEC | 6d | The portion of wetland 34 (W34) to the west of wetland 68 (W68) appears to be forested wetland on aerial photographs but is reported as being entirely Palustrine Emergent Wetlands (PEM). Please review this section of wetland and update the cover type classification to reflect actually conditions on the ground as accurately as possible. | The wooded portion you refer to based on aerial imagery (below) is primarily flooded by beaver damming which has killed the majority of the trees so the area is now primarily emergent. This information was presented to the involved agencies and approved via the Jurisdictional Determinations that were issued. |
| | | | |  |
| 21 | 12.13.24_NYSDEC | 6e | Please make a note on Wetland ID W52 that the Childcare facility will be handled through a separate permit. | W52 impacts will be removed from this table as all impacts to W52 will be avoided on the Childcare Site. |
| 22 | 12.13.24_NYSDEC | 7 | Pg. 11 (PDF pg. 18) Section 2.1.3 - Impacted Functions and Services: The qualitative assessments used in the U.S. Army Corps of Engineers Highway Methodology Workbook Supplement for functional assessment are insufficient for characterization of wetland systems of this size and complexity. The Highway Methodology only provides a broad characterization of superficial wetland characteristics and does not include a quantitative assessment of the data collected. The mitigation plan must explain the specific functions and values provided by the impacted wetland complex at the White Pines site and how those functions and values will be measured and mitigated. This functions and values assessment is a critical step and a foundational component for DEC evaluation of the direct and indirect wetlands impacts as well as avoidance and minimization steps taken by the applicant to prevent lost functionality. In addition, the applicant must demonstrate how the wetland mitigation sites will meet or exceed replacement of lost functions and benefits determined by the functional assessment. | **Please see Responses 7a & 7ai of the 12.13.24_NYSDEC Comment (row 23-24 ) in this NYSDEC tab below** |
| 23 | 12.13.24_NYSDEC | 7a | The full array of lost functions and benefits should be replaced as closely as possible pursuant to the requirements of 6 NYCRR Part 663. Micron must provide an assessment of on-site wetland functionality prior to DEC approving the mitigation designs and acreages. The assessment should provide a thorough, defensible qualitative and quantitative assessment of wetland-types and impacts. The assessment described above should tie into the comparative analysis and performance criteria such as those described in comment 65 of this document. | Wetlands<br><br>Use of The Highway Methodology is consistent with the following excerpt from the Final Mitigation Rule: (f) Amount of compensatory mitigation. (1) If the district engineer determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. If a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used. As stated in the Highway Methodology Supplement, this assessment tool "can be used for any project where the characterization of wetland resources is necessary for Section 404 permit requirements." Consistent with this statement, this methodology has been used and approved under the Clean Water Act by the USACE and NYSDEC for a wide range of projects since its publication that involve significant impact to, and mitigation of, aquatic resources for the purpose of commercial and industrial development. |
| | | | Continued answer from above | Streams<br><br>As stated in Section 6.2.2 of the CWSMP, the NYSROA methodology was used to calculate the following based on the Ecological Health and Stress Indicators within the sub-watersheds as assigned by the NYSDEC:<br><br>1. The number of stream credits impacted at the Micron Site<br>2. The number of stream credits achieved through restoration of the stream channel at the proposed mitigation sites.<br><br>The crediting system associated with the NYSROA values the functions and values provided by streams within sub-watersheds throughout New York State by assigning scores for each of the Ecological Health and Stress indicators identified in Table 6.2. The process by which the crediting system works is defined in detail in Section 6.2.2 of the CWSMP. Results of the process are displayed in Tables 6-4 and 6-5. This method allows for the direct, quantitative comparison of functions and values of existing and proposed stream resources that has been requested by the USACE, USEPA, and USFWS as part of their review. |
| 24 | 12.13.24_NYSDEC | 7ai | Wetlands with unique community types, quality, or structure that must be further assessed include but are not limited to: (1) W34 wetland & stream complex, (2) W35 wetland & stream complex, (3) W2 palustrine forested wetland (PFO) & stream complex, (4) W11 PFO vernal pool, (5) W11 palustrine open water (POW)/PEM muck near Burnett Road (*Carex frankii* ), (6) W6a PFO hummock/hollow mosaic wetland | The requested information is included in Table A-2<br><br>Regarding item #5: Response: The species is qualified by the NYNHP as G5S2 which means:<br><br>G5 = Secure globally - Common in the world; widespread and abundant (but may be rare in some parts of its range).<br>S2 = Imperiled in New York - Very vulnerable to disappearing from New York due to rarity or other factors; typically 6 to 20 populations or locations in New York, very few individuals, very restricted range, few remaining acres (or miles of stream), and/or steep declines.<br><br>According to the NYS Flora Atlas, this species is rare in New York as a result of range limits and not habitat specificity. Specifically, the Atlas states the following with regard to Carex frankii habitat: "Wet fields, roadsides ditches, and edges of alder thickets and ponds. A fairly weedy species although at the edge of its range and rare in New York." This condition means that the presence of Carex frankii should not lead to the assumption that W11 is an atypical habitat warranting special consideration.<br><br>The NYNHP only has six documented instances of this species across the State and, to Micron's knowledge, this species has not been documented to date within the LOD by the NYSNHP. |

| | | | | |
|---|---|---|---|---|
| 25 | 12.13.24_NYSDEC | 7aii | Please define the methodology(s) for statistical analysis and comparison including qualitative and quantitative metrics. Further, explain how this statistical analysis will be used to show the successful replacement/mitigation for lost functions and values. | **Please see Response 7a of the 12.13.24_NYSDEC Comment (row 23) in this NYSDEC tab:**<br>*Wetlands*<br><br>*Use of The Highway Methodology is consistent with the following excerpt from the Final Mitigation Rule: (f) Amount of compensatory mitigation. (1) If the district engineer determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. If a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used. As stated in the Highway Methodology Supplement, this assessment tool "can be used for any project where the characterization of wetland resources is necessary for Section 404 permit requirements." Consistent with this statement, this methodology has been used and approved under the Clean Water Act by the USACE and NYSDEC for a wide range of projects since its publication that involve significant impact to, and mitigation of, aquatic resources for the purpose of commercial and industrial development.*<br><br>*Streams*<br><br>*As stated in Section 6.2.2 of the CWSMP, the NYSROA methodology was used to calculate the following based on the Ecological Health and Stress Indicators within the sub-watersheds as assigned by the NYSDEC:*<br><br>*1.The number of stream credits impacted at the Micron Site* |
| 26 | 12.13.24_NYSDEC | 8 | Pg. 13-14 (PDF pg. 20-21), Section 2.1.5 - Aquatic Resource Needs of the Watershed: The statement indicating that 94% of the wetlands filled by Micron will be replaced on the Centered Road mitigation site is not accurate as the ratios, impacts, and required mitigation acreage must still be approved by the involved regulatory agencies. | Section 2.1.5 has been modified as requested: "The wetlands to be established/reestablished at this single site will replace the majority of the impacted wetland functions and values at the Micron site." |
| 27 | 12.13.24_NYSDEC | 9 | Pg. 34 (PDF Pg. 41), Section 4 - Site Protection Instruments:Conservation easement – All mitigation sites (including wetland and stream buffers) should be placed under a conservation easement. DEC must approve the conservation easement language. Please provide draft language to the U.S. Army Corps of Engineers (USACE) and DEC for review and discussion. | The language in Appendix B will be modified as follows: "TWT will have on file at the appropriate (Oswego or Onondaga) County Clerk's office a USACE and NYSDEC-approved Conservation Easement (CE), listing specific prohibitions (Appendix A- will be included in subsequent submittals) and accompanying Mitigation Plan. The plan outlines the specific CE area that is protected within which mitigation credits are developed. The CE is held by The Wetland Conservancy, Inc. (TWC), P.O. Box 220, Burdett, NY 14818-0220, a 501(c)(3) nonprofit corporation. The CE will name the USACEand NYSDEC as third-party entities to be notified in the case of violations. With the exception of activities approved in this Plan and the associated Nationwide Permit 27 for Aquatic Habitat Restoration, or other activities approved by the USACE or NYSDEC, no further alterations to the sites shall occur." |
| 28 | 12.13.24_NYSDEC | 10 | Pg. 35 (PDF pg. 42 – 47), Section 5 - Baseline Information, Table 5-1. Jurisdictional USACE Wetland (WOTUS) Impacts by Construction Phase: This table does not include a column(s) for DEC jurisdictional wetlands. Revise to include DEC jurisdictional wetlands and specific cover types. | Micron has designed a CWSMP that includes stream/wetland/upland complexes that include variety of habitats to compensate for the impacted functions and values. The associated streams and wetlands are expected to be hydrologically connected to NYSDEC-jurisdictional resources and/or within 50' of the adjacent resources. Further, the land within the parcels where mitigation will occur will be protected in perpetuity via conservation easements that will be reviewed by the involved agencies. For these reasons, the proposed CWSMP is consistent with 6NYCRR Part 663.<br><br>As discussed during the December 18, 2024 meeting, features like vernal pools that, by definition, cannot be hydrologically connected to either on-site or off-site aquatic resources, will be incorporated into the design where appropriate without consideration of acreage. |
| 29 | 12.13.24_NYSDEC | 10a | See comment 7 - Impacted Functions and Services. The table 5-1 should be further broken down to include vegetative community types within each cover type category as described in Ecological Communities of New York State, Second Edition, Edinger et. al, 2014 or similar. For example: PEM – Deep Emergent Marsh (hemi), PEM – Shallow Emergent Marsh (graminoid), PFO – Floodplain Forest, PFO – Silver Maple/Ash Swamp, etc. | NYS jurisdictional wetlands have been broken down to include vegetative community types as described in Ecological Communities of New York State, Second Edition, Edinger et. al. in table 5-2. |
| 30 | 12.13.24_NYSDEC | 10b | Please include discussion of how heterogeneity and homogeneity across vegetative communities will be balanced while providing adequately sized habitat patches. The mitigation plans should prioritize the creation of consolidated wetland types of similar size (or larger) for impacted wetland communities over 10-acres in size. In contrast, pocket communities such as vernal pools, seeps, and mud flats are also desirable where appropriate.<br><br>Please note – patch size does not obviate the need for wetlands to also meet the regulatory size threshold of 12.4 acres (7.4 acres in 2028 or later) | Micron has designed a CWSMP that includes stream/wetland/upland complexes that include variety of habitats to compensate for the impacted functions and values. The associated streams and wetlands are expected to be hydrologically connected to NYSDEC-jurisdictional resources and/or within 50' of the adjacent resources. Further, the land within the parcels where mitigation will occur will be protected in perpetuity via conservation easements that will be reviewed by the involved agencies. For these reasons, the proposed CWSMP is consistent with 6NYCRR Part 663.<br><br>As discussed during the December 18, 2024 meeting, features like vernal pools that, by definition, cannot be hydrologically connected to either on-site or off-site aquatic resources, will be incorporated into the design where appropriate without consideration of acreage. |
| 31 | 12.13.24_NYSDEC | 11 | Pg. 41 (PDF pg. 48) Section 5.1 – Micron Site: Limited information is provided on the Highway Methodology worksheets included in the Joint Permit Application (JPA) Appendix E, Tables D1-18. Assessment information including data for multiple wetlands on one sheet does not provide enough detail for DEC to approve ratio values which are based on cover type, function replacement, and values for performance criteria. Please provide wetland assessment datasheets that contain only one wetland and cover type per sheet. Larger wetlands have varied functions and values. The Highway Methodology is not a comprehensive function and values assessment. Northeast Regional Floristic Quality Assessment (FQA) is an alternative measure that may be more appropriate. Please provide species surveys done for wetlands, particularly by cover type to provide criteria for measuring performance. | **Please see Response 7a & 7ai of the 12.13.24_NYSDEC Comment (row 23-24) in this NYSDEC tab: and Response 26 of the USACE Comment (row ) in the USACE tab.** |
| 32 | 12.13.24_NYSDEC | 12 | Pg. 42 (PDF pg. 49), Section 5.1 – Micron Site: Replacement of the National Grid Wooding mitigation site should follow the already DEC approved National Grid "Wooding Property Wetland Mitigation Plan" dated May 2019, and prepared by ESS Group Incorporated on behalf of National Grid. This plan includes the acreage for all wetland and adjacent area permanent and temporary impacts, for a total of 20.34 acres. | Replacement of the National Grid Wooding mitigation site will follow the DEC approved "Wooding Property Wetland Mitigaiton Plan". |
| 33 | 12.13.24_NYSDEC | 12a | The planting and monitoring plan detailed in the above referenced National Grid mitigation plan must be followed. | The planting and monitorign plan detailed in the "Wooding Property Wetland Mitigaiton Plan" will be followed. |
| 34 | 12.13.24_NYSDEC | 12b | The location for mitigation for the Wooding Site will be identified on site plans and have its own mitigation and monitoring plan. | TWT and Micron agree to this request. |
| 35 | 12.13.24_NYSDEC | 12c | Please confirm with NYSDPS if the Wooding Mitigation Plan will be incorporated in this mitigation plan or submitted as a stand-alone plan for NYSDPS and DEC review and approval. | The Wooding Mitigation Plan will be included as a separate section within the TWT Stream/Wetland Mitigation Plan. |
| 36 | 12.13.24_NYSDEC | 13 | Pg. 43 (PDF pg. 50), Section 5.2 - Mitigation Sites: | n/a |
| 37 | 12.13.24_NYSDEC | 13a | Please update the mitigation site names to reflect the current naming convention. | The naming convention has been updated throughout the CWSMP. |
| 38 | 12.13.24_NYSDEC | 13b | Additional parcels and locations have been reviewed by the DEC and USACE but are not included in the mitigation plan. Please include all parcels proposed and/or held in reserve. | The original list of parcels to be considered was extensive to show due diligence in searching. Many parcels were unsuitable after a closer look<br>or not available. All parcels that will be used are shown on the site maps. There are none in reserve. |
| 39 | 12.13.24_NYSDEC | 13c | Please provide the contingencies to assure wetland functions and values are preserved if any number of situations emerge, including but not limited to underperformance of mitigation sites, wetlands outside Micron project LOD becoming impacted, or failure to meet target acreage. | The monitoring, performance standards, maintenance, and adaptive management elements described in the TWT Offsite Mitigation Plan will be completed after construction of the mitigation areas so that impacted functions and values are compensated for. Additionally, Micron will provide a Wetland Monitoring and Assessment Plan as part of the Addendum 1 submission to assure wetlands outside the Micron project LOD will not be impacted as the site is developed. |
| 40 | 12.13.24_NYSDEC | 14 | Pg. 47 (PDF pg. 54), Section 6.1 - Wetlands Mitigation: See comments 27 and 28 below in reference to mitigation ratios. | n/a |
| 41 | 12.13.24_NYSDEC | 15 | Pg. 50 (PDF pg. 57), Section 6.1 - Wetlands Mitigation, Table 6-1 Anticipated Credits Generated at the Mitigation Sites by Wetland Type: | n/a |
| 42 | 12.13.24_NYSDEC | 15a | Many of the proposed mitigation sites contain existing and degraded wetlands within the mitigation area. The accounting of mitigation acreage is based on Restoration/Re-establishment around the existing wetlands within the proposed mitigation sites. It is presumed that rehabilitation (enhancement by DEC definitions) of some of these existing wetlands will be addressed during construction and should be included in table 6.1. DEC also encourages the enhancement of other on-site degraded wetlands that would increase the overall quality and functions of each wetland complex (defined as the wetlands occurring within a mitigation site/location) to count, albeit at a higher ratio towards attributed mitigation acreage. Required mitigation ratios and acreage are to be determined based on site-specific conditions of both the White Pine development and the mitigation sites. | Comment acknowledged; TWT agrees. |
| 43 | 12.13.24_NYSDEC | 15b | Please provide a separate accounting of the total upland area that will be restored and protected as DEC 100-foot wetland adjacent areas for both existing wetlands and re-established wetlands. | Separate accounting of the total upland area that will be restored and protected is included each Mitigtain Site Plan. |
| 44 | 12.13.24_NYSDEC | 16 | Pg. 64 (PDF pg. 72), Section 7.3 - Construction Methods, Timing, and Sequence, Table 7-1. Construction Sequence: | n/a |
| 45 | 12.13.24_NYSDEC | 16a | Please use generic construction sequences (e.g. year 1, year 2, etc.) as timing dates in table 7-1 do not apply to all mitigation wetlands. | Generic construction sequences have been incorporated. |
| 46 | 12.13.24_NYSDEC | 16b | DEC is concerned that the invasive species control is listed for spring timing in year 1 followed by construction in the same year is contrary to timing and best management practices for multiple species identified in Appendix B. For example, Lythrum salicaria and Phragmites australis require mid to late season treatment and/or multiple years of treatment. Please adjust the construction schedule to include proactive invasive species management in years prior to construction for all other mitigation sites. | The team is aware of ideal means, methods, and timing of invasive species control and other best management practices. However, Micron has adjusted the construction schedule to provide "typical timing" in light of project delays and yet-to-be determined project scheduling, This does not change the performance standards that Micron is committed to meeting. Micron will be happy to discuss more specific means, methods, and timing of project elements with the involved agencies once the permits are received and scheduling can be set |

| | | | | |
|---|---|---|---|---|
| 47 | 12.13.24_NYSDEC | 16c | Many of the agricultural fields targeted for restoration were maintained through weed management programs (herbicide). As such, the seedbanks in these areas may be depleted and relatively free of undesired plant species. Conducting earthwork in areas with uncontrolled populations of invasive species could spread seed and vegetative propagules through the rest of the site unnecessarily. Sites containing riparian flood plain and subject to seasonal flooding will be susceptible to continuous seed and propagule transport. Please discuss in more detail the strategies that will be employed in year-one sites to minimize the risk of spread through (logistics and timing, material handling, and equipment decontamination). | TWT will provide detailed information on strategies to minimize the risk of invasive species spread in each Mitigtaion Plna's invasuve speices management plan |
| 48 | 12.13.24_NYSDEC | 17 | Pg. 66 (PDF pg. 73), Section 7.4 - Planting Plan and Vegetative Establishment: Please explain how spring broadcast seeding (handheld seeders or hydroseeding) is compatible with existing stabilization measures installed in the fall after construction is completed. Typically, erosion control practices must be removed (straw, hydromulch, cover crop, existing vegetation) to expose the ground layer or a seed drill utilized to place seed in contact with the soil. | **Please see Response 16c of the 12.13.24_NYSDEC Comment above:** *In addition, ESC measures such as straw, hydromulch, or cover crop are generally required to be left in place to minimize soil loss and seed transport during rain events. Existing vegetation will be managed appropriately (e.g., tillage) prior to seeding, and appropriate measures for plant installation (e.g., use of no-till seed drills) will be implemented as needed. This is consistent with the NYS Standards for Erosion and Sediment Control (NYSDEC 2016).* |
| 49 | 12.13.24_NYSDEC | 18 | Pg. 67 (PDF pg. 74), Section 7.5.1 - Stream Restoration/Enhancement Level I: The goal of increasing site hydrology for wetland creation and digging drainages within them seems to be in conflict. Several new stream channels are proposed within existing wetland and shallow drainageways away from the main stream channels on mitigation sites. Some of these pathways drive hydrology of the hillslope wetlands. Please explain how these stream channels will be created within wetland and wetland restoration areas without draining the wetlands or shortening their hydroperiod. | Comment noted. Further discussion is provided in the updated TWT Off-Site Compnesatory Mitigation Plan. |
| 50 | 12.13.24_NYSDEC | 19 | Pg. 68 (PDF pg. 75), Section 7.5.2 Riparian Enhancement Level II – Riparian Buffer Establishment: Many of the proposed stream restorations/enhancements are centralized within existing wetland or wetland restoration areas. Presuming a hydrologic gradient centered on the stream channel, a riparian buffer "Three Zone Concept" (tree/shrub, tree/shrub, herbaceous) as described on page 68 of the Ramboll portion of this plan and page 37 of the TWT portion, may not be desirable in all instances or even compatible with wetland goals. The strict adherence to these zones could interfere with the natural assemblage and distribution of communities within the broader wetland. Understanding that wetland buffer cover type goals may be linked to the adjacent wetland cover type (see comment 10a above), please explain how the "Three Zone Concept" will be integrated into the wetlands/wetland buffers without conflicting objectives. | The three zone riparian buffer design mitigation concept was proposed at the time of the issuance of the CWSMP because stream channel restoration had not yet been identified as a viable mitigation strategy by the team. However, as design has progressed, the integration of wetland and stream mitigation into a floodplain restoration complex was progressed so that the three zone riparian buffer design is not the sole stream mitigation concept that is proposed. The CWSMP will provide details of how the floodplain will be vegetated to maximize stream and wetland functions and values and floodplain stability while maximizing buffer width and vegetative diversity. |
| 51 | 12.13.24_NYSDEC | 20 | Pg. 70-75 (PDF pg. 77-82), Tables 7-2 through 7-8: | n/a |
| 52 | 12.13.24_NYSDEC | 20a | Proposed species for restoration planting and seed mixes shall be native to New York State and regionally appropriate unless otherwise stated and approved by DEC. Hybrids and cultivars may not be suitable for natural areas. Tree species with a history of range-wide disease or that are in decline are also likely not suitable. Please revise the planting lists described in the above referenced tables accordingly and consider the following: | The elements described were used to develop each of the seed and plant mixes prescribed in the CWSMP. Prior to construction, the contractor will be required to submit certificates from plant nursery stock or seed supplier stating botanical name, common name, origin, age, date of packaging, and name and address of supplier. The actual plant species to be planted will be selected based on commercial availability at the time of planting. |
| 53 | 12.13.24_NYSDEC | 20a1 | Plant species diversity targets for each community type should meet or exceed that of impacted areas or agency agreed upon reference communities. It is advisable to base seeding lists and planting selections on: (a) Species present in the associated impact areas or agency agreed upon reference community, (b) Species already present on the mitigation site, (c) Supplemental species not found in (a) or (b) above, but characteristic of the community as described by Edinger et. al. or NYS Natural Heritage Program, (d) And conservation species (rare or unique species of interest) | |
| 54 | 12.13.24_NYSDEC | 20a2 | Plant materials should be sourced in accordance with the following priority to the greatest extent practicable: (a) Local provenance and/or ex-situ from the impact site (Transplantation (rare species or unique species of interest),Seeds, live stakes, propagules, Soil/seed bank transplantation), (b) Genotypes of New York progeny, (c) Genotypes of Northeast progeny. | |
| 55 | 12.13.24_NYSDEC | 21 | Pg. 76-77 (PDF pg. 83-84), Section 8 – Maintenance Plan, & Pg. 88 (PDF pg. 95) Section 12 – Adaptive Management Plan: Work plans and end-of-year reports for each active mitigation site shall be submitted to DEC and USACE for approval by December 31st of each work year prior to the start of site work. Work plan submittals continue on an annual basis until the end of the monitoring period and site acceptance (Certificate of Completion). Site work includes but is not limited to pre-construction work and invasive species control. | Comment noted. The requested information will included for each site in thier respective chapters, provided as part of the TWT Offsite Compensatory Mitigation Plan. |
| 56 | 12.13.24_NYSDEC | 22 | Pg. 78-80 (PDF pg. 85-87), Section 9 - Performance Standards: | n/a |
| 57 | 12.13.24_NYSDEC | 22a | Hydrology – Please see comment 65(c) and 65(d) below. | n/a |
| 58 | 12.13.24_NYSDEC | 22b | Vegetation – The vegetation must demonstrate species diversity with quantitative measures of species richness and species evenness such as the Shannon-Weiner Index. Sample plots must be randomized or conducted in transects. Demonstrate the success of the goal of creating wildlife habitat by similar sampling of wildlife species. | The team will utilize the Vegetative Index of Biotic Entity to monitor wetland plant diversity through time. This approach was supported by USFWS Comment #39. Further, the USACE Buffalo District agreed to adapt Ohio EPA's (OEPA's) Vegetation Index of Biotic Integrity "Floristic Quality" (VIBI-FQ) tool for use in New York State. Coefficients of concern (COCs) for New York State will be obtained from the New York Flora Association website and the Northeast Regional Floristic Quality Assessment Tools for Wetland Assessments for use in the VIBIA-FQ.<br><br>While procedures such as Shannon-Weiner are used to quantify species diversity with respect to richness and evenness, VIBI may be more suited to the task because Shannon-Weiner does not differentiate individual CoC values, thereby giving equal value to invasive species. As described in the VIBI Report, and consistent with the NYSDEC comment, the VIBI is well suited to measurement and quantification of species richness and evenness: "The VIBI-FQ focuses on two elements of the plant community: diversity and dominance. This principle allows this procedure to be used for evaluating the progress of a rapidly developing ecosystem, such as a wetland restoration site or a riparian corridor planting." |
| 59 | 12.13.24_NYSDEC | 22c | Performance Standards – please see comment 65 below. | n/a |
| 60 | 12.13.24_NYSDEC | 23 | Pg. 82 (PDF pg. 89), Section 10 - Monitoring Requirements: See comment 67 below. | n/a |
| 61 | 12.13.24_NYSDEC | 24 | Pg. 87 (PDF pg. 94), Section 11 – Long-Term Management Plan & Pg. 89 (PDF pg. 96) Section 13 – Financial Assurances: | n/a |
| 62 | 12.13.24_NYSDEC | 24a | Unlike In-lieu fee and mitigation banking programs, New York State does not allow third parties to assume responsibility for permittee responsible mitigation. The permittee ultimately retains responsibility for all phases of mitigation through monitoring and final acceptance (Certificate of Completion). Long-term management may be transferred to a third party. Please revise section 11.1 "Responsible Party" to reflect Micron's responsibility for the compensatory mitigation sites, and Micron's plan to transfer long-term management of the sites to TWT. | This has been updated in the CWSMP |
| 63 | 12.13.24_NYSDEC | 24b | TWT will own the mitigation sites rather than the permittee. Transfer of ownership to a stewardship organization doesn't typically occur until the mitigation is accepted by the agencies. What financial assurance and/or other protections does Micron and/or the state have if TWT bankrupts or the relationship with Micron is dissolved? How will the mitigation be completed if the permittee loses access to the properties? | Financial assurances are provided in section 7 of the CWSMP and in section 11 or 14 of the TWT Stream/Wetland Mitigation Plan. |
| 64 | 12.13.24_NYSDEC | 25 | Please add page numbers to this appendix. | page numbers have been added. |
| 65 | 12.13.24_NYSDEC | 26 | Table B-1 contains numerous mathematical inconsistencies. | Table B-1 has been corrected. |
| 66 | 12.13.24_NYSDEC | 26a | Table B-1 does not include complete information for Phase 2 impacts. | Complete Phase 2 impacts have been included in Table B-1 |
| 67 | 12.13.24_NYSDEC | 26b | In several places within Table B-1, the State and Federal impacts are significantly greater than the Phase 1 impacts. Example: wetland W35_PEM and W35_PFO. Please clarify the remaining impacts or correct errors as necessary. | Impact errors have been corrected in Table B-1 |
| 68 | 12.13.24_NYSDEC | 26c | In some locations the impact acreage is larger than the total wetland acreage. Please correct or clarify this discrepancy. | Impact errors have been corrected. |
| 69 | 12.13.24_NYSDEC | 27 | As shown in Table B-1, the wetland cover types listed are the combined acreage for each cover type within a wetland and given a single ratio. This does not take into consideration the variation in quality of the cover types within an individual wetland, some of which are quite large and diverse. Please calculate a weighted average using the impacted acreage multiplied by the mitigation ratio for each distinctive cover type representing the variation in quality for each impacted wetland. Alternatively, the acreage of each separate cover type within each wetland needs to be calculated individually by multiplying acreage by a ratio reflecting its value and then adding the resulting totals by cover type to give the necessary mitigation acreage. | Comment noted. The requested information will be provided as part of the JPA Adendum 1. |
| 70 | 12.13.24_NYSDEC | 28 | The mitigation ratios presented in this plan are overall too low. For this project, a ratio of 1:1 is not acceptable for any wetland mitigation except for repairs within the existing footprint for existing wetlands temporarily impacted and restored during site construction. DEC requests the following mitigation ratios, which Micron should use to revise the proposed mitigation ratios: a) PFO Wetlands – 2.75 - 3:1 mitigation ratio b) Palustrine scrub shrub wetlands (PSS) – No lower than 1.5:1 mitigation ratio c) PEM – 1.25 - 2:1 (i) Please note- wetlands of higher quality, regardless of cover type, must use a higher ratio.<br>ii) Higher spatial replacement ratios may also be needed to compensate for the long time it will take for a mitigation wetland to function at the same level and provide the benefits of the wetland being replaced.) | **Please see Response 10 of the 03.11.25_USACE Comment (Row 14) of the USACE tab:** *Ratios will be updated with the latest acres proposed by TWT in the Addendum 1 submission. We will also expand the acres proposed to include all mitigation acre types (establishment, enhancement, rehabilitation) as well as the 9 ILF credits already secured. This will ensure an overall replacement ratio of at least 2:1, PFO replacement of 3:1, PSS ratio of 2:1, and PEM ratio of 1.25:1.* |
| 71 | 12.13.24_NYSDEC | 29 | The wetland values for existing wetland within the proposed mitigation sites need to be evaluated based on current on-site conditions. Previous activities on the sites have no bearing on the current value. Revise the ratio Justification column in Table B-1 to reflect existing wetland functions and values rather than historic land use. | Comment noted. The requested information will be provided as part of the TWT Offsite Compensatory Mitigation Plan. |
| 72 | 12.13.24_NYSDEC | 30 | It appears that at certain locations, wetland cover type has been over generalized. For example, Wetland 34 (W34) consists of 39.78 acres of varied PEM community types, including shallow emergent marsh, and provides more ecosystem services but has been assigned only a slightly larger ratio than wetlands with less habitat value. Please provide site-specific PEM ratios for each PEM characterized wetland location based on existing functions and benefits. | Comment noted. The requested information will be provided as part of the JPA Adendum 1. |
| 73 | 12.13.24_NYSDEC | 31 | Impacted PEM wetland acreage contains a variety of PEM sub-cover types and therefore should not be replaced by only one PEM cover type. For example, emergent marsh should not be replaced with wet meadow. Please correct. | Comment noted. The requested information will be provided as part of the JPA Adendum 1. |
| 74 | 12.13.24_NYSDEC | 32 | Forested wetlands still provide ecosystem services even if tree heights are stunted by site conditions. They are valuable and should have ratios the same or nearly the same as forested wetlands with larger trees. Overall, ratios for forested wetlands must be made higher because they will not be functioning as replacement for impacted forested wetlands for 25 to 40 years. | Comment noted. The requested information will be provided as part of the JPA Adendum 1. |
| 75 | 12.13.24_NYSDEC | 33 | Once the revised mitigation ratios are agreed upon by the regulatory agencies, please submit wetland impact tables with ratios, mitigation acreage broken into cover types for each impacted wetland, and mitigation wetland acreage necessary to offset impacts. Label both USACE and DEC impacted wetlands and the compensatory mitigation acreage required. | Comment noted. The requested information will be provided as part of the JPA Adendum 1. |
| 76 | 12.13.24_NYSDEC | 34 | The wetland labels, such as W1, encompass large wetlands that vary in quality within individual cover types. Having one mitigation ratio per wetland label does not capture the value of the higher quality areas but seems skewed to the value of the lower quality areas. Please assign ratios based on the wetland areas and cover types shown on the attribute tables in the submitted shapefile layers. Recent agriculture or other impacts should not affect the ratio, only the quality of the wetland as currently exists is taken into consideration. | Comment noted. The requested information will be provided as part of the JPA Adendum 1. |

| | | | | |
|---|---|---|---|---|
| 77 | 12.13.24_NYSDEC | 35 | Habitat fragmentation and potential changes in hydrology may cause degradation of some wetlands remaining outside of the Micron project LOD. Please develop a metric and monitoring plan for determining impacts to adjacent wetlands outside of Micron's LOD and a plan to compensate for these potential losses if necessary. This will require on-site habitat conservation work or off-site mitigation. Please see DEC's comments on the November 13th, 2024, Draft Surface Water/Groundwater Monitoring Plan Technical Comments. | **Please see Response 6ci of the 12.13.24_NYSDEC Comment above:** *Micron has completed a Hydraulic and Hydrologic (H&H) analysis to evaluate surface water conditions under both existing and proposed conditions along with a groundwater monitoring plan to monitor groundwater conditions as the Micron site is developed. The H&H analysis and groundwater montoring plan is expected to provide information regarding potential changes to hydrologic conditions within these resources over time. Further, the Wetland Assessment and Monitoring Plan details how potential changes to remaining wetlands outside of the LOD will be assessed over time. Adaptive management strategies will be empyed as necessary to address such changes. The Wetland Assessment and Monitoring plan will be included as Attachment XX to the Addendum 1 submission.* |
| 78 | 12.13.24_NYSDEC | 36 | Please be advised that DEC's comments are preliminary and based upon the limited information submitted. DEC will have additional comments on Micron's site-specific plans. The DEC will require separate individual plans for each wetland site, including a separate plan for the replacement of the National Grid Wooding mitigation, which will also be subject to NYSDPS approval. | Micron aknowledges this commment. |
| 79 | 12.13.24_NYSDEC | 36a | Information in the separate plans must include the following: baseline information (e.g. contours, existing wetlands, invasive species surveys), sensitive resources, all other biological assessments, existing infrastructure such as drain tiles and ditches, etc., soils, grading and construction plans with multiple representative cross-sections and profiles with elevations, special features such as tree snags, islands, wetland type to be created, sources of hydrology, hydroperiod, water depths, hydrology monitoring, types of PEM, PFO and PSS to be created, planting plans, planting lists, and performance metrics. | Comment noted. The requested information will be provided as part of the TWT Offsite Compensatory Mitigation Plan. |
| 80 | 12.13.24_NYSDEC | 36b | PEM should be broken down into sub-types such as wet meadow, sedge marsh and shallow emergent marsh. | The TWT Offsite Compensatory Mitigation Plan has been updated to include this information. |
| 81 | 12.13.24_NYSDEC | 36c | Plant and community type diversity should be measured for species diversity and species evenness using a metric such as the Shannon-Wiener Diversity Index for each stratum. | Please see Response 22b of the 12.13.24_NYSDEC Comment in this tab: |
| 82 | 12.13.24_NYSDEC | 36d | Detailed information on the construction of PFO wetlands, such as management of water levels to promote tree establishment and guidelines for changes in water levels to achieve forested wetlands, some with standing water. | This has been completed to the degree possible. |
| 83 | 12.13.24_NYSDEC | 36e | Construction, planting and monitoring schedule for each wetland and cover type areas within a wetland site. | A construction, planting and monitoring schedule has been copleted. |
| 84 | 12.13.24_NYSDEC | 36f | All mitigation plan figures should identify both proposed wetlands and corresponding upland buffers (i.e. 100-foot state-regulated adjacent areas). For example, a forested wetland with a forested 100-foot buffer will experience minimal edge effects within the wetland and may provide a critical patch size threshold that would not be reached by the forested wetland alone. | Mitigation plan figures include upland buffers. |
| 85 | 12.13.24_NYSDEC | 36g | Baseline information on existing ecological, hydrology and biological (vegetation) parameters at the proposed mitigation sites (prior to mitigation) to be measured in performance criteria to show functional lift at mitigation sites. | Baseline information will be described. |
| 86 | 12.13.24_NYSDEC | 37 | Pg. 2 (PDF pg. 133), Figure 2.1. Wetland Mitigation Sites and Search Areas: The wetland mitigation site names and parcel boundaries need to be updated to reflect the most current iteration for both. Also include the Childcare Center on this figure. | Comment noted. The requested information will be provided as part of the TWT Offsite Compensatory Mitigation Plan. The child care site is not a proposed mitigation site. |
| 87 | 12.13.24_NYSDEC | 38 | Pg. 3 (PDF pg.134), Section 3 - Site Protection: The conservation easement described mentions only USACE approval. DEC will also need to approve the conservation easements. The last sentence of this section should include the DEC Article 24 permit as a requirement for work on some of the mitigation wetlands and for certain management activities. Further, a plan for performance bonding needs tobe developed in conjunction with USACE and DEC. | This section has been updated to include DEC approval. A plan for performance bonding will also be developed in conjuction with USACE and DEC. |
| 88 | 12.13.24_NYSDEC | 38a | Conservation easement –All regulated areas within the mitigation sites (including wetland and stream buffers) should be placed under conservation easement. (Please provide the step in the project schedule when the conservation easements will be put into place.) | The extent of teh conservation easements are shown for each site on teh site plan maps. |
| 89 | 12.13.24_NYSDEC | 39 | Pg. 4 (PDF pg. 135), Table 4-1. A Synopsis of Wetland/Stream Mitigation Sites: This table needs to be revised to reflect changes in mitigation wetlands and wetland names. It would be helpful to include the original name and the new name to avoid confusion. | Mitigation property names have been updated throughout the TWT Offsite Mitigation Plan |
| 90 | 12.13.24_NYSDEC | 40 | Pg. 4 (PDF pg. 135), Section 4 – Baseline Information: Site baseline information is insufficient. Please elaborate (see comment 36 above). | This section has been expanded in the updated TWT Offsite Compensatory Mitigation Plan. |
| 91 | 12.13.24_NYSDEC | 41 | Pg. 6-12 (PDF pg. 137-143), Figures 4.1 – 4.7: Micron (TWT) must submit finalized maps and shapefiles to DEC and USACE when field checks are completed. | Shapefiles have been sent to DEC and USACE. |
| 92 | 12.13.24_NYSDEC | 41a | Figure 4.1 - Route 33 - This location has no DEC mapped wetlands and therefore mitigation wetlands must meet the new 6 NYCRR Part 664 size thresholds for DEC regulation. | All wetlands that are developed will meet DEC guidelines for for the year that they are certified by DEC. |
| 93 | 12.13.24_NYSDEC | 41b | Figure 4.2 - same comment as 41(a) | |
| 94 | 12.13.24_NYSDEC | 41c | Figure 4.3 - same comment as 41(a) | |
| 95 | 12.13.24_NYSDEC | 41d | Figure 4.4 - mitigation wetlands must be contiguous with DEC Wetland NH-1 or meet the size threshold as noted above in comment 41(a). | |
| 96 | 12.13.24_NYSDEC | 41e | Figure 4.5 - same comment as 41(a) | |
| 97 | 12.13.24_NYSDEC | 41f | Figure 4.6 – same comment as 41(a) | |
| 98 | 12.13.24_NYSDEC | 41g | Figure 4.7 - A linear DEC wetland (BR-6) bisects the site. Mitigation wetlands must be contiguous with BR-6 or meet the size threshold for DEC regulation as noted above. | Comment acknowledged |
| 99 | 12.13.24_NYSDEC | 42 | Pg. 13 (PDF pg. 144), Section 4.6 – Hydrology: | |
| 100 | 12.13.24_NYSDEC | 42a | For each mitigation site include specific information on sources of hydrology, such as tile and drainage ditch locations and redirection, high water tables, and any other source of hydrology. | see section 3.3 of each individual TWT Mitigation Plan |
| 101 | 12.13.24_NYSDEC | 42b | Are any of the wetlands going to rely on precipitation as the main source of hydrology? If so, include all data needed to show that wetland soil saturation will meet hydrology performance criteria. | Some areas rely on precipitation; rain gauges and water wells will monitor these sites as well and show that they meet the hydrological requirements for wetland soils. |
| 102 | 12.13.24_NYSDEC | 42c | c) Please include monitoring plans such as typesof wells and locations. Please include monitoring schedule and methods for each mitigation wetland | wells, staff guages, and rain gauges are shown on each site map. |
| 103 | 12.13.24_NYSDEC | 42d | See additional comments on hydrology below. | |
| 104 | 12.13.24_NYSDEC | 43 | Pg.13 (PDF pg. 144), Section 5 – Credit Determination: DEC does not use the terminology "credits", but rather acre is the unit used. Please include a separate table that details the anticipated DEC mitigation acreage to be generated at each mitigation site pursuant to the DEC "Guidelines for Compensatory Mitigation" dated 1993 and reprinted 1997. | DEC mitigation acres are accounted seperately from USACE credits in the TWT Overview and Individual Mitigation Plans |
| 105 | 12.13.24_NYSDEC | 44 | Pg. 13 (PDF pg. 144), Table 5-1. Anticipated credits generated, wetland type, and ratio used, by Mitigation Site: Table 5-1 should state that it is only for USACE credit determination and has no bearing on DEC mitigation acreage requirements. Please include a table showing the anticipated DEC mitigation acreage yield for each site meeting DEC requirements and using DEC terminology. | please see respnse 43 above. |
| 106 | 12.13.24_NYSDEC | 45 | Pg.13 (PDF pg. 144), Section 5 – Credit Determination: DEC restricts creation of jurisdictional wetland to within 100 feet of any property boundary to prevent mitigation projects from pushing the State's jurisdiction onto adjacent properties. In locations where the adjacent property is already under state jurisdiction due to the presence of regulated wetland or 100-foot adjacent area, the 100-foot property boundary offset from mitigation wetland is not required provided it results in no new jurisdictional area(s) off-site AND fully functioning natural buffers are present. Written consent from the adjacent landowner may also be considered at DEC's discretion. However, loss of functional wetland buffers for the mitigation wetland (i.e. agriculture or lawn adjacent) would weigh heavily in that determination. | This has been addressed in the updated TWT Stream/Wetland Mitigation Plan. |
| 107 | 12.13.24_NYSDEC | 46 | Pg. 14 (PDF pg. 145), Section 5.1 – The Credit Development Schedule section is compatible with DEC's "Freshwater Wetlands Regulation Guidelines on Compensatory Mitigation" but there is no reference to it in this section of the plan. Please include DEC reference. (Revise the mitigation site names to reflect their current labels.) | DEC reference will be included. |
| 108 | 12.13.24_NYSDEC | 47 | Pg. 14-15 (PDF pg. 145-146) Table 5-2. Credit Development Schedule: | |
| 109 | 12.13.24_NYSDEC | 47a | This table should also reflect proposed acreage of wetlands which will be eligible for DEC jurisdiction under the revised 6 NYCRR Part 664 regulations to be implemented January 1, 2025. | Wetlands shown will reflect acreages under the revised 6 NYCRR Part 664 regulations. |
| 110 | 12.13.24_NYSDEC | 47b | It is unclear if the "Years" column represents the construction period, monitoring period or both combined. Monitoring period for PFO may need to be longer than 10 years to achieve self-sustaining forested wetland. Please propose a monitoring period for PFO that will insure long-term forest establishment. | This has been addressed in the updated TWT Offsite Compensatory Mitigation Plan. For DEC, a 15 year monitoring period will be used for PFO however USACE has requested to maintain the 10 year monitoring period adopted by all other mitigation projects in the state. |
| 111 | 12.13.24_NYSDEC | 47c | Please explain the following statement further and detail how this information will be used: "Each year the sum of wetlands meeting success criteria will be compared to the wetland target (most simply, the number of credits required by the agencies divided by the total years needed to meet that number, or a more complex timeline taking into account Micron construction sequencing, wetland types being disturbed, and other factors to ensure mitigation stays ahead of construction impacts)." | This has been clarified in the updated TWT Mitigation Plans. |
| 112 | 12.13.24_NYSDEC | 48 | Pg. 15 (PDF pg. 146), Section 6.1 - Selection Criteria: | |
| 113 | 12.13.24_NYSDEC | 48a | DEC will evaluate and determine the crediting accepted mitigation acreage for proposed work in existing wetlands within the project on a case-by-case basis once construction plans for each site have been submitted and formalized. | Comment acknowledged |
| 114 | 12.13.24_NYSDEC | 48b | Please include DEC terminology along with the USACE terminology when describing wetland compensatory mitigation types (restoration, creation, and enhancement). | DEC terminology has been included in the updated TWT Stream/Wetland Mitigation Plan |
| 115 | 12.13.24_NYSDEC | 49 | Pg. 15 (PDF pg.146), Section 6.1 - Selection and Design Criteria (2): DEC agrees that land should be kept in agricultural production to limit invasive species growth. That said, the project manager must be aware of chemicals used in the previous crop season and determine if there will be any carry over effects on wetland plantings. | Comment acknowledged |
| 116 | 12.13.24_NYSDEC | 50 | Pg. 17-26 (PDF pg.148 -157), Figures 6.1a through 6.7a: | |
| 117 | 12.13.24_NYSDEC | 50a | Please overlay the delineated existing wetlands on the work areas and provide acreages for: Total existing wetland, Proposed wetland areas to be restored, created, and or enhanced, Upland areas within the proposed wetlands (berms, spillways, mounds, etc.), Stream and wetland buffers. | existing wetlands have been overlain onto the work area and acrages provided. |
| 118 | 12.13.24_NYSDEC | 50b | Please provide shapefiles for maps requested in comment 50(a) above. | Shapefiles have been sent to DEC and USACE. |
| 119 | 12.13.24_NYSDEC | 51 | Pg. 15-26 (PDF pg. 146-157), Section 6 – Mitigation Work Plan: Some mitigation sites do not appear to contain state jurisdictional wetland under the current NYS Freshwater Wetland Mapping regulations. Changes to DEC's wetland mapping regulations which take effect January 1, 2025, may alter a jurisdictional determination for the site but such a determination would need to follow newly established procedures for project jurisdictional determinations. As per 6 NYCRR Part 663.5(g)(1)(iii) mitigation wetlands must be located adjacent to state regulated wetlands to ensure NYS retains jurisdiction over the mitigation site. For some mitigation sites, the proposed plan involves creating a wetland larger than the 12.4-acre threshold for state jurisdictional wetlands to satisfy DEC's requirement. However, the existing wetlands extend off-site in multiple locations. | Comment acknowledged |
| 120 | 12.13.24_NYSDEC | 52 | Pg. 15-26 (PDF pg. 146-157), Section 6 – Mitigation Work Plan: | |
| 121 | 12.13.24_NYSDEC | 52a | Some wetlands do not appear to meet the size-threshold for DEC jurisdiction and do not appear to be connected or within 50 meters with hydrologic connections to DEC regulated wetlands. How will these areas satisfy DEC's requirement for state jurisdiction over all mitigation areas as per 6 NYCRR Part 663.5(g)? | All wetlands will meet DEC thresholds when submitted for certification of completion |
| 122 | 12.13.24_NYSDEC | 52b | Environmental monitors must be onsite at all times during construction activities, adaptive management activities, etc., and the individuals employed as the monitors are subject to approval by both DEC and USACE. Monitors must report to both agencies throughout the projects. | Comment acknowledged |
| 123 | 12.13.24_NYSDEC | 53 | Pg. 27 (PDF pg. 158), Section 6.1 - Invasive Vegetation Control: | |
| 124 | 12.13.24_NYSDEC | 53a | See Comment 15(b) | n/a |

| | | | | |
|---|---|---|---|---|
| 125 | 12.13.24_NYSDEC | 53b | Not all invasive species identified in section 4.4 (pg. 5) on the proposed mitigation sites are included in appendix D – Species Master List. Please explain this discrepancy and submit comprehensive invasive species survey results, location maps, and shapefiles. | This has been corrected in the updated TWT Stream/Wetland Mitigation Plan. |
| 126 | 12.13.24_NYSDEC | 53c | Please provide Invasive Species Management Plans (ISMP) for each mitigation site or location. At minimum, an ISMP should include the following basic information: i) Site background including a description of the site, relevant history, and current issues. Location maps should also be included. ii) Identification of short- and long-term goals. iii) Target species; biology, ecology, best management practices. iv) Baseline survey & maps(s) including shapefiles. v) Management Plan (Methods/materials, timing/schedule, maps, permits to be applied for), vi) Reporting – can be incorporated into a singular comprehensive report for each mitigation (annual work plan, end of year reporting (including work completed and efficacy survey for prior work)). | Invasive Species Management Plans have been developed for each mitigation site. |
| 127 | 12.13.24_NYSDEC | 54 | Pg. 27 (PDF pg. 158), Section 6.2 – Wetland Construction Methods, Timing, and Sequence: Pesticide carry-over if planting in the following growing season after agricultural production needs to be considered. Please address how this will be handled. | The Wetland Construction Methods, Timing, and Sequence section will be updated to include how pesticide carry over will be addressed. |
| 128 | 12.13.24_NYSDEC | 55 | Pg. 27-28 (PDF pg.158-159), Section 6.2.1 – Core Trench/ Low Earthen Berm Construction: Core trenches, berms, slopes, and spillways must be counted as upland unless they delineate as wetland and are clearly shown on "As-Builts" with non-wetland areas quantified. | Comment acknowledged |
| 129 | 12.13.24_NYSDEC | 55a | Reestablishment of natural hydrology is encouraged while active engineered devices are discouraged. When natural hydrology is not feasible, consider passive structures to sustain the desired hydroperiod over the long term. Avoid designing a system that depends on water-control structures or other infrastructure that must be maintained in perpetuity in order to provide the necessary hydrology. Mitigation sites should have the same basic hydrological attributes as the impacted site. | No engineered devices are being considered in the updated TWT Offsite Compensatory Mitigaiton Plan. |
| 130 | 12.13.24_NYSDEC | 55b | DEC has concerns with the use of Core Trench for wetland construction (see comment 55(a) above). While it is acknowledged that this may be an effective way to create hydrology, the method can potentially interfere with natural groundwater movements and alter discharge/recharge across a site. In addition, the use of woody species does not appear compatible for use near groundwater dams which can undermine the long-term functioning and performance of the system. Other methods of creating hydrology may be preferable at some mitigation sites. Further design details will need to be provided in future iterations of this plan. | Please provide more specific concerns. The use of a core trench only impacts the upper water table to retain water in relation to the size of the drainage area leading to it. Core trench and "groundwater dam" are sized relative to the depth of the upper water table or groundwater to be interrupted. The use of the term dam is not entirely accurate, these structures do not "dam" the entire cross section of groundwater. Instead they provide a bump, at most, to interrupt the heavily modified hydrology of these sites by interrupting any surface or underground drainage features installed for agriculture. There is no "natural hydrology" on these sites to restore them to. There is only modification of the current hydrology to facilitate the construction of wetlands, which is likely the pre-settlement paradigm. These techniques will intentionally blend in with the wetlands and streams being constructed thus removing any long term need for maintenance. Further, there are essentially no recharge areas on these sites. They are all relatively shallow surface layers of topsoil underlain by thick clay with only a handful of exceptions. |
| 131 | 12.13.24_NYSDEC | 56 | Pg. 28-33 (PDF pg. 160-164), Sections 6.2.1 – 6.2.5: Please label all "typical" design figures as numbered figures throughout this section. | Comment acknowledged |
| 132 | 12.13.24_NYSDEC | 57 | Pg. 30 (PDF pg. 161), Section 6.2.4 - Microtopography: Mounds, ridges, islands and hummocks, and spillways and slopes could be determined to be uplands and not counted toward the wetland restoration acreage unless they delineate as wetland. For PFO (woody plants) and PEM, will these mounds be necessary for the successful planting of vegetation, and will they eventually have increased hydrology? Can forested swamps with standing water be created within the monitoring period? For the roughened and loosened technique areas, will the higher areas delineate as wetland, and will the soils have hydrology? | Only areas that meet wetland criteria will be counted as wetlands. |
| 133 | 12.13.24_NYSDEC | 58 | Pg. 33 (PDF pg. 164), Section 6.2.6 - Timing and Sequence: | |
| 134 | 12.13.24_NYSDEC | 58a | See comment 16 above. | |
| 135 | 12.13.24_NYSDEC | 58b | See comment 46 above. Schedule needs to be revised as presented at meeting on10/31/24. Article 24 permits will be needed for any work in DEC jurisdictional areas. | Comment acknowledged |
| 136 | 12.13.24_NYSDEC | 58c | In addition to USACE regulatory requirements on implementation, please include reference and cite DEC's requirements on implementation. | DEC references will be included. |
| 137 | 12.13.24_NYSDEC | 59 | Pg. 34 (PDF pg. 165), Table 6-1. Example of Construction Sequence for one Site: DEC suggests that, in most cases, planting trees in wetlands during the fall may promote better survival. | Comment acknowledged |
| 138 | 12.13.24_NYSDEC | 60 | Pg. 34 (PDF pg. 165), Section 6.3 – Stream Restoration: Please supply an individual plan for each stream. Note that streams will be protected under NYS Freshwater wetlands regulations when they are within mitigation wetlands or in the 100-foot regulated adjacent area. Stream plans should include representative cross sections, profiles, plan views, description of substrate materials, source of fill materials, fate of excavated materials, grade control, bank stabilization plans, and a discussion on how the sinuosity was calculated to form a stable channel with stable radius of curvatures for valley slope, channel slope, flows and substrates. | Individual plans will be provided for each stream. Stream plans will included cross sections, profiles, plan views, etc. |
| 139 | 12.13.24_NYSDEC | 61 | Pg. 34 (PDF pg. 165), Section 6.3 – Stream Restoration (and appendix F): Agencies will want to have USFWS review stream plans. The sinuosity of the stream on the revised Buxton Creek site looks excessive. Since this is mitigation for the USACE, they will take the lead in the review. DEC is still involved because the stream mitigation areas are within mitigation wetlands. | Comment acknowledged. The Buxton Creek stream design has been updated. |
| 140 | 12.13.24_NYSDEC | 62 | Pg. 36 (PDF pg. 167), Section 6.3.2 - Enhancement Level II – Riparian Buffer Establishment: Will the three zones be upland or wetland? There seems to be an opportunity to create shallow emergent marsh in the immediate riparian areas. | **Please see Response 62 of the 11.08.24_USACE Comment in the USACE tab:** *The goal of the proposed stream mitigation plan is to create stream and wetland complexes that maximize the functions and values provided to the watershed. Such a complex is consistent with the primary "Ecological Health Indicators" that are identified and promoted in the NYSROA; i.e., that the presence of wetlands within riparian buffers of streams is indicative of watershed health and should be encouraged:*<br><br>*Floodplain Complexes: "Proportion of the delineated riparian buffer that is within a Floodplain Complex (i.e., a diversity of habitat types within a floodplain, including natural upland and wetland patches), that provides an indication of vegetative and riparian connectivity independent of large tracts of forest)."*<br><br>*Natural Cover: "All vegetation, not just forest, can potentially protect water quality by intercepting sediment from disturbances in the watershed (Dosskey et al. 2010). This indicator describes the*<br>*proportion of the landscape composed of non crop, non-impervious surface, and undeveloped land use classes, including scrub/shrub, forest, and wetlands."*<br><br>*The NYSROA also identifies "The purpose of the Wetland Resiliency theme is to identify those areas along streams with greater flood capacity due to the presence of intact wetland habitat. We compared the*<br>*riparian buffers to the National Wetlands Inventory (NWI) dataset and estimated the relative contribution of wetlands to the area of buffer. The least resilient basins would be those with fewer wetlands in the riparian zone. Conversely, the most resilient basins would be those with the highest proportion of wetlands in the stream corridor."*<br><br>*Further, the USACE Wilmington District's Stream Mitigation Guidelines (USACE 2003) that* |
| 141 | 12.13.24_NYSDEC | 63 | Pg. 37 (PDF pg. 168), Section 6.4 - Planting Plan: The 6th bullet mentions natural cold stratification, but the table 6.1 only shows spring/summer planting. Please clarify. | Cold stratification will be done the winter prior to spring/summer planting. |
| 142 | 12.13.24_NYSDEC | 63a | Riparian Buffer: There are two tables for Zone 3, one is Grassland Seed mix, and the other is Successional Old Field Seed Mix. Are these to be planted together or in different reaches as site conditions dictate? There are also seed mixes for Wet Meadow and Emergent Marsh, are planting locations going to be based on site conditions? Could tussock sedge be added to emergent marsh seeding? | Seed mixes are planted in the area that best represents the intended vegetation cover. Tussock sedge seeding can be added. |
| 143 | 12.13.24_NYSDEC | 64 | Pg. 38 (PDF pg. 169), Section 6.4 - Planting Plan and Vegetation Establishment: Please provide additional information for the product SoilMoist. Inorganic/synthetic soil amendments are not generally compatible with use in natural areas. | TWT will provide additional information on the product SoilMoist, or equivalent, if it is to be used in the planting plan. |
| 144 | 12.13.24_NYSDEC | 65 | Pg. 40 – 41 (PDF 171-172), Section 8 - Performance Standards: | |
| 145 | 12.13.24_NYSDEC | 65a | Success of establishing wetland is based on meeting the USACE criteria for the three parameters described in the 1987 Corps of Engineers Wetland Delineation Manual and the most current Regional Supplement to the Corps of Engineers Wetland Delineation Manual. However, success of the mitigation and fulfilling mitigation requirements will be based on establishment of wetlands and wetland community types that replace in form and function the impacted wetlands as described and quantified in the anticipated revised functional assessment. The project must show that these communities, functions, and benefits: i) were not substantially present on the mitigation sites initially (baseline data) and that the mitigation areas will result in a substantial lift in wetland distribution, functions, and benefits, ii) have a high likelihood of persisting on the landscape over time, and iii) and meet or exceed the functions and benefits of their analogs impacted or eliminated through construction of the permitted project. | Comment acknowledged |
| 146 | 12.13.24_NYSDEC | 65b | Each mitigation site plan should include a description of the target communities and identify the metrics that will be used to confirm comparative mitigative success as described in comment 65(a) above. | Comment noted. The requested information will be provided as part of the TWT Offsite Compensatory Mitigation Plan. |
| 147 | 12.13.24_NYSDEC | 65c | Wetland hydrology in constructed or restored wetland must be shown to occur in more than 50% of years on average or a minimum frequency of 6 years in 10 for a 10-year monitoring period. Annual hydrology monitoring may be advised to identify problems on the sites early on and implement corrective measures in a timely manner. | Comment acknowledged. Automated well data recorders will facilitate monitoring to provide sufficient data. |
| 148 | 12.13.24_NYSDEC | 65d | Hydrology is the driving force of aquatic resources, including wetlands, which are particularly sensitive to hydrologic variability. The variation in functions between wetland types is in large part due to fluctuations in water flow, depth, duration, and/or frequency. The emphasis for mitigation wetlands should be on establishing naturally variable hydrology. Target hydrology should be based on this reference condition for the proposed wetland type and not based on the bare minimum for meeting the hydrology technical standard. | Comment acknowledged |
| 149 | 12.13.24_NYSDEC | 65e | The first few years following construction are often critical periods for identification of performance issues, initiating adaptive management, and the early identification of the need for larger interventions. Yearly vegetation monitoring is preferred; however, DEC would consider reduced monitoring after year 5 upon request. Please note in the plan that agencies may require additional monitoring and/or extended monitoring periods where significant intervention or modification is necessary. | The updated TWT Offsite Compensatory Mitigation Plan will include a 15 year monitoring period for DEC. The first five years will be continuous, then will switch to every other year after that. |
| 150 | 12.13.24_NYSDEC | 65f | A relative cover of eighty five percent (85%) for restoration areas is a standard benchmark. However, vegetative cover in wetlands is often dynamic and percent cover targets for wetland communities should be established based on the functional assessment and community type goals (see section 65 (b)). Both static conditions (wet meadow vs hemi-marsh) and seasonal variation (wet meadow vs mud flat) should also be taken into account. Percent cover targets need to be achieved early in the process so that monitoring can sufficiently evaluate the success and stability of the created communities over time. | Comment acknowledged |
| 151 | 12.13.24_NYSDEC | 65g | Vegetative performance standards should include qualitative and quantitative measurements for direct comparison to analog communities in the functional assessment of impacted wetlands (see comment 65 (a)). | Comment acknowledged |

| | | | | |
|---|---|---|---|---|
| 152 | 12.13.24_NYSDEC | 65h | Planting densities for reforestation projects may range from 600 to 1,200/acre depending on the type and size of the planting stock. The proposed 220 tree-stems per acre seems low for creating forested wetland. The total woody planting density should consist of not less than two thirds (2/3) of the target cover type (trees for Palustrine Forest or shrubs for Palustrine Scrub Shrub). Please provide general specifications for planting materials to be used on the project and adjust densities accordingly. | The TWT Offsite Mitigation Plan prescribes planting densities for forested and scrub shrub wetlands of 400 stems per acre which is common for the industry. The referenced 220 stems per acre standard dictates that, of the required 400 stems per acre minimum, at least 220 stems must be tree species, not shrubs. |
| 153 | 12.13.24_NYSDEC | 65hi | Shrub planting densities are generally higher than that for trees. Mature shrubs have smaller crown sizes and so closer spacings are needed for percent cover and dominance. | Comment acknowledged |
| 154 | 12.13.24_NYSDEC | 65hii | Bare root stock and live staking require higher planting densities than containerized or balled and burlap plants. | Comment acknowledged. Deer fencing is planned to be installed to decrease mortality rate. |
| 155 | 12.13.24_NYSDEC | 65hiii | Larger planting stock can significantly decrease the time to maturity and/or canopy closure. This reduces the temporal loss of function for PSS and PFO communities during their establishment period. Lower planting densities may be considered with larger size and quality planting stock. | Deer fencing and a (DEC requested) 15 year monitoring period will increase success rate and plant growth. |
| 156 | 12.13.24_NYSDEC | 65hiv | Planting stock size should not be less than 18 inches (>18") in height at the time of planting. Material in this range would also require a higher planting density and may not meet performance criteria for minimum height after 10 years of monitoring. | Please see Response 65hiii above. |
| 157 | 12.13.24_NYSDEC | 65hv | The percent-survival rate of woody plants will be decided by the regulatory agencies after further planting details, such as planting stock size, have been provided. | Please see Response 65hiii above. |
| 158 | 12.13.24_NYSDEC | 65i | Please define "stem" for stem counts as each individual stem or group of stems originating from a single common root system. | a single common root system = one stem |
| 159 | 12.13.24_NYSDEC | 65j | Trees and shrubs must reach a size and vigor to reasonably ensure the stand will continue its trajectory toward a mature state beyond the monitoring and active maintenance period. Long term considerations include stand resiliency to disease, pests, extreme weather events, and herbivory. | Comment acknowledged |
| 160 | 12.13.24_NYSDEC | 65ji | Trees must exceed the browse line for whitetail deer with sufficient bole to sustain the tree. At minimum, the average stand height for trees within a designated planting zone at the end of the monitoring period is three meters. Heights should not be averaged over multiple planting areas or across different cover or community types. | Comment acknowledged. Deer fencing is planned to be installed to decrease mortality rate. |
| 161 | 12.13.24_NYSDEC | 65jii | Shrubs are typically multi-stemmed and have a higher tolerance for herbivory. At minimum, the average stand height for shrubs within a designated planting zone at the end of the monitoring period is 1.5 meters. Heights should not be averaged over multiple planting areas or across different cover or community types. | Comment acknowledged. Deer fencing is planned to be installed to decrease mortality rate. |
| 162 | 12.13.24_NYSDEC | 65jiii | Natural colonization by volunteer woody species may be counted toward final performance goals upon approval from DEC conditioned on the following: (1) The species has already been approved within the planting plan OR (2) The species occurs in numbers that are ecologically significant AND (3) The species is appropriate for the planting zone and ecological goals of the restoration. For example, species such as Green Ash (Fraxinus pennsylvanica) and American Elm (Ulmus americana) are highly susceptible to pathogens or forest pests that have resulted in widespread decline and mortality across their range. As such, they would not be suitable for performance criteria where the restoration goals are establishing canopy structure. Planting of American Elm (Ulmus americana) and American Chestnut (Castanea dentata) on a limited basis can be further discussed. | Comment acknowledged |
| 163 | 12.13.24_NYSDEC | 65jiv | VIBI-FQ in general is a well-developed biological assessment. However, Floristic Quality indices are derived from the subjective valuation of plants from ecologists and biologists within a defined region. The regional variation in plant species distribution, ecological niche, abundance, and subsequent valuation limits the broad applicability of any specific FQA index to the range of its baseline data. The Vegetative Index of Biotic Integrity (VIBI) was largely based on data from the Ohio region. In terms of wetland indicators taken from the USACE National Wetland Plant List, Ohio also represents the intersection of three (3) separate USACE Eco-regions and the division of one (1) subregion: Midwest, Eastern Mountains and Piedmont, Northcentral/Northeast, and Northcentral/Northeast – Northcentral Great Lakes. Please discuss how this index translates to ecological communities in New York, particularly when compared to the Northeast Regional Floristic Quality Assessment which includes ecoregional C values specific to NY. (Protocols for plot siting may not give an overall clear picture of conditions on the mitigation sites. "A summary of this protocol is as follows: A typical focus plot measuring 20 meters by 50 meters is constructed within the plant community being assessed. This plot should be placed to capture the portion of the wetland that contains the highest diversity (Gara, Brian. 2013. The Vegetation Index of Biotic Integrity "Floristic Quality" (VIBI-FQ). Ohio EPA Technical Report WET/2013-2. Ohio Environmental Protection Agency, Wetland Ecology Group, Division of Surface Water, Columbus, Ohio).") | Please see Response 22b of the 12.13.24_NYSDEC Comment in this tab. |
| 164 | 12.13.24_NYSDEC | 66 | Pg. 41-42 (PDF Pg. 172-173), Section 8 - Performance Standards: | |
| 165 | 12.13.24_NYSDEC | 66a | Permanent Plots may not be representative of the site. How many plots per wetland and wetland cover type within one wetland? Please include standard sampling methodologies with multiple random sample points, transect or timed meander survey in each wetland to get more representative sampling. | TWT uses VIBI and stratified random sampling (plots) for monitoring. Randomized plots (a representative amount that will be determined) will be placed in EACH wetland cover type in each mitigation type (Restoration/enhancement). |
| 166 | 12.13.24_NYSDEC | 66b | Invasive Species –<br>i) Please include a table with a list of invasive species for each mitigation site and coverages in acres and percent cover. This will be updated for each inspection survey and will show any changes over time.<br>ii) Please supply maps for individual mitigation parcels and show all invasive species on these single maps.<br>iii) Please supply baseline maps with % cover and acreage for all other sites not included.<br>iv) Please include a 'study limits' boundary on the maps.<br>v) Please discuss why only 5 species were mapped and detail why expected invasives like honeysuckle and Japanese knotweed were not shown on the maps and buckthorn was only shown on one site. Please clarify it is because they grew outside of the study limits or were not present. | Comment noted. The requested information will be provided as part of the TWT Offsite Compensatory Mitigation Plan. |
| 167 | 12.13.24_NYSDEC | 66c | Riparian buffer plant survival rate needs to be based on number of total stems to survive. Please measure plant and community type diversity for species diversity and species evenness using a metric such as the Shannon-Wiener Diversity Index for each zone. (In the Zone 2 Tree and Shrub Mix table, Boxelder was misidentified as Acer rubrum. Both Acer rubrum (Red maple) and Boxelder (Acer negundo) are acceptable species.) | Please see Response 22b of the 12.13.24_NYSDEC Comment in this tab: |
| 168 | 12.13.24_NYSDEC | 67 | Pg. 42 (PDF pg.173), Section 9 - Monitoring Requirements | |
| 169 | 12.13.24_NYSDEC | 67a | Please provide a comprehensive monitoring framework and Gantt chart which lays out the foundation for comparative study of the mitigation sites to their pre-construction condition and then more broadly to the impacted wetlands outlined in the functional analysis. | Comment acknowledged |
| 170 | 12.13.24_NYSDEC | 67b | Please include a brief description of methodologies and materials and consider the following factors: | |
| 171 | 12.13.24_NYSDEC | 67bi | Measures of vegetative community structure and quality<br>(1) Floristic Quality, Biological Integrity, Diversity, Evenness, Richness, Functional Diversity, Abundance, Dominance, Structural Diversity, Community Classification<br>(2) Stem counts, basal area<br>(3) Percent Cover, Percent Canopy<br>(4) Point counts, Transect Intercept, Randomized Sampling, Timed Meander<br>(5) Seasonality: Cool season, Warm season, Late season | The Monitoring Requirements section will include the requested measures to the extent practicable. |
| 172 | 12.13.24_NYSDEC | 67bii | Measures of wildlife use as indicators of wetland habitat quality:<br>(1) Biological Integrity, Trophic Diversity<br>(2) Migratory birds, Breeding birds, Raptors<br>(3) Amphibians and Reptiles<br>(4) Mammals<br>(5) Macroinvertebrates<br>(6) Pollinators<br>(7) Bats<br>(8) T&E presence/absence/resident/breeding | |
| 173 | 12.13.24_NYSDEC | 67biii | Measures of hydrology<br>(1) Water Source, Water Chemistry, Water Quality<br>(2) Hydroperiod, Hydrographs, Soil Saturation, Surface Water Depth<br>(3) Hydro-loggers, Soil Moisture Recorders, Staff Gauges | |
| 174 | 12.13.24_NYSDEC | 67biv | Other functions and values measurements to be considered:<br>(1) New York State Wetland Condition Assessment<br>(Level I: Landscape Condition Assessment (LCA ver. 2023), Level 2: NY Rapid Assessment Method (NYRAM ver. 5.4), NY Wetland Functional Assessment Method (WetFAM Ver. 2.2), Level 3: Vegetation Assessment (Draft ver. 1.0))<br>(2) National Wetland Condition Assessment | |
| 175 | 12.13.24_NYSDEC | 68 | Pg. 45 (PDF pg. 176), Section 9.3 - Reporting Schedule: | |
| 176 | 12.13.24_NYSDEC | 68a | Reporting only lists USACE and should include DEC. | DEC will be included in the Reporting Schedule section. |
| 177 | 12.13.24_NYSDEC | 68b | Reporting is due to DEC by December 31st of each year. | Reporting date changed to December 31st in the updated TWT Mitigation Plans |
| 178 | 12.13.24_NYSDEC | 68c | Annual Report shall include:<br>i) Work Completed, As-builts, and Milestones<br>ii) Hydrology reporting (Annually)<br>iii) Vegetation reporting<br>iv) Wildlife Reporting<br>v) Invasive Species Report<br>vi) Work Plan<br>vii) Corrective actions proposed/implemented (adaptive management plan) | Comment acknowledged, see Section 7 or 10 of the individual TWT Mitigation Plans |
| 179 | 12.13.24_NYSDEC | 69 | Pg. 46-47 (PDF pg. 177-178), Section 11 – Adaptive Management Plan: Adaptive management plans for wetland mitigation proposals must respond to issues related to meeting target performance standards. Please expand the proposed adaptive management plan section to discuss what measures will be taken if it appears target performance standards will not be met. | The adaptive management plan will be updated to include measure to be taken if target performance standards will not be met. |
| 180 | 12.13.24_NYSDEC | 70 | Pg. 47 (PDF pg. 78), Section 12 - Financial Assurances: | |
| 181 | 12.13.24_NYSDEC | 70a | Please include a description of the financial assurances provided and how they are sufficient to ensure a high level of confidence that the mitigation projects will be successfully completed and sustained, in accordance with their individual performance standards. | A description of financial assurances will be included in the updated TWT Offsite Compensatory Mitigation Plan. |
| 182 | 12.13.24_NYSDEC | 70b | Further discussion with DEC is required. | Discussions with DEC and USACE have been ongoing weekly and will continue until all outstanding issues are resolved. |
| 183 | 12.13.24_NYSDEC | 71 | Appendix C. Soils (PDF pg. 185): Tables should be labeled with site names. Use separate pages for each site. | Soil tables are now in each individual TWT Mitigation Plan. |
| 184 | 12.13.24_NYSDEC | 72 | Appendix D. Species Master List (PDF Pg. 192): | |

| | | | | |
|---|---|---|---|---|
| 185 | 12.13.24_NYSDEC | 72a | Please clarify if the list was generated from a scientific sampling effort or from incidental observations while staff were on-site. (If this list was generated based on incidental observations, DEC will require a baseline survey of species present on each mitigation site. The baseline survey must demonstrate: (1) That the proposed mitigation sites do not currently provide the functions and values targeted for mitigation) | The team of project scientists that compiled the observed species lists (i.e., The Wetland Trust and Ramboll), have a great deal of experience in both species identification and wetland mitigation. Additional field work to perform quantitative analyses of the proposed mitigation sites is not necessary to recognize the available opportunity and functional uplift that the proposed mitigation sites offer. For example, the topographic depressions within active soybean fields at the Buxton Creek Site that meet the criteria to be jurisdictional wetlands do not provide ecological functions or values to the watershed. The proposed wetland/stream/upland complex that is proposed provides clear and obvious functional uplift. It was recognized by those in attendance at the December 18, 2024 meeting that the proposed CWSMP offers a unique and special opportunity for functional uplift and that additional time and energy need not be focused on additional quantitative data collection. The post-construction success of the mitigation will be assessed using the VIBI as described in the CWSMP and herein. |
| 186 | 12.13.24_NYSDEC | 72b | Any species with a protected status or of conservation interest that are identified within the mitigation sites are not negatively impacted by the mitigation | No protected species have been identified. |
| 187 | 12.13.24_NYSDEC | 72c | Please detail how this species master list will be used as a performance metric? Were similar lists compiled for the impacted wetlands within the White Pine expansion site? If so, please supply the lists to DEC and USACE. | As detailed in the CWSMP, the VIBI will be used throughout the monitoring period to evaluate performance standards.<br><br>Species master lists for the impacted on-site wetlands were not compiled. Dominant species are identified in the wetland delineation data forms that were provided in the Wetland Delineation Report. These dominant species and other observed species were used to develop the seed and plant mixes that are recommended for the mitigation areas. |
| 188 | 12.13.24_NYSDEC | 72d | There are more invasive species listed in Appendix D than were surveyed according to Appendix E. Please explain this discrepancy or correct as appropriate. | This has been corrected in the updated TWT Offsite Compensatory Mitigation Plan |
| 189 | 12.13.24_NYSDEC | 73 | Appendix G. Wetland Planting Plan DRAFT: | |
| 190 | 12.13.24_NYSDEC | 73a | Herbaceous species in the list on the first page are not in the seed mixes. The list has more diverse plants than the Ernst mixes (Please identity the source of seeds and plants while also being clear about which species are being planted.) | Clarity will be provided. |
| 191 | 12.13.24_NYSDEC | 73b | Some common and desirable wetland species appearing in the table are not in the Ernst seed mixes (Will these species be procured elsewhere?). Please add OBL/FACW goldenrods and Carex stricta (tussock sedge) to the planting plan. | Comment acknowledged |

| MITIGATION PLAN | | | |
|---|---|---|---|
| Date & Agency | Comment Number | Agency Comment | Sponsor Response |
| 05.02.25_USACE | Overview 1 | Page 1 – One of the objectives is to 'Establish 345.1 acres of buffer habitat.' Is this to establish or preserve upland buffer? More clarity is needed to understand what is proposed to occur within upland buffers. | Upland buffer will be established with native seeding and planting. The current land use of those areas is soybean cultivation. |
| 05.02.25_USACE | Overview 2 | Page 2 indicates that if required by the agencies, a separate area physically marked for the NG Duct Bank could be developed to address PFO conversion. USACE supports this approach. | Understood. TWT will mark these seperate sections in later versions of the wetland plans after further disucssion with agencies and Micron |
| 05.02.25_USACE | Overview 3 | Page 3, Section 2.1, item 4, second sentence is confusing and unclear what it means. | Corrected |
| 05.02.25_USACE | Overview 4 | Page 5, Reference to USACE NWP 27 should be deleted. The impacts associated with the mitigation efforts will be evaluated within the Micron application. | Corrected |
| 05.02.25_USACE | Overview 5 | Page 9, Project Schedule: Based upon the proposed schedule, it appears that some of the wetland impacts will occur before mitigation for that acreage of impact occurs. Please provide a more detailed schedule of proposed impacts, separating impacts proposed in 2025, 2026 and 2027. If there are wetland impacts that are proposed to occur before mitigation for that acreage is proposed, is there a reason that multiple sites cannot start in year 1 to account for this? Also, please include a similar table to address stream impacts and mitigation timeframes. | Implementation schedule has been revised |
| 05.02.25_USACE | Overview 6 | Page 12, Section 7 Monitoring Schedule indicates that TWT is responsible for all monitoring, reporting, etc. This is the responsibility of the permittee as this is Permittee Responsible Mitigation (PRM). | Understood, statement added in section 7 that the Permittee (Micron) is responsible for monitoring and reporting with implementation by TWT. |
| 05.02.25_USACE | Overview 7 | Page 13, Section 8.3, Long-term Funding Mechanism: This indicates that TWT has an account to ensure implementation and maintenance of the Micron Compensatory Mitigation sites. This needs to clarify if the applicant is providing this funding. Also, this section is duplicative to the individual plan for Buxton Creek, and can be addressed in the main part of the document instead of the individual plans, as it applies to all of the mitigation sites. | Understood. Micron provides all funds. This Section will stay in Overview. |
| 05.02.25_USACE | Overview 8 | Page 14, Section 10.2, Financial Assurances - Long-term: This needs to include more detail, including what Micron is responsible for. For instance, where is the $4M in table 9 coming from? As noted for Section 8.3, this section is duplicative to what is in the individual Buxton Creek plan, and can be addressed in the main part of the document instead of the individual plans. | See Above. |
| 05.02.25_USACE | Buxton 1 | Appendix A – Please note that we are still reviewing the Draft Conservation Easement language and will provide comment on that under separate cover. | Understood. |
| 05.02.25_USACE | Buxton 2 | Overall comment: The plans should clearly identify what type of work can / cannot be done without USACE approval/ coordination. (e.g., routine maintenance and routine invasive species treatment generally would not require USACE approval, but any adaptive management would require approval prior to implementation.). | Understood, please see Section 10 of the Overview Plan. |
| 05.02.25_USACE | Buxton 3 | Appendix H: Buxton Creek stream plans were lacking information including justification for design (stream stats data, etc), planting plans etc. | StreamStats data, reference reaches, construction sequence added. |
| 05.02.25_USACE | Buxton 4 | Page 1: The first bullet is an overview of the bullets below, which should be a subset of this main objective. | Corrected. |

| | | | |
|---|---|---|---|
| 05.02.25_USACE | Buxton 5 | Page 2: With regard to the statement 'The distribution of wetland types may change due to balancing distribution among the other five mitigation plans in development. The distribution of wetland cover types, mitigation type, and acreage is dependent on site-specific characteristics which ultimately determine what wetlands are suitable at specific locations.' Note that any deviation will require authorization by USACE and would require modification to permit/plan. | Understood. |
| 05.02.25_USACE | Buxton 6 | Page 5: Reference to USACE NWP 27 should be deleted. The impacts associated with the mitigation efforts will be evaluated within the Micron application. | Corrected. |
| 05.02.25_USACE | Buxton 7 | Page 6: How long are the NRCS held easements for? Often these are not in perpetuity. Also, would the proposed project have any potential to void any prior held NRCS easements? | Copy of Easement provided. Following a conversation with NRCS staff, these easements are held in perpetuity. The proposed project will not have the potential to void any prior held NRCS easements, and TWT may enter into a compatible use authorization to conduct work within the easements (such as herbicide application) |
| 05.02.25_USACE | Buxton 8 | Page 9: Section 3.3: Second paragraph should refer to existing wetlands, STREAMS, and drainage features. | Corrected. |
| 05.02.25_USACE | Buxton 9 | Page 15: Section 4 - Wetland Credit Accounting: What are the baseline conditions of the existing wetlands to be rehabilitated? Are they within existing active agricultural fields? If not, were VIBI-FQ scores collected for more natural wetlands? It is our understanding that some of the rehabilitated wetlands are not active agricultural wetlands. Suggest separating them out in the narrative, and providing more detail on baseline conditions and what is proposed to be done, and how these will be monitored with proposed performance goals specific to these areas. | Much of the rehab is "incidental", being non-functioning wetlands within the ag fields, that will be subsumed into the surrounding wetlands being built. There are areas of "additional rehab" that are discussed deperately in the plan. These sites will include some type of earthwork in addition to vegetation plantings. See Figure 6-1 for proposed monitoring locations. |
| 05.02.25_USACE | Buxton 10 | Page 20: Buffer Zones: What is being proposed in buffer areas and what is their baseline condition? During our conference call on April 24, 2025, TWT noted that buffers adjacent to emergent wetland would grade into emergent upland, and forested wetland would grade into upland buffer forested. This should be clearly identified in the plan, along with any plantings, performance goals and monitoring proposed. Also, generally, a buffer of 50 feet on either side of streams is required. If these areas are proposed areas for wetland mitigation these buffers can then be pushed to the upland side of the wetlands. Suggest providing more detail on what areas are proposed for buffers and the proposed credits for these buffers, etc. | Buffers are depicted on the latest map versions. The buffers are either herbaceous, following seed mixes from Micron TWT native grassland project, or shrub/forest and the woody stems of typical upland native species. Performance standards are not included because no mitigation credit is proposed for the buffers. |
| 05.02.25_USACE | Buxton 11 | Page 20: Stream mitigation reach for Buxton Creek portion north of Bell Road. Suggest including more detail of the baseline conditions and narrative explaining the work proposed at this location, confirming no tree removal is proposed at this location. | Understood |
| 05.02.25_USACE | Buxton 12 | Page 21: For the stream mitigation located north of Bell Road within the tributary to Buxton Creek, are there undelineated wetlands located east of the drainage ditch that will be abandoned that may be affected (dewatered) as a result of the stream restoration? Also, is there a grading plan for the stream to block off flow into this drainage? The narrative indicates that the relocated ditches will be filled in, but this is not consistent with the proposed grading plan. | Addressed at June comment discussion meeting, see stream plan in Appendix K for locations of ditch filling. |
| 05.02.25_USACE | Buxton 13 | Page 22: Overall the stream plans lack justification / description. For instance, why is the Buxton Creek stream mitigation moved over from the existing stream? Also, the area in the southern portion of Buxton Creek seems to be stable and meandering. What is the justification for moving and modifying it? | The stream is designed to complement the mitigation wetlands, to provide hydrology, and integrate into a functioning stream/wetland complex. Please see Figures 8-2a and 8-2b. This imagery shows the southern portion of Buxton Creek on the property and clearly depicts where the historic channel flowed and how straightened the current channel is. |
| 05.02.25_USACE | Buxton 14 | Page 25, Table 5-2a: spell out CoC (coefficient of conservatism). | Resolved. |
| 05.02.25_USACE | Buxton 15 | Page 28: Planting plan – why is green ash proposed to be planted? | Green ash removed from planting plan. |
| 05.02.25_USACE | Buxton 16 | Page 29, Table 5-3: More detail is needed on stream construction sequencing, describing how will work take place, dewatering, etc. | Construction sequencing information added. |

| | | | |
|---|---|---|---|
| 05.02.25_USACE | Buxton 17 | Page 31, PEM description notes "Deep emergent marshes will be 6 inches to 6 feet deep, less likely to have exposed soils, and very variable in species, with species more likely to be submerged or floating. However, earlier in the document seems to conflict stating that "Areas ≤6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands." In addition, it will be challenging to achieve the proposed relative cover percentages for the deep emergent marshes based on past experience. These almost always tend to have more open water than designed. | Staff gauges will be placed in deep emergent marsh areas to monitor water depth. The targeted water depth for deep emergent marshes will be 6-36 inches (Section 5). |
| 05.02.25_USACE | Buxton 18 | Page 31, invasive species: The interim targets proposed are high, and with numbers this high starting out could be difficult to achieve the required 5% by year 10. Typically, USACE requires 15%, 15%, 12.5%, 10%, 5% non-Typha. Suggest edit to Typha percentages accordingly as well. | Resolved, suggestions incorporated. |
| 05.02.25_USACE | Buxton 19 | Page 32, Table 6-1: Stem density: Overplanting early seems like the best technique to achieve the final goals since there will likely be some die-off. It also allows more time for the majority of plantings to grow and achieve maximum height within 10 years. If you have to supplemental plant in the later years (Years 5-10), that likely is not enough time to achieve 9' tree height. | Table 6-1 adjusted. Planting rates will start at 450 stems/acre but additional plantings will be installed if needed, based on survival, within the first 3 monitoring years. |
| 05.02.25_USACE | Buxton 20 | Page 32, Table 6-1: Tree height in PFOs: For the ILFs, USACE has been using 2 meters as the final height goal. Nine feet is fine but may be raising the bar higher than needed. Also, the tree height goal is typically for the 200 tallest trees, since there may be volunteers or supplemental plantings that are shorter and would bring the average down. | Table 6-1 adjusted. For USACE, a tree height goal of 2 meters (or about 6.6 ft) shall be reached by year 10. An additional 5 years for monitoring tree height has been added by request of NYSDEC, in which the final goal of 9 feet shall be reached by year 15. |
| 05.02.25_USACE | Buxton 21 | Page 32, Table 6-1: non-Typha invasive cover: The interim targets proposed are high, and with numbers this high starting out could be difficult to achieve the required 5% by year 10. Typically, USACE requires 15%, 15%, 12.5%, 10%, 5% non-Typha. Suggest edit to Typha percentages accordingly as well. | Understood, suggestions incorporated. |
| 05.02.25_USACE | Buxton 22 | Page 32, Table 6-1: VIBI-FQ score: Depending on baseline VIBI-FQ scores for rehabilitated wetlands, the goal could be 40 or it may be higher if the wetlands already score higher (generally require a 10 point increase at least). | Understood. These goals will be adjusted accordingly once we obtain baseline VIBI scores. A statement has been placed in Section 6 of the document. |
| 05.02.25_USACE | Buxton 23 | Page 33: Reference Stream Reaches: Where are the reference stream reaches? Suggest more information about this to justify mitigation design. | The location of the reference stream reaches have been added to Section 8.1. |
| 05.02.25_USACE | Buxton 24 | Page 35: Section 8.2: Additional detail on stream mitigation design is needed (see above on sequencing plan, dewatering plan, etc.) | See comment responses above. |
| 05.02.25_USACE | Buxton 25 | Page 35: Section 8.2: Work plan references Stream Stats. Suggest including the data. | Understood, StremStats data included in Appendix H. |
| 05.02.25_USACE | Buxton 26 | Page 38: Section 9 - Stream performance standards: Timeframes need to be included with these performance standards. In addition, the expected flow regime for each stream mitigation section should be identified within the goal. It is also suggested that additional standards and clarity be included. For instance, where are the monitoring sections going to be located? | Understood, will provide more detailed monitoring and performance standards |
| 05.02.25_USACE | Buxton 27 | Page 39: Vegetation: Suggest pulling the performance standards for wetlands down into this area for clarity. Also, are buffer performance standards noted somewhere? | Understood. No performance standards are described for the buffer as no mitigation credit will be developed here. |
| 05.02.25_USACE | Buxton 28 | Page 39: SVAP: This information should be moved above where SVAP is first discussed under perennial streams. (also, refers to incorrect table 10-2 should be 9-1) | Understood and corrected. |
| 05.02.25_USACE | Buxton 29 | Page 40: Section 10: Each monitoring report for streams should include additional information for comparison to performance goals specific to stream restoration, including bank dimensions, SVAP scores, etc. | Understood, Section 10 has been corrected. |
| 05.02.25_USACE | Buxton 30 | Page 41 should reference Buffalo District and NYSDEC instead of NY District. | Corrected. |
| 05.02.25_USACE | Buxton 31 | Page 41: Section 10.1 Reporting schedule indicates all monitoring reporting etc is the responsibility of TWT. This should be the applicant's responsibility since this is PRM. | Statement corrected. |

| | | | |
|---|---|---|---|
| 05.02.25_USACE | Buxton 32 | Page 41: Table 10-1: Is wetland delineation proposed every year or was there a modified approach proposed on an alternate schedule? | A modified schedule has been proposed, see revised Table 10-1. |
| 05.02.25_USACE | Buxton 33 | Page 42: Section 11 - Maintenance Plan. As noted above, suggest spelling out what actions require USACE review and approval prior to implementation. | Understood, see response above and Section 11 of Buxton Creek plan |
| 05.02.25_USACE | Buxton 34 | Page 43: Section 11.3: Maintenance during the monitoring period is the responsibility of the applicant as this is PRM. | Understood, section has been revised. |
| 05.02.25_USACE | Buxton 35 | Page 43: Section 12 - Long Term Management Plan was not included. | See Appendix L. for draft Long Term Management Plan. This LTMP will be modified as the site matures with much more detail added, including the conditions at the site after the monitoring period. |
| 05.02.25_USACE | Buxton 36 | Page 44: Section 12.3 - Long term funding mechanism: Who is proposing to fund this account? | Micron provides all funds for this PRM project |
| 05.02.25_USACE | Buxton 37 | Page 44: Section 13 - Adaptive Management Plan: Anything proposed in this section requires approval from the agencies prior to implementation. | Understood. |
| 05.02.25_USACE | Buxton 38 | Page 45: Section 14.1 – USACE will need to review and approve this. Note that this is missing a Section 14.2. Further, Section 14.3 is really not needed as this is really part of long-term management. This section needs to address financial assurances in general. Table 14-1 should really be part of Section 13. | Corrected. See also 'Overview 7' comment response. |
| 05.02.25_USACE | Buxton 39 | Page 45: Section 14.3 – Long-term Financial Assurances: Who will deposit funds into this account? | Micron provides all funds for this PRM project. |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| MITIGATION PLAN | | | |
|---|---|---|---|
| Date & Agency | Comment Number | Agency Comment | Sponsor Response |
| 05.21.25 NYSDEC | Global 1 | The calculations for anticipated mitigation acres to be generated from each mitigation site are based on outdated ratios. Please recalculate the anticipated acres generated using the table found on page five of the Notice of Incomplete Application dated April 2, 2025 and submitted to Micron on the same date (enclosed). Once calculated, DEC must confirm and approve the final required compensatory mitigation acres | The ratios presented in the six Micron Stream and Wetland Mitigtaion Plans are the mitigation type ratios. That is, the ratio for restoration (1:1) of wetlands vs enhancement (3.5:1) of wetlands. These are different ratios from the impact site and different from page five of the Notice of Incomplete Application. |
| 05.21.25 NYSDEC | Global 2 | The mitigation plans use USACE terminology when discussing the type of mitigation approach being proposed. For example, “rehabilitation” is used throughout the documents, but it is unclear (i.e. not defined) as to what DEC’s equivalent to rehabilitation would be. Please clarify what the equivalent DEC mitigation approach is being proposed anytime the USACE mitigation approach is mentioned | This has been clarified throughout the documents. DEC enhancement equals USACE rehabilitation. |
| 05.21.25 NYSDEC | Global 3 | DEC cannot give mitigation credit for created buffer areas. Remove any statements in the mitigation plan that contradict this. If Micron is requesting mitigation credit for buffers, further discussion with DEC is required. | Understood, no mitigation credit is being requested for the created buffer areas. |
| 05.21.25 NYSDEC | Global 4 | Overall, wetland enhancement efforts are proposed to mainly focus on hardwood species. Please consider planting early successional species as they play a critical role in establishing canopy cover sooner than hardwoods | The PSS and PFO areas will be at an early successional state and herbaceous species will also be planted as important early succession companion species that support success. |
| 05.21.25 NYSDEC | Global 5 | DEC will require a 15-year monitoring period for all created or reestablished PFO wetland and a minimum of 10 years for all other mitigation cover types. For any 15-year monitoring period requirement, DEC will still only require 10 monitoring reports over the 15 years | Resolved, the monitoring period has been adjusted to 15 years for PFO (see Table 10-1 of Buxton Creek Plan) |
| 05.21.25 NYSDEC | Global 6 | All proposed site protections, such as conservation easements, must be submitted to DEC for approval in addition to USACE. Please revise the documents to reflect this requirement. | Understood, please see Section 2.2. |
| 05.21.25 NYSDEC | Overview 7 | General comment – DEC Article 24 permits are required prior to construction of the proposed mitigation sites. Please submit the Article 24 permit applications with the next drafts of these plans. Micron and TWT must be co-applicants for these permit applications | Understood. Article 24 Permit Applications were submitted on June 26, 2025. |
| 05.21.25 NYSDEC | Overview 8 | Section 2 Description of Mitigation Sites, Table 1, Pages 2-3 – Do the calculations for “anticipated NYSDEC wetland mitigation (credits)” include the acreage of existing wetlands such as poor qualify or damaged wetlands? If so, please identify the acres of existing wetland TWT/Micron is asking mitigation credit for versus newly created or converted wetland. DEC is willing to give partial credit for wetland enhancement at a 3.5:1 ratio under certain circumstances and conditions verified by DEC in the field | Wetlands built in uplands is termed "Restoration" and work within existing wetlands is termed "Enhancement". |
| 05.21.25 NYSDEC | Overview 9 | Section 2.1 Site Selection Process, Page 3, final sentence in list item number 4 – What is meant by “…with an additional 3 percent of compensation developed under rehabilitation guidelines”? Please explain. | Wording changed in the document. This sentence was simply describing the percent of the mitigation that was developed as restoration vs enhancement to illustrate the focus being on net gain. |

| | | | |
|---|---|---|---|
| 05.21.25 NYSDEC | Overview 10 | Section 2.2 Site Protection, Page 5 – Please add financial assurance/performance bonding as a third site protection and detail how funding will be secured for performance and oversight and how many years the financial assurance will last. | Financial assurance added as a third layer of protection in Section 2.2. Details on financial assurances can be found in Section 10. |
| 05.21.25 NYSDEC | Overview 11 | Table 2, page 7 – By DEC definition, "enhancement," as it relates to wetland mitigation, is the process of altering an existing functional wetland to increase selected functions and benefits to a degree that offsets losses of these functions or benefits in another wetland or parts of the same wetland. Is this what is meant by "enhancement" in table 2? DEC believes "restoration" may be a more appropriate term for the work being proposed, as restoration involves the restoring of lost or impaired functions in a degraded wetland. Clarify what is meant by "enhancement" in this table and revise the terminology currently used if appropriate. | In this table, enhancement means work occurring where existing wetlands occur. Existing wetlands within the ag field are "incidental" enhancement as they overlap with designed wetland polygons. Other "additional" enhancement areas are existing forest that will be enhanced through invasive management, planting, and some minor grading. |
| 05.21.25 NYSDEC | Overview 11a | Table 2 also includes "existing wetlands" in the mitigation acreage calculations. DEC cannot give mitigation credit for existing wetlands as they are already protected under ECL Article 24. Remove the existing wetlands category of this table or clarify that Micron will not receive credit for preserving existing wetland. | This table has been updated. |
| 05.21.25 NYSDEC | Overview 11b | Add a row in Table 2 for the National Grid Wooding Mitigation Site to be recreated at one of the Micron mitigation site locations. | Understood, Table 2 has been updated. |
| 05.21.25 NYSDEC | Overview 12 | Table 6 Project Schedule and Temporal Credit Accounting, Page 8 – Clarify what is meant by "temporal gain" and "temporal credit accounting." This concept is unclear to DEC and Table 6 does not provide clarification. Further, clarify how this temporal gain will account for PFO wetland, and the timeframe required for it to be fully functioning. | This table is meant to illustrate that wetland mitigation is occuring concurrently with impacts. All Phase 1 impacts for Micron are expected to occur in Year 1, along with sufficient wetland mitigation so that there is no temporal loss. Temporal considerations for PFO are largely accounted for in the replacement ratios (higher than that of PEM and PSS) and also by choosing sites with large amounts of PFO mitigation in the first year (i.e. Oneida River). |
| 05.21.25 NYSDEC | Overview 13 | Section 3.1 Credit Development Schedule, Page 9 – Elaborate as to what information will be included in the "as-built report." | Resolved, details on as-built information has been included. |
| 05.21.25 NYSDEC | Overview 14 | Section 3.1 Credit Development Schedule, Page 9, last paragraph – Note, monitoring must continue for the full monitoring period even if all criteria are met. Further, monitoring will be extended until all criteria are met, regardless of how many years it has already occurred. Revise the plan to reflect this requirement. | Understood. This paragraph has been revised. |
| 05.21.25 NYSDEC | Overview 15 | Figures 2-7, Page 9 (numbering stops at 9) – These figures are too small to review. Please include shapefiles anytime the Micron mitigation site plans are submitted to DEC. | Figures removed from Overview document, these can be found in each individual site Mitigation Plan. |
| 05.21.25 NYSDEC | Overview 16 | Table 8, Page 12 – DEC is open to modifying the proposed monitoring schedule, such as skipping reports 5, 7, and 9 (assuming no remedial work is required in the previous year). Further, for PFO cover type, DEC would like a monitoring report at year 15 with a performance standard of tree height. | Monitoring schedule revised, please see Table 8. |
| 05.21.25 NYSDEC | Overview 17 | Section 10 Financial Assurance, Page 13 – Please detail the financial assurance calculations in the permit applications. The total financial assurance (FA) required should be detailed either in this mitigation plan or in the permits themselves. | Micron is responsible for financial assurances. |

| | | | |
|---|---|---|---|
| 05.21.25 NYSDEC | Overview 18 | Table 9, Page 14 – is the $4.1 million stewardship investment an estimate? Also, within this table, what is meant by “Frequency” in the heading of column 3? | "Frequency" here is an estimate of how often such maintenance or adaptive management activities might occur. For example, invasive control has an estimated frequency of every 2 years due to the propensity of invasive spread. Boundary posting has an estimated frequency of every 10 years as that is a low maintenence activity. It is meant to capture the fact that not every single line item will be a yearly cost. |
| 05.21.25 NYSDEC | Overview 19 | Section 10.1 and 10.2, Pages 13-14 – Please clarify what is meant by “short- term” and “long-term” regarding financial assurances. What specific time periods are anticipated to be covered by each type of FA? | Short term financial assurance refers to the bond or insurance put into place for the construction and monitoring period in case of failure (first 15 years). Long term financial assurance refers to the stewardship account that will fund the long-term maintenance and management of the project in perpetuity once the monitoring period ends. |
| 05.21.25 NYSDEC | Overview 20 | What type of work does the “long-term” management of these mitigation sites entail? If the property is transferred, do the “long-term’ financial assurances fund transfer to the new owners? Please clarify. | See Table 9 of the Overview plan and Section 12.3 of the Buxton Creek plan. |
| 05.21.25 NYSDEC | Buxton 21 | Section 2.1 Site Selection. Page 2 – The site description indicates the potential for restoration at this location, which is DEC’s most preferred type of mitigation. As such, areas that are restored should not be calculated with areas undergoing creation, as creation is less desirable than restoration. | Due to the likelihood that much of this area was historically wetland, drained and altered for agricultural use, all wetland mitigation within the active ag fields are calculated as restoration. |
| 05.21.25 NYSDEC | Buxton 22 | Section 2.2 Site Protection, starting on Page 2 – It should be noted in this section that the site will be protected under Article 24 of the Environmental Conservation Law. | Understood, statement added in Section 2.2. |
| 05.21.25 NYSDEC | Buxton 23 | Section 3.1 Land Use History, Page 6 – Please provide copies of the described NRCS-held conservation easements for areas A-D of the Buxton Creek Mitigation site and confirm that the proposed mitigation work is not in conflict with the provisions of these easements. | Copy of Easement provided. Following a conversation with NRCS staff, the proposed project will not have the potential to void any prior held NRCS easements, and TWT may enter into a compatible use authorization to conduct work within the easements (such as herbicide application) |
| 05.21.25 NYSDEC | Buxton 24 | Section 3.2 Soils, Page 8, Figure 3-2 - Please explain what factors were used to determine depth to groundwater at individual sites and how this measurement accounts for seasonal fluctuations. | Depth to groundwater was recorded within a 4- or 11-foot-deep soil test pit. Each pit was left open for several minutes to allow groundwater (if applicable) to accumulate, and then depth from the surface was measured using a measuring tape. A rain gauge has been installed at the site to inform seasonal fluctuations in precipitation. |
| 05.21.25 NYSDEC | Buxton 25 | Section 3.3 Wetlands and Hydrology, starting on Page 9 - This section should lay out the existing sources of hydrology on the site and how those will be improved (or manipulated) to meet the necessary hydroperiods for the wetland units and their designated community types. Hydrologic drivers, control points, and the associated area of influence should be clearly presented/mapped. Supporting information should include design plans/cross sections, water budgets, locations of control points (ground water dams, checkdams or grade control, outlet elevations, etc). In addition, a comprehensive hydrologic monitoring plan is needed which explains how the project will demonstrate that the hydrologic performance criteria are met for all areas of the project. | Each site has undergone a watershed-scale assessment to evaluate surface water flow, drainage patterns, and hydrologic dynamics. While formal water budgets can be useful, they can also be highly variable in accuracy. We feel that with all the existing site conditions and our work methods, the development of water budgets would have limited value for these sites. The successful establishment of wetland mitigation areas relies on an adaptive, iterative approach to hydrology evaluation. This process:<br>•Begins with site selection and continues through field studies, design, and construction<br>•Includes real-time monitoring and data integration<br>•Allows for construction-phase adjustments based on observed conditions<br>•Supports long-term performance through adaptive management (e.g., minor modifications to berm elevations)<br>This dynamic process is essential to ensuring wetland covertypes/functions/values are achieved and maintained over time.We welcome discussion with agencies regarding specific methodology they wish us to use. |

| | | | |
|---|---|---|---|
| 05.21.25 NYSDEC | Buxton 26 | Section 3.3 Wetlands and Hydrology, starting on Page 9 – All groundwater and surface water data collected at the mitigation sites must be included in the final version of the mitigation plans. | Understood. |
| 05.21.25 NYSDEC | Buxton 27 | Section 3.3 Wetlands and Hydrology, Page 9 – This section indicates that the hydrology of Buxton Creek is driven by shallow silt loam and sandy topsoil over clay and/or compacted sand clay. Are the clay-based layers restrictive and is it known if this is a confined aquifer? The hydrological investigation should focus on shallow ground water that can influence surface saturation and not confined aquifers. | In some areas, yes - the sandy layer is variable at the site. Excavator test pits were dug to reveal more soil layer information, and for most proposed wetlands, the surface saturation will be targeted. |
| 05.21.25 NYSDEC | Buxton 28 | Section 3.3 Wetlands and Hydrology, Page 10, paragraph under "Staff Gauges" – What GIS data is being used to derive elevations? Further, please provide shapefiles depicting the location of all gauges and monitoring wells that includes wetlands and wetland labels. | Survey grade GNSS recievers were used to obtain elevations. Understood regarding shapefiles. All locations (coordinates) are listed in the Mitigation Plan. |
| 05.21.25 NYSDEC | Buxton 29 | Section 3.3 Wetlands and Hydrology, Page 10, Monitoring wells –Please provide typicals for both the staff gauges and monitoring wells. | Typicals added to Appendix H. |
| 05.21.25 NYSDEC | Buxton 30 | Section 3.4 Existing Wildlife, starting on Page 11 - The mitigation sites must demonstrate how each of the wetland functions and values (F&V) on the Micron campus (identified in the F&V analysis) have been replaced as part of the performance criteria. The F&Vs included flood flow alteration, sediment stabilization, toxicant retention, etc. However, wildlife habitat was a primary F&V for all the impacted wetlands. Please explain how wildlife monitoring will be used to show 1. a measurable increase from the site baseline, and 2. replacement of habitat for the species and functional groups that will be impacted on White Pines site. Examples: Breeding/nesting, migratory use, change in diversity, richness, abundance, functional or guild diversity, etc. | Understood, TWT is working to incorporate breeding/migratory bird monitoring. |
| 05.21.25 NYSDEC | Buxton 31 | Section 3.4 Existing Wildlife, Page 14, Figure 3-5 Buxton Creek Hydrology Monitoring Locations - Staff gauges are needed for Deep Emergent Marsh which is defined by the depth of surface water. Further, the monitoring wells (and/or staff gauges) should be distributed across the mitigation site such that the agencies are able to make inferences as to the hydrologic performance in each wetland unit. See Hydrology Section comments above. | Understood, staff gauges for deep emergent areas added to Hydrology Monitoring Location figures. Monitoring wells are distributed throughout the site in each wetland cover type. If NYSDEC suggests different locations, further discussion would be necessary. |
| 05.21.25 NYSDEC | Buxton 32 | Section 5 Wetland Mitigation Work Plan, starting on Page 17 –Please provide larger plans or tile the existing plans to show greater detail. Cross sections must also be included in the next revision of this document. | Cross sections are included in Appendix H with a higher quality version of the site plan. |
| 05.21.25 NYSDEC | Buxton 33 | Section 5 Wetland Mitigation Work Plan, Page 17, guiding characteristics - The hydrogeomorphic classifications found in the F&V assessment should also be factored. Refine the target hydrology and/or hydroperiod for the cover types. | See Section 5. |
| 05.21.25 NYSDEC | Buxton 34 | Figure 5-3 Buxton Creek Site Plan, Page 20 – Clearly depict the location of the proposed groundwater dams on this site plan and explain how the proposed stream will pass through the groundwater dams. Further, explain if the contours on this figure are existing or proposed. Finally, please include larger plan sheets and shapefiles for all future mitigation plans. | Mitigation wetland berms/core trenches are depicted in the grading plan, Sheet 2a and 2b, in Appendix H. Streams will be able to flow over the groundwater dams via riffle crests (see Figure 8-3 and 8-4. The contours on the Site Plan are existing, please see the grading plan sheets and cross sections. Higher quality PDFs have been provided in Appendix H. |

| | | | |
|---|---|---|---|
| 05.21.25 NYSDEC | Buxton 35 | Section 5.4 Planting Plan, Tables 5-2a-f, starting on Page 25 – These tables are missing herbaceous plantings/seedings for PSS and PFO wetland cover types. | Tables have been updated. |
| 05.21.25 NYSDEC | Buxton 36 | Section 5.4 Planting Plan, Table 5-2b Deep Emergent Marsh. Page 26 – The species list in this table appears short to DEC. The list should be supplemented with plant plugs to account for deeper emergent and floating emergent vegetation. | Table has been updated. |
| 05.21.25 NYSDEC | Buxton 37 | Section 5.4 Planting Plan, Table 5-2c Scrub Shrub. Page 27 – DEC recommends omitting Viburnum opulus from this list as Var. americanum is often confused with the European variety, which is an invasive, and difficult to ensure nativity. | Viburnum opulus has been omitted from the list |
| 05.21.25 NYSDEC | Buxton 38 | Section 5.4 Planting Plan, Table 5-2d PFO, Page 27 – Floodplain Forest – Green ash and hemlock should be removed from this list. | Fraxinus pennsylvanica and Tsuga canidensis have been omitted from the list |
| 05.21.25 NYSDEC | Buxton 39 | Section 5.4 Planting Plan, Table 5-2f Hemlock Hardwood Swamp, Page 28 - Additional species to consider for replacement of coniferous component per Edinger or NYNHP community descriptions: Larix laricina (tamarack), Picea mariana (black spruce), Thuja occidentalis | Suggestions have been incorporated. |
| 05.21.25 NYSDEC | Buxton 40 | Section 5.5 Timing and Sequence, Page 29, second paragraph – DEC will require a 15-year monitoring period. Please revise this section to reflect the required timeframe. | Resolved, adjusted to 15-years. |
| 05.21.25 NYSDEC | Buxton 41 | Section 6 Wetland Performance Standard, Page 30, first paragraph – The last sentence of this paragraph states “Credits generated are determined by acreage meeting the following parameters, in addition to the final vegetative goals.” While this statement may be accurate for USACE’s mitigation process, the DEC process differs. DEC typically expects that all proposed mitigation work will meet the criteria set forth by the agencies, and that any work that does not meet these criteria is corrected until it does. DEC is willing to adopt the USACE method for the purposes of this project but would like more detail on how corrective action is undertaken if the mitigation work does not meet all criteria. | Understood, language in this section has been clarified. |
| 05.21.25 NYSDEC | Buxton 41a | Further, please note that the final mitigation work must also meet cover type definitions as described in section 5 of this plan and include a hydroperiod (timing, frequency, duration) target. | Understood. |
| 05.21.25 NYSDEC | Buxton 42 | Section 6 Wetland Performance Standard, Page 30, first bullet point - Hydrology must be met >50% of years during the monitoring period (6 in 10, or 8 in 15). Pleases revise this section to reflect this requirement. | Corrected. |
| 05.21.25 NYSDEC | Buxton 43 | Section 6 Wetland Performance Standard, Page 30, first bullet point – Please define the term “vegetated shallows” | It was determined that language does not fit in this section, therefore it is not included here for this submittal. |
| 05.21.25 NYSDEC | Buxton 44 | How will TWT quantify the percentage of re-establishment area for deepwater aquatic habitat or shallow emergent marsh? Further, is the re-establishment mentioned here equivalent to DEC’s definition of restoration? Please clarify. | Yes, the use of "re-establishment" in this text is the DEC restoration equivalent. Deepwater aquatic habitat and deep or shallow emergent marsh will be distinguished by water depth and percent emergent vegetation cover as described by the NYNHP, also in Section 5. |
| 05.21.25 NYSDEC | Buxton 45 | Section 6 Wetland Performance Standard, starting on Page 31 – When describing proposed plantings, please detail how many stems per acre are proposed, and how many stems per acre are expected from natural regeneration. | See Table 6-1, footnote 4. |

| | | | |
|---|---|---|---|
| 05.21.25 NYSDEC | Buxton 46 | DEC requires a target of 800 stems/acre with no more than 1/5 trees for PSS and 600 stems/acre with no more than 1/3 shrubs for PFO. | Up to 600/800 trees/srubs will be planted within the first 3 monitoring years if needed, depending on survivability |
| 05.21.25 NYSDEC | Buxton 47 | Section 6 Wetland Performance Standard, Page 31, Palustrine Forest (PFO) bullet point – DEC is requiring a 15-year monitoring period for PFO but with 10 monitoring events. Please revise this section to meet this requirement. | Corrected. |
| 05.21.25 NYSDEC | Buxton 48 | Section 6 Wetland Performance Standard, Page 32, VIBI bullet point – Random sampling protocols need to be added to give a better picture of the whole site. | Bullet point added for randomized plots. |
| 05.21.25 NYSDEC | Buxton 48a | How will the VIBI for Buxton Creek by used for comparison with the White Pine Commerce Park site location and the F&V analysis? | Additional agency discussion warrented. |
| 05.21.25 NYSDEC | Buxton 49 | Section 10.1 Reporting schedule, Page 41 – This section states all monitoring and reporting efforts and documentation are the responsibility of TWT. As this is permittee-responsible compensatory mitigation, Micron is ultimately responsible for all mitigation efforts and documentation. Revise this section to reflect this requirement. | Understood and corrected. |
| 05.21.25 NYSDEC | Buxton 50 | Section 12 Long Term Management Plan, Page 43 – The Long-Term Management Plan must also be submitted to NYSDEC. Please revise this section as such. | Corrected. |
| 05.21.25 NYSDEC | Buxton 51 | Section 14 Financial Assurances, Page 45 – All documentation on financial assurances must be included in the final iteration of the mitigation plans. | Understood. |
| 05.21.25 NYSDEC | Buxton 52 | Section 14.3 Long-term, Page 62, Table 14-1 – Please explain the "frequency" column in this table. | Here, frequency refers to how often each management activity is estimated to occur. For example, monitoring and administration fees would occur annually (every 1 year), whereas boundary posting or site manipulation (if needed) would occur about once in 10 years. |
| 05.21.25 NYSDEC | Buxton 53 | General Comment - Appendices should have page and section numbers, allowing for easy referral in written text. For example, "see Appendix A Section 2 page 5". | Understood. |
| 05.21.25 NYSDEC | Buxton 54 | Appendix D – Please add sub-headings for wildlife groupings (e.g. avian, fish, etc…) and provide common names for the species so that this table is easier to comprehend by the public. | These changes have been implemented. |
| 05.21.25 NYSDEC | Buxton 55 | Appendix D – The conservation status for flora can be found through NYNHP or the New York Flora Atlas. Please add the status of flora. | Understood, conservation statuses added. |
| 05.21.25 NYSDEC | Buxton 56 | Appendix E Buxton Creek ISMP - Depending on the number of invasive species in adjacent wetlands, it may be a necessity to constantly control invasive species creeping onto mitigation areas. This would result in more frequent monitoring at more frequent time intervals. Longer term monitoring should be required where invasive species are a recurring issue. | Understood, yearly assessments will take place in early summer and additional checks will occur in fall. Any sites that are experiencing any encroachment will be managed. |
| 05.21.25 NYSDEC | Buxton 57 | Appendix E Buxton Creek ISMP, Section 1.2 Regulatory Compliance, Page 2 – In addition to the invasive species identified in 6 NYCRR Part 575, DEC would like TWT to target any species with a New York State Natural Heritage invasiveness ranking of "high" or "very high." | Understood, see Section 1.2 |

| | | | |
|---|---|---|---|
| 05.21.25 NYSDEC | Buxton 58 | Appendix E Buxton Creek ISMP, Page 5 – This section mentions "Equipment Cleaning Protocols" but fails to explain these protocols in detail. Are there going to be off-site cleaning stations for incoming construction vehicles, wetlands mats etc.? If so, please specify the location. What are the exact cleaning protocols, equipment, chemicals (if used), compliance controls of operators, tracking of cleaning efforts per vehicle per day etc.? Are cleaning efforts going to be via passive methods (power washing) or a combination of active (scrubbing, manual removal of large debris and foliage), and passive efforts? How is operator compliance ensured? Are there going to be seasonal changes to cleaning protocols controlling for seeds, mud etc.? Is quality control going to be implemented? | Clarity has been added to the ISMP regarding equipment cleaning. |
| 05.21.25 NYSDEC | Buxton 59 | Appendix E Buxton Creek ISMP, Section 3.2 Site Preparation & Prevention Measures, Page 5 – In addition to cleaning equipment prior to arriving onsite, equipment should also be cleaned and inspected prior to leaving site to prevent the spread of invasive species. | Understood, these changes have been made in the ISMP, Section 3.2. |
| 05.21.25 NYSDEC | Buxton 60 | Appendix E Buxton Creek ISMP, Section 5.2 Long-Term Monitoring & Adaptive Management, Pages 5-6 - Consider principles of integrated pest management such as specific biology and ecology; annuals could be mowed before seed set, some emergent species can be cut and drowned during high water, etc.. | Understood. |
| 05.21.25 NYSDEC | Buxton 61 | Appendix E Buxton Creek ISMP, Section 5.2 Long-Term Monitoring & Adaptive Management, Page 6 – Further refine how the monitoring results will be calculated: over the community type? By wetland hydrological unit (as defined by a shared groundwater dam)? Over the entire site? | This information can be found in Section 6 of the Buxton Creek Mitigation Plan. |
| 05.21.25 NYSDEC | Buxton 62 | Appendix E Buxton Creek ISMP, Table 6-1 Treatment Timing & Methods Summary Table – This table mentions that mowing, cutting and hand-pulling will occur in late summer to fall. This timeline fails to acknowledge the seed stage of the plant. Cutting during seed set times could encourage seed to disperse; the seed head should be cut during dormancy. Stalks should be cut during active season (July/ August, close to tassel stage) when most food reserves are in the aerial portion of the plant. Hand pulling is only recommended for a small area (less than ¼ acre) with sandy soils. How is cut or pulled material being handled? Is it removed from the site? Composted? | The treatment timing in this table was meant to refer to the best time to spray which is July through fall when plants are actively transporting nutrients to it's rhizomes for winter dormancy. Should any cutting or pulling be necessary (which will acknowledge the plant's seed stage), material will be burried or composted on site only after rendered non-viable. |
| 05.21.25 NYSDEC | Buxton 63 | Appendix E Buxton Creek ISMP, Section 6.2.4 Lythrum salicaria (Purple Loosestrife), Page 9 - Galerucella beetles are widely established and abundant throughout the great lakes. Releases are generally not needed. As such, please provide additional methods to manage purple loosestrife. | Manual control and spraying are the preferred methods here and what will ultimately be used. Bio control and other methods are discussed to provide a clear picture of all options. The narrative has been adjusted to show that bio control would not be the preferred method. |
| 05.21.25 NYSDEC | Buxton 64 | Appendix F Wetland Design Forms, Page 54 - Provide a maps in this section showing test hole locations labeled to correspond with each design form. | See Figure 3-2. The test hole number can be matched up with the wetland design forms. Generally, the ones that start with "W" are wetland design form holes. |
| 05.21.25 NYSDEC | Buxton 65 | Appendix H Site Plans – all wetland plans must include profiles including the proposed groundwater dams. | Select profiles have been included for each of the six sites. Please see Appendix H of the Buxton Plan. |
| 05.21.25 NYSDEC | Buxton 66 | Appendix H Site Plans, Drawing Number C-111, "Proposed Plan & Profile SE- DS-1" – DEC needs more details on erosion and sediment controls for the instream work shown on this plan. This will require a cofferdam and pump around, but this method has not been discussed. | Understood |

| | | | |
|---|---|---|---|
| 05.21.25<br>NYSDEC | Buxton 67 | Appendix H Site Plans, Drawing Number C-119 “Proposed Plan & Profile NW- DS-1” - What will happen with the abandoned ditch depicted in this plan? Other sections of abandoned stream will be backfilled. Check dams or channel blocks should be considered here to ensure the ditch does not continue to dewater the adjacent areas. | TWT is discussing with Ramboll. |
| | | | |

**Table 1: Indicators (included in calculation for the Raw Composite Score)**

| | |
|---|---|
| Ecological Health | Canopy Cover Riparian |
| | Natural Cover Riparian |
| | Floodplain Complexes Riparian |
| | Matrix Forest Blocks Riparian |
| | Ecological Significance Riparian |
| Ecological Stress | Impervious Surface Riparian |
| | Landscape Condition Assessment Riparian |
| | Known Water Impairments |
| | Erosion Index |

**Table 2: Definitions**

| | |
|---|---|
| New York State Riparian Opportunity Assessment (NYSROA) | The NYSROA is a tool that provides information on the health of existing streams and their associated riparian buffers within the watersheds, sub-watersheds, and catchments across New York State which allows for the prioritization of sites for restoration efforts. Consistent with its goals, the NYSROA was used herein to evaluate and identify potential areas in the vicinity of the Micron Site that are impaired and would benefit from mitigation as prescribed in the NYSROA. https://www.nynhp.org/documents/28/riparian_assessment_2018.pdf |
| Indicator | Raw data used from the NYSROA (listed in Table 1 above). Each Indicator and its data source is defined in Tab 2. |
| Study Area | The overall study area used in this analysis is the Oneida River Watershed HUC_041402020905 and the eight adjacent watersheds. |
| Catchment | *Via NYSROA:* A catchment delineation prepared by Spatial Hydro-Ecological Decision System (SHEDS), the NHD high resolution delineation, version 2. SHEDS catchments are based on the National Hydrography Dataset high resolution dataset flowlines, adjusted such that streams are only initiated if they meet the minium 0.75 sq.km drainage area threshold. Catchments represent the drainage area contributing to an individual stream segment, the reach in between confluences, in this adjusted stream network. |
| Raw Composite Score | Score calculated using the indicators listed above in Table 1. The Raw Composite Score is the difference between the sum of the Ecological Health Indicators and the sum of the Ecological Stress Indicators. Calculation on Tab 5- columns D-O. |
| Raw Percent Rank | Percent ranking of each catchment's Raw Composite Score compared to the other catchments in the study area. Calculation shown in Tab 5, column P. Average calculated using column P, used in Normalized Score (*Avg. Raw Percent Rank in Study Area = 0.5* ) |
| Average Raw Percent Rank | Average calculated using column P, used in Normalized Score calculation(*Avg. Raw Percent Rank in Study Area = 0.5* ) |
| Normalized Score | Represents the ratio of the model-derived Raw Percent Rank for the targeted stream reach over the average model-derived Percent Rank for the Study Area. |
| Stream Credits Required | The amount of mitigation "credit" required for the permanent loss of that reach based on the ratio of the model-derived raw percent rank for the targeted stream reach over the average model-derived rank for the existing streams to be impacted (*normalized score)* , and the linear feet of stream to be impacted. This is calculated on Tab 3, Column H. |
| Stream Credits Achieved | The amount of mitigation "credit" achieved by applying the ratio of the model-derived raw percent rank over the average raw percent rank (*normalized score)* , to the reach length available within this reach. Stream Credits Achieved are calculated for the current proposed mitigation reaches on Tab 4, column G. |
| Credit Ratios | Ratio #1: B6: Linear feet acquired (C5) over total impacted linear ft at Micron (Tab 3, cell E19). Ratio #2: G6: Sum of Stream Credits Achieved (cell G5) over the sum of Stream Credits Required (Tab 3, cell H19). |

**Table 3: Tab Overview**

| | |
|---|---|
| **2. Data Background** | Information from Appendix A of the New York State Riparian Opportunity Assessment. This includes the data source and description for all Indicators used in this analysis (*indicators in Table 1 to the left* ). Raw values for the included Indicators were used in order to calculate the Raw Composite Score for all Catchments in the Study Area, which is the basis for the Credit Rankings, Credits Required and Credits Achieved. |
| **3. Micron Background Info** | All delineated jurisdictional streams on the Micron site, their Catchment ID and attributed Raw Composite Score, linear footage, the Normalized Score, and the Stream Credits Required. |
| **4. Current Credit Rank** | Current sites proposed for stream mitigation, the Catchment the site is within, the linear footage of planned stream restoration, the calculated Raw Composite Score (raw and intermediate data for calculation of Raw Composite Score is on Tab 6), the Normalized Score, the Credits Required (see Table 2 for relavant definitions), and associated credit ratios. |
| **5. Raw Composite Scores and Rankings** | The raw data and calculations for Raw Composite Scores and Percentages for all catchments included in the analysis. Raw data from the Indicators listed in Table 1 was used to calculate a score for each Micron catchment, and for each proposed stream mitigation parcel (Raw Data for each Indicator Tab 5, Columns D-L) . This tab includes intermediate sums for Ecological Health (Column M) and Ecological Stress (Column N), the Raw Composite Score (difference between Ecological Health and Ecological Stress, Column O), and the Raw Percent Rank (Column P) of the Raw Composite Score based on all catchments in the study area. |
| **6. All Considerations Table** | All parcels that have been analyzed and considered for purchase and use for Stream Mitigation. This includes the following general information: parcel ID, Catchment, County, Town, and the approximate distance from the Micron Site, the proposed linear footage of streams for each parcel, and the reason for ultimately using or not using that land for restoration. |

***Descriptions for Data Sources from the NYSROA, used as Indicators in this analysis***
**Information via Appendix A, NYSROA**
New York State Riparian Opportunity Assessment (nynhp.org)

| Attribute Name | | Indicator | Data Source | Descripton | Data Type |
|---|---|---|---|---|---|
| N_H1_CAN_Rip | **Ecological Health Indicators** | *Canopy Cover Riparian* | NLCD | Higher values indicate greater mean canopy cover | Continuous Raster |
| N_H2_NAT_Rip | | *Natural Cover Riparian* | NLCD | Higher values indicate greater percentage of natural habitat cover | Binary Raster |
| N_H5_FC_Rip | | *Floodplain Complexes Riparian* | The Nature Conservancy 2016 | Higher values indicate greater proportion of the area within a Floodplain Complex. Floodplain Complexes describe larger streamside natural upland and wetland patches, and provide an indicator of vegetative and riparian connectivity independent of large tracts of forest. | Polygon |
| N_H7_MFB_Rip | | *Matrix Forest Blocks Riparian* | The Nature Conservancy Eastern Conservation Science and The New York Natural Heritage Program 2006 | Higher values indicate a greater proportion of a target area included in a matrix forest block. Forest blocks describe larger units of contiguous forest, and riparian zones w/ a higher proportion of area composed of part of a forest block are likely to have better connectivity, and be more resilient to disturbance. | Polygon |
| N_H8_ES_Rip | | *Ecological Significance Riparian* | NYNHP Element Occurences and Element Distribution Models (Conrad et al. 2016) | Greater values indicate the presence of more rare species occurences of higher quality and habitat suitable for rare species. The presence of rare species often indicates higher biodiversity and thus higher ecological health. This metric also incorporates the condition ranking assigned by the biologist who visited the site, the date the species was last observed at the site, and locations modeled as suitable habitat for rare species. | Point values |
| N_S2_IS_Rip | **Ecological Stress Indicators** | *Impervious Surface Riparian* | NLCD | Higher values indicate larger percentage of area covered by impervious surfaces. | Continuous Raster |
| N_S3_LCA_Rip | | *Landscape Condition Assessment Riparian* | NYNHP, (Feldmann and Howard 2013) | Higher values indicate greater levels of development stress. The Landscape Condition Assessment (LCA) incorporates a suite of landscape stressors which describe the distribution and abundance of transportation, urban, industrial, and agricultural land use (Feldmann and Howard 2013) (a synthesis layer of many other stressors) | Continuous Raster |
| N_S4_WQ | | *Known Water Impairments* | Priority Waterbodies List (NYS DEC Division of Water 2017) | Higher values indicate a higher degree of water quality impairment. The NY Priority Waterbodies List is a statewide compilation of water quality information that assesses overal waer quality and sources of water quality impairment. (more in descriptiono if needed) | Line |
| N_S5_EI | | *Erosion Index* | 10m Digital Elevation Model (NYS DEC 2005) | Higher values indicate areas where water may push across the landscape as a sheet, with high upslope contributing areas and low slopes. | Continuous raster |

## Micron Site

| Stream Name | Catchments | Raw Composite Score[1] | Phase 1A- Linear Feet *(USACE Jurisdictional)* | Phase 1B- Linear Feet *(USACE Jurisdictional)* | Phase 2A- Linear Feet *(USACE Jurisdictional)* | Phase 2B- Linear Feet *(USACE Jurisdictional)* | Total Linear Feet *(USACE Jurisdictional)* | Raw Percent Rank w/in study area | Normalized Score[2] | Phase 1A- Stream Credits Required | Phase 1B- Stream Credits Required | Phase 2A- Stream Credits Required | Phase 2B- Stream Credits Required | Total Stream Credits Required[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ES11 | 204187966 | -119 | 0 | 0 | 466 | 0 | 466 | 0.872 | 1.7 | 0 | 0.0 | 813 | 0.0 | 813 |
| ES15 | 204188000 | -396 | 0 | 0 | 298 | 0 | 298 | 0.583 | 1.2 | 0 | 0.0 | 347 | 0.0 | 347 |
| ES16 | 204187975 | -407 | 430 | 0 | 0 | 0 | 430 | 0.571 | 1.1 | 491 | 0.0 | 0 | 0.0 | 491 |
| ES20 | 204188007 | -472 | 795 | 0 | 0 | 0 | 795 | 0.518 | 1.0 | 824 | 0.0 | 0 | 0.0 | 824 |
| ES21 | 204188007 | -472 | 209 | 0 | 0 | 0 | 209 | 0.518 | 1.0 | 217 | 0.0 | 0 | 0.0 | 217 |
| ES6 | 204188012 | -206 | 0 | 0 | 0 | 321 | 321 | 0.785 | 1.6 | 0 | 0.0 | 0 | 504.0 | 504 |
| ES8 | 204188012 | -206 | 130 | 0 | 915 | 0 | 1045 | 0.785 | 1.6 | 204 | 0.0 | 1437 | 0.0 | 1641 |
| ES8a | 204188012 | -206 | 0 | 0 | 134 | 0 | 134 | 0.785 | 1.6 | 0 | 0.0 | 210 | 0.0 | 210 |
| IS1 | 204187975 | -407 | 1411 | 0 | 0 | 0 | 1411 | 0.571 | 1.1 | 1611 | 0.0 | 0 | 0.0 | 1611 |
| IS2 | 204187975 | -407 | 607 | 0 | 0 | 0 | 607 | 0.571 | 1.1 | 693 | 0.0 | 0 | 0.0 | 693 |
| IS3 | 204187975 | -407 | 0 | 0 | 0 | 0 | 0 | 0.571 | 1.1 | 0 | 0.0 | 0 | 0.0 | 0 |
| IS4 | 204188007 | -472 | 0 | 0 | 337 | 0 | 337 | 0.518 | 1.0 | 0 | 0.0 | 349 | 0.0 | 349 |
| IS4a | 204188007 | -472 | 0 | 0 | 150 | 0 | 150 | 0.518 | 1.0 | 0 | 0.0 | 155 | 0.0 | 155 |
| PS1 | 204187966 | -119 | 0 | 0 | 0 | 0 | 0 | 0.872 | 1.7 | 0 | 0.0 | 0 | 0.0 | 0 |
| RD4a | 204188007 | -472 | 43 | 0 | 29 | 0 | 72 | 0.518 | 1.0 | 45 | 0.0 | 30 | 0.0 | 75 |
| RD4b | 204188007 | -472 | 0 | 0 | 8 | 0 | 8 | 0.518 | 1.0 | 0 | 0.0 | 8 | 0.0 | 8 |
| | | **TOTAL** | 3625 | 0 | 2337 | 321 | **6283** | | | 4084 | 0 | 3350 | 504 | **7938** |

| | |
|---|---|
| **AVG Raw Percent Rank (Study Area)** | 0.5 |

[1] The Raw Composite Score is the score calculated for this reach using New York State Riparian Opportunity Assessment (nynhp.org) tool. Indicators included in table to the left.

[2] Normalized Score represents the ratio of the model-derived Percent Rank for the targeted stream reach over the average model-derived Raw Percent Rank for the Study Area.

[3] The Stream Credits Required is the amount of mitigation "credit" required for the permanent loss of that reach based on the ratio of the model-derived raw percent rank for the targeted stream reach over the average model-derived rank for the existing streams to be impacted (normalized score), and the linear feet of stream to be impacted.

| The Wetland Trust - Proposed Stream Mitigation Areas | | | | | | |
|---|---|---|---|---|---|---|
| **Site** | **Catchments** | **Linear Feet** | **Raw Composite Score[1]** | **Raw Percent Rank w/in study area** | **Normalized Score[2]** | **Stream Credits Achieved[3]** |
| Sixmile-Fish Creek | 204187602 | 5413 | -181 | 0.811 | 1.62 | 8779.9 |
| Buxton Creek | 204187560 | 3592 | -322 | 0.668 | 1.34 | 4799.4 |
| Buxton Creek Tributary | 204187546 | 5025 | -293 | 0.692 | 1.38 | 6954.6 |
| | **TOTAL** | **14030** | | | | **20534** |
| **Credit Ratios[4]** | **2.23** | | | | | **2.59** |

[1] The Raw Composite Score is the score calculated for this reach using New York State Riparian Opportunity Assessment (nynhp.org) tool. Indicators included in table to the left

[2] Normalized Score represents the ratio of the model-derived Percent Rank for the targeted stream reach over the average model-derived Percent Rank for the Study Area (watershed).

[3] Stream Credits Achieved is the amount of mitigation "credit" achieved by applying the ratio of the model-derived raw percent rank over the average percent ranking (normalized score), to the reach length available within this reach.

[4] Ratio #1: B7: Linear feet proposed (C6) over total impacted linear ft at Micron (Tab 3, cell I19). Ratio #2: G7: Sum of Stream Credits Achieved (cell G6) over the sum of Stream Credits Required (Tab 3, cell P19).

| Catchment | HUC_12_Name | NAME | Canopy Cover Riparian *(H1_CAN_Rip)* | Natural Cover Riparian *(H2_NAT_Rip)* | Floodplain Complexes Riparian *(H5_FC_Rip)* | Matrix Forest Blocks Riparian *(H7_MFB_Rip)* | Ecological Significance Riparian *(H8_ES_Rip)* | Impervious Surface Riparian *(S2_IS_Rip)* | Landscape Condition Assessment Riparian *(S3_LCA_Rip)* | Known Water Impairments *(S4_WQ)* | Erosion Index *(S5_EI)* | Ecological Health Sum | Ecological Stress Sum | Raw Composite Score | Raw Percent Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204187998 | HUC_041 | Mead Cr | 27.351162 | 0.340338 | 0 | 0 | 0.010113 | 12.734161 | 1192.120708 | 0 | 0.353895 | 27.701613 | 1205.208764 | -1177.507151 | **12%** |
| 204188842 | HUC_041 | Onondag | 10.242154 | 0.003874 | 0 | 0 | 2.592713 | 40.062185 | 1930.304612 | 8 | 1.594995 | 12.838741 | 1979.961792 | -1967.123051 | **0%** |
| 204188322 | HUC_041 | Mud Cre | 28.07802 | 0.216443 | 0 | 0 | 0.022947 | 16.792785 | 1950.284638 | 6 | 1.030954 | 28.31741 | 1974.108377 | -1945.790967 | **1%** |
| 204187588 | HUC_041 | Sixmile C | 15.792364 | 0.058054 | 0 | 0 | 1.161549 | 2.5 | 1061.768545 | 0 | 3.01738 | 17.011967 | 1067.285925 | -1050.273958 | **18%** |
| 204188075 | HUC_041 | Mud Cre | 47.601892 | 0.627568 | 0 | 0 | 1.288712 | 12.928649 | 1157.427972 | 6 | 0.484299 | 49.518172 | 1176.84092 | -1127.322748 | **14%** |
| 204187202 | HUC_041 | Fish Cree | 35.894143 | 0.425163 | 0 | 0 | 1.019012 | 0.614317 | 439.504292 | 0 | 1.489921 | 37.338318 | 441.60853 | -404.270212 | **58%** |
| 204188807 | HUC_041 | Onondag | 29.012175 | 0.267999 | 0 | 0 | 0.023342 | 30.628138 | 2238.458561 | 8 | 4.196585 | 29.303516 | 2281.283284 | -2251.979768 | **0%** |
| 204188093 | HUC_041 | Mud Cre | 13.679406 | 0.293951 | 0 | 0 | 0.449944 | 21.115746 | 1405.225404 | 6 | 0.528955 | 14.423301 | 1432.870105 | -1418.446804 | **6%** |
| 204188351 | HUC_041 | Mud Cre | 42.63282 | 0.418858 | 0 | 0 | 0.032798 | 17.592475 | 1905.913143 | 6 | 1.079617 | 43.084476 | 1930.585235 | -1887.500759 | **1%** |
| 204187489 | HUC_041 | Hall Broc | 40.192917 | 0.913333 | 0.081975 | 0 | 4.346749 | 1.436667 | 928.637797 | 0 | 8.76774 | 45.534974 | 938.842204 | -893.30723 | **25%** |
| 204188413 | HUC_041 | Mud Cre | 41.015988 | 0.363074 | 0 | 0 | 0.04323 | 20.288809 | 1362.847009 | 6 | 1.541939 | 41.422292 | 1390.677757 | -1349.255465 | **8%** |
| 204187527 | HUC_041 | Black Cre | 28.831557 | 0.820896 | 0 | 0.588067 | 5.611396 | 5.588486 | 1398.316794 | 0 | 10.380388 | 35.851916 | 1414.285668 | -1378.433752 | **7%** |
| 204188389 | HUC_041 | Mud Cre | 27.888476 | 0.590149 | 0 | 0 | 0.227148 | 26.134758 | 1220.936986 | 6 | 0.65048 | 28.705773 | 1253.722224 | -1225.016451 | **11%** |
| 204188221 | HUC_041 | Crooked | 16.667989 | 0.169972 | 0 | 0 | 0.736377 | 21.095751 | 1693.151568 | 0 | 1.166583 | 17.574338 | 1715.413902 | -1697.839564 | **2%** |
| 204187700 | HUC_041 | Oneida R | 14.618277 | 0.419454 | 0.056688 | 0 | 3.209914 | 14.991303 | 1371.978295 | 2.804227 | 2.305633 | 18.304333 | 1392.079458 | -1373.775125 | **8%** |
| 204187983 | HUC_041 | Mead Cr | 16.870309 | 0.235681 | 0 | 0 | 0.340394 | 15.583278 | 944.108326 | 0 | 2.174886 | 17.446384 | 961.86649 | -944.420106 | **23%** |
| 204187577 | HUC_041 | Oneida R | 7.361111 | 0.731482 | 0 | 0 | 3.047386 | 1.5 | 1088.678797 | 4 | 22.670645 | 11.139979 | 1116.849442 | -1105.709463 | **14%** |
| 204187852 | HUC_041 | Village of | 24.726407 | 0.291586 | 0.001265 | 0 | 0.513474 | 19.006527 | 1644.561907 | 0 | 1.05002 | 25.532732 | 1664.618454 | -1639.085722 | **3%** |
| 204188501 | HUC_041 | Cross Lak | 17.01973 | 0.438378 | 0 | 0 | 0.299642 | 19.616486 | 1943.021115 | 0 | 3.366801 | 17.75775 | 1966.004402 | -1948.246652 | **1%** |
| 204188364 | HUC_041 | Chittenai | 52.953231 | 0.817601 | 0 | 0 | 1.750533 | 8.117515 | 1101.880427 | 6 | 0.255088 | 55.521365 | 1116.25303 | -1060.731665 | **17%** |
| 204188097 | HUC_041 | Mud Cre | 29.18097 | 0.672202 | 0 | 0 | 2.368479 | 13.975 | 1696.258463 | 6 | 0.970383 | 32.221651 | 1717.203846 | -1684.982195 | **2%** |
| 204187684 | HUC_041 | Little Bay | 29.00947 | 0.463778 | 0 | 0 | 3.511564 | 8.905777 | 1495.541114 | 0 | 0.75044 | 32.984812 | 1505.197331 | -1472.212519 | **5%** |
| 204187287 | HUC_041 | Black Cre | 41.265542 | 0.466931 | 0 | 0 | 0.289011 | 3.218585 | 862.093023 | 0 | 2.55624 | 42.021484 | 867.867848 | -825.846364 | **28%** |
| 204187142 | HUC_041 | Headwat | 53.155172 | 0.589205 | 0 | 0 | 0.149484 | 1.044228 | 358.199925 | 0 | 2.816638 | 53.893861 | 362.060791 | -308.16693 | **68%** |
| 204188323 | HUC_041 | Mud Cre | 37.164544 | 0.47186 | 0 | 0 | 0.113953 | 10.890255 | 1505.213642 | 6 | 0.782984 | 37.750357 | 1522.886881 | -1485.136524 | **4%** |
| 204188105 | HUC_041 | Mud Cre | 36.086556 | 0.583794 | 0 | 0 | 4.802753 | 17.208103 | 1773.318 | 6 | 4.170969 | 41.473103 | 1800.697072 | -1759.223969 | **1%** |
| 204188167 | HUC_041 | Mud Cre | 29.05199 | 0.34606 | 0 | 0 | 0.751899 | 17.797725 | 1861.982291 | 0 | 5.927363 | 30.149949 | 1885.707379 | -1855.55743 | **1%** |
| 204188433 | HUC_041 | Crooked | 4.723689 | 0.72077 | 0 | 0 | 2.974121 | 10.382614 | 1428.181977 | 12.118 | 8.297312 | 8.41858 | 1458.979903 | -1450.561323 | **5%** |
| 204188400 | HUC_041 | Mud Cre | 34.376453 | 0.167151 | 0 | 0 | 0 | 21.825581 | 1470.91286 | 0 | 3.200736 | 34.543604 | 1495.939177 | -1461.395573 | **5%** |
| 204188187 | HUC_041 | Crooked | 11.152228 | 0.224505 | 0 | 0 | 0.77599 | 15.718069 | 1445.961644 | 0 | 2.270318 | 12.152723 | 1463.950031 | -1451.797308 | **5%** |
| 204188110 | HUC_041 | Mud Cre | 28.161919 | 0.671289 | 0 | 0 | 3.871561 | 1.88081 | 1070.37647 | 6 | 2.165883 | 32.704769 | 1080.423163 | -1047.718394 | **18%** |
| 204187743 | HUC_041 | Ox Creek | 25.187328 | 0.699724 | 0.002565 | 0 | 3.001945 | 7.746556 | 888.813424 | 0 | 4.140971 | 28.891562 | 900.700951 | -871.809389 | **25%** |
| 204187805 | HUC_041 | Oneida L | 10.165405 | 0.376216 | 0.000009 | 0 | 6.722727 | 12.757297 | 1490.808141 | 0 | 6.983835 | 17.264357 | 1510.549273 | -1493.284916 | **4%** |
| 204187681 | HUC_041 | Oneida L | 36.295455 | 0.227273 | 0 | 0 | 13.882355 | 12.568182 | 1663.734694 | 0 | 21.728062 | 50.405083 | 1698.030938 | -1647.625855 | **3%** |
| 204187465 | HUC_041 | Little Bay | 5.552747 | 0.611392 | 0 | 0 | 0.05353 | 1.181328 | 1447.604507 | 0 | 1.073966 | 6.217669 | 1449.859801 | -1443.642132 | **6%** |
| 204188639 | HUC_041 | Ley Cree | 34.234419 | 0.264174 | 0 | 0 | 0.222096 | 15.240852 | 1165.098656 | 7.929849 | 2.050635 | 34.720689 | 1190.319992 | -1155.599303 | **12%** |
| 204187513 | HUC_041 | Caughde | 4.795455 | 0.053311 | 0 | 0 | 1.213235 | 0.330948 | 514.151439 | 0 | 1.266825 | 6.062001 | 515.749212 | -509.687211 | **47%** |
| 204187958 | HUC_041 | Mead Cr | 19.595084 | 0.254155 | 0 | 0 | 0.597074 | 12.372475 | 959.5111 | 0 | 1.002853 | 20.446313 | 972.886428 | -952.440115 | **22%** |
| 204187818 | HUC_041 | Mead Cr | 3.243243 | 0.486486 | 0 | 0 | 1.45469 | 0.756757 | 1553.45074 | 0 | 3.180616 | 5.184419 | 1557.388113 | -1552.203694 | **4%** |
| 204188102 | HUC_041 | Mud Cre | 27.452485 | 0.588203 | 0 | 0 | 1.497494 | 11.342572 | 909.938678 | 6 | 0.13376 | 29.538182 | 927.41501 | -897.876828 | **24%** |
| 204187873 | HUC_041 | Village of | 18.270016 | 0.397174 | 0 | 0 | 2.083295 | 17.615385 | 1398.708142 | 0 | 2.041509 | 20.750485 | 1418.365036 | -1397.614551 | **7%** |
| 204188106 | HUC_041 | Mud Cre | 26.920358 | 0.274273 | 0 | 0 | 0.187722 | 11.12349 | 1761.900893 | 6 | 0.539492 | 27.382353 | 1779.563875 | -1752.181522 | **2%** |
| 204187616 | HUC_041 | Oneida R | 10.531379 | 0.657648 | 0 | 0 | 3.398766 | 5.505825 | 658.604552 | 4 | 9.034047 | 14.587793 | 677.144424 | -662.556631 | **39%** |
| 204187848 | HUC_041 | Oneida R | 9.99491 | 0.102376 | 0.117611 | 0 | 0.882852 | 0.776018 | 1576.742231 | 0 | 4.047816 | 11.097749 | 1581.566065 | -1570.468316 | **3%** |
| 204187611 | HUC_041 | Little Bay | 16.839326 | 0.814045 | 0 | 0 | 0.512806 | 3.590169 | 848.8103 | 0 | 1.695693 | 18.166177 | 854.096162 | -835.929985 | **27%** |
| 204188049 | HUC_041 | Oneida R | 21.269099 | 0.743444 | 0 | 0 | 4.306124 | 7.474344 | 1560.929549 | 3.771052 | 2.287153 | 26.318667 | 1574.462098 | -1548.143431 | **4%** |
| 204188457 | HUC_041 | Mud Cre | 48.239153 | 0.372487 | 0 | 0 | 0.029879 | 11.849735 | 1588.098761 | 0 | 7.039378 | 48.641519 | 1606.987874 | -1558.346355 | **4%** |
| 204187942 | HUC_041 | Village of | 21.238833 | 0.518372 | 0 | 0 | 1.717263 | 13.676873 | 1422.37553 | 0 | 9.673313 | 23.474468 | 1445.725716 | -1422.251248 | **6%** |
| 204188220 | HUC_041 | Crooked | 32.819191 | 0.479787 | 0 | 0 | 1.283351 | 18.891604 | 1652.383419 | 0 | 0.901225 | 34.582329 | 1672.176248 | -1637.593919 | **3%** |
| 204188349 | HUC_041 | Mud Cre | 31.830054 | 0.676207 | 0 | 0 | 0.042618 | 3.930233 | 1109.258547 | 6 | 0.785889 | 32.548879 | 1119.974669 | -1087.42579 | **15%** |
| 204188164 | HUC_041 | Mud Cre | 34.077223 | 0.792419 | 0 | 0 | 6.250127 | 4.392313 | 875.129571 | 6 | 2.12355 | 41.119769 | 887.645434 | -846.525665 | **26%** |
| 204187376 | HUC_041 | Sixmile C | 45.39819 | 0.669683 | 0 | 0 | 0.228906 | 0.755656 | 803.034608 | 0 | 7.564764 | 46.296779 | 811.355028 | -765.058249 | **32%** |
| 204188416 | HUC_041 | Crooked | 43.114135 | 0.596981 | 0 | 0 | 0.721705 | 18.392498 | 1254.678563 | 0 | 9.227528 | 44.432821 | 1282.298589 | -1237.865768 | **10%** |
| 204187610 | HUC_041 | Little Bay | 39.262411 | 0.796261 | 0 | 0 | 0.212197 | 4.5706 | 1140.873378 | 0 | 1.432103 | 40.270869 | 1146.876081 | -1106.605212 | **14%** |
| 204187434 | HUC_041 | Sixmile C | 21.461415 | 0.448553 | 0 | 0 | 0.568848 | 0.347267 | 499.849466 | 0 | 5.467503 | 22.478816 | 505.664236 | -483.18542 | **51%** |
| 204188576 | HUC_041 | Onondag | 21.351123 | 0.372419 | 0 | 0 | 0.051216 | 23.715232 | 1422.247644 | 4 | 1.115927 | 21.774758 | 1451.078803 | -1429.304045 | **6%** |
| 204188558 | HUC_041 | Crooked | 20.89491 | 0.153629 | 0 | 0 | 0.007485 | 4.322337 | 1324.592327 | 0 | 2.609309 | 21.056024 | 1331.523973 | -1310.467949 | **9%** |
| 204187948 | HUC_041 | Chittenai | 12.332908 | 0.504143 | 0.679488 | 0 | 1.824504 | 0.502018 | 763.708767 | 6 | 1.175311 | 15.341043 | 771.386096 | -756.045053 | **32%** |
| 204187398 | HUC_041 | Little Bay | 41.298634 | 0.339623 | 0 | 0 | 0.005167 | 0.039688 | 1184.176202 | 0 | 0.976002 | 41.643424 | 1185.191892 | -1143.548468 | **13%** |
| 204188216 | HUC_041 | Crooked | 21.761889 | 0.469104 | 0 | 0 | 2.700059 | 8.118624 | 1225.596065 | 5.303363 | 6.583232 | 24.931052 | 1245.601284 | -1220.670232 | **11%** |
| 204187752 | HUC_041 | Oneida L | 2.708879 | 0.832605 | 0.047482 | 0 | 8.763891 | 6.489083 | 1077.328963 | 8 | 0.195219 | 12.352857 | 1092.013265 | -1079.660408 | **16%** |
| 204188174 | HUC_041 | Crooked | 24.87871 | 0.382561 | 0 | 0 | 1.211271 | 14.450425 | 1262.150892 | 0 | 1.062007 | 26.472542 | 1277.663324 | -1251.190782 | **9%** |
| 204188267 | HUC_041 | Crooked | 21.863724 | 0.506535 | 0 | 0 | 3.240336 | 5.333619 | 1077.352685 | 10.47177 | 5.922878 | 25.610595 | 1099.080952 | -1073.470357 | **16%** |
| 204188144 | HUC_041 | Crooked | 31.676616 | 0.49112 | 0 | 0 | 0.380234 | 14.569561 | 1246.277953 | 0 | 3.29102 | 32.54797 | 1264.138534 | -1231.590564 | **11%** |
| 204187355 | HUC_041 | Caughde | 11.471612 | 0.087434 | 0 | 0 | 0.30024 | 0.043906 | 375.712671 | 0 | 0.62049 | 11.859286 | 376.377067 | -364.517781 | **62%** |
| 204187905 | HUC_041 | Oneida C | 24.593008 | 0.384561 | 0 | 0 | 0.958133 | 0.812064 | 400.407225 | 8 | 0.615417 | 25.935702 | 409.834706 | -383.899004 | **60%** |
| 204187912 | HUC_041 | Mead Cr | 24.035403 | 0.411201 | 0.182809 | 0 | 0.847914 | 9.525972 | 923.665414 | 0 | 1.597184 | 25.477327 | 934.78857 | -909.311243 | **24%** |
| 204187579 | HUC_041 | Oneida R | 12.387461 | 0.820063 | 0 | 0 | 4.04776 | 2.001881 | 696.801416 | 3.911124 | 12.615248 | 17.255284 | 715.329669 | -698.074385 | **36%** |
| 204187827 | HUC_041 | Village of | 42.745427 | 0.170732 | 0 | 0 | 1.427098 | 1.330793 | 391.37197 | 0 | 43.138979 | 44.343257 | 435.841742 | -391.498485 | **59%** |
| 204188111 | HUC_041 | Mud Cre | 25.845499 | 0.935523 | 0 | 0 | 7.915343 | 0.439173 | 1049.28591 | 6 | 0.899679 | 34.696365 | 1056.624762 | -1021.928397 | **19%** |
| 204187550 | HUC_041 | Caughde | 42.062263 | 0.646925 | 0 | 0 | 1.297066 | 0.120729 | 457.371544 | 0 | 46.117906 | 44.006254 | 503.610179 | -459.603925 | **53%** |
| 204188359 | HUC_041 | Mud Cre | 30.589345 | 0.902331 | 0 | 0 | 0.262453 | 3.971143 | 966.567846 | 6 | 0.920105 | 31.754129 | 977.459094 | -945.704965 | **23%** |
| 204187070 | HUC_041 | Headwat | 27.60211 | 0.679714 | 0 | 0 | 0.701332 | 0.287696 | 327.72808 | 0 | 1.158018 | 28.983156 | 329.173794 | -300.190638 | **69%** |

Columns D-H = raw data for Ecological Health Indicators
Columns I-L = raw data for Ecological Stress Indicators
Columns M + N= sum of Columns D-H and I-L, respectively
Column O (Raw Composite Score) = M-N
Column P (Raw Percent Rank) = Percent ranking of each catchments Raw Composite Score within the Study Area

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204187590 | HUC_041 | Wood Cr | 12.686135 | 0.642461 | 0.111438 | 0 | 9.785606 | 11.539688 | 1157.716443 | 0 | 0.792866 | 23.22564 | 1170.048997 | -1146.823357 | 13% |
| 204188795 | HUC_041 | Crooked | 37.560258 | 0.595927 | 0.139274 | 0 | 1.068817 | 15.830899 | 1683.072099 | 0 | 2.157467 | 39.364276 | 1701.060465 | -1661.696189 | 3% |
| 204187602 | HUC_041 | Fish Cree | 46.390452 | 0.909223 | 0 | 0 | 2.578432 | 0.244537 | 221.999067 | 0 | 8.470697 | 49.878107 | 230.714301 | -180.836194 | 81% |
| 204187438 | HUC_041 | Waterho | 41.540413 | 0.361652 | 0 | 0 | 0.19417 | 1.645428 | 630.218463 | 4 | 3.845723 | 42.096235 | 639.709614 | -597.613379 | 42% |
| 204188092 | HUC_041 | Mud Cre | 27.361852 | 0.392147 | 0 | 0 | 0.841721 | 7.922201 | 1254.211088 | 0 | 1.679064 | 28.59572 | 1263.812353 | -1235.216633 | 10% |
| 204187526 | HUC_041 | Caughde | 18.878986 | 0.263768 | 0 | 0 | 0.090153 | 0.121739 | 343.053911 | 0 | 1.89715 | 19.232907 | 345.0728 | -325.839893 | 66% |
| 204187978 | HUC_041 | Mead Cr | 34.009508 | 0.4217 | 0 | 0 | 0.448826 | 4.639821 | 1010.138788 | 0 | 1.575603 | 34.880034 | 1016.354212 | -981.474178 | 20% |
| 204188089 | HUC_041 | Crooked | 19.820166 | 0.76298 | 0 | 0 | 4.614261 | 3.20316 | 970.935171 | 15.69833 | 7.687513 | 25.197407 | 997.524174 | -972.326767 | 21% |
| 204188236 | HUC_041 | Chittenai | 61.16971 | 0.699069 | 0 | 0 | 1.22539 | 1.159506 | 651.003542 | 6 | 0.407681 | 63.094169 | 658.570729 | -595.47656 | 42% |
| 204188587 | HUC_041 | Crooked | 18.648515 | 0.636964 | 0.181787 | 0 | 3.586925 | 7.308581 | 1079.919215 | 16 | 0.651377 | 23.054191 | 1103.879173 | -1080.824982 | 16% |
| 204187887 | HUC_041 | Mead Cr | 18.964191 | 0.456927 | 0.047845 | 0 | 1.267829 | 8.3894 | 746.844006 | 0 | 1.216307 | 20.736792 | 756.449713 | -735.712921 | 33% |
| 204188376 | HUC_041 | Mud Cre | 41.546729 | 0.468458 | 0 | 0 | 0.60977 | 12.606308 | 1085.696224 | 0 | 3.728647 | 42.624957 | 1102.031179 | -1059.406222 | 17% |
| 204187987 | HUC_041 | Mead Cr | 38.580324 | 0.583245 | 0 | 0 | 0.603074 | 8.208046 | 1146.921516 | 0 | 0.878355 | 39.766643 | 1156.007917 | -1116.241274 | 14% |
| 204188968 | HUC_041 | Geddes B | 47.327645 | 0.529769 | 0 | 0 | 1.054674 | 6.453925 | 1277.260999 | 4 | 3.412201 | 48.912088 | 1291.127125 | -1242.215037 | 10% |
| 204188621 | HUC_041 | Crooked | 35.888941 | 0.497165 | 0.035106 | 0 | 0.775186 | 8.137051 | 1413.220771 | 1.069851 | 3.332438 | 37.196398 | 1425.760111 | -1388.563713 | 7% |
| 204188171 | HUC_041 | Mud Cre | 58.736364 | 0.763636 | 0 | 0 | 2.49385 | 6.264545 | 1425.476336 | 0 | 15.978275 | 61.99385 | 1447.719156 | -1385.725306 | 7% |
| 204187461 | HUC_041 | Oneida R | 63.209438 | 0.753877 | 0 | 0 | 0.814672 | 0.431716 | 373.615868 | 0 | 0.803182 | 64.777987 | 374.850766 | -310.072779 | 68% |
| 204188476 | HUC_041 | Crooked | 22.937018 | 0.791754 | 0.166305 | 0 | 3.521362 | 10.136842 | 1034.760922 | 14.16284 | 3.196689 | 27.416439 | 1062.257293 | -1034.840854 | 18% |
| 204187999 | HUC_041 | Oneida R | 37.708683 | 0.600968 | 0.00436 | 0 | 3.296634 | 5.779985 | 1337.773677 | 1.936096 | 1.943691 | 41.610645 | 1347.433449 | -1305.822804 | 9% |
| 204188056 | HUC_041 | Mud Cre | 47.604709 | 0.632383 | 0 | 0 | 3.552729 | 3.845518 | 1024.765423 | 6 | 0.602558 | 51.789821 | 1035.213499 | -983.423678 | 20% |
| 204187828 | HUC_041 | Oneida L | 19.893438 | 0.330413 | 0.125443 | 0 | 3.92442 | 5.729662 | 1067.925633 | 0 | 4.656068 | 24.273714 | 1078.311363 | -1054.037649 | 17% |
| 204187520 | HUC_041 | Black Cre | 30.930197 | 0.847876 | 0 | 0.549041 | 4.905025 | 1.800835 | 1226.394995 | 0 | 3.24524 | 37.232139 | 1231.44107 | -1194.208931 | 11% |
| 204187811 | HUC_041 | Ox Creek | 47.914667 | 0.746667 | 0.046999 | 0 | 0.683529 | 0.34 | 371.494113 | 0 | 7.813187 | 49.391862 | 379.6473 | -330.255438 | 66% |
| 204188296 | HUC_041 | Village of | 47.555163 | 0.70098 | 0 | 0 | 0.803286 | 15.162679 | 1126.799158 | 0 | 1.988977 | 49.059429 | 1143.950814 | -1094.891385 | 15% |
| 204187534 | HUC_041 | Black Cre | 30.338867 | 0.798512 | 0 | 0.551187 | 6.433592 | 1.995421 | 1068.538356 | 0 | 4.002684 | 38.122158 | 1074.536461 | -1036.414303 | 18% |
| 204188024 | HUC_041 | Chittenai | 49.96671 | 0.651152 | 0.202794 | 0 | 1.996058 | 0.24528 | 481.87154 | 6 | 0.959167 | 52.816714 | 489.075987 | -436.259273 | 55% |
| 204187435 | HUC_041 | Little Bay | 37.853187 | 0.769451 | 0 | 0 | 0.342663 | 1.792527 | 1112.323149 | 0 | 0.972106 | 38.965301 | 1115.087782 | -1076.122481 | 16% |
| 204188613 | HUC_041 | Crooked | 50.074974 | 0.511088 | 0 | 0 | 0.431393 | 5.459345 | 1769.82482 | 0 | 1.775791 | 51.017455 | 1777.059956 | -1726.042501 | 2% |
| 204188023 | HUC_041 | Oneida R | 29.044633 | 0.273438 | 0 | 0 | 1.937284 | 2.448634 | 1049.600274 | 0 | 2.547407 | 31.255355 | 1054.596315 | -1023.34096 | 19% |
| 204187665 | HUC_041 | Oneida L | 23.693738 | 0.576565 | 0.003897 | 0 | 5.670285 | 9.014259 | 1203.724901 | 0 | 1.039065 | 29.944485 | 1213.778225 | -1183.83374 | 12% |
| 204188230 | HUC_041 | Crooked | 50.696822 | 0.841076 | 0 | 0 | 2.672947 | 6.176039 | 1361.712818 | 0.152471 | 19.054941 | 54.210845 | 1387.096269 | -1332.885424 | 8% |
| 204187694 | HUC_041 | Oneida R | 12.766181 | 0.731392 | 0.072259 | 0 | 4.816533 | 4.847087 | 776.076314 | 3.810236 | 1.046017 | 18.386365 | 785.779654 | -767.393289 | 31% |
| 204189169 | HUC_041 | Dead Cre | 54.589366 | 0.751493 | 0 | 0 | 1.409049 | 3.082183 | 612.596093 | 0 | 1.365098 | 56.749908 | 617.043374 | -560.293466 | 45% |
| 204188259 | HUC_041 | Chittenai | 66.923589 | 0.896621 | 0 | 0 | 1.24399 | 0.930248 | 807.991233 | 6 | 0.248757 | 69.0642 | 815.170238 | -746.106038 | 33% |
| 204187436 | HUC_041 | Little Bay | 41.575 | 0.84093 | 0 | 0 | 0.169699 | 0.055116 | 681.72615 | 0 | 1.843879 | 42.585629 | 683.625145 | -641.039516 | 39% |
| 204187406 | HUC_041 | Sixmile C | 48.931679 | 0.700468 | 0 | 0 | 0.445142 | 0.293779 | 630.845049 | 0 | 5.459451 | 50.077289 | 636.598279 | -586.52099 | 43% |
| 204188020 | HUC_041 | Chittenai | 39.272016 | 0.592721 | 0.546543 | 0 | 1.304624 | 0.273755 | 662.053447 | 5.94318 | 0.806169 | 41.715904 | 669.076551 | -627.360647 | 40% |
| 204187871 | HUC_041 | Village of | 27.713598 | 0.247151 | 0 | 0 | 0.647744 | 1.122056 | 747.349119 | 0 | 3.043345 | 28.608493 | 751.51452 | -722.906027 | 35% |
| 204188274 | HUC_041 | Mud Cre | 42.696188 | 0.456726 | 0 | 0 | 1.246571 | 7.19148 | 1066.117942 | 0 | 3.165877 | 44.399485 | 1076.475299 | -1032.075814 | 19% |
| 204187690 | HUC_041 | Oneida R | 16.826125 | 0.290081 | 0 | 0 | 1.2299 | 1.504037 | 695.417963 | 0 | 0.732091 | 18.346106 | 697.654091 | -679.307985 | 38% |
| 204188276 | HUC_041 | Mud Cre | 39.447487 | 0.903882 | 0 | 0 | 7.991622 | 2.17431 | 1209.719731 | 0 | 0.317952 | 48.342991 | 1212.211993 | -1163.869002 | 12% |
| 204187596 | HUC_041 | Waterho | 38.803126 | 0.550829 | 0 | 0 | 0.854265 | 1.117859 | 646.231691 | 4 | 3.06198 | 40.20822 | 654.41153 | -614.20331 | 40% |
| 204188285 | HUC_041 | Crooked | 15.383988 | 0.70126 | 0.202129 | 0 | 5.045568 | 3.949592 | 943.811163 | 16 | 2.909574 | 21.332945 | 966.670329 | -945.337384 | 23% |
| 204187712 | HUC_041 | Oneida L | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 96% |
| 204187462 | HUC_041 | Oneida R | 9.659026 | 0.130166 | 0 | 0 | 1.584604 | 0.077296 | 460.732389 | 0 | 0.58992 | 11.373796 | 461.399605 | -450.025809 | 54% |
| 204188257 | HUC_041 | Village of | 55.27981 | 0.727303 | 0 | 0 | 1.018203 | 14.805047 | 1137.031613 | 0 | 1.212123 | 57.025316 | 1153.048783 | -1096.023467 | 15% |
| 204187591 | HUC_041 | Sixmile C | 15.159345 | 0.500861 | 0 | 0 | 2.45858 | 0.043928 | 519.199105 | 0 | 1.059553 | 18.118786 | 520.302586 | -502.1838 | 49% |
| 204188052 | HUC_041 | Crooked | 0 | 1 | 0 | 0 | 5 | 0 | 1176.246015 | 16 | 0.00288 | 6 | 1192.248895 | -1186.248895 | 11% |
| 204188609 | HUC_041 | Crooked | 46.785354 | 0.513258 | 0 | 0 | 0.217803 | 4.822391 | 1290.054807 | 0 | 3.647347 | 47.516415 | 1298.524545 | -1251.00813 | 10% |
| 204188385 | HUC_041 | Crooked | 22.176269 | 0.218499 | 0 | 0 | 0.790633 | 0.799282 | 825.278125 | 0 | 1.379865 | 23.185401 | 827.457272 | -804.271871 | 29% |
| 204188611 | HUC_041 | Crooked | 41.668712 | 0.552147 | 0 | 0 | 0.552147 | 6.619632 | 1410.439054 | 0 | 0.523845 | 42.773006 | 1417.582531 | -1374.809525 | 8% |
| 204188055 | HUC_041 | Lower Cc | 13.756686 | 0.203461 | 0 | 0 | 1.207625 | 0.337703 | 498.968062 | 0 | 0.984055 | 15.167772 | 500.28982 | -485.122048 | 50% |
| 204188450 | HUC_041 | Cross Lak | 29.864883 | 0.39062 | 0 | 0 | 0.367672 | 3.184897 | 732.59888 | 0 | 2.758275 | 30.623175 | 738.542052 | -707.918877 | 35% |
| 204188115 | HUC_041 | Crooked | 51.923706 | 0.508316 | 0 | 0 | 0.551891 | 8.525871 | 1058.805486 | 0 | 4.662345 | 52.983913 | 1071.993702 | -1019.009789 | 19% |
| 204187934 | HUC_041 | Mead Cr | 2.482064 | 0.001888 | 0.551673 | 0 | 1.742494 | 0.002517 | 943.777011 | 0 | 0.485392 | 4.778119 | 944.26492 | -939.486801 | 23% |
| 204188511 | HUC_041 | Crooked | 48.152429 | 0.618526 | 0 | 0 | 1.037342 | 13.403364 | 1162.020675 | 0 | 1.136407 | 49.808297 | 1176.560446 | -1126.752149 | 14% |
| 204187502 | HUC_041 | Caughde | 42.474976 | 0.686271 | 0 | 0 | 1.221891 | 0.372541 | 327.708552 | 0 | 17.106673 | 44.383138 | 345.187766 | -300.804628 | 69% |
| 204187981 | HUC_041 | Mead Cr | 32.189148 | 0.427345 | 0 | 0 | 1.30216 | 1.097997 | 1043.906689 | 0 | 0.498726 | 33.918653 | 1045.503412 | -1011.584759 | 20% |
| 204188058 | HUC_041 | Oneida R | 31.787406 | 0.464062 | 0 | 0 | 2.313698 | 3.609435 | 1080.362346 | 0 | 1.119804 | 34.565166 | 1085.091585 | -1050.526419 | 17% |
| 204187974 | HUC_041 | Oneida R | 25.826939 | 0.264196 | 0 | 0 | 1.953968 | 0.256286 | 862.695331 | 0.015553 | 1.066908 | 28.045103 | 864.034078 | -835.988975 | 27% |
| 204187617 | HUC_041 | Oneida R | 19.11073 | 0.345923 | 0 | 0 | 2.11386 | 1.272103 | 499.598529 | 0.721507 | 1.346024 | 21.570513 | 502.938163 | -481.36765 | 51% |
| 204188994 | HUC_041 | Geddes B | 54.139241 | 0.695458 | 0 | 0 | 0.831764 | 1.16828 | 885.972109 | 4 | 4.51635 | 55.666463 | 895.656739 | -839.990276 | 27% |
| 204188342 | HUC_041 | Mud Cre | 45.408718 | 0.668351 | 0 | 0 | 2.322656 | 10.499684 | 1324.214108 | 0 | 2.44166 | 48.399725 | 1337.155452 | -1288.755727 | 9% |
| 204187606 | HUC_041 | Sixmile C | 37.652733 | 0.491272 | 0 | 0 | 1.438029 | 0.12678 | 605.31991 | 0 | 1.644283 | 39.582034 | 607.090973 | -567.508939 | 44% |
| 204188319 | HUC_041 | Crooked | 12.391895 | 0.258269 | 0.251564 | 0 | 1.965144 | 8.794962 | 622.456189 | 0 | 1.546945 | 14.866872 | 632.798096 | -617.931224 | 40% |
| 204187915 | HUC_041 | Village of | 47.874093 | 0.397798 | 0 | 0 | 0.173956 | 2.220466 | 800.884602 | 0 | 4.175156 | 48.445847 | 807.280224 | -758.834377 | 32% |
| 204187896 | HUC_041 | Oneida R | 16.246144 | 0.140317 | 0 | 0 | 1.581733 | 0.003213 | 340.779596 | 0 | 0.572583 | 17.968194 | 341.355392 | -323.387198 | 67% |
| 204187319 | HUC_041 | Fish Cree | 62.603973 | 0.937604 | 0 | 0 | 1.665381 | 0.349675 | 303.996947 | 0 | 2.190587 | 65.206958 | 306.537209 | -241.330251 | 73% |
| 204187944 | HUC_041 | Oneida R | 0 | 1 | 0 | 0 | 6.144385 | 0 | 922.757697 | 4 | 4.060043 | 7.144385 | 930.81774 | -923.673355 | 24% |
| 204187521 | HUC_041 | Black Cre | 43.658333 | 0.939167 | 0 | 0.579212 | 4.613491 | 1.088333 | 726.330729 | 0 | 9.269638 | 49.790203 | 736.6887 | -686.898497 | 37% |
| 204187663 | HUC_041 | Sixmile C | 35.75289 | 0.518425 | 0 | 0 | 2.71742 | 0.48284 | 577.521851 | 0 | 0.749865 | 38.988735 | 578.754556 | -539.765821 | 45% |
| 204187407 | HUC_041 | Sixmile C | 46.890666 | 0.630726 | 0 | 0 | 0.814289 | 0.63656 | 552.811287 | 0 | 1.696533 | 48.335681 | 555.14438 | -506.808699 | 48% |
| 204188013 | HUC_041 | Village of | 27.209038 | 0.715702 | 0 | 0 | 3.166976 | 11.07591 | 1113.60501 | 0 | 2.031688 | 31.091716 | 1126.712608 | -1095.620892 | 15% |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204187766 | HUC_041 Village of | 43.615391 | 0.513575 | 0 | 0 | 0.831914 | 4.520118 | 894.945483 | 0 | 1.396361 | 44.96088 | 900.861962 | -855.901082 | **26%** |
| 204187471 | HUC_041 Little Bay | 44.510604 | 0.722163 | 0 | 0 | 0.858025 | 0 | 845.888539 | 0 | 0.989666 | 46.090792 | 846.878205 | -800.787413 | **29%** |
| 204187869 | HUC_041 Village of | 41.99763 | 0.234597 | 0 | 0 | 0.309451 | 0.014218 | 506.094277 | 0 | 1.64058 | 42.541678 | 507.749075 | -465.207397 | **52%** |
| 204187885 | HUC_041 Village of | 28.031926 | 0.372835 | 0 | 0 | 0.622851 | 0.328463 | 415.264365 | 0 | 5.410372 | 29.027612 | 421.0032 | -391.975588 | **59%** |
| 204188154 | HUC_041 Mud Cre | 37.100655 | 0.552782 | 0 | 0 | 0.244777 | 15.399755 | 1443.451153 | 6 | 1.450276 | 37.898214 | 1466.301184 | -1428.40297 | **6%** |
| 204187963 | HUC_041 Oneida R | 19.509212 | 0.569908 | 0 | 0 | 4.106147 | 1.283112 | 525.517775 | 2.569245 | 1.017921 | 24.185267 | 530.388053 | -506.202786 | **48%** |
| 204187580 | HUC_041 Caughde | 57.991788 | 0.949817 | 0 | 0 | 3.407042 | 0.846715 | 315.546378 | 0 | 37.704179 | 62.348647 | 354.097272 | -291.748625 | **69%** |
| 204188067 | HUC_041 Village of | 22.080868 | 0.410256 | 0 | 0 | 0.280195 | 0 | 304.365634 | 0 | 3.376821 | 22.771319 | 307.742455 | -284.971136 | **70%** |
| 204188116 | HUC_041 Crooked | 48.82825 | 0.654896 | 0 | 0 | 1.863847 | 2.359551 | 1284.925454 | 0.018361 | 8.193528 | 51.346993 | 1295.496894 | -1244.149901 | **10%** |
| 204187834 | HUC_041 Mead Cr | 39.156064 | 0.557419 | 0.09045 | 0 | 1.860283 | 1.83617 | 1190.06932 | 0 | 0.643549 | 41.664216 | 1192.549039 | -1150.884823 | **13%** |
| 204187549 | HUC_041 Sixmile C | 36.084427 | 0.688539 | 0 | 0 | 1.939107 | 0.052493 | 387.006262 | 0 | 3.862641 | 38.712073 | 390.921396 | -352.209323 | **64%** |
| 204187607 | HUC_041 Oneida R | 26.079639 | 0.378736 | 0.022274 | 0 | 0.945366 | 0.164092 | 455.028848 | 0 | 1.570691 | 27.426015 | 456.763631 | -429.337616 | **56%** |
| 204187562 | HUC_041 Oneida R | 14.591377 | 0.170659 | 0.169009 | 0 | 1.826946 | 0.167665 | 396.889999 | 0 | 1.146299 | 16.757991 | 398.203963 | -381.445972 | **61%** |
| 204187899 | HUC_041 Oneida R | 35.931979 | 0.573229 | 0.556422 | 0 | 2.704888 | 0.20985 | 499.320301 | 0 | 3.060109 | 39.766518 | 502.59026 | -462.823742 | **53%** |
| 204187128 | HUC_041 Catfish C | 65.525658 | 0.854248 | 0 | 0 | 1.104748 | 0.26132 | 166.84193 | 0 | 2.332542 | 67.484654 | 169.435792 | -101.951138 | **89%** |
| 204187603 | HUC_041 Fish Cree | 65.152363 | 0.766352 | 0 | 0 | 1.572223 | 0.154253 | 231.662471 | 0 | 2.744524 | 67.490938 | 234.561248 | -167.07031 | **82%** |
| 204188804 | HUC_041 Dead Cre | 72.68866 | 0.827835 | 0 | 0 | 0.474833 | 0.081443 | 348.775346 | 2 | 11.376894 | 73.991328 | 362.233683 | -288.242355 | **70%** |
| 204187464 | HUC_041 Fish Cree | 52.677632 | 0.903822 | 0 | 0 | 1.57646 | 0.034148 | 313.124153 | 0 | 2.687391 | 55.157914 | 315.845692 | -260.687778 | **72%** |
| 204187546 | HUC_041 Oneida R | 17.871495 | 0.214047 | 0.183589 | 0 | 1.667663 | 0.022254 | 312.302599 | 0 | 0.826532 | 19.936794 | 313.151385 | -293.214591 | **69%** |
| 204187891 | HUC_041 Mead Cr | 61.682512 | 0.80223 | 0.0018 | 0 | 2.516134 | 2.514554 | 565.330739 | 0 | 4.792788 | 65.002676 | 572.638081 | -507.635405 | **48%** |
| 204187488 | HUC_041 Sixmile C | 54.440739 | 0.759381 | 0 | 0 | 2.092632 | 0.091721 | 243.642875 | 0 | 7.851104 | 57.292752 | 251.5857 | -194.292948 | **80%** |
| 204187757 | HUC_041 Village of | 27.123046 | 0.424297 | 0 | 0 | 0.958017 | 0.047566 | 604.189675 | 0 | 1.45513 | 28.50536 | 605.692371 | -577.187011 | **44%** |
| 204188632 | HUC_041 Crooked | 35.2813 | 0.36854 | 0 | 0 | 0.078504 | 0.493873 | 631.513905 | 0.030511 | 2.933807 | 35.728344 | 634.972096 | -599.243752 | **41%** |
| 204187443 | HUC_041 Fish Cree | 54.300346 | 0.682169 | 0 | 0 | 0.532392 | 0.052572 | 174.247234 | 0 | 1.064639 | 55.514907 | 175.364445 | -119.849538 | **87%** |
| 204187558 | HUC_041 Oneida R | 58.424335 | 0.773006 | 0.8711 | 0 | 2.551425 | 0 | 100.91203 | 0 | 0.294348 | 62.619866 | 101.206378 | -38.586512 | **94%** |
| 204187835 | HUC_041 Oneida C | 39.288043 | 0.680301 | 0.780495 | 0 | 1.310047 | 0.325184 | 758.34701 | 8 | 3.555101 | 42.058886 | 770.227295 | -728.168409 | **34%** |
| 204188695 | HUC_041 Crooked | 5.701812 | 0.632619 | 0 | 0 | 1.629518 | 2.069193 | 684.722281 | 0 | 1.472489 | 7.963949 | 688.263963 | -680.300014 | **37%** |
| 204187797 | HUC_041 Village of | 32.858182 | 0.82 | 0 | 0 | 1.552139 | 2.445455 | 381.481983 | 0 | 28.831 | 35.230321 | 412.758438 | -377.528117 | **61%** |
| 204187340 | HUC_041 Caughde | 20.542416 | 0.53599 | 0 | 0 | 0.621503 | 0 | 242.3042 | 0 | 0.176005 | 21.699909 | 242.480205 | -220.780296 | **77%** |
| 204187957 | HUC_041 Oneida R | 27.541757 | 0.845006 | 0.113611 | 0 | 4.270745 | 1.346089 | 282.759025 | 4 | 5.016651 | 32.771119 | 293.121765 | -260.350646 | **72%** |
| 204188048 | HUC_041 Village of | 32.250594 | 0.917737 | 0 | 0 | 4.56239 | 1.025202 | 1008.655981 | 0.098216 | 1.840352 | 37.730721 | 1011.619751 | -973.88903 | **21%** |
| 204187861 | HUC_041 Ox Creek | 55.540833 | 0.717816 | 0.010619 | 0 | 0.520815 | 0.553542 | 338.907704 | 0 | 3.16028 | 56.790083 | 342.621526 | -285.831443 | **70%** |
| 204187758 | HUC_041 Ox Creek | 66.780913 | 0.785018 | 0.04906 | 0 | 0.521987 | 1.923037 | 413.362193 | 0 | 4.14412 | 68.136978 | 419.42935 | -351.292372 | **64%** |
| 204188993 | HUC_041 Geddes B | 36.374652 | 0.95766 | 0 | 0 | 2.984354 | 1.083287 | 689.985766 | 4 | 3.025197 | 40.316666 | 698.09425 | -657.777584 | **39%** |
| 204187936 | HUC_041 Village of | 48.280608 | 0.644207 | 0 | 0 | 0.914254 | 3.999589 | 847.360741 | 0 | 5.196459 | 49.839069 | 856.556789 | -806.71772 | **28%** |
| 204187560 | HUC_041 Oneida R | 11.993668 | 0.129416 | 0.261011 | 0 | 1.676996 | 0.051665 | 334.645274 | 0 | 1.243193 | 14.061091 | 335.940132 | -321.879041 | **67%** |
| 204188561 | HUC_041 Crooked | 25.51972 | 0.270896 | 0.203203 | 0 | 0.86309 | 0.266433 | 629.606372 | 0.015997 | 3.373671 | 26.856909 | 633.262473 | -606.405564 | **41%** |
| 204187437 | HUC_041 Waterho | 55.453118 | 0.718858 | 0 | 0 | 0.890006 | 1.631524 | 588.593489 | 4 | 3.773828 | 57.061982 | 597.998841 | -540.936859 | **45%** |
| 204187940 | HUC_041 Oneida R | 14.934363 | 0.98235 | 0.020802 | 0 | 5.404108 | 0.591285 | 590.84007 | 3.947483 | 3.605201 | 21.341623 | 598.984039 | -577.642416 | **44%** |
| 204187548 | HUC_041 Sixmile C | 37.17546 | 0.765312 | 0 | 0 | 2.928156 | 0.292096 | 477.225421 | 0 | 2.735878 | 40.868928 | 480.253395 | -439.384467 | **55%** |
| 204187841 | HUC_041 Mead Cr | 31.073621 | 0.53544 | 0.208685 | 0 | 1.626083 | 2.34399 | 822.376371 | 0 | 0.794469 | 33.443829 | 825.51483 | -792.071001 | **30%** |
| 204187551 | HUC_041 Caughde | 46.176 | 0.664 | 0 | 0 | 1.317176 | 0.104 | 399.470011 | 0 | 10.230683 | 48.157176 | 409.804694 | -361.647518 | **63%** |
| 204187563 | HUC_041 Oneida R | 78.955172 | 0.845517 | 0.987256 | 0 | 2.019067 | 0 | 139.044041 | 0 | 0.183465 | 82.807012 | 139.227506 | -56.420494 | **92%** |
| 204187425 | HUC_041 Sixmile C | 48.536108 | 0.850673 | 0 | 0 | 0.964432 | 0 | 273.101538 | 0 | 6.087665 | 50.351213 | 279.189203 | -228.83799 | **76%** |
| 204188152 | HUC_041 Mud Cre | 53.898127 | 0.591011 | 0 | 0 | 2.706913 | 3.513858 | 1388.038686 | 0 | 0.68118 | 57.196051 | 1392.233724 | -1335.037673 | **8%** |
| 204187886 | HUC_041 Village of | 6.468293 | 0.604878 | 0 | 0 | 2.427547 | 0 | 524.920002 | 0 | 8.992806 | 9.500718 | 533.912808 | -524.41209 | **46%** |
| 204187884 | HUC_041 Village of | 34.086662 | 0.394381 | 0 | 0 | 0.667888 | 0.348849 | 342.687382 | 0 | 2.401975 | 35.148931 | 345.438206 | -310.289275 | **68%** |
| 204188969 | HUC_041 Geddes B | 51.676175 | 0.898625 | 0 | 0 | 2.814642 | 1.598194 | 836.666438 | 4 | 0.490711 | 55.389442 | 842.755343 | -787.365901 | **30%** |
| 204188451 | HUC_041 Crooked | 32.644386 | 0.372846 | 0 | 0 | 0.251574 | 0 | 550.849114 | 0 | 1.357014 | 33.268806 | 552.206128 | -518.937322 | **47%** |
| 204188614 | HUC_041 Crooked | 23.297796 | 0.659149 | 0.716768 | 0 | 6.236067 | 9.309072 | 970.238049 | 16 | 3.063833 | 30.90978 | 998.610954 | -967.701174 | **21%** |
| 204188448 | HUC_041 Crooked | 48.289118 | 0.297855 | 0 | 0 | 0.22637 | 0.117554 | 724.109437 | 0 | 1.513928 | 48.813343 | 725.740919 | -676.927576 | **38%** |
| 204187876 | HUC_041 Village of | 36.890613 | 0.510787 | 0 | 0 | 0.021207 | 0.242051 | 366.62258 | 0 | 1.930578 | 37.422607 | 368.795209 | -331.372602 | **66%** |
| 204187759 | HUC_041 Oneida R | 22.936337 | 0.69491 | 0.413299 | 0 | 4.618818 | 1.282177 | 422.052684 | 4 | 3.866651 | 28.663364 | 431.201512 | -402.538148 | **58%** |
| 204188312 | HUC_041 Crooked | 39.857043 | 0.539025 | 0.01128 | 0 | 0.995149 | 5.060021 | 721.940498 | 0.122207 | 1.733524 | 41.402497 | 728.85625 | -687.453753 | **37%** |
| 204188184 | HUC_041 Ox Creek | 59.727578 | 0.831228 | 0 | 0 | 0.720774 | 0.101778 | 208.002249 | 0 | 6.219096 | 61.27958 | 214.323123 | -153.043543 | **84%** |
| 204188153 | HUC_041 Mud Cre | 43.616548 | 0.677867 | 0 | 0 | 1.803809 | 1.799244 | 941.198759 | 0 | 1.887786 | 46.098224 | 944.885789 | -898.787565 | **24%** |
| 204188661 | HUC_041 Dead Cre | 64.356436 | 0.747937 | 0.182066 | 0 | 0.785163 | 0.094472 | 473.328083 | 2 | 4.607058 | 66.071602 | 480.029613 | -413.958011 | **57%** |
| 204187965 | HUC_041 Oneida R | 26.584326 | 0.846331 | 0 | 0 | 4.750062 | 0.519785 | 295.468547 | 3.990037 | 1.71598 | 32.180719 | 301.694349 | -269.51363 | **72%** |
| 204187320 | HUC_041 Fish Cree | 57.790867 | 0.827751 | 0 | 0 | 1.114889 | 0.225145 | 132.50763 | 0 | 1.060135 | 59.733507 | 133.79291 | -74.059403 | **91%** |
| 204187621 | HUC_041 Oneida L | 4.724841 | 0.808917 | 0 | 0.050324 | 12.100919 | 4.729936 | 1049.730443 | 0 | 3.90188 | 17.685001 | 1058.362259 | -1040.677258 | **18%** |
| 204187533 | HUC_041 Black Cre | 40.851128 | 0.732987 | 0 | 0.827142 | 2.75594 | 0.255837 | 560.916533 | 0 | 2.939263 | 45.167197 | 564.111633 | -518.944436 | **46%** |
| 204187782 | HUC_041 Sixmile C | 55.676875 | 0.727815 | 0.477705 | 0 | 3.707531 | 2.202951 | 737.184395 | 0 | 1.004521 | 60.589926 | 740.391867 | -679.801941 | **38%** |
| 204187935 | HUC_041 Oneida L | 35.265404 | 0.827539 | 0.480406 | 0 | 4.532574 | 4.137005 | 759.730877 | 6 | 1.224399 | 41.105923 | 771.092281 | -729.986358 | **34%** |
| 204187792 | HUC_041 Mead Cr | 35.081641 | 0.657595 | 0.51234 | 0 | 1.581689 | 3.288925 | 1105.340767 | 0 | 1.109358 | 37.833265 | 1109.73905 | -1071.905785 | **17%** |
| 204188755 | HUC_041 Crooked | 48.633333 | 0.436645 | 0 | 0 | 0.258083 | 0.309272 | 355.203444 | 0 | 7.942085 | 49.328061 | 363.454801 | -314.12674 | **67%** |
| 204188213 | HUC_041 Mud Cre | 61.977138 | 0.830028 | 0 | 0 | 3.869047 | 1.526925 | 291.048773 | 6 | 0.427975 | 66.676213 | 299.003673 | -232.32746 | **75%** |
| 204187318 | HUC_041 Sixmile C | 50.927061 | 0.538583 | 0 | 0 | 0.396872 | 0.004757 | 287.126625 | 0 | 1.988959 | 51.862516 | 289.120341 | -237.257825 | **74%** |
| 204187604 | HUC_041 Oneida R | 37.837913 | 0.396614 | 0.022324 | 0 | 0.9928 | 0.106855 | 257.318175 | 0 | 0.867776 | 39.249651 | 258.292806 | -219.043155 | **77%** |
| 204188018 | HUC_041 Mead Cr | 37.643861 | 0.499923 | 0.420417 | 0 | 0.727686 | 2.178842 | 769.03746 | 0 | 0.728863 | 39.291887 | 771.945165 | -732.653278 | **34%** |
| 204188039 | HUC_041 Oneida R | 50.167723 | 0.7991 | 0 | 0 | 3.133692 | 1.351284 | 919.777922 | 1.536429 | 2.306092 | 54.100515 | 924.971727 | -870.871212 | **26%** |
| 204188330 | HUC_041 Crooked | 54.00753 | 0.829819 | 0 | 0 | 0.23432 | 6.787651 | 847.354506 | 0 | 4.666375 | 55.071669 | 858.808532 | -803.736863 | **29%** |
| 204187456 | HUC_041 Fish Cree | 25.444444 | 1 | 0 | 0 | 2.647059 | 0 | 235.015293 | 0 | 0 | 29.091503 | 235.015293 | -205.92379 | **78%** |
| 204188473 | HUC_041 Cross Lak | 40.81398 | 0.61546 | 0 | 0 | 0.998307 | 0.990625 | 625.86501 | 0 | 3.451131 | 42.427747 | 630.306766 | -587.879019 | **42%** |
| 204187257 | HUC_041 Caughde | 49.878299 | 0.603617 | 0 | 0 | 0.112989 | 0.064516 | 221.758359 | 0 | 2.078988 | 50.594905 | 223.901863 | -173.306958 | **82%** |
| 204187331 | HUC_041 Caughde | 44.969149 | 0.710816 | 0 | 0 | 0.328692 | 0.112589 | 244.5821 | 0 | 2.260081 | 46.008657 | 246.95477 | -200.946113 | **79%** |
| 204187317 | HUC_041 Sixmile C | 57.595793 | 0.858576 | 0 | 0 | 0.533409 | 0.077994 | 530.776933 | 0 | 3.377104 | 58.987778 | 534.232031 | -475.244253 | **51%** |
| 204187897 | HUC_041 Oneida R | 39.520511 | 0.573723 | 0 | 0 | 1.756511 | 0.854296 | 646.961911 | 0 | 0.630958 | 41.850745 | 648.447165 | -606.59642 | **41%** |
| 204187839 | HUC_041 Oneida R | 39.933594 | 0.866832 | 0.560046 | 0 | 3.042802 | 3.09446 | 359.881958 | 4 | 3.913444 | 44.403274 | 370.889862 | -326.486588 | **66%** |
| 204187855 | HUC_041 Oneida R | 31.869087 | 0.789227 | 0.283476 | 0 | 3.528939 | 0.112153 | 180.188677 | 4 | 2.469616 | 36.470729 | 186.770446 | -150.299717 | **84%** |
| 204187283 | HUC_041 Fish Cree | 57.708459 | 0.877455 | 0 | 0 | 1.381259 | 0.11301 | 177.424432 | 0 | 1.420721 | 59.967173 | 178.958163 | -118.99099 | **87%** |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204187457 | HUC_041 | Fish Cree | 52.877551 | 0.932564 | 0 | 0 | 2.248552 | 0.002218 | 263.949471 | 0 | 1.905041 | 56.058667 | 265.85673 | -209.798063 | 78% |
| 204187679 | HUC_041 | Oneida R | 31.02297 | 0.715595 | 0.04646 | 0 | 4.17362 | 0.320169 | 241.100979 | 2.537403 | 3.698265 | 35.958645 | 247.656816 | -211.698171 | 77% |
| 204187843 | HUC_041 | Oneida R | 25.042854 | 0.750171 | 0.409685 | 0 | 4.363636 | 1.349214 | 714.510133 | 2.941968 | 1.075007 | 30.566346 | 719.876322 | -689.309976 | 36% |
| 204187794 | HUC_041 | Oneida L | 24.108243 | 0.601582 | 0.29648 | 0 | 2.475141 | 1.863586 | 827.420536 | 0 | 0.521698 | 27.481446 | 829.80582 | -802.324374 | 29% |
| 204187086 | HUC_041 | Catfish C | 58.07545 | 0.921829 | 0 | 0 | 0.785771 | 0.072101 | 103.315303 | 0 | 0.576654 | 59.78305 | 103.964058 | -44.181008 | 93% |
| 204187345 | HUC_041 | Sixmile C | 54.621085 | 0.831936 | 0 | 0 | 0.901425 | 0.530657 | 507.304162 | 0 | 0.893606 | 56.354446 | 508.728425 | -452.373979 | 54% |
| 204188628 | HUC_041 | Crooked | 33.778655 | 0.824758 | 0.497313 | 0 | 5.003296 | 2.681355 | 1027.123026 | 15.8859 | 1.712222 | 40.104022 | 1047.402503 | -1007.298481 | 20% |
| 204187838 | HUC_041 | Village of | 49.583732 | 0.518599 | 0 | 0 | 0.819843 | 0.191079 | 477.799803 | 0 | 1.93998 | 50.922174 | 479.930862 | -429.008688 | 56% |
| 204188028 | HUC_041 | Chittenar | 62.557138 | 0.855195 | 0.851287 | 0 | 1.037699 | 0.605044 | 590.756072 | 6 | 0.233476 | 65.301319 | 597.594592 | -532.293273 | 46% |
| 204187664 | HUC_041 | Sixmile C | 14.573828 | 0.556145 | 0 | 0 | 8.619493 | 0.194518 | 359.371119 | 0 | 0.103734 | 23.749466 | 359.669371 | -335.919905 | 66% |
| 204187452 | HUC_041 | Fish Cree | 62.204398 | 0.957673 | 0 | 0 | 1.930288 | 0.225631 | 183.813758 | 0 | 1.403838 | 65.092359 | 185.443227 | -120.350868 | 86% |
| 204188560 | HUC_041 | Crooked | 26.247373 | 0.932269 | 0.190805 | 0 | 4.494367 | 5.452705 | 757.997295 | 10.44982 | 1.05126 | 31.864814 | 774.95108 | -743.086266 | 33% |
| 204187790 | HUC_041 | Oneida R | 28.945564 | 0.803007 | 0.356062 | 0 | 5.500568 | 3.036692 | 398.055942 | 4 | 1.819939 | 35.605201 | 406.912573 | -371.307372 | 62% |
| 204187653 | HUC_041 | Fish Cree | 52.209417 | 0.769082 | 0 | 0 | 2.661477 | 0 | 165.97446 | 0 | 0.962961 | 55.639976 | 166.937421 | -111.297445 | 88% |
| 204187837 | HUC_041 | Mead Cr | 48.46191 | 0.635988 | 0 | 0 | 1.058763 | 0.016201 | 326.778248 | 0 | 1.50916 | 50.156661 | 328.303609 | -278.146948 | 71% |
| 204187865 | HUC_041 | Mead Cr | 44.288506 | 0.707817 | 0 | 0 | 0.888158 | 0.017415 | 386.42532 | 0 | 1.263371 | 45.884481 | 387.706106 | -341.821625 | 65% |
| 204187917 | HUC_041 | Oneida R | 58.13969 | 0.736142 | 0 | 0 | 1.546726 | 0.501293 | 417.604021 | 0 | 0.740696 | 60.422558 | 418.84601 | -358.423452 | 63% |
| 204187688 | HUC_041 | Oneida R | 23.550971 | 0.783374 | 0.508953 | 0 | 5.418332 | 0 | 381.470745 | 4 | 7.093944 | 30.26163 | 392.564689 | -362.303059 | 63% |
| 204187859 | HUC_041 | Oneida R | 2.826087 | 1 | 0 | 0 | 5.44757 | 0 | 3.473044 | 4 | 0.239024 | 9.273657 | 7.712068 | 1.561589 | 97% |
| 204187685 | HUC_041 | Oneida L | 7.077143 | 0.962857 | 0 | 0 | 8.516742 | 1.637143 | 982.642412 | 0 | 1.416165 | 16.556742 | 985.69572 | -969.138978 | 21% |
| 204187980 | HUC_041 | Mead Cr | 53.98198 | 0.680821 | 0.025415 | 0 | 0.910532 | 0.262266 | 516.617677 | 0 | 1.234531 | 55.598748 | 518.114474 | -462.515726 | 53% |
| 204188098 | HUC_041 | Mud Cre | 79.329598 | 0.998682 | 0 | 0 | 1.546008 | 0 | 334.541595 | 6 | 0.159733 | 81.874288 | 340.701328 | -258.82704 | 73% |
| 204187402 | HUC_041 | Caughde | 38.838961 | 0.747216 | 0 | 0 | 0.49335 | 0.032349 | 191.006067 | 0 | 1.769231 | 40.079527 | 192.807647 | -152.72812 | 84% |
| 204187964 | HUC_041 | Mead Cr | 46.641228 | 0.682202 | 0.20078 | 0 | 1.234698 | 0.954661 | 739.248648 | 0 | 0.705283 | 48.758908 | 740.908592 | -692.149684 | 36% |
| 204188019 | HUC_041 | Village of | 39.74038 | 0.49925 | 0 | 0 | 3.266959 | 1.924871 | 671.47609 | 0 | 2.597033 | 43.506589 | 675.997994 | -632.491405 | 39% |
| 204187624 | HUC_041 | Oneida L | 23.725191 | 0.930752 | 0.135302 | 0 | 9.830932 | 0.078517 | 791.892269 | 0 | 15.702913 | 34.622177 | 807.673699 | -773.051522 | 31% |
| 204188329 | HUC_041 | Crooked | 47.910626 | 0.710627 | 0 | 0 | 1.479862 | 1.973434 | 882.76396 | 0 | 2.439474 | 50.101115 | 887.176868 | -837.075753 | 27% |
| 204187844 | HUC_041 | Mead Cr | 40.963975 | 0.699791 | 0.250874 | 0 | 1.496437 | 0.561086 | 754.202922 | 0 | 0.834766 | 43.411077 | 755.598774 | -712.187697 | 35% |
| 204188512 | HUC_041 | Crooked | 40.738956 | 0.655957 | 0.207941 | 0 | 2.88881 | 9.477019 | 707.025241 | 0 | 2.753661 | 44.491664 | 719.255921 | -674.764257 | 38% |
| 204188076 | HUC_041 | Mud Cre | 64.401532 | 0.901532 | 0 | 0 | 6.661282 | 0.386214 | 545.430764 | 6 | 0.615295 | 71.964346 | 552.432273 | -480.467927 | 51% |
| 204187969 | HUC_041 | Oneida L | 6.171866 | 0.88451 | 0 | 0 | 10.61786 | 0.703886 | 525.084413 | 0 | 8.568792 | 17.674236 | 534.357091 | -516.682855 | 47% |
| 204187554 | HUC_041 | Sixmile C | 48.086564 | 0.699755 | 0 | 0 | 1.830175 | 0.153966 | 243.17256 | 0 | 1.436726 | 50.616494 | 244.763252 | -194.146758 | 80% |
| 204187872 | HUC_041 | Village of | 50.16092 | 0.771392 | 0 | 0 | 2.26279 | 1.094508 | 1134.589587 | 0 | 1.508717 | 53.195102 | 1137.192812 | -1083.99771 | 15% |
| 204188340 | HUC_041 | Mud Cre | 64.671863 | 0.79976 | 0 | 0 | 2.875229 | 3.464828 | 950.173685 | 0 | 3.493551 | 68.346852 | 957.132064 | -888.785212 | 25% |
| 204187858 | HUC_041 | Village of | 39.863346 | 0.61175 | 0 | 0 | 1.016453 | 0 | 310.668932 | 0 | 1.178007 | 41.491549 | 311.846939 | -270.35539 | 72% |
| 204187271 | HUC_041 | Big Bay C | 54.40425 | 0.926027 | 0 | 0 | 0.163214 | 0.406278 | 546.955313 | 0 | 1.697317 | 55.493491 | 549.058908 | -493.565417 | 50% |
| 204188524 | HUC_041 | Crooked | 37.186161 | 0.765528 | 0.363766 | 0 | 3.831969 | 2.851072 | 991.821411 | 8.24824 | 1.386952 | 42.147424 | 1004.307675 | -962.160251 | 22% |
| 204188074 | HUC_041 | Chittenar | 69.757683 | 0.917747 | 0.760275 | 0 | 0.316324 | 0.26547 | 465.559354 | 6 | 0.388592 | 71.752029 | 472.213416 | -400.461387 | 58% |
| 204187167 | HUC_041 | Catfish C | 47.566448 | 1 | 0 | 0 | 0.549194 | 0 | 33.525088 | 0 | 0.855887 | 49.115642 | 34.380975 | 14.734667 | 98% |
| 204187870 | HUC_041 | Village of | 18.515625 | 0.734375 | 0 | 0 | 2.77114 | 0 | 525.859474 | 0 | 3.386293 | 22.02114 | 529.245767 | -507.224627 | 48% |
| 204188480 | HUC_041 | Crooked | 34.990598 | 0.90974 | 0.361667 | 0 | 4.68918 | 1.820233 | 851.962589 | 15.22016 | 0.241708 | 40.951185 | 869.24469 | -828.293505 | 28% |
| 204187760 | HUC_041 | Oneida R | 27.550265 | 0.857143 | 0.444886 | 0 | 4.730781 | 2.409171 | 323.935865 | 3.615803 | 1.840632 | 33.583075 | 331.801471 | -298.218396 | 69% |
| 204187864 | HUC_041 | Village of | 27.544531 | 0.692969 | 0 | 0 | 2.576746 | 1.274219 | 292.353039 | 0 | 7.881072 | 30.814246 | 301.50833 | -270.694084 | 71% |
| 204187077 | HUC_041 | Headwat | 67.219439 | 0.952149 | 0 | 0 | 0.846729 | 0.007477 | 104.661337 | 0 | 4.057596 | 69.018317 | 108.72641 | -39.708093 | 93% |
| 204187543 | HUC_041 | Waterho | 57.609453 | 0.849265 | 0 | 0 | 1.272 | 0.026814 | 405.830985 | 4 | 2.176072 | 59.730718 | 412.033871 | -352.303153 | 64% |
| 204187654 | HUC_041 | Fish Cree | 75.29111 | 0.921634 | 0 | 0 | 2.316063 | 0.116393 | 74.17922 | 0 | 5.23988 | 78.528807 | 79.535493 | -1.006686 | 96% |
| 204187868 | HUC_041 | Mead Cr | 44.888432 | 0.718577 | 0.27263 | 0 | 1.256863 | 1.468866 | 677.408803 | 0 | 0.589911 | 47.136502 | 679.46758 | -632.331078 | 39% |
| 204188006 | HUC_041 | Oneida R | 38.60416 | 0.610638 | 0 | 0 | 2.936915 | 0.175247 | 506.403181 | 0 | 1.5826 | 42.151713 | 508.161028 | -466.009315 | 52% |
| 204188481 | HUC_041 | Crooked | 52.274088 | 0.638796 | 0.109379 | 0 | 1.533684 | 3.358656 | 747.413918 | 0.10621 | 2.764829 | 54.555947 | 753.643613 | -699.087666 | 36% |
| 204187968 | HUC_041 | Oneida L | 47.595317 | 0.733034 | 0.133151 | 0 | 2.513423 | 0.778542 | 830.901277 | 0 | 3.427586 | 50.974925 | 835.107405 | -784.13248 | 31% |
| 204187247 | HUC_041 | Black Cre | 60.646632 | 0.790069 | 0 | 0 | 0.615437 | 0.270984 | 271.519322 | 0 | 2.033996 | 62.052138 | 273.824302 | -211.772164 | 77% |
| 204187384 | HUC_041 | Little Bay | 67.842214 | 0.930922 | 0 | 0 | 0.169068 | 0.139072 | 291.750104 | 0 | 1.35313 | 68.942204 | 293.242306 | -224.300102 | 76% |
| 204188228 | HUC_041 | Mud Cre | 40.269527 | 0.686095 | 0 | 0 | 5.634492 | 3.144083 | 731.711951 | 0 | 0.522603 | 46.590114 | 735.378637 | -688.788523 | 37% |
| 204187911 | HUC_041 | Oneida R | 45.483793 | 0.755201 | 0 | 0 | 2.2411 | 0 | 283.980739 | 0 | 0.210947 | 48.480094 | 284.191686 | -235.711592 | 74% |
| 204187453 | HUC_041 | Fish Cree | 73.611799 | 0.974041 | 0 | 0 | 1.356585 | 0.00708 | 252.880326 | 0 | 2.257793 | 75.942425 | 255.145199 | -179.202774 | 81% |
| 204188057 | HUC_041 | Mud Cre | 81.230211 | 0.982436 | 0 | 0 | 4.041328 | 0.138642 | 464.206287 | 6 | 0.259538 | 86.253975 | 470.604467 | -384.350492 | 60% |
| 204187643 | HUC_041 | Oneida L | 27.912081 | 0.897129 | 0 | 0.292128 | 6.503698 | 0.789474 | 975.656825 | 0 | 8.265963 | 35.605036 | 984.712262 | -949.107226 | 22% |
| 204187971 | HUC_041 | Ox Creek | 72.202752 | 0.955963 | 0 | 0 | 0.862723 | 0.041743 | 187.946496 | 0 | 6.141345 | 74.021438 | 194.129584 | -120.108146 | 86% |
| 204188485 | HUC_041 | Ley Cree | 45.771036 | 0.791029 | 0 | 0 | 2.149738 | 5.933588 | 1006.41556 | 7.684474 | 0.254283 | 48.711803 | 1020.287905 | -971.576102 | 21% |
| 204188135 | HUC_041 | Chittenar | 85.316503 | 0.99364 | 0 | 0 | 4.893303 | 0.066132 | 96.187799 | 6 | 0.165829 | 91.203446 | 102.41976 | -11.216314 | 95% |
| 204187353 | HUC_041 | Black Cre | 66.888999 | 0.894365 | 0 | 0 | 0.444977 | 0.167632 | 323.839131 | 0 | 4.136468 | 68.228341 | 328.143231 | -259.91489 | 73% |
| 204187875 | HUC_041 | Village of | 61.538271 | 0.711667 | 0 | 0 | 1.017646 | 1.184543 | 557.560793 | 0 | 2.462225 | 63.267584 | 561.207561 | -497.939977 | 49% |
| 204188195 | HUC_041 | Chittenar | 74.708657 | 0.979773 | 0.573986 | 0 | 0.135227 | 0.198969 | 269.677442 | 6 | 0.182982 | 76.397643 | 276.059393 | -199.66175 | 79% |
| 204187400 | HUC_041 | Caughde | 47.127651 | 0.937659 | 0 | 0 | 0.779823 | 0.175573 | 181.763983 | 0 | 3.273094 | 48.845133 | 185.21265 | -136.367517 | 85% |
| 204187573 | HUC_041 | Little Bay | 44.210971 | 0.85077 | 0.576739 | 0 | 3.087069 | 1.416685 | 913.474513 | 0 | 0.861161 | 48.725549 | 915.752359 | -867.02681 | 26% |
| 204188264 | HUC_041 | Mud Cre | 19.603102 | 0.887421 | 0 | 0 | 8.079288 | 4.35516 | 913.885483 | 0 | 0.04324 | 28.569811 | 918.283883 | -889.714072 | 25% |
| 204188670 | HUC_041 | Crooked | 61.781818 | 0.869857 | 0 | 0 | 0.776808 | 0.010526 | 971.53023 | 0 | 4.271581 | 63.428483 | 975.812337 | -912.383854 | 24% |
| 204187888 | HUC_041 | Oneida L | 24.971704 | 0.654161 | 0.656952 | 0 | 4.167203 | 4.318591 | 865.977446 | 0 | 0.34865 | 30.45002 | 870.644687 | -840.194667 | 27% |
| 204187962 | HUC_041 | Mead Cr | 51.696476 | 0.833965 | 0 | 0 | 0.530721 | 0.232884 | 325.586595 | 0 | 0.712788 | 53.061162 | 326.532267 | -273.471105 | 71% |
| 204187817 | HUC_041 | Oneida L | 44.488584 | 0.765297 | 0.052469 | 0 | 2.05996 | 1.066362 | 541.775693 | 0 | 1.272786 | 47.36631 | 544.114841 | -496.748531 | 49% |
| 204188615 | HUC_041 | Crooked | 36.44273 | 0.882321 | 0.593063 | 0 | 6.900121 | 3.379113 | 801.475956 | 16 | 5.942659 | 44.818235 | 826.797728 | -781.979493 | 31% |
| 204187638 | HUC_041 | Sixmile C | 40.745582 | 0.744661 | 0 | 0 | 2.776015 | 0.081554 | 163.339934 | 0 | 0.452792 | 44.266258 | 163.87428 | -119.608022 | 87% |
| 204188671 | HUC_041 | Onondag | 34.925516 | 0.752569 | 0.186817 | 0 | 8.592583 | 4.72397 | 1437.925211 | 9.829192 | 3.821296 | 44.457485 | 1456.299669 | -1411.842184 | 7% |
| 204187493 | HUC_041 | Sixmile C | 17.768584 | 1 | 0 | 0 | 2.647059 | 0 | 26.007086 | 0 | 0.342154 | 21.415643 | 26.34924 | -4.933597 | 96% |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204188556 | HUC_041 Crooked | 39.889902 | 0.852852 | 0.472909 | 0 | 7.95011 | 4.855306 | 811.522543 | 15.84551 | 4.428926 | 49.165773 | 836.652285 | -787.486512 | 30% |
| 204187639 | HUC_041 Oneida R | 27.769591 | 0.385029 | 0.60048 | 0 | 2.476574 | 0.255205 | 533.241719 | 0.056491 | 0.867861 | 31.231674 | 534.421276 | -503.189602 | 48% |
| 204188175 | HUC_041 Chittenai | 81.89593 | 0.991963 | 0.041371 | 0 | 6.742733 | 0.257345 | 96.552623 | 6 | 0.123654 | 89.671997 | 102.933622 | -13.261625 | 95% |
| 204188119 | HUC_041 Lower Co | 53.658398 | 0.740889 | 0.203834 | 0 | 0.747728 | 0.077399 | 212.703959 | 6 | 0.571348 | 55.350849 | 219.352706 | -164.001857 | 82% |
| 204187851 | HUC_041 Village of | 34.021912 | 0.479228 | 0.397762 | 0 | 1.058103 | 1.881319 | 995.409928 | 0 | 1.729448 | 35.957005 | 999.020695 | -963.06369 | 22% |
| 204187972 | HUC_041 Oneida R | 48.030919 | 0.774293 | 0 | 0 | 1.406542 | 0 | 523.468402 | 0 | 1.349032 | 50.211754 | 524.817434 | -474.60568 | 52% |
| 204187947 | HUC_041 Oneida R | 35.24169 | 0.475566 | 0.373614 | 0 | 2.528213 | 0.098398 | 517.232364 | 0 | 0.558749 | 38.619083 | 517.889511 | -479.270428 | 51% |
| 204188410 | HUC_041 Crooked | 57.229492 | 0.726669 | 0.492243 | 0 | 2.203685 | 7.940219 | 1201.659373 | 0 | 3.429677 | 60.652089 | 1213.029269 | -1152.37718 | 13% |
| 204187943 | HUC_041 Oneida R | 42.743722 | 0.704209 | 0.588995 | 0 | 2.809604 | 1.060177 | 773.452244 | 1.371342 | 1.32064 | 46.84653 | 777.204403 | -730.357873 | 34% |
| 204187231 | HUC_041 Headwat | 64.526783 | 0.925314 | 0 | 0 | 0.586885 | 0.056627 | 72.264034 | 0 | 2.232954 | 66.038982 | 74.553615 | -8.514633 | 96% |
| 204188015 | HUC_041 Mead Cr | 26.42039 | 0.894021 | 0.014495 | 0 | 5.600392 | 0.848505 | 824.608824 | 0 | 0.801726 | 32.929298 | 826.259055 | -793.329757 | 30% |
| 204187575 | HUC_041 Oneida R | 18.038807 | 0.267936 | 0.000043 | 0 | 1.38731 | 2.559828 | 682.624751 | 0.55488 | 2.488047 | 19.694096 | 688.227506 | -668.53341 | 38% |
| 204187403 | HUC_041 Sixmile C | 57.732388 | 0.979668 | 0 | 0 | 1.646073 | 0.042812 | 217.954078 | 0 | 3.497132 | 60.358129 | 221.494022 | -161.135893 | 82% |
| 204187900 | HUC_041 Oneida R | 55.215278 | 0.857639 | 0 | 0 | 2.904412 | 0 | 194.470189 | 0 | 0.333378 | 58.977329 | 194.803567 | -135.826238 | 85% |
| 204187620 | HUC_041 Waterho | 45.860371 | 0.789788 | 0 | 0 | 1.286848 | 0.418165 | 730.03003 | 0 | 1.57682 | 47.937007 | 732.025015 | -684.088008 | 37% |
| 204187525 | HUC_041 Caughde | 36.110498 | 0.896809 | 0 | 0 | 0.795907 | 0.003728 | 155.425041 | 0 | 1.702585 | 37.803214 | 157.131354 | -119.32814 | 87% |
| 204187979 | HUC_041 Oneida R | 53.236407 | 0.8487 | 0 | 0 | 2.19441 | 0 | 213.632978 | 0 | 0.168735 | 56.279517 | 213.801713 | -157.522196 | 83% |
| 204187523 | HUC_041 Black Cre | 45.630399 | 0.907352 | 0 | 0.76375 | 3.333185 | 0.183647 | 420.224353 | 0 | 4.613143 | 50.634686 | 425.021143 | -374.386457 | 61% |
| 204187492 | HUC_041 Waterho | 60.911625 | 0.793001 | 0 | 0 | 1.685367 | 0.252788 | 250.902388 | 4 | 1.230579 | 63.389993 | 256.385755 | -192.995762 | 80% |
| 204187986 | HUC_041 Village of | 55.854666 | 0.666175 | 0 | 0 | 1.887628 | 0.098119 | 476.661974 | 0 | 3.215367 | 58.408469 | 479.97546 | -421.566991 | 56% |
| 204187349 | HUC_041 Sixmile C | 62.352671 | 0.945311 | 0 | 0 | 1.847011 | 0.071556 | 125.633128 | 0 | 4.258914 | 65.144993 | 129.963598 | -64.818605 | 92% |
| 204187842 | HUC_041 Oneida R | 40.262775 | 0.648544 | 0.495949 | 0 | 2.767249 | 0.559121 | 383.076371 | 1.432737 | 1.133201 | 44.174517 | 386.20143 | -342.026913 | 65% |
| 204188179 | HUC_041 Mud Cre | 29.08307 | 0.948307 | 0 | 0 | 7.983964 | 1.239729 | 1168.163786 | 0 | 0.254089 | 38.015341 | 1169.657604 | -1131.642263 | 13% |
| 204188136 | HUC_041 Mud Cre | 59.057637 | 0.99928 | 0 | 0 | 2.892439 | 0 | 997.783269 | 0 | 1.848952 | 62.949356 | 999.632221 | -936.682865 | 23% |
| 204187262 | HUC_041 Sixmile C | 49.778121 | 0.856506 | 0 | 0 | 3.611662 | 0.137947 | 169.429455 | 0 | 1.989359 | 54.246289 | 171.556761 | -117.310472 | 88% |
| 204188180 | HUC_041 Mud Cre | 46.80176 | 0.84705 | 0 | 0 | 5.309253 | 1.988354 | 658.813596 | 0 | 1.560423 | 52.958063 | 662.362373 | -609.40431 | 41% |
| 204187284 | HUC_041 Fish Cree | 42.159117 | 1 | 0 | 0 | 2.332341 | 0 | 37.392634 | 0 | 1.005935 | 45.491458 | 38.398569 | 7.092889 | 97% |
| 204188085 | HUC_041 Mud Cre | 84.704223 | 0.973671 | 0 | 0 | 4.206199 | 0.121901 | 97.151576 | 6 | 0.238658 | 89.884093 | 103.512135 | -13.628042 | 95% |
| 204188001 | HUC_041 Mead Cr | 49.306921 | 0.880987 | 0 | 0 | 3.64778 | 1.811774 | 492.992177 | 0 | 0.961051 | 53.835688 | 495.765002 | -441.929314 | 55% |
| 204188298 | HUC_041 Mud Cre | 16.856582 | 0.208894 | 0 | 0 | 0.803208 | 32.591538 | 2005.939624 | 6 | 0.893665 | 17.868684 | 2045.424827 | -2027.556143 | 0% |
| 204188293 | HUC_041 Crooked | 30.130145 | 0.824249 | 0.444843 | 0 | 5.826081 | 2.474972 | 731.517848 | 10.47974 | 1.840852 | 37.225318 | 746.313412 | -709.088094 | 35% |
| 204188991 | HUC_041 Geddes B | 62.872102 | 0.706058 | 0 | 0 | 0.192705 | 0.584144 | 582.883686 | 0 | 2.885364 | 63.770865 | 586.353194 | -522.582329 | 46% |
| 204187628 | HUC_041 Oneida L | 9.68277 | 0.965378 | 0 | 0 | 11.156809 | 0 | 844.155331 | 0 | 0.619694 | 21.804957 | 844.775025 | -822.970068 | 28% |
| 204188297 | HUC_041 Mud Cre | 31.598471 | 0.901679 | 0 | 0 | 7.545628 | 1.407674 | 920.050391 | 0 | 0.309969 | 40.045778 | 921.768034 | -881.722256 | 25% |
| 204187321 | HUC_041 Big Bay C | 53.8003 | 0.836336 | 0 | 0 | 1.034711 | 0.006006 | 243.460964 | 0 | 1.93954 | 55.671347 | 245.40651 | -189.735163 | 80% |
| 204187966 | HUC_041 Oneida R | 50.293476 | 0.874573 | 0 | 0 | 2.559068 | 0.023914 | 172.495013 | 0 | 0.247818 | 53.727117 | 172.766745 | -119.039628 | 87% |
| 204187954 | HUC_041 Village of | 66.118923 | 0.813583 | 0 | 0 | 0.174059 | 0.126251 | 258.485282 | 0 | 2.829076 | 67.106565 | 261.440609 | -194.334044 | 79% |
| 204187880 | HUC_041 Oneida R | 46.507521 | 0.92312 | 0.519581 | 0 | 4.327708 | 1.22507 | 254.55599 | 4 | 1.086483 | 52.27793 | 260.867543 | -208.589613 | 78% |
| 204188371 | HUC_041 Crooked | 34.364568 | 0.611781 | 0.321574 | 0 | 2.041056 | 0.278397 | 616.077872 | 0 | 1.449113 | 37.338979 | 617.805382 | -580.466403 | 43% |
| 204187882 | HUC_041 Oneida L | 52.311304 | 0.913005 | 0.045718 | 0 | 0.983138 | 0.996456 | 447.583526 | 0 | 1.552177 | 54.253165 | 450.132159 | -395.878994 | 59% |
| 204187290 | HUC_041 Sixmile C | 44.065036 | 0.938114 | 0 | 0 | 1.13004 | 0.022049 | 83.358268 | 0 | 0.394632 | 46.13319 | 83.774949 | -37.641759 | 94% |
| 204187960 | HUC_041 Oneida L | 0 | 1 | 0 | 0 | 9.643607 | 0 | 427.005207 | 0 | 0 | 10.643607 | 427.005207 | -416.3616 | 56% |
| 204188002 | HUC_041 Oneida R | 50.352577 | 0.673196 | 0 | 0 | 1.640995 | 0.068041 | 275.829935 | 0 | 0.889906 | 52.666768 | 276.787882 | -224.121114 | 76% |
| 204188068 | HUC_041 Village of | 61.90875 | 0.805727 | 0 | 0 | 0.950049 | 0.2981 | 248.745718 | 0 | 5.033153 | 63.664526 | 254.076971 | -190.412445 | 80% |
| 204187836 | HUC_041 Village of | 56.632813 | 0.769531 | 0 | 0 | 1.90085 | 0 | 263.183683 | 0 | 8.19241 | 59.303194 | 271.376093 | -212.072899 | 77% |
| 204187975 | HUC_041 Oneida R | 63.419706 | 0.88038 | 0 | 0 | 2.390666 | 0 | 472.856717 | 0 | 0.801732 | 66.690752 | 473.658449 | -406.967697 | 57% |
| 204187408 | HUC_041 Caughde | 40.927266 | 0.973915 | 0 | 0 | 0.95997 | 0 | 151.936655 | 0 | 1.650751 | 42.861151 | 153.587406 | -110.726255 | 88% |
| 204187931 | HUC_041 Mead Cr | 65.600648 | 0.842475 | 0.040493 | 0 | 1.398032 | 0.192651 | 449.572221 | 0 | 0.566232 | 67.881648 | 450.331104 | -382.449456 | 60% |
| 204187907 | HUC_041 Oneida R | 45.98101 | 0.758825 | 0.17788 | 0 | 3.151514 | 0.624218 | 421.631566 | 0.469255 | 1.055302 | 50.069229 | 423.780341 | -373.711112 | 62% |
| 204188126 | HUC_041 Village of | 37.137662 | 0.607619 | 0 | 0 | 4.243697 | 1.042944 | 443.600735 | 0 | 0.55065 | 41.988978 | 445.194329 | -403.205351 | 58% |
| 204187901 | HUC_041 Oneida R | 52.689944 | 0.772346 | 0 | 0 | 1.622987 | 0 | 146.794642 | 0 | 0.139602 | 55.085277 | 146.934244 | -91.848967 | 89% |
| 204187788 | HUC_041 Village of | 67.777343 | 0.904674 | 0 | 0 | 0.539611 | 0.83813 | 387.022742 | 0 | 3.017383 | 69.221628 | 390.878255 | -321.656627 | 67% |
| 204187796 | HUC_041 Village of | 58.594699 | 0.74931 | 0 | 0 | 2.348394 | 0.667035 | 467.604393 | 0 | 2.903461 | 61.692403 | 471.174889 | -409.482486 | 57% |
| 204187676 | HUC_041 Oneida L | 9.732394 | 1 | 0 | 0 | 13.70227 | 0 | 1034.595437 | 0 | 0.105642 | 24.434664 | 1034.701079 | -1010.266415 | 20% |
| 204188326 | HUC_041 Mud Cre | 38.375573 | 0.887032 | 0 | 0 | 6.852422 | 0.940146 | 634.307316 | 0 | 1.040954 | 46.115027 | 636.288416 | -590.173389 | 42% |
| 204187618 | HUC_041 Oneida L | 0 | 1 | 0 | 0 | 11.408313 | 0 | 508.438354 | 0 | 0 | 12.408313 | 508.438354 | -496.030041 | 49% |
| 204188132 | HUC_041 Village of | 55.995364 | 0.766312 | 0 | 0 | 2.143595 | 1.564045 | 362.048424 | 0 | 0.45833 | 58.905271 | 364.070799 | -305.165528 | 68% |
| 204187781 | HUC_041 Oneida L | 10.864043 | 0.926655 | 0.225529 | 0 | 9.71465 | 2.615385 | 504.189785 | 0 | 0.182119 | 21.730877 | 506.987289 | -485.256412 | 50% |
| 204187418 | HUC_041 Big Bay C | 58.538541 | 0.898721 | 0 | 0 | 1.174234 | 0.032838 | 430.460065 | 0 | 1.248012 | 60.611496 | 431.740915 | -371.129419 | 62% |
| 204188078 | HUC_041 Mud Cre | 83.025189 | 0.979345 | 0 | 0 | 6.770202 | 0.084131 | 220.391857 | 6 | 0.276877 | 90.774736 | 226.752865 | -135.978129 | 85% |
| 204187479 | HUC_041 Sixmile C | 66.94931 | 0.858327 | 0 | 0 | 1.732881 | 0.054265 | 188.843345 | 0 | 1.832191 | 69.540518 | 190.729801 | -121.189283 | 86% |
| 204187686 | HUC_041 Oneida L | 31.281422 | 0.756429 | 0.15304 | 0.442997 | 4.926536 | 2.0026 | 840.358317 | 0 | 2.182396 | 37.560424 | 844.543313 | -806.982889 | 28% |
| 204187719 | HUC_041 Waterho | 25.964746 | 0.969491 | 0 | 0 | 2.678764 | 0 | 380.736643 | 0 | 5.90764 | 29.613001 | 386.644283 | -357.031282 | 63% |
| 204187187 | HUC_041 Catfish C | 64.739137 | 0.986847 | 0 | 0 | 0.870053 | 0.034552 | 34.039765 | 0 | 0.786171 | 66.596037 | 34.860488 | 31.735549 | 99% |
| 204187503 | HUC_041 Big Bay C | 38.626849 | 0.809164 | 0.339994 | 0 | 1.440278 | 0.175402 | 380.78564 | 0 | 1.070956 | 41.216285 | 382.031998 | -340.815713 | 65% |
| 204187734 | HUC_041 Oneida L | 0 | 1 | 0 | 0 | 12.51852 | 0 | 561.18765 | 0 | 0.000947 | 13.51852 | 561.188597 | -547.670077 | 45% |
| 204188062 | HUC_041 Village of | 49.884103 | 0.704268 | 0 | 0 | 2.870051 | 0.624385 | 289.324863 | 0 | 1.898414 | 53.458422 | 291.847662 | -238.38924 | 74% |
| 204188079 | HUC_041 Lower Co | 38.917857 | 0.79287 | 0.057382 | 0 | 0.838755 | 0.071719 | 269.458165 | 0 | 0.650972 | 40.606864 | 270.180856 | -229.573992 | 75% |
| 204187589 | HUC_041 Oneida L | 5.822222 | 0.984127 | 0.176639 | 0 | 11.528779 | 0.409524 | 784.634835 | 0 | 0.073448 | 18.511767 | 785.117807 | -766.60604 | 31% |
| 204187263 | HUC_041 Sixmile C | 65.173998 | 0.973048 | 0 | 0 | 0.863037 | 0.024783 | 115.078209 | 0 | 2.109094 | 67.010083 | 117.212086 | -50.202003 | 93% |
| 204187815 | HUC_041 Oneida L | 28.348692 | 0.930884 | 0.277093 | 0 | 6.653294 | 0.896638 | 613.771936 | 0 | 2.398506 | 36.209963 | 617.06708 | -580.857117 | 43% |
| 204188484 | HUC_041 Ley Cree | 68.658054 | 0.960977 | 0 | 0 | 1.507484 | 0.714718 | 552.191433 | 8 | 0.206409 | 71.126515 | 561.11256 | -489.986045 | 50% |
| 204187918 | HUC_041 Oneida L | 64.455023 | 0.916607 | 0.049729 | 0 | 1.196287 | 0.444166 | 572.870266 | 0 | 1.253792 | 66.617646 | 574.568224 | -507.950578 | 47% |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 204188084 | HUC_041 Mud Cre | 44.896569 | 0.668289 | 0.053531 | 0 | 2.231758 | 2.411536 | 667.676434 | 0.039738 | 4.101571 | 47.850147 | 674.229279 | -626.379132 | 40% |
| 204187220 | HUC_041 Caughde | 65.20931 | 0.834705 | 0 | 0 | 0.920072 | 0.039582 | 147.416861 | 0 | 1.502587 | 66.964087 | 148.95903 | -81.994943 | 90% |
| 204188000 | HUC_041 Oneida R | 54.23685 | 0.844495 | 0 | 0 | 1.059889 | 0.029894 | 451.526137 | 0 | 0.79977 | 56.141234 | 452.355801 | -396.214567 | 58% |
| 204188007 | HUC_041 Oneida R | 22.834522 | 0.27641 | 0 | 0 | 1.987071 | 0.267894 | 496.111194 | 0 | 1.02258 | 25.098003 | 497.401668 | -472.303665 | 52% |
| 204187756 | HUC_041 Village of | 83.111852 | 0.935556 | 0 | 0 | 0.354248 | 0.135556 | 306.114056 | 0 | 8.343656 | 84.401656 | 314.593268 | -230.191612 | 75% |
| 204187528 | HUC_041 Black Cre | 48.879399 | 0.984054 | 0 | 0.948385 | 1.500384 | 0.153592 | 296.121256 | 0 | 6.276216 | 52.312222 | 302.551064 | -250.238842 | 73% |
| 204188014 | HUC_041 Village of | 61.312412 | 0.918057 | 0 | 0 | 1.116548 | 0.053715 | 136.259524 | 0 | 5.129555 | 63.347017 | 141.442794 | -78.095777 | 90% |
| 204188629 | HUC_041 Crooked | 49.668169 | 0.904547 | 0.775206 | 0 | 4.993017 | 2.438481 | 735.777038 | 16 | 2.25558 | 56.340939 | 756.471099 | -700.13016 | 35% |
| 204187702 | HUC_041 Oneida L | 0 | 1 | 0 | 0 | 9.643607 | 0 | 0 | 0 | 0 | 10.643607 | 0 | 10.643607 | 97% |
| 204188147 | HUC_041 Canasera | 65.976105 | 0.836316 | 0.181627 | 0 | 0.32935 | 0 | 154.425517 | 0 | 0.237998 | 67.323398 | 154.663515 | -87.340117 | 90% |
| 204188235 | HUC_041 Mud Cre | 20.468559 | 0.972324 | 0 | 0 | 10.128397 | 0.836182 | 602.125786 | 0 | 1.096299 | 31.56928 | 604.058267 | -572.488987 | 44% |
| 204188071 | HUC_041 Oneida R | 56.346069 | 0.734733 | 0.226696 | 0 | 2.002045 | 0.731016 | 522.88502 | 0.013893 | 1.501702 | 59.309543 | 525.131631 | -465.822088 | 52% |
| 204187637 | HUC_041 Sixmile C | 59.964535 | 0.87769 | 0 | 0 | 3.678924 | 0.005153 | 220.870023 | 0 | 0.824513 | 64.521149 | 221.699689 | -157.17854 | 83% |
| 204187755 | HUC_041 Village of | 41.737538 | 0.986775 | 0 | 0 | 2.213512 | 0.02238 | 166.052873 | 0 | 4.66111 | 44.937825 | 170.736363 | -125.798538 | 86% |
| 204187997 | HUC_041 Village of | 57.020305 | 0.757957 | 0 | 0 | 3.362486 | 0.411651 | 437.374946 | 0 | 2.858624 | 61.140748 | 440.645221 | -379.504473 | 61% |
| 204187902 | HUC_041 Oneida L | 12.837838 | 1 | 0 | 0 | 7.5213 | 0 | 8.295146 | 0 | 0.109751 | 21.359138 | 8.404897 | 12.954241 | 97% |
| 204187709 | HUC_041 Oneida L | 7.653153 | 0.924925 | 0.148484 | 0 | 11.545131 | 0.36036 | 426.047188 | 0 | 0.451396 | 20.271693 | 426.858944 | -406.587251 | 57% |
| 204188125 | HUC_041 Village of | 55.282178 | 0.752862 | 0 | 0 | 3.289279 | 0.512376 | 399.362835 | 0 | 1.553805 | 59.324319 | 401.429016 | -342.104697 | 65% |
| 204187945 | HUC_041 Oneida L | 58.169741 | 0.836859 | 0.698037 | 0 | 3.424006 | 5.214249 | 813.833758 | 0 | 2.646425 | 63.128643 | 821.694432 | -758.565789 | 32% |
| 204187800 | HUC_041 Village of | 48.631199 | 0.945897 | 0 | 0 | 2.495889 | 0.47881 | 286.413674 | 0 | 4.017779 | 52.072985 | 290.910263 | -238.837278 | 74% |
| 204187280 | HUC_041 Caughde | 57.131508 | 0.994832 | 0 | 0 | 0.666241 | 0.021057 | 87.757362 | 0 | 1.844749 | 58.792581 | 89.623168 | -30.830587 | 94% |
| 204187950 | HUC_041 Oneida L | 14.121662 | 0.878338 | 0.397647 | 0 | 11.160054 | 0.774481 | 410.792112 | 0 | 6.0761 | 26.557701 | 417.642693 | -391.084992 | 59% |
| 204187291 | HUC_041 Sixmile C | 56.437758 | 0.993075 | 0 | 0 | 0.74138 | 0 | 1.103629 | 0 | 0.391113 | 58.172213 | 1.494742 | 56.677471 | 100% |
| 204187651 | HUC_041 Black Cre | 42.56599 | 0.989645 | 0 | 0.837547 | 2.591835 | 0.210761 | 198.898292 | 0 | 4.080434 | 46.985017 | 203.189487 | -156.20447 | 83% |
| 204187478 | HUC_041 Sixmile C | 64.614331 | 0.968507 | 0 | 0 | 2.121513 | 0.023733 | 48.212936 | 0 | 1.864129 | 67.704351 | 50.100798 | 17.603553 | 98% |
| 204187279 | HUC_041 Caughde | 73.924534 | 0.95758 | 0 | 0 | 0.175209 | 0.110156 | 45.066586 | 0 | 1.444135 | 75.057323 | 46.620877 | 28.436446 | 98% |
| 204188251 | HUC_041 Village of | 53.3969 | 0.801803 | 0 | 0 | 3.791509 | 0.708811 | 502.67517 | 0 | 1.555795 | 57.990212 | 504.939776 | -446.949564 | 55% |
| 204188129 | HUC_041 Village of | 57.999724 | 0.791268 | 0 | 0 | 5.01822 | 2.817354 | 790.547973 | 0 | 1.187005 | 63.809212 | 794.552332 | -730.74312 | 34% |
| 204187829 | HUC_041 Village of | 65.385412 | 0.870613 | 0 | 0 | 1.648302 | 0.229598 | 220.614903 | 0 | 1.878898 | 67.904327 | 222.723399 | -154.819072 | 83% |
| 204188012 | HUC_041 Oneida R | 37.107957 | 0.506835 | 0 | 0 | 1.59306 | 0 | 243.665687 | 0 | 1.075938 | 39.207852 | 244.741625 | -205.533773 | 79% |
| 204187736 | HUC_041 Oneida R | 54.041643 | 0.78837 | 0.462844 | 0 | 2.961603 | 1.572472 | 620.235485 | 0 | 0.560155 | 58.25446 | 622.368112 | -564.113652 | 44% |
| 204187862 | HUC_041 Oneida R | 72.189934 | 0.91969 | 0 | 0 | 1.700576 | 0.139205 | 142.59522 | 0.068767 | 1.535044 | 74.8102 | 144.338236 | -69.528036 | 91% |
| 204187666 | HUC_041 Oneida L | 4.988732 | 0.983099 | 0.15585 | 0 | 11.850075 | 0.067606 | 393.129035 | 0 | 0.409787 | 17.977756 | 393.606428 | -375.628672 | 61% |
| 204187347 | HUC_041 Caughde | 64.127293 | 0.993573 | 0 | 0 | 0.399469 | 0.01814 | 71.067007 | 0 | 0.583597 | 65.520335 | 71.668744 | -6.148409 | 96% |
| 204188045 | HUC_041 Mead Cr | 61.560225 | 0.91612 | 0.533034 | 0 | 0.681603 | 0.076549 | 584.091411 | 0 | 0.442361 | 63.690982 | 584.610321 | -520.919339 | 46% |
| 204188367 | HUC_041 Crooked | 56.594263 | 0.906964 | 0 | 0 | 2.39246 | 0.14097 | 518.386567 | 0 | 0.903319 | 59.893687 | 519.430856 | -459.537169 | 54% |
| 204188258 | HUC_041 Village of | 45.750302 | 0.796838 | 0 | 0 | 4.575421 | 1.189726 | 437.561593 | 0 | 1.539148 | 51.122561 | 440.290467 | -389.167906 | 60% |
| 204187217 | HUC_041 Fish Cree | 79.201188 | 0.973488 | 0 | 0 | 1.215215 | 0.029688 | 31.743025 | 0 | 0.916394 | 81.389891 | 32.689107 | 48.700784 | 100% |
| 204187840 | HUC_041 Oneida R | 47.974177 | 0.677091 | 0.451757 | 0 | 2.560879 | 0.193674 | 208.590287 | 0.038391 | 0.777266 | 51.663904 | 209.599618 | -157.935714 | 83% |
| 204187753 | HUC_041 Oneida C | 72.564905 | 0.985126 | 0.896092 | 0 | 2.882406 | 0.137924 | 532.987526 | 8 | 0.115372 | 77.328529 | 541.240822 | -463.912293 | 53% |
| 204187555 | HUC_041 Little Bay | 40.548133 | 0.917958 | 0.616663 | 0 | 2.868678 | 0.307468 | 320.230326 | 0 | 0.747372 | 44.951432 | 321.285166 | -276.333734 | 71% |
| 204188363 | HUC_041 Mud Cre | 29.020704 | 0.984403 | 0 | 0 | 8.333864 | 0.00069 | 325.97385 | 0 | 0.431144 | 38.338971 | 326.405684 | -288.066713 | 70% |
| 204187937 | HUC_041 Mead Cr | 61.806649 | 0.774446 | 0.556043 | 0 | 1.736291 | 0.378096 | 512.957601 | 0 | 0.521118 | 64.873429 | 513.856815 | -448.983386 | 54% |
| 204187705 | HUC_041 Sixmile C | 54.679579 | 0.695158 | 0 | 0 | 8.036569 | 0 | 185.912174 | 0 | 0.504777 | 63.411306 | 186.416951 | -123.005645 | 86% |
| 204187856 | HUC_041 Oneida L | 34.95706 | 0.886559 | 0.606758 | 0 | 6.527428 | 3.431396 | 626.922107 | 0 | 0.361065 | 42.977805 | 630.714568 | -587.736763 | 42% |
| 204187740 | HUC_041 Village of | 38.358272 | 0.955743 | 0 | 0 | 3.61774 | 0.041096 | 223.523308 | 0 | 3.758071 | 42.931755 | 227.322475 | -184.39072 | 81% |
| 204187052 | HUC_041 Headwat | 71.255038 | 0.993184 | 0 | 0 | 2.239695 | 0.025817 | 38.932142 | 0 | 1.842549 | 74.487917 | 40.800508 | 33.687409 | 99% |
| 204187490 | HUC_041 Oneida L | 29.345855 | 0.950777 | 0.479351 | 0 | 8.579846 | 1.382124 | 833.202466 | 0 | 0.202408 | 39.355829 | 834.786998 | -795.431169 | 30% |
| 204187729 | HUC_041 Mead Cr | 42.872386 | 0.889209 | 0.575933 | 0 | 7.369411 | 2.225667 | 649.525305 | 0 | 2.388063 | 51.706939 | 654.139035 | -602.432096 | 41% |
| 204187941 | HUC_041 Village of | 80.123218 | 1 | 0 | 0 | 1.576015 | 0 | 80.188918 | 0 | 13.48028 | 82.699233 | 93.669198 | -10.969965 | 95% |
| 204187692 | HUC_041 Oneida C | 60.908559 | 0.99569 | 0.816498 | 0 | 6.78963 | 0.010057 | 562.843831 | 8 | 0.1195 | 69.510377 | 570.973388 | -501.463011 | 49% |
| 204187346 | HUC_041 Caughde | 74.510622 | 0.979655 | 0 | 0 | 0.268168 | 0 | 30.298256 | 0 | 0.886413 | 75.758445 | 31.184669 | 44.573776 | 99% |
| 204188017 | HUC_041 Village of | 53.5125 | 1 | 0 | 0 | 2.25 | 0 | 92.102559 | 0 | 0.577216 | 56.7625 | 92.679775 | -35.917275 | 94% |
| 204188271 | HUC_041 Mud Cre | 48.380522 | 0.995198 | 0 | 0 | 7.529667 | 0.112756 | 416.814618 | 0 | 0.020803 | 56.905387 | 416.948177 | -360.04279 | 63% |
| 204187812 | HUC_041 Oneida R | 56.690085 | 0.846487 | 0.44925 | 0 | 3.224592 | 0.133569 | 188.897454 | 1.068262 | 0.413293 | 61.210414 | 190.512578 | -129.302164 | 85% |
| 204187953 | HUC_041 Mead Cr | 43.69034 | 0.751076 | 0.999326 | 0 | 1.435142 | 0.178862 | 599.201734 | 0 | 0.118965 | 46.875884 | 599.499561 | -552.623677 | 45% |
| 204187720 | HUC_041 Village of | 30.871614 | 1 | 0 | 0 | 4.517772 | 0 | 138.71188 | 0 | 4.490762 | 36.389386 | 143.202642 | -106.813256 | 89% |
| 204188336 | HUC_041 Mud Cre | 34.410679 | 0.997998 | 0 | 0 | 8.875217 | 0.024027 | 240.820038 | 0 | 0.053246 | 44.283894 | 240.897311 | -196.613417 | 79% |
| 204187881 | HUC_041 Oneida R | 59.113876 | 0.857339 | 0.694161 | 0 | 3.55906 | 0.561124 | 174.550536 | 2.234238 | 0.634545 | 64.224436 | 177.980443 | -113.756007 | 88% |
| 204188288 | HUC_041 Mud Cre | 52.055054 | 0.976381 | 0 | 0 | 7.212084 | 0.123654 | 247.491088 | 0 | 0.269753 | 60.243519 | 247.884495 | -187.640976 | 81% |
| 204188331 | HUC_041 Mud Cre | 45.744348 | 0.998841 | 0 | 0 | 8.025155 | 0 | 317.701836 | 0 | 0.005692 | 54.768344 | 317.707528 | -262.939184 | 72% |
| 204188104 | HUC_041 Canasera | 62.079953 | 0.952899 | 0.764157 | 0 | 1.243645 | 0.943202 | 511.002039 | 0 | 9.750444 | 65.040654 | 521.695685 | -456.655031 | 54% |
| 204188294 | HUC_041 Mud Cre | 45.613636 | 1 | 0 | 0 | 7.990794 | 0 | 289.503516 | 0 | 0 | 54.60443 | 289.503516 | -234.899086 | 75% |
| 204188238 | HUC_041 Mud Cre | 52.595248 | 0.956612 | 0 | 0 | 8.79447 | 0.56095 | 407.123882 | 0 | 0.67716 | 62.34633 | 408.361992 | -346.015662 | 64% |
| 204187704 | HUC_041 Sixmile C | 53.924708 | 0.688581 | 0.613161 | 0 | 6.17408 | 0.028723 | 426.656451 | 0 | 0.393188 | 61.40053 | 427.078362 | -365.677832 | 62% |
| 204188272 | HUC_041 Mud Cre | 55.425926 | 1 | 0 | 0 | 8.188162 | 0 | 494.658493 | 0 | 0 | 64.614088 | 494.658493 | -430.044405 | 56% |
| 204188117 | HUC_041 Canasera | 73.590886 | 0.949892 | 0.916564 | 0 | 0.205312 | 0.083617 | 114.966025 | 2.961673 | 2.740889 | 75.662654 | 120.752204 | -45.08955 | 93% |
| 204187764 | HUC_041 Sixmile C | 33.720963 | 0.996459 | 0.090224 | 0 | 11.455088 | 0.106232 | 177.434645 | 0 | 0 | 46.262734 | 177.540877 | -131.278143 | 85% |
| 204187673 | HUC_041 Oneida L | 52.52492 | 0.939024 | 0 | 0.490718 | 4.922368 | 0 | 280.970041 | 0 | 4.791295 | 58.87703 | 285.761336 | -226.884306 | 76% |
| 204187767 | HUC_041 Oneida R | 62.614617 | 0.757533 | 0.614022 | 0 | 2.438686 | 0.166938 | 158.883788 | 0 | 0.204586 | 66.424858 | 159.255312 | -92.830454 | 89% |
| 204188304 | HUC_041 Crooked | 41.003889 | 0.847184 | 0.762322 | 0 | 5.006361 | 0.464353 | 468.492318 | 6.374766 | 2.354295 | 47.619756 | 477.685732 | -430.065976 | 55% |
| 204187761 | HUC_041 Mead Cr | 46.608998 | 0.946256 | 0.634663 | 0 | 3.242852 | 0.436896 | 284.758901 | 0 | 0.246086 | 51.432769 | 285.441883 | -234.009114 | 75% |
| 204188305 | HUC_041 Crooked | 53.44658 | 0.85018 | 0.717379 | 0 | 3.674057 | 4.557955 | 799.072698 | 0 | 0.409204 | 58.688196 | 804.039857 | -745.351661 | 33% |
| 204187689 | HUC_041 Oneida R | 44.93484 | 0.732022 | 0.934283 | 0 | 3.564115 | 0.5973 | 386.102461 | 0.227335 | 0.105336 | 50.16526 | 387.032432 | -336.867172 | 65% |
| 204187762 | HUC_041 Fish Cree | 55.638881 | 0.85657 | 0.839811 | 0 | 6.740702 | 0.084728 | 147.281945 | 0 | 0.5051 | 64.075964 | 147.871773 | -83.795809 | 90% |
| 204188390 | HUC_041 Crooked | 67.997864 | 0.966102 | 0.819904 | 0 | 4.403847 | 0.90151 | 449.252681 | 14.54153 | 1.269564 | 74.187717 | 465.965285 | -391.777568 | 59% |
| 204187802 | HUC_041 Mead Cr | 33.043189 | 1 | 1 | 0 | 1.458374 | 0 | 266.039257 | 0 | 0.008233 | 36.501563 | 266.04749 | -229.545927 | 76% |
| 204187576 | HUC_041 Oneida R | 8.000493 | 0.057213 | 0.77141 | 0 | 1.524262 | 1.318372 | 756.255426 | 0 | 0.606507 | 10.353378 | 758.180305 | -747.826927 | 32% |
| 204187791 | HUC_041 Oneida R | 62.307841 | 0.904292 | 0.504877 | 0 | 3.592022 | 0.217998 | 163.546578 | 0 | 1.10726 | 67.309032 | 164.871836 | -97.562804 | 89% |
| 204187803 | HUC_041 Mead Cr | 40.030191 | 1 | 1 | 0 | 1.309976 | 0 | 191.752989 | 0 | 0.016214 | 43.340167 | 191.769203 | -148.429036 | 84% |
| 204187904 | HUC_041 Oneida L | 46.368113 | 0.822739 | 0.824498 | 0 | 3.802811 | 0.048078 | 213.800376 | 0 | 0.319337 | 51.818161 | 214.167791 | -162.34963 | 82% |
| 204187581 | HUC_041 Oneida R | 61.375211 | 0.817465 | 0.831867 | 0 | 1.882022 | 0 | 121.401671 | 0 | 0.483798 | 64.906565 | 121.885469 | -56.978904 | 92% |
| 204187659 | HUC_041 Oneida L | 50.598641 | 0.982511 | 0 | 0.828176 | 1.404103 | 0.008556 | 137.374684 | 0 | 2.05436 | 53.813431 | 139.4376 | -85.624169 | 90% |
| 204187801 | HUC_041 Mead Cr | 60.438373 | 0.994119 | 0.966765 | 0 | 1.779192 | 0 | 355.201973 | 0 | 0.084042 | 64.178449 | 355.286015 | -291.107566 | 70% |
| 204187908 | HUC_041 Oneida L | 47.31454 | 1 | 0.602394 | 0 | 6.704391 | 0 | 110.799318 | 0 | 0.507839 | 55.621325 | 111.307157 | -55.685832 | 92% |
| 204187804 | HUC_041 Mead Cr | 55.587412 | 0.992645 | 0.938335 | 0 | 3.253233 | 0.179901 | 362.713499 | 0 | 0.170609 | 60.771625 | 363.064009 | -302.292384 | 68% |
| 204187853 | HUC_041 Mead Cr | 53.890518 | 1 | 0.99995 | 0 | 2.596811 | 0 | 301.734205 | 0 | 0.039424 | 58.487279 | 301.773629 | -243.28635 | 73% |
| 204187710 | HUC_041 Oneida L | 45.117639 | 0.975845 | 0.90526 | 0 | 4.270622 | 0.060452 | 113.802021 | 0 | 0.623054 | 51.269366 | 114.485527 | -63.216161 | 92% |
| 204187793 | HUC_041 Mead Cr | 72.888889 | 1 | 1 | 0 | 1.666667 | 0 | 283.818407 | 0 | 0 | 76.555556 | 283.818407 | -207.262851 | 78% |
| 204187640 | HUC_041 Oneida R | 18.844257 | 0.442944 | 0.587087 | 0 | 3.038329 | 0.806592 | 593.558991 | 2.265244 | 4.168486 | 22.912617 | 600.799313 | -577.886696 | 43% |
| 204187949 | HUC_041 Mead Cr | 84.225849 | 0.997353 | 0.91012 | 0 | 1.259698 | 0 | 110.302164 | 0 | 0.118052 | 87.39302 | 110.420216 | -23.027196 | 94% |
| 204187854 | HUC_041 Mead Cr | 63.842105 | 1 | 1 | 0 | 2.623839 | 0 | 135.046784 | 0 | 0.000027 | 68.465944 | 135.046811 | -66.580867 | 91% |
| 204187584 | HUC_041 Threemil | 54.311387 | 0.999702 | 0.919453 | 0 | 8.98109 | 0 | 17.389529 | 0 | 0.480812 | 65.211632 | 17.870341 | 47.341291 | 99% |
| 204187772 | HUC_041 Sixmile C | 52.342808 | 1 | 0.677348 | 0 | 8.767228 | 0 | 140.255828 | 0 | 0.07605 | 62.787384 | 140.331878 | -77.544494 | 91% |
| 204187763 | HUC_041 Sixmile C | 57.774853 | 0.962591 | 0.840557 | 0 | 7.057541 | 0.017873 | 63.623135 | 0 | 0.226635 | 66.635542 | 63.867643 | 2.767899 | 97% |
| 204187780 | HUC_041 Fish Cree | 52.462457 | 0.996565 | 0.892232 | 0 | 10.254532 | 0.09259 | 44.312877 | 0 | 0.108772 | 64.605786 | 44.514239 | 20.091547 | 98% |
| 204187754 | HUC_041 Sixmile C | 67.746358 | 1 | 0.868555 | 0 | 7.115627 | 0 | 25.746192 | 0 | 0.809153 | 76.73054 | 26.555345 | 50.175195 | 100% |
| 204187701 | HUC_041 Threemil | 79.096387 | 0.996041 | 0.924785 | 0.01673 | 9.860209 | 0.016981 | 52.242633 | 0 | 0.464398 | 90.894152 | 52.724012 | 38.17014 | 99% |
| 204187583 | HUC_041 Little Bay | 66.962368 | 1 | 0.909347 | 0 | 12.357476 | 0 | 119.752201 | 0 | 0.28601 | 81.229191 | 120.038211 | -38.80902 | 93% |

| | Parcel Tax ID | Catchments | County | Town | Approximate distance from Micron (miles) | Linear ft | Notes and Comments |
|---|---|---|---|---|---|---|---|
| Young's Creek | 032.-02-10.1 | 204187881 | Onondaga | Clay | 1.3 | 2247 | Bat mitigation area |
| Young's Creek | | 204187899 | Onondaga | Clay | 1.3 | 431 | Bat mitigation area |
| Young's Creek | | 204187947 | Onondaga | Clay | 1.3 | 16 | Bat mitigation area |
| Young's Creek | 043.-01-01.0 | 204187899 | Onondaga | Clay | 0.67 | 4701 | Not interested in selling |
| Young's Creek | 048.-01-09.0 | 204187899 | Onondaga | Clay | boundary adjacent to Micron Site | 544 | Sold to a competitive bidder |
| Young's Creek | | 204187975 | Onondaga | Clay | boundary adjacent to Micron Site | 510 | Sold to a competitive bidder |
| Young's Creek | 048.-01-10.0 | 204187975 | Onondaga | Clay | boundary adjacent to Micron Site | 360 | Sold to a competitive bidder |
| Young's Creek | | 204187911 | Onondaga | Clay | boundary adjacent to Micron Site | 3730 | Sold to a competitive bidder |
| Young's Creek | | 204187896 | Onondaga | Clay | boundary adjacent to Micron Site | 206 | Sold to a competitive bidder |
| Young's Creek | | 204187899 | Onondaga | Clay | boundary adjacent to Micron Site | 1465 | Sold to a competitive bidder |
| Young's Creek | 048.-01-11.0 | 204187900 | Onondaga | Clay | boundary adjacent to Micron Site | 545 | Not interested in selling |
| Young's Creek | | 204187896 | Onondaga | Clay | boundary adjacent to Micron Site | 4525 | Not interested in selling |
| County Rt.33 | | 204187911 | Onondaga | Clay | boundary adjacent to Micron Site | 626 | Not interested in selling |
| County Rt.33 | 257.00-02-05.02 | 204187502 | Oswego | Hastings | 7.2 | 3052 | Stream mitigation not practicable |
| Center Rd | 315.00-01-39 | 204187963 | Oswego | Schroeppel | 3.23 | 2485 | Wetland mitigation site |
| Center Rd | 315.00-01-29 | 204187963 | Oswego | Schroeppel | 3.23 | 1040 | Wetland mitigation site |
| Center Rd | 315.00-01-01.05 | 204187907 | Oswego | Schroeppel | 3.23 | 3335 | Wetland mitigation site |
| Center Rd | 315.00-01-03 | 204187907 | Oswego | Schroeppel | 3.23 | 151 | Wetland mitigation site |
| Center Rd | 305.00-04-17.01 | 204187842 | Oswego | Schroeppel | 3.23 | 390 | Wetland mitigation site |
| Buxton Creek | 257.00-01-10 | 204187461 | Oswego | Palermo | 8.1 | 908 | Not interested in selling |
| Buxton Creek | 257.00-01-10.01 | 204187461 | Oswego | Palermo | 8 | 359 | Not interested in selling |
| Buxton Creek | 257.00-01-28.03 | 204187461 | Oswego | Schroeppel | 8 | 177 | Not interested in selling |
| Buxton Creek | 257.00-01-28.04 | 204187461 | Oswego | Schroeppel | 8 | 42 | Not interested in selling |
| Buxton Creek | 257.00-01-05 | 204187461 | Oswego | Schroeppel | 7.9 | 30 | Not interested in selling |
| Buxton Creek | 257.00-02-23 | 204187461 | Oswego | Schroeppel | 7.85 | 613 | Not interested in selling |
| Buxton Creek | 257.00-02-01.2 | 204187461 | Oswego | Schroeppel | 7.45 | 1282 | Not interested in selling |
| Buxton Creek | 257.00-02-15 | 204187560 | Oswego | Schroeppel | 7.2 | 2176 | Not interested in selling |
| Buxton Creek | 257.00-02-14.03 | 204187560 | Oswego | Schroeppel | 7 | 580 | Not interested in selling |
| Buxton Creek | 257.00-02-14.04 | 204187560 | Oswego | Schroeppel | 6.75 | 0 | Stream mitigation not practicable |
| Buxton Creek | 274.00-02-04.09 | 204187560 | Oswego | Schroeppel | 6.6 | 0 | Stream mitigation not practicable |
| Buxton Creek | 274.00-02-17 | 204187560 | Oswego | Schroeppel | | 0 | Stream mitigation not practicable |
| Buxton Creek | 274.00-03-04 | 204187560 | Oswego | Schroeppel | 5.8 | 208 | Not interested in selling |
| Buxton Creek | 274.00-03-04 | 204187576 | Oswego | Schroeppel | 5.8 | 3680 | Not interested in selling |
| Buxton Creek | 274.00-03-12 | 204187576 | Oswego | Schroeppel | 5.3 | 0 | Stream mitigation not practicable |
| Caughdenoy Creek | 292.00-01-10 | 204187616 | Oswego | Hastings | 4.18 | 178 | Wetland mitigation site |
| Caughdenoy Creek | 292.00-01-10 | 204187580 | Oswego | Hastings | 4.18 | 2437 | Wetland mitigation site |
| Caughdenoy Creek | 292.00-01-02 | 204187580 | Oswego | Hastings | 4.18 | 6014 | Wetland mitigation site |
| Caughdenoy Creek | 292.00-01-02 | 204187616 | Oswego | Hastings | 4.18 | 559 | Wetland mitigation site |
| Perry Road | 256.00-04-14 | 204187602 | Oswego | Schroeppel | 8.1 | 5775 | Stream Mitigation Site |
| Bell Rd | 274.00-02-04.06 | 204187546 | Oswego | Schroeppel | 6.75 | 5518 | Stream Mitigation Site |
| Buxton Creek | 257.00-02-08.01, 257.00-01-09, 257.00-02-22 | 204187513 | Oswego | Palermo/Hastings/Schroeppel | 7.6 | 3519 | Wetland Mitigation Site |
| TWT Preserve | 257.00-01-08 | 204187513 | Oswego | Palermo | 7.6 | 1594 | Wetland Mitigation Site |
| TWT Preserve | 257.00-01-08 | 204187461 | Oswego | Palermo | 7.6 | 1444 | Wetland Mitigation Site |
| Sixmile- Fish Creek | 256.00-04-14, 256.00-04-14.01 | 204187602 | Oswego | Schroeppel | 8.1 | 5413 | Stream Mitigation Site |
| Buxton Creek | 274.00-02-15, 274.00-02-04.06, 274.00-02-04.09 | 204187560 | Oswego | Schroeppel | 6.25 | 4638 | Stream Mitigation Site |

# MICRON SEMICONDUCTOR FABRICATION

# CLAY, NY

# USACE/NYSDEC JOINT PERMIT APPLICATION

# APPENDIX N

# COMPENSATORY WETLANDS/STREAM MITIGATION PLAN

July 09, 2025

**Ver. 6.0**

# CONTENTS


**1 INTRODUCTION ..... 1**
1.1 PROJECT BACKGROUND ..... 2
1.2 OVERVIEW OF MITIGATION ..... 2
1.3 REGULATORY BACKGROUND ..... 8

**2 OBJECTIVES ..... 9**
2.1 WETLANDS MITIGATION OBJECTIVES ..... 9
2.1.1 Summary of objectives ..... 9
2.1.2 Unavoidable impacts to waters of the United States ..... 9
2.1.3 Impacted Functions and Services ..... 11
2.1.4 Threatened and Endangered species ..... 12
2.1.5 Aquatic Resource Needs of the Watershed ..... 13
2.1.6 Public interest ..... 15
2.1.7 In-kind vs. Out-of-kind ..... 15
2.2 STREAM MITIGATION OBJECTIVES ..... 15
2.2.1 Unavoidable Impacts to Waters of the United States ..... 17
2.2.2 Impacted Functions and Services ..... 18
2.2.3 Threatened and Endangered species ..... 20
2.2.4 Aquatic Resource Needs of the Watershed ..... 20
2.2.5 Public interest ..... 20
2.2.6 In-kind vs. Out-of-kind ..... 21

**3 MITIGATION SITE SELECTION PROCESS ..... 22**
3.1 PROPOSED ALTERNATIVES CONSIDERED FOR MITIGATION ..... 22
3.2 MITIGATION AREA SELECTION ..... 23

**4 SITE PROTECTION INSTRUMENTS ..... 34**

**5 BASELINE INFORMATION ..... 35**
5.1 MICRON SITE ..... 35
5.2 MITIGATION SITES ..... 45

**6 DETERMINATION OF CREDITS ..... 50**
6.1 WETLANDS MITIGATION ..... 50
6.2 STREAM MITIGATION ..... 55
6.2.1 Methodology ..... 56
6.2.2 Indicators Used in Analysis ..... 56
6.2.3 Indicators and Scoring ..... 56
6.2.4 Study Area ..... 63
6.2.5 Credit calculation ..... 64
6.2.6 Results ..... 66

**7 FINANCIAL ASSURANCES ..... 69**

# TABLES


TABLE 1-1 SUMMARY OF USACE WETLAND IMPACTS AND MITIGATION ACREAGES/RATIOS BY COVER TYPE

TABLE 1-2 SUMMARY OF NYSDEC WETLAND IMPACTS AND MITIGATION ACREAGES/RATIOS BY COVER TYPE

TABLE 1-3 USACE WETLAND IMPACTS BY CONSTRUCTION PHASE

TABLE 1-4 NYSDEC WETLAND IMPACTS BY CONSTRUCTION PHASE

TABLE 2-1 Summary of Proposed Impacts to USACE Jurisdictional Wetlands

TABLE 2-2 Summary of Proposed Impacts to NYSDEC Jurisdictional Wetlands

TABLE 3-1 Jurisdictional On-Site Stream Resources

TABLE 3-2 Sites TWT Considered for Wetland Mitigation

TABLE 3-3 Sites TWT Considered for Stream Mitigation

TABLE 5-1 Jurisdictional USACE Wetland (WOTUS) Impacts by Construction Phase

TABLE 5-2 Jurisdictional NYSDEC Wetland (WOTUS) Impacts by Construction Phase

TALBE 5-3 Summary of Proposed Mitigation Sites

TABLE 6-1 Anticipated Credits Generated at the Mitigation Sites by Wetland Type

TABLE 6-2 Ecological Health and Ecological Stress indicators used in the assessment

TABLE 6-3 Ecological Health and Stress Indicators

TABLE 6-4 NYSROA Method - Micron Site Streams

TABLE 6-5 NYSROA Method - Wetland Mitigation Trust Areas


# FIGURES


FIGURE 1-1 Mitigation Site Location Overview

FIGURE 6-1 Suite of NYSROA Indicators

FIGURE 6-2 Raw Composite Scores

# ATTACHMENTS

| | |
|---|---|
| Attachment A | Wetland Impact Mitigation Ratio and Acreage Justification |
| Attachment B | The Wetland Trust Stream/Wetland Mitigation Plan (included as separate PDF files) |
| Attachment C | NYSROA Data Sheets (included as a separate Excel file) |

# ABBREVIATIONS

CEQ ..... Council on Environmental Quality
CFR..... Code of Federal Regulations
FEMA..... Federal Emergency Management Agency
JD ..... Jurisdictional Determination
JPA ..... Joint Permit Application
NAD 83 ..... North America Datum 1983
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NRCS..... Natural Resources Conservation Service
NWI ..... National Wetland Inventory
NYCRR ..... New York Codes, Rules and Regulations
NYS OPRHP..... New York State Office of Parks, Recreation and Historic Preservation
NYS..... New York State
NYSDEC ..... New York State Department of Environmental Conservation
NYSDOS ..... New York State Department of State
NYSOGS..... New York State Office of General Services
OCDWEP ..... Onondaga County Department of Water Environment Protection
OCIDA ..... Onondaga County Industrial Development Agency
OCWA ..... Onondaga County Water Authority
SEQRA..... New York State Environmental Quality Review Act
SHPO ..... State Historic Preservation Officer
USACE..... U.S. Army Corps of Engineers
U.S.C. ..... United States Code
USFWS ..... U.S. Fish & Wildlife Service
USGS ..... U.S. Geological Survey
USEPA ..... U.S. Environmental Protection Agency

**This page is left blank intentionally.**

# 1 Introduction

Micron New York Semiconductor Manufacturing LLC ("Micron"), a Delaware limited liability company, is proposing to construct a semiconductor manufacturing campus (the Proposed Project) in the Town of Clay, New York, at the White Pine Commerce Park, a ± 1,400-acre industrial park, on parcels currently controlled by the Onondaga County Industrial Development Agency (OCIDA). The Proposed Project consists of the construction of four fabrication facilities and ancillary support facilities (the "Micron Campus"), as well as construction of a CSX rail line located contiguous to the western site property boundary and to the west of Caughdenoy Road (the "Rail Spur"). The Micron Campus and Rail Spur will collectively be referred to as the "Micron Site" throughout this mitigation plan. Off-site childcare and healthcare facilities are also proposed but are not proposed to discharge to a federally regulated wetland. If applicable, a separate permit may be filed with NYSDEC for wetland buffer impacts at a later date.

The objective of the Proposed Project is to construct and operate four state-of-the-art, advanced semiconductor fabrication facilities ("Fabs"), on a single, unified site in New York State to efficiently meet market demand and ensure competitiveness in the worldwide semiconductor market. Each Fab is expected to occupy approximately 1.2 million square feet (sf) of land and contain approximately 600,000 sf of clean room space, 290,000 sf of clean room support space, and 119,500 sf of administrative space. Each Fab would be supported by approximately 441,210 sf of central utility buildings, and 182,600 sf of product testing space housed in separate buildings.

**The Proposed Project will permanently impact 193.38 acres of U.S Army Corps of Engineers (USACE) federally regulated wetlands and 6,283 linear feet (LF) of jurisdictional streams. Based on New York State Department of Conservation (NYSDEC) jurisdictional determinations, the Proposed Project will permanently impact 176.44 acres of wetlands that are under state regulation. There are no NYSDEC regulated streams on the Micron Site. For most of the wetlands, the USACE federally regulated wetlands overlap the NYSDEC wetlands, though there are a very small number of wetlands (18.61 acres) that are considered jurisdictional under federal regulations but not under state regulations. In addition to permanent impacts there will be a small amount of temporary wetland impacts (2.95 acres of USACE regulated wetlands, and 1.28 acres of NYSDEC regulated wetlands). After construction is complete, wetlands with temporary impacts will be returned to pre-disturbed conditions. Lastly, there are a small number (1.67 acres) of forested wetlands that will be permanently converted to emergent wetlands.** These converted acres are considered permanent impacts under state regulations and are included as temporary impacts under federal regulations. These converted acres will be included in each respective table as such. In compensation for impacts to on-site federal and state regulated wetlands and streams, Micron is proposing to implement a combination of in-lieu fee and permittee responsible off-site wetland and stream mitigation projects.

Micron has submitted a JPA, of which this Compensatory Wetlands and Stream Mitigation Plan (CWSMP) is **Appendix N**. Additional details on the Proposed Project can be found in the Permit Narrative section of the JPA. This mitigation plan outlines the details, specifications, and actions that will be taken to implement the wetland and stream mitigation for the Proposed Project.

## 1.1 PROJECT BACKGROUND

Micron's proposed semiconductor manufacturing facility will be built out over an approximate 16-year period. Semiconductor wafer fabrication processing is known to be one of the most complex manufacturing systems. The production of a memory chip requires hundreds of processing steps; in addition, multiple products are processed simultaneously in a Fab. Micron expects that the Fabs will be built in sequence, with construction of each Fab starting as the preceding Fab is being fit out and operations begin. This process will result in continuous construction activities on the Micron Campus over an approximate 16-year period, with a significant portion of that construction occurring inside the previously constructed Fab buildings.

Additional details of the Proposed Project can be found in the Permit Narrative and in the 404(b)(1) analysis located in **Appendix M** to this permit application, and the NYSDEC Issuance Weighing Standards Report location in **Appendix X**.

## 1.2 OVERVIEW OF MITIGATION

Micron will be utilizing in-lieu fee (ILF) and permittee responsible off-site wetland and stream mitigation projects in compensation for proposed on-site impacts to federal and state jurisdictional wetlands and streams. Those impacts include:

- Wetland and stream impacts from construction activities implemented by Micron as part of the development of the 4 Fabs and associated infrastructure including some aspects of the electrical duct bank, and the on-site gas main and gas metering station.
- Wetland and stream impacts from construction activities implemented by Micron associated with the Rail Spur.
- The loss of the existing National Grid Wooding New York State-required wetland mitigation site.
- Wetland and stream impacts from construction activities implemented by National Grid associated with grubbing and the installation of the Micron Duct Bank utility easement.

The acreage of wetland mitigation and linear feet of stream mitigation proposed in compensation for wetlands and streams impacted are based on the wetland/habitat type and functional capability of that wetland or stream and upon discussions with the USACE and NYSDEC. The Wetland Trust (TWT) is preparing site-specific wetland and stream mitigation plans that provide a detailed description of each property, how the wetlands will be constructed, how the streams will be re-established, and how they will be monitored and maintained pursuant to

performance standards. The Wetland Trust's Stream/Wetland Mitigation Plan can be found in **Attachment B** of this document.

To mitigate unavoidable impacts to wetlands, Micron is proposing 9 credits of in-lieu fee mitigation, with the remainder of mitigation for wetlands and streams be permittee responsible compensatory mitigation (PRM). Micron acknowledges that PRM is an aquatic resource restoration, establishment, enhancement and/or preservation activity undertaken by the permittee as defined by 33 CFR 332. Micron has developed this CWSMP to maintain the aquatic resource needs of the Oneida River watershed (10-digit HUC 0414020209) impacted by the Proposed Project in accordance with the NYSDEC mitigation guidance and information provided by the NYSDEC in their NOIA follow-up letter dated August 8, 2023.

In addition to the purchase of 9 ILF credits, Micron proposes to replace the functions and services of impacted wetlands due to the development of the Micron Site by mitigating wetlands through enhancement, rehabilitation, and establishment/re-establishment, in-kind (creation of forested wetlands to replace lost forested wetlands, creation of shrub wetlands to replace filled shrub wetlands, creation of emergent wetlands to replace filled emergent wetlands, and creation of deeper emergent areas to replace filled ponds). Micron proposes to replace the functions and services of impacted streams by restoring, and/or enhancing streams within the Oneida River Watershed. The resulting wetland/stream complexes are expected to provide a net increase in both quantity and quality of wetlands and streams within the watershed.

In addition to the purchase of 9 credits ILF, Micron proposes to re-establish/restore **379.85 credits/acres and enhance/rehabilitate 111.05 acres (41.07 adjusted credits/acres) of wetlands across six properties** (Buxton Creek, Fish Creek, Upper Caughdenoy Creek, Lower Caughdenoy Creek, Six Mile Creek, and Oneida River) located within the Oneida River watershed. This will offset impacts to **193.38 acres** of federal jurisdictional wetlands and **176.44 acres** of NYS jurisdictional wetlands impacted (including forest conversion) by the Proposed Project (**Figure 1-1**). Additionally, Micron proposes to re-establish approximately **14,030 linear feet** of stream to offset impacts to **6,283 linear feet** of streams impacted by the Proposed Project. Micron proposes stream mitigation on **two of the six wetland mitigation sites** (Fish Creek and Buxton Creek), **creating wetland-stream complexes comparable to those impacted at the Micron Campus.** Tables 1-1 and 1-2 below provide an overview of the federal wetland credits and New York State acres of wetland mitigation and overall credit ratios of each. Due to the size of the Proposed Project, small mitigation sites were not considered practical. Large mitigation sites and large active agricultural sites in the watershed were pursued where wetland creation acreage could be consolidated while reducing the impact to other habitat types, maximizing the significance of the mitigation within the watershed and further reducing uncertain mitigation success.

| Table 1-1: Summary of USACE Wetland Impacts and Mitigation Replacement Acreages and Ratios by Cover Type | | | | | |
|---|---|---|---|---|---|
| | Micron Site | | USACE Requested Ratios & Credits | | TWT Credits Proposed |
| Wetland Cover Type (Cowardin) | Existing (ac) | Impacted (ac) | Replacement Ratio | Mitigation Credits Needed | *TWT Credits |
| Palustrine Emergent | 223.04 | 93.94 | 1.5:1 | 143.01 | 136.56 |
| Palustrine Scrub-Shrub | 30.56 | 19.55 | 1.5:1 | 29.33 | 36.91 |
| Palustrine Forested | 170.18 | 77.79 | 3:1 | 233.37 | 247.45 |
| Palustrine Open Water | 2.10 | 2.10 | 1:1 | 0** | 0 |
| ***ILF Credits | n/a | n/a | n/a | n/a | 9 |
| **TOTALS** | **425.88** | **193.38** | **2:1** | **405.71** | **429.92** |

*TWT Credits include Re-establishment (1:1 ratio), and Rehabilitation (3.5:1, 3:1, or 2:1 depending on existing wetland quality)

**The 2.1 acres of Palustrine Open Water will be replaced with higher quality deep Palustrine Emergent

***9 ILF Credits purchased at TWT Johnson Farms Preserve

| Table 1-2: Summary of NYSDEC Wetland Impacts and Mitigation Replacement Acreages and Ratios by Cover Type | | | | | |
|---|---|---|---|---|---|
| | Micron Site | | NYSDEC Requested Ratios & Acres | | TWT Adjusted Acres Proposed |
| Wetland Cover Type (Edinger) | Existing (ac) | Impacted (ac) | Replacement Ratio | Mitigation Credits Needed | *TWT Adjusted Acres |
| Shallow Emergent Marsh | 65.58 | 48.12 | 1.5:1 | 72.18 | 60.94 |
| Deep Emergent Marsh | 151.93 | 41.01 | 1.5:1 | 62.18 | 75.61 |
| Shrub Scrub | 29.49 | 17.83 | 1.5:1 | 26.75 | 36.91 |
| Floodplain Forest | 94.54 | 19.31 | 3:1 | 57.93 | 65.91 |
| Red Maple-Hardwood Swamp | 53.37 | 46.43 | 3:1 | 139.29 | 172.09 |
| Hemlock-Hardwood Swamp | 3.18 | 3.08 | 3:1 | 9.24 | 9.44 |
| Farm Pond/Artificial Pond | 0.66 | 0.66 | 1:1 | 0** | 0 |
| **TOTAL** | **398.75** | **176.44** | **2:1** | **367.56** | **421.5** |

*TWT Adjusted Acres include Restoration (1:1 ratio) and Enhancement (3.5:1, 3:1, or 2:1 depending on existing wetland quality)

** Farm Pond/Artificial Pond will be replaced with higher quality Deep Emergent Marsh

The proposed mitigation sites range in size from 118 to 411 acres, are within 9 miles of the Micron Site and will protect, in perpetuity through conservation easement, about 1,269 acres of upland and wetland habitats within the Oneida River watershed. The Oneida River site is the largest (411-acre site) and nearest (within 4 miles) of the mitigation sites and includes approximately 163 adjusted acres of wetland mitigation. The next largest mitigation site, Buxton Creek (254-acre site), is anticipated to include approximately 98 adjusted acres of wetland mitigation. The wetlands to be re-established/restored (1:1 ratio) or rehabilitated/enhanced (3.5:1, 3:1, and 2:1 ratios) at these two sites alone total 261 adjusted acres. The remaining four mitigation sites offer

an additional 160 adjusted acres of wetland re-establishment/restoration (1:1 ratio) and rehabilitation/enhancement (3.5:1, 3:1, and 2:1 ratios), the result of which is an overall net gain of approximately 228 acres of wetland value in the watershed. **Figure 1-1** provides a visual representation of mitigation sites that will be protected in perpetuity as compared to the Micron Site.

Providing wetland and stream mitigation on large sites within the Oneida River watershed in proximity to the impacted functions and services (wildlife habitat, water quality, climate resiliency, flood protection during storm events, etc.) minimizes downstream impacts associated with project implementation and maintains the wetland and stream resource needs of the watershed. Micron has developed this CWSMP, along with additional technical documentation such as the Wetland Assessment and Monitoring Plan (**Appendix O**) to maintain the following within the watershed:

- Habitat that supports the aquatic and terrestrial wildlife species resident to the Micron Site
- Surface water and groundwater quality
- Surface water storage and conveyance
- Wetland connectivity
- Climate and flood resiliency

The proposed mitigation sites will be owned in perpetuity by TWT, a 501(c)(3) corporation, nonprofit whose mission is the protection, conservation, and restoration of wetlands and other important habitat. The proposed sites will add approximately 1,373 acres of land to TWT's ownership and stewardship within the watershed. TWT currently owns more than 100 properties covering 3,800 wetland acres and is the sponsor of two in-lieu fee programs in New York State. TWT is also the sponsor of a federal wetland mitigation bank covering the Hudson River Basin. This extensive background in wetland and habitat establishment provides the scientific expertise of in-lieu fee mitigation, which will increase the likelihood for ecological success and sustainability of the wetland and stream mitigation developed to offset the impacts of the Proposed Project. TWT works with universities and the scientific community to study wetland ecosystems and protect wetlands and the species that live within and around them. Micron anticipates that the re-established/restored wetlands, rehabilitated/enhanced wetlands, stream re-establishment, and the additional upland habitat protected at the mitigation sites will provide higher quality wetland complexes and greater ecological value than the wetlands and streams impacted at the Micron Site.

Mitigation Site construction for all proposed wetland and stream components is expected to be completed within approximately 6-8 years of permit issuance. The timing of offsite mitigation construction is further explained in **Attachment B**. As such, prior to the commencement of Phase

2 construction of the Proposed Project, all mitigation sites are expected to have as-built reports submitted and mitigation monitoring ongoing.

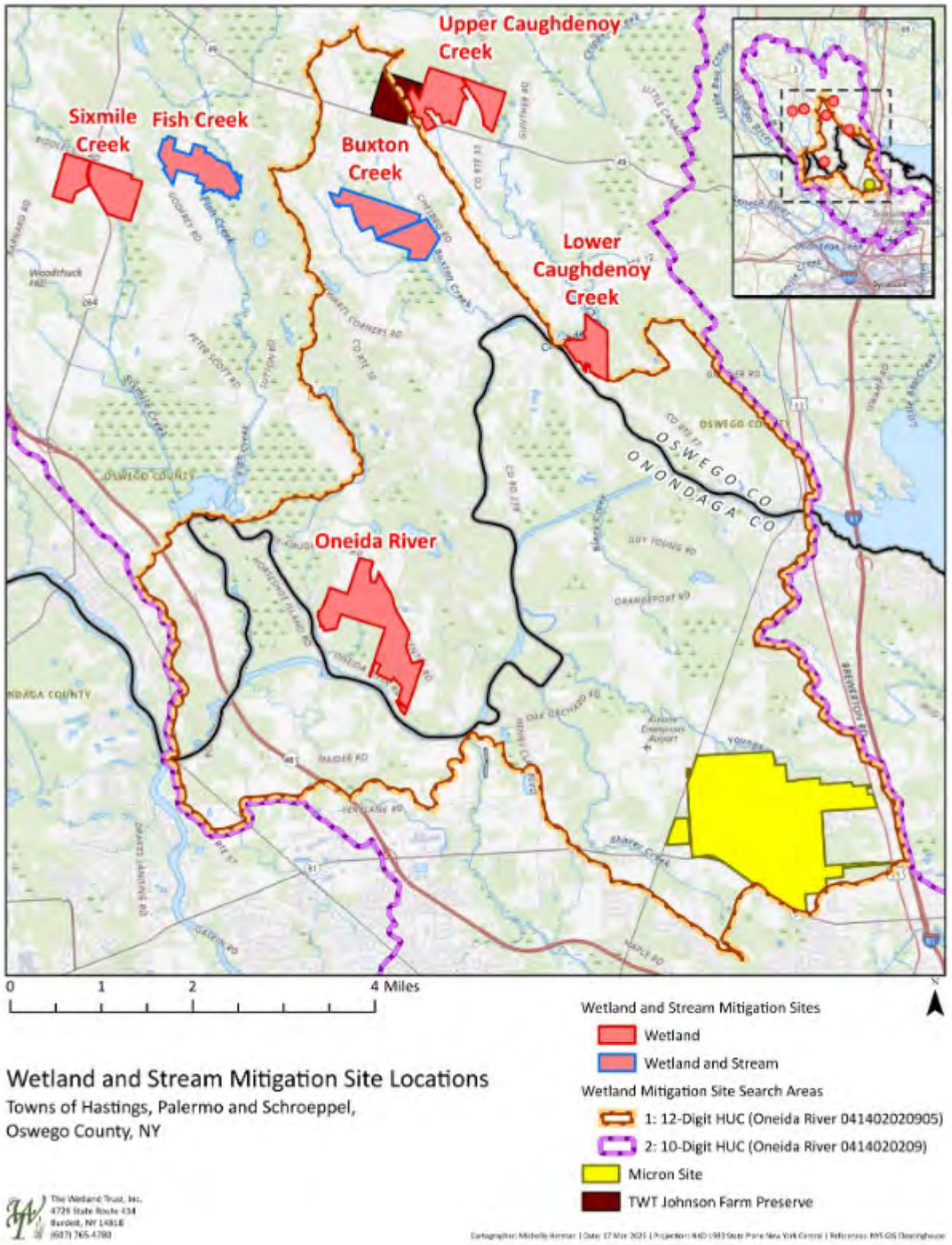
| Table 1-3: USACE Wetland Impacts by Construction Phase | | |
|---|---|---|
| **Cover Type** | **Phase 1 Acres** | **Phase 2 Acres** |
| PEM | 44.26 | 49.68 |
| PSS | 10.66 | 8.89 |
| PFO | 64.9 | 12.89 |
| POW | 1.17 | 0.93 |
| **Total** | **120.99** | **72.39** |

| Table 1-4: NYSDEC Wetland Impacts by Construction Phase | | |
|---|---|---|
| **Cover Type** | **Phase 1 Acres** | **Phase 2 Acres** |
| Shallow Emergent Marsh | 39.12 | 9 |
| Deep Emergent Marsh | 0.28 | 40.73 |
| Shrub Swamp | 8.96 | 8.87 |
| Floodplain Forest | 14.9 | 4.41 |
| Red Maple-Hardwood Swamp | 39.38 | 7.05 |
| Hemlock-Hardwood Swamp | 3.08 | 0 |
| Farm Pond/Artificial Pond | 0.53 | 0.13 |
| **Total** | **106.25** | **70.19** |

Phase 2 of the Proposed Project contains a majority of the main wetland complex that lies east of Burnet Road (approximately 75 acres). Phase 2 is currently planned to commence in 2033, at which time all the wetland and stream mitigation construction will be complete. **Table 1-3** and **Table 1-4** above provide an overview of wetland impacts by Phase of the Proposed Project. A detailed breakdown of wetland impacts (temporary and permanent) is provided in the following section and in **Table 2-1** and **Table 2-2**.

The information in this plan and permit application includes all information considered necessary for the USACE and NYSDEC to make a permit decision on the construction activities necessary for the Micron Site and each of the offsite mitigation properties.

**Figure 1-1 Mitigation Site Location Overview**



## 1.3 REGULATORY BACKGROUND

Wetlands and streams on the Micron Site are regulated at both the federal and state level. This mitigation plan is submitted as part of the JPA in accordance with:

- Clean Water Act Section 404 – 33 USC Subchapter 1344
- Clean Water Act Section 401 – 40 CFR Part 401
- Final Compensatory Mitigation Rules – 33 CFR Part 332
- New York Freshwater Wetlands Act – ECL Article 24
- Use and Protection of Waters – 6 NYCRR Part 608

# 2 Objectives

The wetland mitigation components of this plan were developed consistent with USACE, U.S. Environmental Protection Agency (USEPA), and NYSDEC guidance documents to compensate for the ecological functions and services that will be lost with implementation of the Proposed Project.

## 2.1 WETLANDS MITIGATION OBJECTIVES

The following sections describe the objectives of this mitigation project.

### 2.1.1 Summary of objectives

The primary objectives of this CWSMP are:

- To offset unavoidable impacts to waters of the United States (WOTUS) authorized through the issuance of a USACE permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344)
- To offset unavoidable impacts to NYS Freshwater Wetlands authorized through the issuance of a permit pursuant to Article 24 of the NYS Environmental Conservation Law (implementing regulations 6NYCRR Parts 663, 664 and 665
- To replace functions and services of wetlands and streams impacted by construction of the proposed facilities
- To serve the aquatic resource needs of the watershed to provide for a compensatory mitigation plan that is not contrary to the public interest (i.e., the benefits, which reasonably may be expected to accrue from the project, will be balanced against its reasonably foreseeable detriments)
- To identify CWSMP components
- Identify in-lieu fee opportunities to meet required function and service replacement

### 2.1.2 Unavoidable impacts to waters of the United States

Unavoidable impacts to federal and state wetlands from the Proposed Project are summarized in **Tables 2-1 and 2-2**. A further breakdown of impacts by wetland, cover type and project phase is provided in **Section 5** of this plan. Wetland boundaries (jurisdictional determinations and submitted delineations) are illustrated on the plans included in **Appendix H & I** of the JPA.

## Table 2-1: Summary of Proposed Impacts to USACE Jurisdictional Wetlands

| Cover Type | USACE Jurisdictional Wetland by Cover Type (acres) | Project Impacts by Phase (acres)* | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1B - Permanent | Phase 1B - Temporary | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2B - Permanent | Phase 2B - Temporary | | | |
| PEM | 223.04 | 37.40 | 1.28 | 6.86 | 0.00 | 49.68 | 0.00 | 0.00 | 0.00 | 93.94 | 1.28 | **95.21** |
| PFO | 170.18 | 64.39 | 1.67 | 0.51 | 0.00 | 10.33 | 0.00 | 2.56 | 0.00 | 77.79 | 1.67 | **79.46** |
| POW | 2.10 | 1.17 | 0.00 | 0.00 | 0.00 | 0.93 | 0.00 | 0.00 | 0.00 | 2.10 | 0.00 | **2.10** |
| PSS | 30.56 | 9.66 | 0.00 | 1.00 | 0.00 | 8.89 | 0.00 | 0.00 | 0.00 | 19.55 | 0.00 | **19.55** |
| **TOTALS** | **425.88** | **112.62** | **2.95** | **8.37** | **0.00** | **69.83** | **0.00** | **2.56** | **0.00** | **193.38** | 2.95 | **196.33** |

*Temporary Impacts include construction laydown areas and areas of ground disturbance to be returned to pre-disturbance conditions. Permanent Impacts include building envelopes and areas of site grading.

[1]Phased Total Impacts by Cover Type, Total Impacts, and Summary by Cover Type values are rounded from the computed GIS values and therefore may differ slightly from reported phase Total when summed.

## Table 2-2: Summary of Proposed Impacts to NYSDEC Jurisdictional Wetlands

| Cover Type | NYSDEC Jurisdictional Wetland by Cover Type (acres) | Project Impacts by Phase (acres)* | | | | | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts by Cover Type (acres)1 - Forest Conversion | Total Impacts (permanent and temp) (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1A - Forest Conversion | Phase 1B - Permanent | Phase 1B - Temporary | Phase 1B - Forest Conversion | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2A - Forest Conversion | Phase 2B - Permanent | Phase 2B - Temporary | Phase 2B - Forest conversion | | | | |
| Deep Emergent Marsh | 151.93 | 0.27 | 0.95 | 0.00 | 0.01 | 0.00 | 0.00 | 40.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 41.01 | 0.95 | 0.00 | **41.96** |
| Farm Pond/Artificial Pond | 0.66 | 0.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.66 | 0.00 | 0.00 | **0.66** |
| Floodplain Forest | 94.54 | 12.91 | 0.00 | 1.48 | 0.51 | 0.00 | 0.00 | 3.99 | 0.00 | 0.00 | 0.42 | 0.00 | 0.00 | 17.83 | 0.00 | 1.48 | **19.31** |
| Hemlock-Hardwood Swamp | 3.18 | 3.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.08 | 0.00 | 0.00 | **3.08** |
| Red Maple-Hardwood Swamp | 53.37 | 39.19 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | 6.09 | 0.00 | 0.00 | 0.96 | 0.00 | 0.00 | 46.24 | 0.00 | 0.20 | **46.43** |
| Shallow Emergent Marsh | 65.58 | 35.44 | 0.32 | 0.00 | 3.68 | 0.00 | 0.00 | 9.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 48.12 | 0.32 | 0.00 | **48.45** |
| Shrub Swamp | 29.49 | 8.89 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 8.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.83 | 0.00 | 0.00 | **17.83** |
| **TOTALS** | **398.75** | **100.31** | **1.28** | **1.67** | **4.27** | **0.00** | **0.00** | **68.81** | **0.00** | **0.00** | **1.38** | **0.00** | **0.00** | **174.77** | **1.28** | **1.67** | **177.72** |

*Temporary Impacts include construction laydown areas and areas of ground disturbance to be returned to pre-disturbance conditions. Permanent Impacts include building envelopes and areas of site grading.

[1]Phased Total Impacts by Cover Type, Total Impacts, and Summary by Cover Type values are rounded from the computed GIS values and therefore may differ slightly from reported phase Total when summed.

[2]Phase impact to W35 Deep Emergent Marsh is 0.001 AC, but is reported as 0 as impacts are only reported to the hundredth of an acre.

Over an approximately 16-year period starting in 2025, Micron will generally progress construction on the Micron Campus sequentially (Phase 1A, 1B, 2A, and lastly 2B) from west to east. See Drawings included in JPA Narrative for a phase-by-phase depiction of estimated limits of disturbance (LOD) throughout the four Fab construction.

There is a larger concentration of higher quality wetland per acre in the portion of the Micron Site that is east of Burnett Road. Keeping this in mind, a strategic decision has been made in the construction laydown planning for Phase 1B to locate the laydown area west of Burnett Road (Note: there are minor exceptions to this approach, i.e., an access road installation from Route 11 south finger entrance to the Phase 1A/1B area). This approach on all Phases will limit wetland disturbance to the extent practicable throughout the 16-year construction period.

### 2.1.3 Impacted Functions and Services

Data gathered during off-site document review and on-site wetland and stream boundary delineation activities was used to qualitatively assess the functions and services of the delineated wetlands. Wetland functions and services identified by the USACE in its publication The Highway Methodology Workbook Supplement: Wetlands Functions and Values – A Descriptive Approach (USACE 1999) were attributed to on-site wetlands:

- Wildlife habitat: each wetland exhibited wildlife habitat as the principal function. Multiple habitat types are present at the Micron Site which provide opportunities to accommodate a variety of species
- Floodflow alteration: detention of floodwater from Youngs Creek and stormwater runoff[1]
- Sediment/toxicant retention: retention of organic and inorganic particulates on a short-term or long-term basis through physical processes
- Nutrient removal: removal of nutrients, contaminants, or other elements and compounds on a short-term or long-term basis through burial, incorporation into biomass, or biochemical reactions
- Sediment/shoreline stabilization: stabilization of the banks and floodplain associated with Youngs Creek
- Groundwater recharge/discharge: wetland hydrology influences the hydrology of the adjacent watercourses

[1] Micron has completed a Hydraulic and Hydrologic(H&H) analysis to evaluate surface and ground water conditions under both existing and proposed conditions.

- Endangered species habitat: ability to support threatened or endangered species or important habitat for state or federally listed species
- Fish and shellfish habitat: ability of seasonal or permanent watercourses to support fish and shellfish
- Production export: production of food or usable products for humans or other living organisms

Completed Value Evaluation Forms for delineated wetlands are included as Attachment 2 of the Joint Permit Application **Appendix I**. The Proposed Project will impact the existing functions and services provided by existing wetlands. It is anticipated that elements of this CWSMP will compensate for and enhance the functions and services provided by project area wetlands, resulting in increases in quantity and quality of wetlands and streams in the Oneida River watershed.

### 2.1.4 Threatened and Endangered species

Threatened and endangered aquatic species that are dependent on the on-site aquatic resources have not been identified by the involved agencies and have not been observed by the project team. As described in the Biological Assessment, the following federally listed terrestrial species have been documented on the Micron Campus and are assumed present within the LOD:

- Indiana bat (*Myotis sodalis*; U.S. endangered)
- Northern long-eared bat (*M. septentrionalis*; U.S. endangered)
- Tricolored bat (*Permimyotis subflavus*; U.S. proposed endangered)

No "critical habitat" has been designated by the U.S. Fish and Wildlife Service (USFWS) for these species except for the Indiana bat, for which there is no critical habitat in New York State. However, Micron is committed to several mitigation actions to compensate for unavoidable impacts, including the purchase and permanent protection of 1,216 acres of off-site roosting habitat, and the support of research and monitoring efforts that would benefit science-based management and conservation of these species in New York. This CWSMP does not address mitigation requirements for Threatened and Endangered species, however the Biological Assessment provides further information on mitigation measures for these protected species. IPAC reports for the six wetland/stream mitigation sites are included as appendices to the individual site chapters.

As described in the Incidental Take Permit (**Appendix Q**), the following State listed species have been documented on the Micron Campus and are assumed present within the LOD:

Short-eared owl (Asio flammeus; NYS threatened)

Northern harrier (Circus hudsonius; NYS threatened)

Because of the direct and indirect loss of habitat for the short-eared owl and northern harrier, the Proposed Project would result in a "take" of these species under NYSDEC regulations. This CWSMP does not address mitigation requirements for State listed species, however, as detailed in the Net Conservation Benefit Plan (**Attachment 1 of Appendix Q**) this unavoidable impact would be offset by the purchase of 653 acres of suitable offsite habitat and a commitment to restore and manage that habitat as grassland for 15 years. This will ultimately result in a "net conservation benefit" for the short-eared owl and northern harrier.

### 2.1.5 Aquatic Resource Needs of the Watershed

In consideration of the physical constraints and other characteristics of the Micron Site (see **Section 3.1**) associated with the planned scale of site development, a watershed approach to compensatory mitigation was recommended to promote the best use of financial resources, with consensus that advancement of the mitigation at off-site locations within the Oneida River watershed (10-digit HUC 0414020209) that are currently utilized for agriculture is consistent with the prioritized needs of the overall watershed. Micron has developed this CWSMP, along with the Wetland Assessment and Monitoring Plan (**Appendix O**) to maintain the following within the watershed:

- Habitat that supports the aquatic and terrestrial species resident to the Micron Site
- Surface water and groundwater quality
- Surface water storage and conveyance
- Wetland connectivity
- Climate and flood resiliency

By maintaining these components of the watershed, Micron is aligning the CWSMP goals with the Great Lakes Restoration Initiative (GLRI) Action Plan IV long-term goals through the protection, via conservation easement, of 1,269 acres of mitigation properties, including Re-establishment/Restoration/Rehabilitation/Enhancement of 420.92 acres of wetlands and re-establishment of 14,030 linear feet of streams. GLRI Action Plan long-term goals fall into five focus areas:

1. Toxic Substances and Areas of Concern
2. Invasive Species
3. Nonpoint Source Pollution
4. Habitats and Species
5. Foundations for Future Restoration Actions

Through the development and monitoring of the mitigation sites, and implementation of the Wetlands Assessment and Monitoring Plan, Micron aims to align with and accelerate the following GLRI long-term goals;

- **Objective 2.3. Provide ecosystem and human benefits through prioritized and collaborative invasive species control efforts:** By 2029, this GLRI Action Plan objective hopes to increase total acres controlled for invasive species from 307,000 (baseline) acres to 360,000 acres (an increase of 53,000 acres). Through implementation of the Wetland Assessment and Monitoring plan for the Micron Site and invasive species management on the associated mitigation properties, acreages added to this objective will total approximately 1,500 acres, or just under 3% of the cumulative goal.
- **Objective 3.1. Reduce nutrient loads from agricultural watersheds to prevent harmful and nuisance algal blooms:** By 2029, this GLRI Action Plan objective hopes to reduce the amount of phosphorus applications by 1,500,000 lbs. TWT has acquired approximately 1,373 acres of agricultural land, primarily in production for soybean crops. Soybean fields require a relatively heavy phosphorus load (approximately 48 pounds of $P_2O_5$ per acre) to achieve a 60 bushel/acre harvest. Rounding the properties down to 1,300 acres and multiplying by 48 pounds of phosphorus application per acre, the Oneida River watershed will see a reduction of about 62,400 lbs. of phosphorus applied to agricultural fields, or about 4% of the total reduction goal.
- **Objective 3.2. Reduce or prevent stormwater runoff to improve and sustain water quality under a changing climate:** By 2029, this GLRI Action Plan objective hopes to increase acres of riparian buffers, wetlands and floodplains by 250 acres. The Micron mitigation plan alone will surpass this goal with the protection of 354.5 acres of upland buffers, 379.85 acres of wetland re-establishment/restoration, 111.05 acres of wetland rehabilitation/enhancement, and preservation of 89.1 acres of existing wetlands. The Micron mitigation plan will also re-establish over 2.5 miles of historic stream channels by returning channelized farm ditches back to their original, sinuous hydrology. These streams will be incorporated into wetland/stream complexes in low lying areas suitable for wildlife habitat, nutrient/pollutant storage, and floodwater retention and storage.
- **Objective 4.1. Protect, enhance and increase resilience of habitats necessary for sustaining native aquatic and terrestrial species important for the future Great Lakes ecosystem:** By 2029, this GLRI Action Plan objective hopes to increase total acres of protected or enhanced coastal wetland, nearshore, and other habitats from 530,000 acres (baseline) to 568,000 acres (an increase of 38,000 acres). The Micron wetland mitigation plan will add approximately 1,269 acres of permanently protected, and in some cases enhanced, habitat, within the Oneida River watershed or approximately 3% of the goal. This GLRI Action Plan objective also hopes to increase miles of connectivity for aquatic species from 8,170 miles to 8,800 miles in 2029. The Micron mitigation plan will re-establish over 2.5 miles of streams throughout the Oneida River watershed.

### 2.1.6 Public interest

This CWSMP will occur within the same Oneida River HUC-10 watershed (Oneida River HUC_0414020209) as the impacted wetlands. This approach enables the CWSMP to maintain the primary functions and services provided by the on-site wetlands (wildlife habitat, water quality, climate resiliency, flood protection during storm events, etc.) within the impacted watershed to minimize downstream impacts associated with project implementation. The proposed mitigation sites will be owned fee simple, in perpetuity by TWT, adding 1,373 acres of land to TWT's ownership and stewardship within the watershed. TWT works with universities and the scientific community to study wetland ecosystems and protect wetlands and the species that live within and around them. Micron anticipates that the wetlands and the upland habitat protected at the mitigation sites will improve the public interest value of aquatic resources within the watershed. As identified in the public comments received during the USACE Notice from May 30th, 2024, through July 31st, 2024, there is great public interest in the loss of primary functions and services provided by the on-site wetlands, and their subsequent mitigation. Many of Micron's responses to those public comments site this plan, to allow the public to better understand the impacts and proposed mitigation set forth.

### 2.1.7 In-kind vs. Out-of-kind

"In-kind" means a resource of a similar structure and functional type to the impacted resource. "Out-of-kind" means a structure and/or functional type that differs from the impacted resource.

The CWSMP incorporates in-kind elements at off-site mitigation sites within the Oneida River HUC 10 watershed with the focus on developing new wetlands or new wetland/stream complexes within active agricultural fields that include palustrine wetlands that were field-verified by the USACE and NYSDEC. In-kind elements are described in **Sections 6 and 7, and** the work areas for wetland and stream mitigation are shown on the drawings provided in **Attachment B** of this CWSMP.

The CWSMP incorporates preservation, via conservation easement, of 1,269 acres of land associated with the six mitigation sites, including the wetlands established to offset impacts at the Micron Site as well as existing wetlands and upland communities.

## 2.2 STREAM MITIGATION OBJECTIVES

The stream mitigation components of this CWSMP were developed consistent with the following USACE, USEPA, and NYSDEC guidance documents to compensate for the ecological functions and services that will be lost with implementation of the Proposed Project:

- *Guidelines for Stream Mitigation Banking and In-lieu Fee Programs in Ohio* (USACE 2016a)

- *Wilmington District Stream and Wetland Compensatory Mitigation Update* (USACE 2016b)

- *Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations* (USEPA 2005)

- *New York State Riparian Opportunity Assessment* (Conley et al. 2018)

Compensation was assessed using a methodology that allowed for direct, quantitative functional assessment of:

- The jurisdictional stream resources that exist within the limits of disturbance (LOD) of the Micron Site that are expected to be impacted from development activities

- Stream resources in the vicinity of the Micron Site that could offer compensatory mitigation opportunities

This assessment was completed using data from the New York State Riparian Opportunity Assessment (NYSROA) which was developed by the NYSDEC Natural Heritage Program (NHP) in 2018 with the goal of identifying and prioritizing sites for implementation of NYSDEC's Trees for Tribs program. The stated goal of the NYSROA is consistent with the objectives of this mitigation plan:

> "To plant native trees and shrubs in riparian buffers to **improve wildlife habitat, water quality, climate resiliency, and to provide flood protection during storm events**. We designed the assessment to meet this target goal **as well as be flexible enough for use in the prioritization of other restoration and protection efforts**... The results also facilitate an **ecosystem-based management approach to riparian restoration and protection** work by promoting **strategic, science-based decision-making to achieve multiple benefits**. "

Further, the NHP emphasized that the NYSROA was developed as a **"tool to more effectively and strategically target State and federal resources for riparian buffer restoration and protection"** while also looking for partners in new areas of the State for assistance (Conley et al. 2018]). Consistent with its goals, the NYSROA was used to evaluate and identify potential areas in the vicinity of the Micron Site that are impaired and would benefit from mitigation as prescribed in the NYSROA. Use of the NYSROA allowed for the application of a repeatable approach to quantifying stream impacts and crediting opportunities by using existing NYSDEC resources.

Approximately 14,030-linear feet (LF) of stream re-establishment will be incorporated into the Final CWSMP along Buxton Creek, a tributary to Buxton Creek, and a tributary to Fish Creek. The resources in these areas have been significantly channelized to permit tillage of the adjacent fields. There is also significant history and evidence of the installation of drainage tiles and culverts that will be removed or modified to the extent practicable to support the desired

hydrology within the proposed wetland/stream complexes. The channels will be re-established within the historic channel footprints to the extent practicable based on:

1. Historic aerial imagery that shows channel location prior to anthropogenic alteration.
2. StreamStats data that provide recommended channel dimensions (e.g., bankfull depth, width, cross sectional area).
3. Field observations including:
    a. Soil borings
    b. Drainage flow patterns and measurements
    c. Evaluation of reference reaches that include characteristics desired in the proposed restoration reaches.

The re-established stream reaches will be bordered by vegetated wetland or upland habitat that is consistent with the NYSROA. Further, the entire parcels that contain the mitigation areas will be permanently protected through the establishment of conservation easements.

Pursuant to the Guidelines for Stream Mitigation Banking and In-lieu Fee Programs in Ohio (USACE 2016a), the on-site streams are best categorized as Group 1 streams. The stream debit ratio that the USACE recommends for each type of Group 1 stream is as follows:

- Ephemeral streams with sand/silt/muck/clay/artificial dominated substrates - 1:1
- Ephemeral streams with bedrock/boulder/cobble/gravel/sand mixed substrates - 1.5:1
- Intermittent streams with sand/silt/muck/clay/artificial dominated substrates - 1.5:1
- Modified Warmwater and Modified Warmwater Habitat Equivalent - 1.5:1

Micron welcomes the opportunity to partner with state and federal agencies to improve the health of the watershed through implementation of this CWSMP.

### 2.2.1 Unavoidable Impacts to Waters of the United States

**Table 3-1** provides a summary of the jurisdictional on-site stream resources within the Proposed Project LOD, including the hydrologic regime and jurisdictional linear feet (LF) on the Micron Site based on the Approved Jurisdictional Determination issued by March 11, 2024, the USACE. Stream locations and names are illustrated on the plans included in **Appendix H** of the JPA.

As part of the jurisdictional determination process, Micron provided justification for the flow regime for the resources identified based on the information available, including utilization of the USACE Antecedent Precipitation Tool and the characteristics observed in the field. An Approved Jurisdictional Determination, Preliminary Jurisdictional Determination, and Delineation Verification for Department of the Army Processing No. LRB-2000-02198 were issued on February 12, 2024."

### 2.2.2 Impacted Functions and Services

Consistent with the functions and services targeted by the NYSROA, the primary values and services provided by the Micron Site streams that will be impacted consist of:

- Wildlife habitat - Maintenance of plant and animal communities in terms of species composition, abundance, and age structure
- Water quality - Retention of organic and inorganic particulates, nutrients, contaminants, or other elements and compounds on a short-term or long-term basis through physical processes, burial, incorporation into biomass, or biochemical reactions
- Climate resiliency and flood protection during storm events - Stabilization of the bed, banks, and floodplain of Youngs Creek and its tributaries

Secondary functions and services that are provided by on-site streams and have been considered in the development of this CWSMP include:

- Geomorphology – Transport of woody debris and sediment to influence stream bed forms
- Thermal impacts – Significant canopy coverage of some on-site stream reaches can reduce thermal influence on the system and its resident biota

It is anticipated that elements of this CWSMP will compensate for impacts to streams associated with the Proposed Project and enhance the functions and services provided by project area streams.

**Table 3-1: I Jurisdictional On-Site Stream Resources**

| Stream ID | Cowardin Classification/ Flow Regime | Length (LF) / OHW[1] Width (LF) | Impacts on Federal Jurisdictional Streams (LF) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Phase 1A – Temporary | Phase 1A - Permanent | Phase 1B - Temporary | Phase 1B - Permanent | Phase 2A - Temporary | Phase 2A - Permanent | Phase 2B - Temporary | Phase 2B - Permanent | Total Phased Impacts - Temporary | Total Phased Impacts - Permanent | Total Impacts |
| IS1 | Intermittent/Riverine Stream Bed (R4SB) | 1,411 / 10 | 0 | 1411 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1411 | 1411 |
| IS2 | Intermittent/Riverine Stream Bed (R4SB) | 1,532 / 25 | 79 | 607 | 0 | 0 | 0 | 0 | 0 | 0 | 79 | 607 | 686 |
| IS3 | Intermittent/Riverine Stream Bed (R4SB) | 1,355 / 70 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 51 |
| IS4 | Intermittent/Riverine Stream Bed (R4SB) | 337 / 5 | 0 | 0 | 0 | 0 | 0 | 337 | 0 | 0 | 0 | 337 | 337 |
| IS4A | Intermittent/Riverine Stream Bed (R4SB) | 150 / 2 | 0 | 0 | 0 | 0 | 0 | 150 | 0 | 0 | 0 | 150 | 150 |
| ES6 | Ephemeral/R6 | 324 / 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 321 | 0 | 321 | 321 |
| ES8 | Ephemeral/R6 | 1,045 / 2 | 0 | 130 | 0 | 0 | 0 | 915 | 0 | 0 | 0 | 1045 | 1045 |
| ES8a | Ephemeral/R6 | 134 / 3 | 0 | 0 | 0 | 0 | 0 | 134 | 0 | 0 | 0 | 134 | 134 |
| ES11 | Ephemeral/R6 | 490 / 2 | 0 | 0 | 0 | 0 | 0 | 466 | 0 | 0 | 0 | 466 | 466 |
| ES15 | Ephemeral/R6 | 298 / 2 | 0 | 0 | 0 | 0 | 0 | 298 | 0 | 0 | 0 | 298 | 298 |
| ES16 | Ephemeral/R6 | 430 / 5 | 0 | 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 430 | 430 |
| ES20 | Ephemeral/R6 | 795 / 5 | 0 | 795 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 795 | 795 |
| ES21 | Ephemeral/R6 | 209 / 3 | 0 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 209 | 209 |
| PS1 (Youngs Creek) | Perennial/Upper Perennial Unconsolidated Bottom (R3UB) | 120 / 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RD4A | Intermittent/Riverine Stream Bed (R4SB) | 72 / 2 | 0 | 43 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 72 | 72 |
| RD4B | Intermittent/Riverine Stream Bed (R4SB) | 8 / 2 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 8 | 8 |
| **Totals** | | 8,730 | 130 | 3625 | 0 | 0 | 0 | 2337 | 0 | 321 | 130 | 6283 | 6413 |

[1] Ordinary High Water

### 2.2.3 Threatened and Endangered species

Threatened and endangered aquatic species that are dependent on the on-site stream resources have not been identified by the involved agencies and have not been observed by the project team. Federally listed terrestrial species that may occur within the LOD are discussed above in the threatened and endangered species section for Wetlands (**Section 2.1.4**).

The listed bat species are anticipated to utilize the existing forested stream habitat for foraging. The proposed riparian buffers that will be established and preserved as part of this CWSMP include significant forested habitat that can support populations of Indiana bat and northern long-eared bat.

### 2.2.4 Aquatic Resource Needs of the Watershed

As public agencies, the NYSDEC and the USACE have a responsibility to consider the public benefits afforded by project implementation as well as the socio-economic benefits that are anticipated. Micron has developed this CWSMP, along with the Wetlands Assessment and Monitoring Plan (**Appendix O**), to maintain the following within the watershed:

- Habitat that supports the aquatic and terrestrial species resident to the Micron Site
- Surface water and groundwater quality
- Surface water storage and conveyance
- Wetland connectivity
- Climate and flood resiliency

Providing this stream mitigation within the Oneida River watershed in proximity to the impacted functions and services provided by existing resources and incorporated into wetland mitigation complexes is expected to maintain the aquatic resource needs of the watershed.

### 2.2.5 Public interest

This CWSMP will occur within the same Oneida River HUC-10 watershed (Oneida River HUC_0414020209) as the impacted streams. This approach enables the CWSMP to maintain the functions and services provided by the on-site streams (wildlife habitat, water quality, climate resiliency, and flood protection during storm events) within the impacted watershed to minimize downstream impacts associated with project implementation. As identified in public comments received during the USACE Notice from May 30th, 2024, through July 31st, 2024, there is great public interest in the loss of primary functions and services provided by the on-site streams, and their subsequent mitigation. Many of Micron's responses to those public comments cite this plan, to allow the public to better understand the impacts and proposed mitigation set forth.

### 2.2.6 In-kind vs. Out-of-kind

As stated in **Section 2.2**, the streams that will be impacted on-site are best categorized as Group 1 streams (USACE 2016a), as they have been heavily impacted by anthropogenic activities. Agricultural activities such as tillage, stream channelization, fertilizer application, drainage tile installation, as well as culverting and utility right-of-way (ROW) maintenance, have significantly impacted the primarily ephemeral and intermittent stream resources on-site.

The impacted nature of the on-site streams limits their functions and services within the Oneida River watershed. However, it is recognized that these streams do provide some functions within the watershed, primarily associated with hydrology (transport of water from the contributing watershed to the channel); hydraulic (transport of water, sediment, and organic material in the channel and through the floodplain); and physiochemical (temperature and oxygen regulation and processing of organic matter and nutrients). Micron recognizes that some of the anthropogenic modifications occurred years ago, allowing some of the streams to regain partial historic functions and services (e.g., groundwater recharge, wildlife habitat). However, the aquatic resources proposed as part of the CWSMP are expected to result in stream/wetland complexes that provide functions and values that exceed those provided by the existing streams.

Further, while it is recognized that stormwater management channels are not generally considered appropriate mitigation for stream impacts per agency mitigation rules, the proposed on-site stormwater management system and low-impact development practices will maintain or improve the hydrology and hydraulic services currently provided by on-site streams. The on-site stormwater management channels will incorporate natural channel design elements to the extent practicable to compensate for and enhance impacted functions and services.

# 3 Mitigation Site Selection Process

The following sections describe the process used in selecting the proposed mitigation sites.

## 3.1 PROPOSED ALTERNATIVES CONSIDERED FOR MITIGATION

Micron considered alternatives to avoid and minimize impacts to wetlands and streams as described in the 404(b)1 Analysis in **Appendix M** of the JPA.

To mitigate unavoidable impacts to wetlands, Micron is proposing to purchase 9 credits from an authorized in-lieu fee program. The remainder of the required compensatory wetland and stream mitigation will be permittee responsible compensatory mitigation. The 2008 USEPA and USACE Wetland Mitigation Rules outline the preferred mitigation options as 1) mitigation banking; 2) in lieu fee; then 3) permittee responsible mitigation. Micron first considered mitigation banking. However, there are no active mitigation banks in New York for the Buffalo District. As such, Micron did not pursue mitigation banking further. Micron next sought in-lieu fee credits. Due to the number of credits needed to offset impacts associated with the Proposed Project; Micron was unable to secure enough in-lieu fee credits to mitigate all impacts associated with the Proposed Project. Micron is proposing a small amount of in-lieu fee credit purchase (9 credits) at the Johnson Farm ILF site to offset impacts associated with the Proposed Project consistent with the 2008 Wetland Mitigation Rules. Therefore, the majority of the wetland mitigation will be permittee responsible mitigation. To mitigate for unavoidable impacts to streams, Micron is also proposing permittee responsible compensatory mitigation since the USACE has indicated that mitigation banking and in-lieu fee purchase of stream credits, the preferred mitigation strategies pursuant to the 2008 USEPA and USACE Wetland Mitigation Rules, are currently not viable options.

Micron considered a combination of on-site and off-site mitigation, however, there were very limited on-site areas suitable for mitigation that would adequately replace the functions and services lost as a result of the Proposed Project, so Micron proposes off-site, in-kind, permittee responsible mitigation. The Proposed Project requires a large footprint that will take up the majority of the site south of the transmission line, and a small portion of the site northwest of the transmission line. The remainder of the site including approximately 225 acres of high-quality wetlands north of the transmission line, 25 acres east of Burnet Road and 2,000 LF of stream, will remain undisturbed, and is therefore not suitable for significant wetland or stream mitigation. As wetland and stream mitigation on-site is not practical, Micron proposes to replace the functions and services of wetlands lost by re-establishing/restoring wetlands where they do not currently exist, and by rehabilitating/enhancing existing low-quality wetlands in the cover types and quantities described in **Section 6**. Micron will replace wetland habitat in-kind. Micron also proposes to replace the functions and services of streams lost by restoring streams within the Oneida River Watershed, also described in Section 6.

Micron considered developing mitigation or hiring a consultant to develop mitigation to offset impacts associated with the Proposed Project but elected to instead hire a local wetland-focused nonprofit conservation group. Micron has retained TWT (a 501 (c)(3) corporation, nonprofit New York conservation organization dedicated to the protection and restoration of freshwater wetland ecosystems) to assist with development of this mitigation plan, to secure the sites proposed for mitigation, to construct the mitigation, and to own and manage the mitigation sites fee simple, in perpetuity. TWT currently owns more than 100 properties covering 3,800 wetland acres and has approved in-lieu fee programs throughout New York State. This extensive background in local wetland and habitat establishment and re-establishment provides the scientific expertise of in-lieu fee mitigation which will increase the likelihood for ecological success and sustainability of the wetland and stream mitigation developed to offset the impacts of the Proposed Project. TWT prioritized the acquisition of large, active agricultural sites (see **Table 3-2**) where wetland creation acreage could be consolidated and stream mitigation could be incorporated while reducing the impact to other habitat types (i.e. grasslands and forests), maximizing the value of the mitigation within the watershed and further reducing uncertainty over mitigation success. Micron proposes to mitigate within the same Oneida River 10-digit HUC as the Micron Site. **Table 3-2** provides sites that TWT considered for wetland mitigation within the watershed, along with an indication of the reason each site was not pursued further. **Table 3-3** provides sites that TWT considered for stream mitigation within the watershed, along with an indication of the reason each site was not pursued further. **Section 3.2** provides additional information regarding the mitigation area selection.

The USACE requested that Micron consider adjacent sites north of the Micron property along Youngs Creek for wetland and stream mitigation. TWT attempted to obtain adjacent parcels immediately north of the Micron Site. While TWT engaged with each owner, the owners of two of the properties chose not to sell. The owners of the third property sold to a competing bidder.

## 3.2 MITIGATION AREA SELECTION

TWT is following protocols described in 33 C.F.R. § 332.4(c)(5)-(6) to develop a technically and legally sufficient mitigation plan to meet both USACE and NYSDEC requirements for this project, as well as additional requirements specifically requested by the agencies. The site selection protocols were:

- To search in an expanding radius beginning in the Oneida River watershed (12-digit HUC 041402020905) containing the Micron Site, followed by the 10-digit HUC (0414020209), then within four Onondaga Townships (Clay, Cicero, Lysander, and Van Buren) and lastly in the southern portion of Oswego County. TWT was able to secure all sites within the 12 or10 digit HUC.
- All sites approved by regulating agencies
- Sites were targeted that could provide a net wetland gain, by USACE definition meaning established or re-established wetlands or by NYSDEC definition created

wetlands. Sites were targeted that could provide functional uplift to existing streams. TWT was able to stay within those criteria

- Sites were selected to offset impacts by replicating the frequency of wetland types (e.g., PEM, PSS, PFO) between impact and mitigation sites, with a total wetland credit target as described in Section 6.
- Sites were analyzed and mapped for existing wetlands to be avoided, soil characteristics pertinent to wetland development (e.g., soil moisture, depth to groundwater), and topography
- Priority was given to sites closer to the Micron Site and larger sites that more readily retain or enhance functionality for similar attributes found on the Micron Site, such as flood attenuation, groundwater recharge, stormwater infiltration, wildlife habitat, habitat connectivity, carbon sequestration, and long-term sustainability

The site selection process resulted in the selection of six sites including:

- Fish Creek (wetlands and streams)
- Buxton Creek (wetlands and streams)
- Upper Caughdenoy Creek (wetlands)
- Lower Caughdenoy Creek (Route 37) (wetlands)
- Sixmile Creek (wetlands)
- Oneida River (wetlands)

Existing conditions at each site are described in Section 5.2.

**Table 3-2 Sites TWT Considered for Wetland Mitigation**

| Property Locator | Parcel Tax ID | County | Town | Distance from Micron (in miles) | HUC | Total Parcel Acres | Acres to Buy | Potential Wetland Acres | Notes and Comments |
|---|---|---|---|---|---|---|---|---|---|
| **Johnson Farm Area Central (JFAC)** | | | | | | | | | |
| **JFAC A** | 257.00-01-01.01 | Oswego | Palermo | 9.39 | 041402020905 | 86.47 | 86.47 | 13.14 | Not interested in selling |
| **JFAC B** | 257.00-01-11.04 | Oswego | Palermo | 9.4 | 041402020905 | 36.34 | 36.34 | 7.8 | Not interested in selling |
| **JFAC C** | 257.00-01-10 | Oswego | Palermo | 9.21 | 041402020905 | 54.75 | 51.63 | 3.47 | Not interested in selling |
| **JFAC I** | 257.00-02-15.111 | Oswego | Hastings | 8.59 | 0414020209 | 54.71 | 54.71 | 25.01 | Not interested in selling |
| **Johnson Farm Area North (JFAN)** | | | | | | | | | |
| **JFAN A** | 240.00-04-02 | Oswego | Palermo | 10.21 | 0414020209 | 41.49 | 41.49 | 17.13 | Not interested in selling |
| **JFAN B** | 240.00-04-03 | Oswego | Palermo | 10.06 | 0414020209 | 72.29 | 59.00 | 23.41 | No response |
| **JFAN C** | 240.00-04-05 | Oswego | Palermo | 9.84 | 0414020209 | 117.71 | 111.39 | 17.78 | Not interested in selling |
| **JFAN D** | 257.00-01-01.01 | Oswego | Palermo | 9.61 | 0414020209 | 28.14 | 24.12 | 10.5 | Not interested in selling |
| **JFAN E** | 240.00-03-01.1 | Oswego | Palermo | 9.52 | 0414020209 | 36.15 | 31.96 | 8.59 | Not interested in selling |
| **JFAN F** | 240.00-03-02.1 | Oswego | Palermo | 9.4 | 0414020209 | 15.45 | 15.45 | 6.13 | Not interested in selling |
| **Johnson Farm Area Southeast (JFASE)** | | | | | | | | | |

| Property Locator | Parcel Tax ID | County | Town | Distance from Micron (in miles) | HUC | Total Parcel Acres | Acres to Buy | Potential Wetland Acres | Notes and Comments |
|---|---|---|---|---|---|---|---|---|---|
| **JFASE A** | 257.00-02-03.02 | Oswego | Schroeppel | 8.51 | 041402020905 | 18.92 | 18.92 | 10.51 | Too small |
| **JFASE B** | 257.00-02-03.01 | Oswego | Schroeppel | 8.36 | 041402020905 | 12.29 | 5.74 | 1.92 | Too small |
| **JFASE C** | 257.00-02-10 | Oswego | Schroeppel | 8.06 | 0414020209 | 23.68 | 23.68 | 0.94 | Not interested in selling |
| **JFASE D** | 257.00-02-09 | Oswego | Schroeppel | 7.98 | 0414020209 | 122.67 | 117.90 | 10.82 | Not interested in selling |
| **JFASE E** | 257.00-02-12.01 | Oswego | Schroeppel | 7.98 | 041402020905 | 61.33 | 58.63 | 20.31 | Not interested in selling |
| **JFASE F** | 274.00-02-06.01 | Oswego | Schroeppel | 7.74 | 041402020905 | 42.96 | 41.16 | 12.36 | Too small |
| **JFASE G** | 274.00-02-15 | Oswego | Schroeppel | 7.61 | 041402020905 | 57.87 | 48.23 | 3.46 | Not interested in selling |
| **JFASE H** | 274.00-02-09.05 | Oswego | Schroeppel | 7.5 | 041402020905 | 70.59 | 70.59 | 8.14 | Too small |
| **Johnson Farm Area Southwest (JFASW)** | | | | | | | | | |
| **JFASW A** | 274.00-02-04.08 | Oswego | Schroeppel | 8.37 | 041402020905 | 8.08 | 8.08 | 0.48 | Too small |
| **JFASW D.1** | 274.00-02-15 | Oswego | Schroeppel | 7.7 | 041402020905 | 10.91 | 10.91 | 1.41 | Not interested in selling |
| **JFASW D.2** | 274.00-02-15 | Oswego | Schroeppel | 7.44 | 041402020905 | 100.87 | 100.87 | 58.42 | Not interested in selling |
| **JFASW E** | 274.00-02-17 | Oswego | Schroeppel | 7.17 | 041402020905 | 27.48 | 27.48 | 12.17 | No response |
| **Area of Interest 5 (AOI5)** | | | | | | | | | |

| Property Locator | Parcel Tax ID | County | Town | Distance from Micron (in miles) | HUC | Total Parcel Acres | Acres to Buy | Potential Wetland Acres | Notes and Comments |
|---|---|---|---|---|---|---|---|---|---|
| **AOI5 A** | 255.00-03-12.09 | Oswego | Schroeppel | 10.49 | 0414020209 | 19.21 | 19.21 | 4.38 | No response |
| **AOI5 B** | 272.00-02-01 | Oswego | Schroeppel | 10.35 | 0414020209 | 88.52 | 88.52 | 34.76 | No response |
| **AOI5 C** | 256.00-04-28 | Oswego | Schroeppel | 10.11 | 0414020209 | 38.84 | 38.84 | 13.93 | No response |
| **AOI5 D** | 273.00-01-01.03 | Oswego | Schroeppel | 9.95 | 0414020209 | 50.76 | 50.76 | 9.04 | No response |
| **AOI5 E** | 273.00-01-02 | Oswego | Schroeppel | 9.76 | 0414020209 | 61.28 | 61.28 | 14.39 | No response |
| **Area of Interest 18 (AOI18)** | | | | | | | | | |
| **AOI18** | 272.00-03-03.1 | Oswego | Schroeppel | 9.26 | 0414020209 | 81.70 | 81.70 | 36.44 | No response |
| **Area of Interest 25 (AOI25)** | | | | | | | | | |
| **AOI25 A** | 304.13-02-01 | Oswego | Schroeppel | 7.43 | 041402020905 & 0414020209 | 32.66 | 30.58 | 9.28 | No response |
| **AOI25 B** | 304.00-04-17 | Oswego | Schroeppel | 7.17 | 041402020905 | 12.70 | 12.70 | 6.35 | No response |
| **AOI25 C.1** | 304.00-04-15 | Oswego | Schroeppel | 6.87 | 041402020905 | 30.36 | 30.36 | 7.32 | No response |
| **AOI25 C.2** | 304.00-04-15 | Oswego | Schroeppel | 6.99 | 041402020905 | 7.61 | 7.61 | 2.11 | No response |
| **AOI25 D** | 314.00-01-01 | Oswego | Schroeppel | 7.14 | 041402020905 | 39.72 | 27.00 | 8.51 | No response |
| **Area of Interest 29 (AOI29)** | | | | | | | | | |

| Property Locator | Parcel Tax ID | County | Town | Distance from Micron (in miles) | HUC | Total Parcel Acres | Acres to Buy | Potential Wetland Acres | Notes and Comments |
|---|---|---|---|---|---|---|---|---|---|
| **AOI29** | 072.-01-08.4 | Onondaga | Lysander | 5.84 | Search Area 3 | 231.10 | 206.55 | 53.59 | No response |
| **Area of Interest 30 (AOI30)** | | | | | | | | | |
| **AOI30 A** | 027.-01-02.0 | Onondaga | Clay | 4.06 | 041402020905 & 0414020209 | 66.89 | 66.89 | 21.45 | Not interested in selling |
| **AOI30 B** | 026.-01-06.1 | Onondaga | Clay | 3.87 | 041402020905 | 53.53 | 53.53 | 24.73 | No response |
| **AOI30 C** | 026.-01-13.1 | Onondaga | Clay | 3.55 | 041402020905 & 0414020209 | 57.89 | 56.32 | 26.81 | No response |
| **AOI30 D** | 027.-01-09.1 | Onondaga | Clay | 3.5 | 041402020905 & 0414020209 | 94.91 | 94.91 | 42.7 | No response |
| **Area of Interest 40 (AOI40)** | | | | | | | | | |
| | 043.-01-08.0 | Onondaga | Clay | | | | 92.64 | | Not interested in selling |
| | 043.-01-10.2 | Onondaga | Clay | | | | 89.99 | | Not interested in selling |
| | 048.-01-18.0 | Onondaga | Clay | adjacent | | | 52.04 | | Not interested in selling |
| | 048.-01-19.0 | Onondaga | Clay | adjacent | | | 10.73 | | Not interested in selling |
| | 048.-01-11.0 | Onondaga | Clay | adjacent | | | 116.76 | | Not interested in selling |
| | 048.-01-13.0 | Onondaga | Clay | adjacent | | | 116.77 | | Not interested in selling |
| | 043.-01-44.0 | Onondaga | Clay | adjacent | | | 11.77 | | Not interested in selling |

| Property Locator | Parcel Tax ID | County | Town | Distance from Micron (in miles) | HUC | Total Parcel Acres | Acres to Buy | Potential Wetland Acres | Notes and Comments |
|---|---|---|---|---|---|---|---|---|---|
| | 043.-01-01.0 | Onondaga | Clay | adjacent | | | 108.51 | | Not interested in selling |
| | 042.-01-14.0 | Onondaga | Clay | adjacent | | | 6.49 | | Not interested in selling |
| | | Onondaga | Clay | adjacent | | | | | Sold to a competing bidder |
| | 307.00-01-01 | Oswego | Hastings | | | | | | Contiguous with, and same owner as, 293.00-04-14.02; together equal total area of interest. Formerly the Riverside Country Club. Owner not interested in selling. |
| | 293.00-04-14.02 | Oswego | Hastings | | | | | | Contiguous with, and same owner as, 307.00-01-01; together equal total area of interest. Formerly the Riverside Country Club. Owner not interested in selling. |
| | 128.83-02-01 | Oswego | City of Oswego | | | | | | Ferlito muck farm. For sale. Deemed too far away. |
| | 290.00-02-54 | Oswego | Schroeppel | | | | | | Northeastern corner of Peter Scott Swamp. For sale. Preservation only so deemed unsuitable. |

**Table 3-3 Sites TWT Considered for Stream Mitigation**

| Parcel Tax ID | Catchments | County | Town | Approximate distance from Micron (miles) | Linear ft | Notes and Comments |
|---|---|---|---|---|---|---|
| **032.-02-10.1** | 204187881 | Onondaga | Clay | 1.3 | 2247 | Bat mitigation area |
| | 204187899 | Onondaga | Clay | 1.3 | 431 | Bat mitigation area |
| | 204187947 | Onondaga | Clay | 1.3 | 16 | Bat mitigation area |
| **043.-01-01.0** | 204187899 | Onondaga | Clay | 0.67 | 4701 | Not interested in selling |
| **048.-01-09.0** | 204187899 | Onondaga | Clay | boundary adjacent to | 544 | Sold to a competitive bidder |
| | 204187975 | Onondaga | Clay | boundary adjacent to | 510 | Sold to a competitive bidder |
| **048.-01-10.0** | 204187975 | Onondaga | Clay | boundary adjacent to | 360 | Sold to a competitive bidder |
| | 204187911 | Onondaga | Clay | boundary adjacent to | 3730 | Sold to a competitive bidder |
| | 204187896 | Onondaga | Clay | boundary adjacent to | 206 | Sold to a competitive bidder |
| | 204187899 | Onondaga | Clay | boundary adjacent to | 1465 | Sold to a competitive bidder |
| **048.-01-11.0** | 204187900 | Onondaga | Clay | boundary adjacent to | 545 | Not interested in selling |
| | 204187896 | Onondaga | Clay | boundary adjacent to | 4525 | Not interested in selling |
| | 204187911 | Onondaga | Clay | boundary adjacent to | 626 | Not interested in selling |

| Parcel Tax ID | Catchments | County | Town | Approximate distance from Micron (miles) | Linear ft | Notes and Comments |
|---|---|---|---|---|---|---|
| **257.00-02-05.02** | 204187502 | Oswego | Hastings | 7.2 | 3052 | Stream mitigation not practicable |
| **315.00-01-39** | 204187963 | Oswego | Schroeppel | 3.23 | 2485 | Wetland mitigation site |
| **315.00-01-29** | 204187963 | Oswego | Schroeppel | 3.23 | 1040 | Wetland mitigation site |
| **315.00-01-01.05** | 204187907 | Oswego | Schroeppel | 3.23 | 3335 | Wetland mitigation site |
| **315.00-01-03** | 204187907 | Oswego | Schroeppel | 3.23 | 151 | Wetland mitigation site |
| **305.00-04-17.01** | 204187842 | Oswego | Schroeppel | 3.23 | 390 | Wetland mitigation site |
| **257.00-01-10** | 204187461 | Oswego | Palermo | 8.1 | 908 | Not interested in selling |
| **257.00-01-10.01** | 204187461 | Oswego | Palermo | 8 | 359 | Not interested in selling |
| **257.00-01-28.03** | 204187461 | Oswego | Schroeppel | 8 | 177 | Not interested in selling |
| **257.00-01-28.04** | 204187461 | Oswego | Schroeppel | 8 | 42 | Not interested in selling |
| **257.00-01-05** | 204187461 | Oswego | Schroeppel | 7.9 | 30 | Not interested in selling |
| **257.00-02-23** | 204187461 | Oswego | Schroeppel | 7.85 | 613 | Not interested in selling |
| **257.00-02-01.2** | 204187461 | Oswego | Schroeppel | 7.45 | 1282 | Not interested in selling |

| Parcel Tax ID | Catchments | County | Town | Approximate distance from Micron (miles) | Linear ft | Notes and Comments |
|---|---|---|---|---|---|---|
| **257.00-02-15** | 204187560 | Oswego | Schroeppel | 7.2 | 2176 | Not interested in selling |
| **257.00-02-14.03** | 204187560 | Oswego | Schroeppel | 7 | 580 | Not interested in selling |
| **257.00-02-14.04** | 204187560 | Oswego | Schroeppel | 6.75 | 0 | Stream mitigation not practicable |
| **274.00-02-04.09** | 204187560 | Oswego | Schroeppel | 6.6 | 0 | Stream mitigation not practicable |
| **274.00-02-15** | 204187560 | Oswego | Schroeppel | 6.25 | 2140 | Stream mitigation site that became available after September 20, 2024 |
| **274.00-02-17** | 204187560 | Oswego | Schroeppel | | 0 | Stream mitigation not practicable |
| **274.00-03-04** | 204187560 | Oswego | Schroeppel | 5.8 | 208 | Not interested in selling |
| **274.00-03-04** | 204187576 | Oswego | Schroeppel | 5.8 | 3680 | Not interested in selling |
| **274.00-03-12** | 204187576 | Oswego | Schroeppel | 5.3 | 0 | Stream mitigation not practicable |
| **292.00-01-10** | 204187616 | Oswego | Hastings | 4.18 | 178 | Wetland mitigation site |
| **292.00-01-10** | 204187580 | Oswego | Hastings | 4.18 | 2437 | Wetland mitigation site |
| **292.00-01-02** | 204187580 | Oswego | Hastings | 4.18 | 6014 | Wetland mitigation site |
| **292.00-01-02** | 204187616 | Oswego | Hastings | 4.18 | 559 | Wetland mitigation site |

| Parcel Tax ID | Catchments | County | Town | Approximate distance from Micron (miles) | Linear ft | Notes and Comments |
|---|---|---|---|---|---|---|
| **256.00-04-14** | 204187602 | Oswego | Schroeppel | 8.1 | 5775 | Stream Mitigation Site |
| **274.00-02-04.06** | 204187546 | Oswego | Schroeppel | 6.75 | 5518 | Stream Mitigation Site |
| **257.00-02-08.01, 257.00-01-09, 257.00-02-22** | 204187513 | Oswego | Palermo/Hastings/Schroeppel | 7.6 | 3519 | Stream Mitigation Site |
| **257.00-01-08** | 204187513 | Oswego | Palermo | 7.6 | 1594 | Stream Mitigation Site |
| **257.00-01-08** | 204187461 | Oswego | Palermo | 7.6 | 1444 | Stream Mitigation Site |
| **256.00-04-14, 256.00-04-14.01** | 204187602 | Oswego | Schroeppel | 8.1 | 8936 | Stream Mitigation Site |

# 4 Site Protection Instruments

TWT is a 501(c)(3) corporation, nonprofit whose mission is the protection, conservation, and restoration of wetlands and other vital habitats. TWT presently owns fee simple and plans to own in perpetuity, the mitigation sites proposed to compensate for wetlands and streams impacted because of the Proposed Project. In addition, each site will be protected through a permanent protection instrument (e.g., conservation easement) as described in the TWT Stream/Wetland Mitigation Overview Plan **(CWSMP Attachment B)**. **Section 8** of the TWT Stream/Wetland Mitigation Overview Plan includes details on the long-term management of mitigation sites.

The wetlands and streams that will remain unimpacted on the Micron Campus will not be placed into a conservation easement and will therefore not be counted as preservation credits for the USACE. However, Micron has committed, to the agencies, to monitor and, when necessary, apply adaptive management to remaining on-site wetlands to maintain their existing functions and services as proposed in the Wetland Assessment and Monitoring Plan, provided as **Appendix O** of this JPA Final Public Comment Version submission.

# 5 Baseline Information

The following section characterizes the baseline ecological information of the wetlands and streams, both on-site and off-site, that are associated with this proposed mitigation project.

## 5.1 MICRON SITE

The Micron Site was field evaluated for the potential presence of wetlands and other waters, as regulated by the USACE and the NYSDEC. The delineation was conducted by Ramboll wetland biologists trained in wetlands and stream identification and delineation in the fall of 2021; summer of 2022; spring, summer and fall of 2023; and in 2024 in accordance with:

- *The* USACE *Wetlands Delineation Manual* (Y-81-1, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (USACE 2012)
- USACE *Jurisdictional Determination Form Instructional Guidebook* (USACE 2008)
- *Regulatory Guidance Letter No 05-05 – Ordinary High Water Mark Identification* (USACE 2005)

In addition, site visits were conducted in 2023 and 2024 with USACE Buffalo District and NYSDEC Region 7 personnel, to observe, verify and supplement delineations conducted by Ramboll. In 2024, the USACE and NYSDEC provided jurisdictional determinations for wetlands and streams at the Micron Site based on Ramboll field delineations and agency field observations.

Figures in **Appendix H** of the JPA depict WOTUS (USACE jurisdictional wetlands, streams, and ponds) and New York State Freshwater Wetlands (NYSFW) at the Micron Site. **Table 5-1** lists the federal with acreages, assigned cover types (Cowardin et al.) and impact acreages, and **Table 5-2** lists the state jurisdictional wetlands with acreages, assigned cover types (Edinger et al.) and impact acreages. Hydrologic flow within Micron Site streams is generally from south to north with discharge to the Youngs Creek system. Additional information, including individual data sheets and photographs, for each of the on-site jurisdictional wetlands and streams is provided in the delineation reports included as **Appendix H** of this permit application.

**TABLE 5-1. Jurisdictional USACE Wetland (WOTUS) Impacts by Construction Phase**

| Wetland ID | Cover Type | USACE Jurisdictional Wetland by Cover Type (acres) | Total Acres by Wetland | Project Impacts by Phase (acres)* | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1B - Permanent | Phase 1B - Temporary | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2B - Permanent | Phase 2B - Temporary | | | |
| W1 | PEM | 5.75 | 18.34 | 5.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.75 | 0.00 | 18.34 |
| | PFO | 10.55 | | 10.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.55 | 0.00 | |
| | POW | 0.03 | | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | |
| | PSS | 2.01 | | 2.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.01 | 0.00 | |
| W2 | PEM | 12.35 | 38.53 | 5.17 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.17 | 0.32 | 26.80 |
| | PFO | 25.66 | | 21.09 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 21.09 | 0.03 | |
| | POW | 0.19 | | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 | |
| | PSS | 0.33 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| W3 | PEM | 5.47 | 5.96 | 4.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.65 | 0.00 | 5.14 |
| | PFO | 0.49 | | 0.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.00 | |
| W5 | PEM | 2.39 | 7.75 | 2.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.39 | 0.00 | 7.75 |
| | PFO | 0.21 | | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 | |
| | POW | 0.31 | | 0.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.31 | 0.00 | |
| | PSS | 4.84 | | 4.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.84 | 0.00 | |
| W6a | PFO | 0.38 | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 | 0.38 |
| W11 | PEM | 17.57 | 19.20 | 17.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.57 | 0.00 | 19.2 |
| | PFO | 1.32 | | 1.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 0.00 | |
| | POW | 0.24 | | 0.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.00 | |
| | PSS | 0.07 | | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | |
| W12 | PEM | 0.20 | 0.50 | 0.05 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.20 | 0.00 | 0.5 |

| Wetland ID | Cover Type | USACE Jurisdictional Wetland by Cover Type (acres) | Total Acres by Wetland | Project Impacts by Phase (acres)* | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1B - Permanent | Phase 1B - Temporary | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2B - Permanent | Phase 2B - Temporary | | | |
| | PSS | 0.30 | | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 | 0.00 | |
| W13 | PEM | 0.43 | 0.81 | 0.32 | 0.00 | 0.00 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.43 | 0.00 | 0.81 |
| | PSS | 0.38 | | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 | |
| W14 | PSS | 0.35 | 0.35 | 0.33 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.35 | 0.00 | 0.35 |
| W26 | PEM | 0.81 | 1.30 | 0.00 | 0.00 | 0.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.00 | 1.3 |
| | PSS | 0.49 | | 0.00 | 0.00 | 0.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.00 | |
| W28 | PFO | 0.49 | 0.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.00 | 0.49 | 0.00 | 0.49 |
| W29 | PFO | 1.08 | 1.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.00 | 0.84 | 0.00 | 1.08 | 0.00 | 1.08 |
| W34 | PEM | 77.37 | 109.71 | 0.12 | 0.00 | 5.82 | 0.00 | 48.54 | 0.00 | 0.00 | 0.00 | 54.48 | 0.00 | 76.36 |
| | PFO | 15.17 | | 0.23 | 0.00 | 0.36 | 0.00 | 10.09 | 0.00 | 0.96 | 0.00 | 11.64 | 0.00 | |
| | POW | 0.93 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.93 | 0.00 | 0.00 | 0.00 | 0.93 | 0.00 | |
| | PSS | 16.24 | | 0.00 | 0.00 | 0.44 | 0.00 | 8.87 | 0.00 | 0.00 | 0.00 | 9.31 | 0.00 | |
| W35 | PEM | 92.77 | 181.86 | 1.36 | 0.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.36 | 0.95 | 24.50 |
| | PFO | 87.32 | | 20.54 | 1.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.54 | 1.64 | |
| | PSS | 1.77 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| W40 | PEM | 0.88 | 0.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.88 | 0.00 | 0.00 | 0.00 | 0.88 | 0.00 | 0.88 |
| W49 (Rail Spur) | PFO | 16.61 | 17.27 | 8.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.42 | 0.00 | 8.91 |
| | POW | 0.40 | | 0.40 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.40 | 0.00 | |
| | PSS | 0.26 | | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.00 | |
| W53 | PEM | 0.35 | 4.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| | PFO | 4.43 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| W54 | PEM | 6.45 | 8.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| | PSS | 1.81 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

| Wetland ID | Cover Type | USACE Jurisdictional Wetland by Cover Type (acres) | Total Acres by Wetland | Project Impacts by Phase (acres)* | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1B - Permanent | Phase 1B - Temporary | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2B - Permanent | Phase 2B - Temporary | | | |
| W55 | PFO | 4.71 | 4.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| W61 | PFO | 1.61 | 1.97 | 1.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.27 | 0.00 | 1.43 | 0.00 | 1.79 |
| | PSS | 0.36 | | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.36 | 0.00 | |
| W62 | PSS | 0.95 | 0.95 | 0.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.95 | 0.00 | 0.95 |
| W63 | PSS | 0.33 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.33 |
| W69 | PSS | 0.07 | 0.07 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.07 |
| W70 | PEM | 0.23 | 0.38 | 0.00 | 0.00 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.00 | 0.38 |
| | PFO | 0.15 | | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | |
| W71 | PEM | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.02 |
| SUMMARY BY COVER TYPE | PEM | 223.04 | | 37.40 | 1.28 | 6.86 | 0.00 | 49.68 | 0.00 | 0.00 | 0.00 | 93.94 | 1.28 | **95.21** |
| | PFO | 170.18 | | 64.39 | 1.67 | 0.51 | 0.00 | 10.33 | 0.00 | 2.56 | 0.00 | 77.79 | 1.67 | **79.46** |
| | POW | 2.10 | | 1.17 | 0.00 | 0.00 | 0.00 | 0.93 | 0.00 | 0.00 | 0.00 | 2.10 | 0.00 | **2.10** |
| | PSS | 30.56 | | 9.66 | 0.00 | 1.00 | 0.00 | 8.89 | 0.00 | 0.00 | 0.00 | 19.55 | 0.00 | **19.55** |
| **TOTALS** | | **425.88** | | **112.62** | **2.95** | **8.37** | **0.00** | **69.83** | **0.00** | **2.56** | **0.00** | **193.38** | 2.95 | **196.33** |

*Temporary Impacts include construction laydown areas and areas of ground disturbance to be returned to pre-disturbance conditions. Permanent Impacts include building envelopes and areas of site grading.

[1]Phased Total Impacts by Cover Type, Total Impacts, and Summary by Cover Type values are rounded from the computed GIS values and therefore may differ slightly from reported phase Total when summed.

**TABLE 5-2. Jurisdictional New York State Wetland (WOTUS) Impacts by Construction Phase**

| Wetland ID | Cover Type | NYSDEC Jurisdictional Wetland by Cover Type (acres) | Total Acres by Wetland | Project Impacts by Phase (acres)* | | | | | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts by Cover Type (acres) 1 - Forest Conversion | Total Impacts (permanent and temp) (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1A - Forest Conversion | Phase 1B - Permanent | Phase 1B - Temporary | Phase 1B - Forest Conversion | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2A - Forest Conversion | Phase 2B - Permanent | Phase 2B - Temporary | Phase 2B - Forest conversion | | | | |
| W1 | Farm Pond/Artificial Pond | 0.03 | 18.34 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 18.34 |
| | Red Maple-Hardwood Swamp | 10.55 | | 10.55 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.55 | 0.00 | 0.00 | |
| | Shallow Emergent Marsh | 5.75 | | 5.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.75 | 0.00 | 0.00 | |
| | Shrub Swamp | 2.01 | | 2.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.01 | 0.00 | 0.00 | |
| W2 | Farm Pond/Artificial Pond | 0.19 | 38.98 | 0.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.00 | 0.00 | 27.25 |
| | Floodplain Forest | 0.28 | | 0.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.00 | 0.00 | |
| | Hemlock-Hardwood Swamp | 3.14 | | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.04 | 0.00 | 0.00 | |
| | Red Maple-Hardwood Swamp | 22.52 | | 18.14 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 18.14 | 0.00 | 0.03 | |
| | Shallow Emergent Marsh | 12.29 | | 5.01 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.01 | 0.32 | 0.00 | |
| | Shrub Swamp | 0.56 | | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.00 | 0.00 | |
| W3 | Floodplain Forest | 0.49 | 5.96 | 0.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.49 | 0.00 | 0.00 | 5.14 |
| | Shallow Emergent Marsh | 4.58 | | 4.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.58 | 0.00 | 0.00 | |
| | Shrub Swamp | 0.89 | | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | |
| W5 | Farm Pond/Artificial Pond | 0.31 | 7.75 | 0.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.31 | 0.00 | 0.00 | 7.75 |
| | Floodplain Forest | 0.21 | | 0.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 0.00 | 0.00 | |
| | Shallow Emergent Marsh | 2.39 | | 2.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.39 | 0.00 | 0.00 | |
| | Shrub Swamp | 4.84 | | 4.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.84 | 0.00 | 0.00 | |
| W6a | Hemlock-Hardwood Swamp | 0.04 | 0.38 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.38 |
| | Red Maple-Hardwood Swamp | 0.34 | | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | |

| Wetland ID | Cover Type | NYSDEC Jurisdictional Wetland by Cover Type (acres) | Total Acres by Wetland | Project Impacts by Phase (acres)* | | | | | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts by Cover Type (acres)[1] - Forest Conversion | Total Impacts (permanent and temp) (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1A - Forest Conversion | Phase 1B - Permanent | Phase 1B - Temporary | Phase 1B - Forest Conversion | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2A - Forest Conversion | Phase 2B - Permanent | Phase 2B - Temporary | Phase 2B - Forest conversion | | | | |
| W11 | Deep Emergent Marsh | 0.24 | 19.2 | 0.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.00 | 0.00 | 19.2 |
| | Floodplain Forest | 1.32 | | 1.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.32 | 0.00 | 0.00 | |
| | Shallow Emergent Marsh | 17.57 | | 17.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.57 | 0.00 | 0.00 | |
| | Shrub Swamp | 0.07 | | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | |
| W28 | Floodplain Forest | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.04 |
| W29 | Floodplain Forest | 0.38 | 0.38 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 | 0.00 | 0.38 | 0.00 | 0.00 | 0.38 |
| W34 | Deep Emergent Marsh | 60.26 | 106.43 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 40.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 40.74 | 0.00 | 0.00 | 73.06 |
| | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | |
| | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | |
| | Farm Pond/Artificial Pond | 0.13 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | |
| | Floodplain Forest | 6.94 | | 0.00 | 0.00 | 0.00 | 0.36 | 0.00 | 0.00 | 3.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.35 | 0.00 | 0.00 | |
| | Red Maple-Hardwood Swamp | 8.23 | | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.09 | 0.00 | 0.00 | 0.96 | 0.00 | 0.00 | 7.28 | 0.00 | 0.00 | |
| | Shallow Emergent Marsh | 15.07 | | 0.12 | 0.00 | 0.00 | 3.45 | 0.00 | 0.00 | 8.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.69 | 0.00 | 0.00 | |
| | Shrub Swamp | 15.8 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.87 | 0.00 | 0.00 | |
| W35 | Deep Emergent Marsh | 91.43 | 181.86 | 0.03 | 0.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.95 | 0.00 | 24.50 |
| | Floodplain Forest | 75.59 | | 10.61 | 0.00 | 1.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.61 | 0.00 | 1.48 | |
| | Red Maple-Hardwood Swamp | 11.73 | | 9.93 | 0.00 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.93 | 0.00 | 0.17 | |
| | Shrub Swamp | 3.11 | | 1.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.34 | 0.00 | 0.00 | |
| W40 | Shallow Emergent Marsh | 0.88 | 0.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.88 | 0.00 | 0.00 | 0.88 |
| W53 | Floodplain Forest | 4.43 | 4.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| | Shallow Emergent Marsh | 0.35 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |

| Wetland ID | Cover Type | NYSDEC Jurisdictional Wetland by Cover Type (acres) | Total Acres by Wetland | Project Impacts by Phase (acres)* | | | | | | | | | | | | Total Impacts by Cover Type (acres)[1] - Permanent | Total Impacts by Cover Type (acres)[1] - Temporary | Total Impacts by Cover Type (acres)[1] - Forest Conversion | Total Impacts (permanent and temp) (acres)[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Phase 1A - Permanent | Phase 1A - Temporary | Phase 1A - Forest Conversion | Phase 1B - Permanent | Phase 1B - Temporary | Phase 1B - Forest Conversion | Phase 2A - Permanent | Phase 2A - Temporary | Phase 2A - Forest Conversion | Phase 2B - Permanent | Phase 2B - Temporary | Phase 2B - Forest conversion | | | | |
| W54 | Shallow Emergent Marsh | 6.45 | 8.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| | Shrub Swamp | 1.81 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| W55 | Floodplain Forest | 4.71 | 4.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 |
| W63 | Shrub Swamp | 0.33 | 0.33 | 0.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.00 | 0.33 |
| W69 | Shrub Swamp | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.07 |
| W70 | Floodplain Forest | 0.15 | 0.38 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 | 0.38 |
| | Shallow Emergent Marsh | 0.23 | | 0.00 | 0.00 | 0.00 | 0.23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 0.00 | 0.00 | |
| W71 | Shallow Emergent Marsh | 0.02 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 |
| SUMMARY BY COVER TYPE | Deep Emergent Marsh | 151.93 | | 0.27 | 0.95 | 0.00 | 0.01 | 0.00 | 0.00 | 40.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 41.01 | 0.95 | 0.00 | **41.96** |
| | Farm Pond/Artificial Pond | 0.66 | | 0.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.66 | 0.00 | 0.00 | **0.66** |
| | Floodplain Forest | 94.54 | | 12.91 | 0.00 | 1.48 | 0.51 | 0.00 | 0.00 | 3.99 | 0.00 | 0.00 | 0.42 | 0.00 | 0.00 | 17.83 | 0.00 | 1.48 | **19.31** |
| | Hemlock-Hardwood Swamp | 3.18 | | 3.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.08 | 0.00 | 0.00 | **3.08** |
| | Red Maple-Hardwood Swamp | 53.37 | | 39.19 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | 6.09 | 0.00 | 0.00 | 0.96 | 0.00 | 0.00 | 46.24 | 0.00 | 0.20 | **46.43** |
| | Shallow Emergent Marsh | 65.58 | | 35.44 | 0.32 | 0.00 | 3.68 | 0.00 | 0.00 | 9.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 48.12 | 0.32 | 0.00 | **48.45** |
| | Shrub Swamp | 29.49 | | 8.89 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 8.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 17.83 | 0.00 | 0.00 | **17.83** |
| **TOTALS** | | **398.75** | | **100.31** | **1.28** | **1.67** | **4.27** | **0.00** | **0.00** | **68.81** | **0.00** | **0.00** | **1.38** | **0.00** | **0.00** | **174.77** | **1.28** | **1.67** | **177.72** |

*Temporary Impacts include construction laydown areas and areas of ground disturbance to be returned to pre-disturbance conditions. Permanent Impacts include building envelopes and areas of site grading.

[1]Phased Total Impacts by Cover Type, Total Impacts, and Summary by Cover Type values are rounded from the computed GIS values and therefore may differ slightly from reported phase Total when summed.

[2]Phase impact to W35 Deep Emergent Marsh is 0.001 AC, but is reported as 0 as impacts are only reported to the hundredth of an acre.

Generally, federal jurisdiction of Micron Site wetlands was determined by the USACE based on continuous surface connections of wetlands to the Youngs Creek and Shaver Creek systems, which are tributaries to the Oneida River, a traditionally navigable water (TNW), through relatively permanent waters and/or adjacency to these waters. New York State (NYS) jurisdiction was based on connection of Micron Site wetlands to two NYSFW Class 2 wetlands, BRE-14 and BRE-11, which are mapped adjacent to, within, and north of the overhead electric utility right-of-way located on the northern portion of the Micron Site. Jurisdictional determination letters for the Micron Site from the USACE and NYSDEC are included as **Appendix H** of the JPA.

The Micron Site wetlands are a mix of forested, scrub-shrub, emergent and open water habitat consisting of several old farm ponds as well as active and inactive beaver ponds. Based on review of historical aerial photographs from the 1930s, 1950s, 1970s, 1980s and 2000s, the Micron Site has historically been in agricultural production. Some areas have even been in agricultural production until as recently as the early 2020s. Portions of the site are now in a successional stage (scrub-shrub and forested). Based on the presence of observed clay drain tile and apparent ditched areas, Micron Site wetlands and streams have likely been historically influenced by agriculture activities.

Based on *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979) and *Ecological Communities of New York State, Second Edition* (Edinger et al. 2014), the wetlands found on the Micron Site are classified as palustrine in nature. Palustrine wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergent plants, and emergent mosses or lichens. More specific classifications include palustrine forested wetlands (typified by red maples, green ash, and American elms); palustrine scrub-shrub wetlands (typified by various dogwood species); and palustrine emergent wetlands (typified by goldenrods, asters, purple loosestrife, and ferns. **Table 5-1** and **Table 5-2** identify federal and state jurisdictional wetland acreages by cover type for the Micron Site wetlands.

A functional assessment of the freshwater wetland resources which may be impacted by the development of the Micron Site was performed in accordance with the USACE Highway Methodology Workbook Supplement (USACE 1999) and is included as **Appendix I** of the JPA. Additional information as requested through the EPA 404q process and subsequent meetings was submitted to all Agencies on November 26, 2024. Use of The Highway Methodology is consistent with the following excerpt from the Final Mitigation Rule:

(f) Amount of compensatory mitigation. (1) If the district engineer determines that compensatory mitigation is necessary to offset unavoidable impacts to aquatic resources, the amount of required compensatory mitigation must be, to the extent practicable, sufficient to replace lost aquatic resource functions. In cases where appropriate functional or condition assessment methods or other suitable metrics are available, these methods should be used where practicable to determine how much compensatory mitigation is required. If a functional

or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used. As stated in the Highway Methodology Supplement, this assessment tool "can be used for any project where the characterization of wetland resources is necessary for Section 404 permit requirements." Consistent with this statement, this methodology has been used and approved under the Clean Water Act by the USACE and NYSDEC for a wide range of projects since its publication that involve significant impact to, and mitigation of, aquatic resources for the purpose of commercial and industrial development.

Based on the results of the functional assessment, the principal functions for the wetlands identified at the Micron Site are Wildlife Habitat, Floodflow Alteration, and Sediment/Toxicant Retention. Wetlands at the Micron Site are utilized by songbirds, birds of prey, waterfowl, amphibians, reptiles, and mammals including two federally listed bat species, the Indiana bat and the northern long-eared bat (*Myotis septentrionalis*), and two State-listed bird species, the northern harrier (*Circus hudsonius*) and the short-eared owl (*Asio flammeus*). The remaining principal functions are based on the presence of larger wetlands, located on the northern and eastern portions of the Micron Site, that have diffuse boundaries and a mix of open water and dense vegetation that receive the majority of runoff from Micron Site uplands and wetlands.

On June 14, 2017, the Buffalo District of the USACE issued Permit Number LRB-2016-00616 to National Grid. The permit authorized the discharge of fill material to Waters of the United States associated with Rebuild and Reconductor Project. Specifically, the permit authorized:

- The discharge of 2.29 acres of fill to Waters of the United States (1.75 acres emergent wetlands, 0.08 acres of scrub-shrub wetlands, and 0.46 acre of forested wetlands) associated with work to reconductor and reconstruct two existing 115kV overhead transmission lines consisting of approximately 12.95 miles of the Clay-DeWitt Line 3 and 15.5 miles of the Clay-Teall Line 10.

National Grid provided wetland mitigation as described in the Wooding Property Wetland Mitigation Plan (ESS 2019) to offset unavoidable impacts to areas subject to the jurisdiction of the New York State Department of Environmental Conservation (NYSDEC) under the Freshwater Wetlands Act (ECL Article 24) in accordance with NYSDEC's Freshwater Wetlands Regulation Guidelines on Compensatory Mitigation (the mitigation guidelines). The plan called for mitigation of lost wetland acreage for the project to be replaced using a minimum ratio of 2:1. Forest conversion mitigation was based on a based on a 1:1 mitigation ratio. The National Grid Mitigation Plan called for wetlands mitigation in the following amounts:

- Forest Wetland Enhancement 1.6 acres
- Wetland Creation 1.0 acres
- Forest Wetland Preservation 2.86 acres
- Scrub/Shrub Wetland Preservation 0.83 acres

- Upland Buffer Enhancement - Forest 4.02 acres
- Upland Buffer Preservation - Forest 9.31 acres
- Upland Buffer Preservation - Scrub/Shrub 0.72 acres
- Total Approved in 2019 20.34 acres

Wetland enhancement and creation was completed in fall 2020.

As approved by the NYSDEC, this easement will be removed as a part of the project development. The compensatory wetland area will be replaced as part of the Proposed Project mitigation program.

In the fall of 2023 and spring of 2024, Ramboll biologists conducted environmental surveys of Youngs Creek within the Micron Site (**JPA Appendix K and L**). The results of this survey indicate that a majority of the Youngs Creek system within the Micron Site has been altered by historic agricultural, utilities, road corridors and recent and past beaver activities. Channelization and draining and ponding of the creek and its tributaries has diffused or flooded the main channel of Youngs Creek as mapped on the Environmental Resource Mapper, resulting in a system functioning primarily as a wetland habitat. Stream channels that remain are either intermittent or ephemeral with a small portion of perennial stream channel (main channel of Youngs Creek) located within the overhead electric utility right-of-way on the northeastern portion of the Micron Site.

Ramboll conducted biological sampling of fish and aquatic macroinvertebrates along multiple sections of Youngs Creek and its associated tributaries within the confines of the Micron property from June 5 through June 7, 2024. This effort focused on the reaches identified as potentially supporting benthic macroinvertebrates and fishes based on information provided in the Micron Semiconductor Fabrication Facility (Clay, NY), Aquatic Resources Supplemental Delineation Report (Ramboll 2023) and the Environmental Surveys of Youngs Creek technical memorandum prepared in 2024 (Ramboll 2024).

The fish and benthic macroinvertebrate communities documented in the sampled reaches within the Youngs Creek system were consistent with those often associated with low energy streams and shallow ponded habitats (lentic habitats). Fish communities were dominated by brook stickleback and central mudminnow, both of which are tolerant of hypoxic or low oxygen conditions (Klinger et al. 1982; Stewart et al. 2007) such as those observed within the ponded wetland area. Communities consisted solely of insectivorous forage species at all locations except for the perennial stream portion of the Youngs Creek system, where juvenile northern pike and green sunfish were observed. The perennial portion of Youngs Creek is not within the LOD for the Proposed Project and will therefore remain unimpacted. As noted in the Qualitative Environmental Survey of Youngs Creek conducted in December 2023 (as documented in Ramboll 2024), the perennial portion of Youngs Creek is separated from the ponded wetland area to the south by a series of beaver dams that significantly restrict fish movements upstream.

## 5.2 MITIGATION SITES

The Wetland Trust, on behalf of Micron, has acquired six properties, totaling approximately 1,373 acres, on which wetlands will be re-established/restored/rehabilitated/enhanced to offset the permanent loss of 193.38 acres of wetlands at the Micron Site. Streams will also be re-established on two of the six mitigation sites to offset the loss of 6,283 linear feet of streams. The specific properties are briefly described below. Plans for each property, which show existing topography and work areas where wetlands will be re-established/restored or rehabilitated/enhanced and streams will be re-established, are included in **CWSMP Attachment B**. Additional information regarding the land use history, soils, wildlife, invasive species, existing wetlands, and hydrology are provided in **CWSMP Attachment B**. Each of the mitigation sites are actively used for agriculture and exhibit evidence of hydrology that has been significantly altered from its natural state to support agricultural activities. At some of the sites, natural streams historically traversed the areas but have been redirected to drainage ditches, effectively altering the natural hydrologic and hydraulic patterns.

Micron, in coordination with TWT, has designed a CWSMP that incorporates stream/wetland/upland complexes that include variety of habitats to compensate for the impacted functions and values at the Micron Site. The associated streams and wetlands are expected to be hydrologically connected to NYSDEC-jurisdictional resources and/or within 50-feet of the adjacent resources. Further, the land within the parcels where mitigation will occur will be protected in perpetuity via conservation easements that will be reviewed by the involved agencies. For these reasons, the CWSMP is consistent with 6NYCRR Part 663.

As discussed during the December 18, 2024 meeting, features like vernal pools that, by definition, cannot be hydrologically connected to either on-site or off-site aquatic resources, will be incorporated into the design where appropriate without consideration of acreage.

**Table 5-3: Summary of Proposed Mitigation Sites**

| Table 5-3: Summary of Proposed Mitigation Sites | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Mitigation Property** | **Stream Restoration (linear feet)** | **Re-establishment/ Restoration Acres** | **Rehabilitation/ Enhancement Acres** | **Existing Wetland Acres Preserved** | **Upland Buffer Acres Preserved** | **Total Protected Wetland & Buffer Habitat Acres** | **Total Draft Conservation Easement Acres** |
| **Buxton Creek** | 8617 | 88.8 | 27.5 | 5.1 | 75.7 | 197.2 | 187.7 |
| **Fish Creek** | 5413 | 19.0 | 1.0 | 4.5 | 38.3 | 62.8 | 180.2 |
| **Upper Caughdenoy Creek** | 0 | 26.3 | 34.3 | 8 | 42.9 | 111.5 | 149.2 |
| **Lower Caughdenoy Creek** | 0 | 51.45 | 6.55 | 5 | 28.7 | 91.7 | 109.1 |
| **Sixmile Creek** | 0 | 44.1 | 0.4 | 31.7 | 31.6 | 107.8 | 233.8 |
| **Oneida River** | 0 | 150.1 | 41.3 | 34.8 | 137.3 | 363.5 | 409 |
| **TOTALS** | **14030** | **379.85** | **111.05** | **89.1** | **354.5** | **934.5** | **1269** |

**Buxton Creek (wetlands and streams)**

The Buxton Creek site is located at the intersection of County Route 10 and Bell Road in the Town of Schroeppel, Oswego County, New York , approximately 7.75 miles northwest of the Micron Site. The combined acreage of the parcels TWT acquired is 254 acres. Most of the site is currently active agricultural land (row crops), and the remainder of the property is existing wetlands, successional upland fields, and forests. A tributary to Buxton Creek flows through the eastern portion of the parcel north of Bell Road while the main stem of Buxton Creek flows through the parcel south of Bell Road. The on-site reaches of both Buxton Creek and its tributary have been extensively modified (moved, straightened, and channelized). The existing Buxton Creek channel is approximately 20 feet wide x 5 feet deep with vertical banks and flows under Bell Road through a 10-ft concrete box culvert. The existing tributary to Buxton Creek is approximately 8 feet wide x 3 feet deep and flows under Bell Road in a 4-foot diameter corrugated plastic pipe.

The site includes approximately 89 acres of wetland re-establishment/restoration, 27.5 acres of wetland rehabilitation/enhancement, 5.1 acres of existing wetland preservation, and 75.7 acres of upland buffer preservation. In addition, there will be 8,617 LF of stream re-establishment, all of which will be placed under a conservation easement totaling 187.7 acres (**CWSMP Attachment B**).

**Fish Creek (wetlands and streams)**

The Fish Creek site is located near the intersection of Perry Road and Godfrey Road in the Town of Schroeppel, Oswego County, New York , approximately 9 miles northwest of the Micron Site. The combined acreage of the parcels acquired by TWT is approximately 185 acres. Most of the site is currently active agricultural land, and the remainder of the property is existing wetlands, successional upland fields and forest, and mature forest. A tributary extends through the site that has been excavated to an average depth of 7-ft to receive discharge from agricultural drainage tiles that influence the hydrology in the adjacent fields. This unnatural condition has significantly destabilized the channel, disconnected it from the adjacent floodplain, and minimized its habitat quality.

Fish Creek forms the eastern and southeastern boundary of the site. The site includes approximately 19 acres of wetland re-establishment/restoration, 1 acre of wetland rehabilitation/enhancement, 4.5 acres of existing wetland preservation, and 38.3 acres of upland buffer preservation. In addition, there will be 5,413 LF of stream re-establishment all of which will be placed under a conservation easement totaling 180.2 acres (**CWSMP Attachment B**).

**Upper Caughdenoy Creek (wetlands)**

The Upper Caughdenoy Creek site is located along Route 33 near the intersection of Route 33 and Goettel Road in the Town of Hastings, Oswego County, New York , approximately 8.5 miles northwest of the Micron Site. TWT acquired approximately 165 acres. The site is currently active agricultural land. The site is approximately 900 feet west of Caughdenoy Creek. The site includes 26.3 acres of wetland re-establishment/restoration, 34.3 acres of wetland rehabilitation/enhancement, 8 acres of existing wetland preservation, and 42.9 acres of upland buffer preservation all of which will be placed under a conservation easement totaling 149.2acres (**CWSMP Attachment B**).

**Lower Caughdenoy Creek (Route 37) (wetlands)**

The Lower Caughdenoy Creek site is located along County Route 37 south of County Route 12 in the Town of Hastings, Oswego County, New York , approximately 5 miles north of the Micron Site. TWT acquired 118 acres. Most of the site is currently active agricultural land, and the remainder of the property is existing wetlands and successional upland fields and forests. Caughdenoy Creek forms the northwestern boundary of the site and crosses the northeastern portion of the site, and the Oneida River is approximately 200 feet west of the site. The site includes 51.45 acres of wetland re-establishment/restoration, 6.55 acres of wetland rehabilitation/enhancement, 5 acres of existing wetland preservation, and 28.7 acres of upland buffer preservation all of which will be placed under a conservation easement totaling 109.1 acres (**CWSMP Attachment B**).

**Sixmile Creek (wetlands)**

The Sixmile Creek site is located west and east of NY - 264 near the intersection of Biddlecum Road in the Town of Schroeppel, Oswego County, New York , approximately 9 miles northwest of the Micron Site. The combined acreage of the parcels is approximately 239 acres. Most of the site is currently active agricultural land with extensive floodplain wetlands and ponds through the middle of the property associated with Sixmile Creek from the southeast to the northwest. The site includes 44.1 acres of wetland re-establishment/restoration, 0.4 acres of wetland rehabilitation/enhancement, 31.7 acres of existing wetland preservation, and 31.6 acres of upland buffer preservation all of which will be placed under a conservation easement totaling 233.8 acres (**CWSMP Attachment B**).

**Oneida River (wetlands)**

The Oneida River site is located at the intersection of Oneida River Road and Center Road in the Town of Schroeppel, Oswego County, New York , approximately 4 miles northwest of the Micron Site. TWT acquired 411 acres. Most of the site is currently active agricultural land, and the remainder of the property is existing wetlands and successional upland fields, shrubs, and forests. The Oneida River is approximately 400 feet west of the site. The site includes 150.1acres of

wetland re-establishment/restoration, 41.3 acres of wetland rehabilitation/enhancement, 34.8 acres of existing wetland preservation, and 137.3 acres of upland buffer preservation all of which will be placed under a conservation easement totaling 409 acres (**CWSMP Attachment B**).

# 6 Determination of Credits

"Credits" are a unit of measure (*e.g.*, functional or areal measure or other suitable metric) representing the accrual or attainment of aquatic functions at a compensatory mitigation site. The measure of aquatic functions is based on the resources restored, established, enhanced, or preserved. This section provides a description of the resource types and amounts that will be provided, the method of compensation (*i.e.*, re-establishment, restoration, rehabilitation, and enhancement), and the way the resource functions of the compensatory mitigation project will address the needs of the watershed.

## 6.1 WETLANDS MITIGATION

The Proposed Project involves the unavoidable permanent loss of 193.38 acres of federal wetland due to the necessary and practical construction of the four fabrication facilities and associated appurtenances such as wastewater facilities, utility construction, parking and access routes, and stormwater facilities. Approximately 232.5 ac of on-site jurisdictional wetlands will be avoided including over 90 ac of forested wetland habitat. The permanent impact includes the loss of palustrine emergent (PEM), palustrine forested (PFO), palustrine scrub shrub (PSS), and palustrine open water (POW) wetlands.

In addition to avoiding over 232.5 ac of wetlands on-site, Micron proposes a series of off-site mitigation projects that will fully compensate for the loss of on-site wetlands. Overall, the in-kind replacement of wetland classifications, functions and services as compensatory mitigation as ratio of the proposed permanent impacts is set forth below for both federal and state jurisdictional wetland impacts and detailed in **CWSMP Attachment A**:

Federal (WOTUS) Impact Mitigation with Re-establishment and Rehabilitation

    - 134.46 credits of PEM mitigation to replace permanent PEM habitat loss of 93.94 acres (1.43:1 weighted replacement ratio)

- 2.1 credits deeper PEM mitigation to replace permanent POW habitat loss of 2.1 acres (1:1 weighted replacement ratio)

    - 36.91 credits of PSS mitigation to replace permanent PSS habitat loss of 19.55 acres (1.89:1 weighted replacement ratio)

    - 247.45 credits of PFO mitigation to replace permanent PFO habitat loss of 77.79 acres (3.18:1 weighted replacement ratio)

    - 9 in lieu fee credits purchased at the TWT Johnson Farm Preserve

In all, Micron proposes to re-establish and rehabilitate approximately 420.92 USACE credits of wetland mitigation of varying habitat types across six properties to replace the permanent wetland habitat loss of 193.38 acres on the Micron Site. In addition, Micron proposes to purchase 9 ILF credits from the TWT Johnson Farm Preserve for an **overall average weighted replacement ratio of 2.22:1.**

State (NYS Freshwater Wetlands) Impact Mitigation with Restoration and Enhancement

- 60.94 adjusted acres of Shallow Emergent Marsh mitigation to replace permanent Shallow Water Emergent Marsh habitat loss of 48.12 acres (1.27:1 average weighted replacement ratio)

- 74.95 adjusted acres of Deep Emergent Marsh mitigation to replace permanent Deep Water Emergent Marsh habitat loss of 41.01 acres (1.83:1 average weighted replacement ratio)

- 0.66 acres of additional Deep Emergent Marsh mitigation to replace permanent Farm Pond/Artificial Pond habitat loss of 0.66 acres (1:1 average weighted replacement ratio)

- 36.91 adjusted acres of Shrub Swamp mitigation to replace permanent Shrub Swamp habitat loss of 17.83 acres (2.07:1 average weighted replacement ratio)

- 65.91 adjusted acres of Floodplain Forest mitigation to replace permanent Floodplain Forest habitat loss of 19.31 acres (3.41:1 average weighted replacement ratio)

- 172.09 adjusted acres of Red Maple-Hardwood Swamp mitigation to replace permanent Red Maple –Hardwood Swamp habitat loss of 46.43 acres (3.71:1 average weighted replacement ratio)

- 9.44 adjusted acres of Hemlock-Hardwood Swamp mitigation to replace permanent Hemlock–Hardwood Swamp habitat loss of 3.08 acres (3.06:1 average weighted replacement ratio)

In all, Micron proposes to restore and enhance approximately 420.92 adjusted acres of NYSDEC wetlands of varying habitat types across six properties to replace the permanent wetland habitat loss of 176.44 acres on the Micron Site for an **overall average weighted replacement ratio of 2.39:1.**

The above summary of mitigation acres for each wetland classification, is further justified for each designated wetland on-site in **CWSMP Attachment A**. The justification of impacted wetland replacement ratios was based on the functional assessment completed for Micron Site wetlands which included the review of both on-site data gathered during delineation and habitat assessment efforts, off-site review of natural and cultural resource information, and best professional judgement. Data reviewed in preparation of the functional assessment was provided to the agencies in November 2024 as part of a request for additional information.

The derived replacement ratios represent the status of site wetlands functions and services as determined through on-site observations made by Ramboll biologists during numerous field visits and review of available historical information. Historical aerial imagery was reviewed to

evaluate the historical land use at the Micron Site and its potential impacts on wetland functions and services. Aerial images were obtained from online archives from the United States Geological Survey (USGS) and the United States Department of Agriculture (USDA) for years between 1938 and 2019 and past site due diligence activities. Aerial imagery from 1938 indicated that a large portion of the Micron Site was actively farmed. Agricultural activities on the northern portion of the site, north of the current overhead electric utility right-of-way, diminished after 1938, although previous activities (e.g. drainage ditches) likely continue to impact site wetland and water resources in that area and throughout the Micron Site. Agricultural activities south of the National Grid/NYPA ROW access road were evident through 2019 on a majority of the Micron Site, which likely influenced hydrologic conditions and vegetative cover, including within wetlands and streams. Remnant evidence of historic agricultural activities that persist today and affects current site conditions include:

- Plow furrows in open successional fields, successional shrubland and successional and mature forestland areas
- Several inactive bermed farm ponds
- Straight line drainage ditches (observed on aerials as well as during site activities)
- Clay drain tiles – historically used to manipulate site drainage for agricultural use
- Old farm equipment and farm debris areas.

Impacts to wetlands providing higher functional value based on their current state, stability, resilience to past land uses and/or lack of past or current land use impacts, were also considered in the development of the replacement ratios.

In addition to the above proposed wetland mitigation, the Micron mitigation plan will provide additional benefits, as follows:

- Protecting in-perpetuity, through a conservation easement, approximately 1269 acres of land at six sites within the Oneida River watershed
- Re-establishing 14,030 linear ft of streams,
- Preserving 354.5 acres of upland buffer habitat
- Preserving 89.1 acres of existing wetland acres of varying habitat types
- Providing 157.1 acres of bat mitigation habitat at the Sixmile Creek and Fish Creek sites
- Providing 64.4 acres of grassland mitigation habitat at the Sixmile Creek and Fish Creek sites

The anticipated credits/adjusted acres generated at the six wetland mitigation sites are provided in **Table 6-1** along with the wetland cover types. The schedule for development of each site is summarized below in **Section 7** and described in greater detail in **CWSMP Attachment B**.

**Table 6-1 Anticipated Credits/Adjusted Acres Generated at the Mitigation Sites by Wetland Type**

| Site | Mitigation Type | Credit Ratio (acres:credit) | Mitigation Acres of Specific Wetland Cover Type (acres) | | | | | | Total (acres) | Adjusted Acres (credits) | Total Adjusted Acres (credits) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | PEM | | PSS | PFO | | | | | |
| | | | Shallow em. marsh | Deep em. marsh | Scrub shrub | Floodplain forest | RMH swamp | HH swamp | | | |
| Buxton Creek | Re-establishment/ Restoration | 1:1 | 11.20 | 18.70 | 0.00 | 31.70 | 24.40 | 2.90 | **88.90** | **88.90** | **97.76** |
| | Rehabilitation/Enhancement (ag fields) | 3.5:1 | 0.50 | 1.80 | 0.00 | 3.60 | 0.50 | 0.10 | **6.50** | **1.86** | |
| | Rehabilitation/ Enhancement | 3:1 | 0.00 | 0.00 | 0.00 | 21.00 | 0.00 | 0.00 | **21.00** | **7.00** | |
| Fish Creek | Re-establishment/ Restoration | 1:1 | 2.20 | 0.70 | 2.40 | 9.20 | 4.50 | 0.00 | **19.00** | **19.00** | **19.29** |
| | Rehabilitation/ Enhancement (ag fields) | 3.5:1 | 0.10 | 0.00 | 0.00 | 0.80 | 0.10 | 0.00 | **1.00** | **0.29** | |
| Upper Caughdenoy Creek | Re-establishment/ Restoration | 1:1 | 4.30 | 7.90 | 4.20 | 0.00 | 9.90 | 0.00 | **26.30** | **26.30** | **43.11** |
| | Rehabilitation/ Enhancement (ag fields) | 3.5:1 | 0.50 | 1.10 | 0.00 | 0.00 | 0.00 | 0.00 | **1.60** | **0.46** | |
| | Rehabilitation/ Enhancement | 2:1 | 0.00 | 0.00 | 32.70 | 0.00 | 0.00 | 0.00 | **32.70** | **16.35** | |
| Lower Caughdenoy Creek | Re-establishment/ Restoration | 1:1 | 3.30 | 2.40 | 0.35 | 11.20 | 34.20 | 0.00 | **51.45** | **51.45** | **53.32** |
| | Rehabilitation/ Enhancement | 3.5:1 | 0.30 | 0.30 | 0.05 | 0.20 | 5.70 | 0.00 | **6.55** | **1.87** | |
| Oneida River | Re-establishment/ Restoration | 1:1 | 19.40 | 26.40 | 12.80 | 0.00 | 85.10 | 6.40 | **150.10** | **150.10** | **163.23** |
| | Rehabilitation/ Enhancement (ag fields) | 3.5:1 | 0.40 | 3.90 | 1.40 | 0.00 | 7.20 | 0.40 | **13.30** | **3.80** | |
| | Rehabilitation/ Enhancement | 3:1 | 0.00 | 0.00 | 1.20 | 0.00 | 26.80 | 0.00 | **28.00** | **9.33** | |
| Sixmile Creek | Re-establishment/ Restoration | 1:1 | 20.00 | 17.4 | 0.00 | 5.50 | 1.20 | 0.00 | **44.10** | **44.10** | **44.21** |
| | Rehabilitation/ Enhancement (ag fields) | 3.5:1 | 0.10 | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | **0.40** | **0.11** | |
| **Total Acres** | | | **62.30** | **80.90** | **55.10** | **83.20** | **199.60** | **9.80** | **490.90** | | |
| **NYSDEC Total Adjusted Acres (Credits)** | | | **60.94** | **75.61** | **36.91** | **65.91** | **172.09** | **9.44** | | **420.92** | **420.92** |
| **USACE Total Adjusted Acres (Credits)** | | | **136.56** | | **36.91** | **247.45** | | | **420.92[1]** | | |

*[1]9 ILF Credits purchased from the TWT Johnson Farm Preserve are not included in USACE Total Adjusted Acres (Credits)*

## 6.2 STREAM MITIGATION

The following sections outline the methods and results of calculating credits for the stream mitigation aspect of the Proposed Project.

### 6.2.1 Methodology

The NYSROA is a tool that provides information on the health of existing streams and their associated riparian buffers within the watersheds, sub-watersheds, and catchments across New York State which allows for the prioritization of sites for restoration efforts. Consistent with its goals, the NYSROA was used herein to evaluate and identify potential areas in the vicinity of the Micron Site that are impaired and would benefit from mitigation as prescribed in the NYSROA.

When developing the NYSROA, the NHP evaluated the condition of existing streams, their riparian buffers, and associated subwatersheds and catchments throughout New York State using the Ecological Health and Ecological Stress indicators that are summarized in **Table 6-2** and **Table 6-3** and illustrated in **Figure 6-1**. The Microsoft Excel file that contains the results of the analyses are in **CWSMP Attachment C**.

Riparian condition scores were calculated by the NHP for each sub-watershed and catchment throughout the state and are available for download in shapefile format on the NYSROA website, as well as accessible online via the Data Explorer.

### 6.2.2 Indicators Used in Analysis

For this analysis, indicators directly influencing stream and riparian health, and associated functions and services were used to score catchments within the HUC10 watershed. In the Ecological Health and Stress categories, the indicators identified in **Table 6.2** were evaluated from the NYSROA dataset.

As stated in Section 2, the shapefile downloaded via the NYSROA was used to obtain riparian scores for both existing on-site stream reaches that will be impacted and candidate mitigation reaches within nearby catchments and sub-watersheds.

### 6.2.3 Indicators and Scoring

This approach uses the NYSROA to quantify impacts to existing resources and calculate mitigation credits in a consistent manner. The high-level approach for calculating the on-site impacts and potential off-site mitigation credits is as follows. A more detailed description will be provided in subsequent subsections.

**Table 6-2. Ecological Health and Stress Indicators**

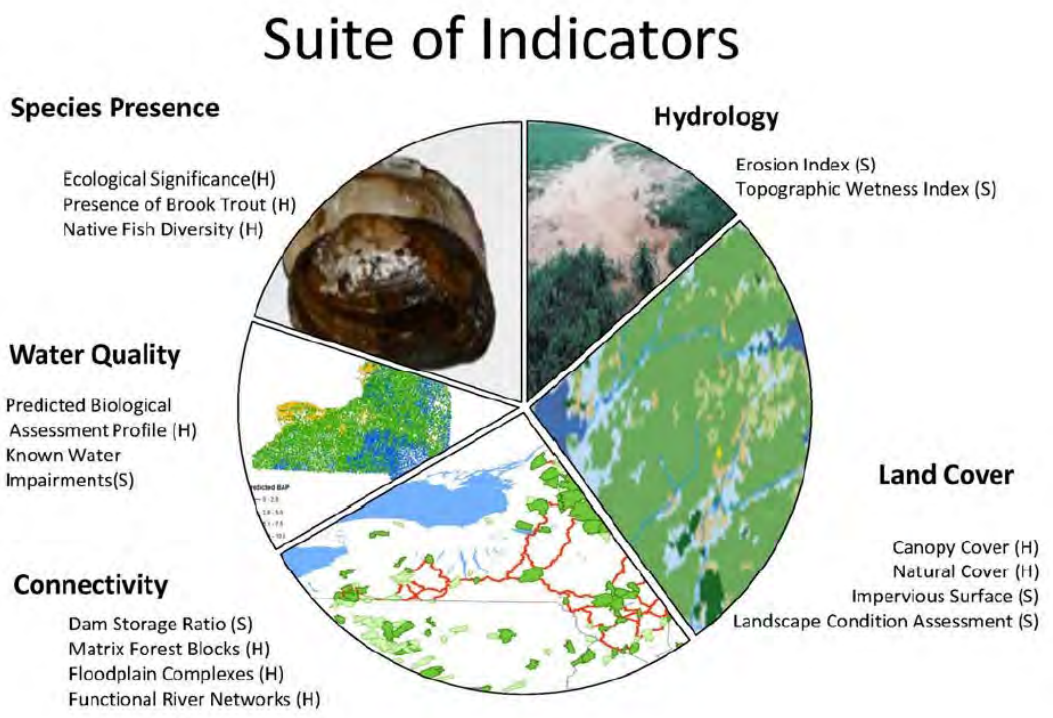
**Table 6-2. Ecological Health and Ecological Stress indicators used in the assessment**

| Ecological Health Indicators | Ecological Stress Indicators |
|---|---|
| Canopy Cover (Riparian) | Landscape Condition Assessment (Riparian) |
| Natural Cover (Riparian) | Impervious Surface (Riparian) |
| Matrix Forest Blocks (Riparian) | Erosion Index |
| Floodplain Complexes | Known Water Impairments |
| Ecological Significance (Riparian) | |

**Table 6-3. Ecological Health and Ecological Stress Justification**

| Table 6-3 Ecological Health and Ecological Stress Justification | |
|---|---|
| **Indicators** | **Definition + Justification** |
| **Ecological Health** | |
| **Canopy Cover** | Average canopy cover within delineated riparian buffers. |
| **Natural Cover** | Percentage of natural cover types (i.e., non-crop, non-impervious surface) within the delineated riparian buffers. |
| **Floodplain Complexes** | Proportion of the delineated riparian buffer that is within a Floodplain Complex (i.e., a diversity of habitat types within a floodplain, including natural upland and wetland patches), that provides an indication of vegetative and riparian connectivity independent of large tracts of forest). |
| **Matrix Forest Blocks** | Proportion of riparian buffer that consists of large, unfragmented forested area. Riparian buffers with higher values of this indicator likely have better forest connectivity and will be more resilient to disturbance. |
| **Ecological Significance** | Presence or absence of rare species occurrences of higher quality and habitat suitable for rare species. A higher value indicates higher biodiversity and higher ecological health. |
| **Ecological Stress** | |
| **Impervious Surface** | Percentage of riparian buffer that is impervious surface. |
| **Landscape Condition Assessment** | A grouping of landscape stressors that includes the distribution and abundance of transportation, urban, industrial, and agricultural land use. Higher values indicate higher levels of development related stress. |
| **Known Water Impairments** | Identified water quality impairments within the riparian buffer. |
| **Erosion Index indicators** | Areas that receive runoff from large contributing drainage areas with steep slopes that are at greater risk for erosion. |

**Figure 6-1. Suite of NYSROA Indicators.**



- Identify impacted on-site stream length and potential off-site mitigation stream reaches and measure linear footage of each reach. (**Tables 6-4** and **6-5**)

- Calculate the credit requirement of impacted streams by increasing or decreasing the linear footage value based on the relative quality of each stream in comparison to other streams in the watershed (based on NYSROA data). (Section 6.2.1)

- Reduce the creditable linear footage value of mitigation reaches based on the proportion available for improvement ("weighted linear footage" described below). (Section 6.2.1)

- Calculate the credit value of each mitigation stream reach by increasing or decreasing weighted linear footage values based on the relative quality of each stream in comparison to other streams in the watershed (based on NYSROA data). (Section 6.2.5)

- Generate Credit Ratios by three different means for consideration: Total Linear Footage/Impacted Linear Footage; Discounted Linear Footage/Impacted Linear Footage; Credits Achieved/Credits Required (Section 6.2.6)

Several terms that will be used in subsequent Subsections to describe the process used herein are defined here to facilitate review. The terms are generally listed in the order in which they are used in the process:

- Study Area: Oneida River Watershed HUC_041402020905

- Ecological Health Score: The sum of all raw scores for the Ecological Health Indicators noted in **Table 6-3**. Each stream within the Study Area is assigned a stream-specific Ecological Health Score based on data from the NYSROA

- Ecological Stress Score: The sum of all raw scores for the Ecological Stress Indicators noted in **Table 6-3**. Each stream within the Study Area is assigned a stream-specific Ecological Stress Score based on data from the NYSROA

- Raw Composite Score: The difference between the Ecological Health and Ecological Stress Scores. This difference is calculated for each stream in the Study Area

- Raw Percent Rank: The percentile value of each stream's Raw Composite Score compared to all streams within the Study Area

| Table 6-4: Calculation of Required Stream Credits Based on NYSROA Raw Composite Scores | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Flow Regine[1] | Substrate | Catchments | Raw Composite Score | Linear Feet (USACE Jurisdictional) | Normalized Score[2] | Stream Credits Required |
| **ES11** | Ephemeral/R6 | Silt | 204187966 | -119.3 | 466 | 1.7 | 812.7 |
| **ES15** | Ephemeral/R6 | Silt | 204188000 | -395.9 | 298 | 1.2 | 347.5 |
| **ES16** | Ephemeral/R6 | Silt | 204187975 | -407.3 | 430 | 1.1 | 491.1 |
| **ES20** | Ephemeral/R6 | Silt | 204188007 | -471.9 | 795 | 1 | 823.6 |
| **ES21** | Ephemeral/R6 | Silt | 204188007 | -471.9 | 209 | 1 | 216.5 |
| **ES6** | Ephemeral/R6 | Silt | 204188012 | -205.8 | 321 | 1.6 | 504 |
| **ES8** | Ephemeral/R6 | Silt and Vegetation | 204188012 | -205.8 | 1045 | 1.6 | 1640.7 |
| **ES8a** | Ephemeral/R6 | Silt and Vegetation | 204188012 | -205.8 | 134 | 1.6 | 210.4 |
| **IS1** | Intermittent/Riverine Stream Bed (R4SB) | Silt | 204187975 | -407.3 | 1411 | 1.1 | 1611.4 |
| **IS2** | Intermittent/Riverine Stream Bed (R4SB) | Silt | 204187975 | -407.3 | 607 | 1.1 | 693 |
| **IS3** | Intermittent/Riverine Stream Bed (R4SB) | Silt and Vegetation | 204187975, 204187911 | -407.3 | 0 | 1.1 | 0 |
| **IS4** | Intermittent/Riverine Stream Bed (R4SB) | Silt and Vegetation | 204188007 | -471.9 | 337 | 1 | 349.1 |
| **IS4a** | Intermittent/Riverine Stream Bed (R4SB) | Silt and Vegetation | 204188007 | -471.9 | 150 | 1 | 155.4 |
| **PS1** | Perennial/Upper Perennial Unconsolidated Bottom (R3UB) | Silt and Vegetation | 204187966 | -119.3 | 0 | 1.7 | 0 |
| **RD4a** | Ephemeral/R6 | Silt | 204188007 | -471.9 | 72 | 1 | 74.6 |
| **RD4b** | | | 204188007 | -471.9 | 8 | 1 | 8.3 |
| **TOTAL** | | | | | 6283 | | 7938 |
| **AVG Raw Percent Rank (Study Area)** | | | 0.5 | | | | |

[1]Consistent with the request from Micron, stream reach and extent verified via preliminary jurisdictional determination (PJD)from USACE, which merely verifies the boundaries and extent of the waters. No final determination was made by USACE regarding flow regime or jurisdictional status. Consistent with Regulatory Guidance Letter 16-01, permit applications evaluated using a PJD treat all identified waters as regulated under the Clean Water Act.

[2] For details on how these scores were calculated, please refer to section 6.2.5 of this CWSMP. The NYSROA data sheets and raw calculations can be found in Attachment C.

**Table 6-5. Calculation of mitigation credits based on NYSROA Raw Composite Scores. The Sites and associated creeks included in this table are those proposed by The Wetland Trust as Mitigation Areas.**

| The Wetland Trust - Proposed Stream Mitigation Areas | | | | | | |
|---|---|---|---|---|---|---|
| **Site** | **Catchments** | **Linear Feet** | **Raw Composite Score[1]** | **Raw Percent Rank w/in study area** | **Normalized Score[2]** | **Stream Credits Achieved[3]** |
| **Sixmile-Fish Creek** | 204187602 | 5413 | -181 | 0.811 | 1.62 | 8779.9 |
| **Buxton Creek** | 204187560 | 3592 | -322 | 0.668 | 1.34 | 4799.4 |
| **Buxton Creek Tributary** | 204187546 | 5025 | -293 | 0.692 | 1.38 | 6954.6 |
| | **TOTAL** | **14030** | | | | **20534** |
| **Credit Ratios[4]** | **2.23** | | | | | **2.59** |

- Normalized Score: Rescale Raw Percent Rank relative to 1 for each stream in the Study Area (Raw Percent Rank/0.5). The value of 0.5 is used because that is the median Raw Percent Rank within the Study Area. The Normalized Score is used as an indicator of relative stream quality in the Study Area. Values greater than 1 indicate streams that are above the median in terms of Raw Composite Score (i.e., higher quality than the median). Values less than 1 indicate that the stream is below the median in terms of Raw Composite Score (i.e., lesser quality than the median)

- Length of stream impact: length of USACE jurisdictional stream within the proposed limits of disturbance on the Micron Site

- Length of candidate mitigation reach: total linear footage of candidate reach

- Stream Credits Required: calculated by multiplying the jurisdictional length by the Normalized Score. When Normalized Score values are greater than 1 the Stream Credits Required are increased in comparison to the impacted length. When Normalized Score values are less than 1 the Stream Credits Required are reduced in comparison to the impacted length

    - Stream Credits required = Normalized Score x length of stream impact

- Stream Credits Achieved: calculated by multiplying the Linear Feet of mitigation by the Normalized Scores for each candidate mitigation stream. When Normalized Score values are greater than 1 the Stream Credits Required are increased in comparison to the Linear Feet. When Normalized Score values are less than 1 the Stream Credits Required are reduced in comparison to the Linear Feet

    - Stream credits achieved = Normalized Score x Linear Feet

### 6.2.4 Study Area

The overall study area used in this analysis is the Oneida River Watershed HUC_041402020905 and the eight adjacent watersheds, which includes catchments within the Micron Site and the candidate off-site mitigation sites that have been identified by TWT. The total linear footage of each stream reach that was evaluated was measured using GIS and aerial photography and field checked by the team. The Linear Footage for each reach is based on the length of each reach that could benefit from riparian enhancement and/or channel improvement. Considerations in estimating stream reaches that are candidates for mitigation consistent with the NYSROA include:

- Only that portion of the reach that could benefit from channel improvement and/or riparian enhancement was included in the mitigation footage.

- Presence of anthropogenic influence within 100-ft of the reach. This includes agricultural tillage or grazing, periodic mowing, and impervious surface (pavement or gravel)
- Lack of woody vegetation
- Lack of sinuosity

For example, if all the particular reach is surrounded by undisturbed woody vegetation, with little to no anthropogenic influence within 100-ft, the Linear Footage is 0-ft.

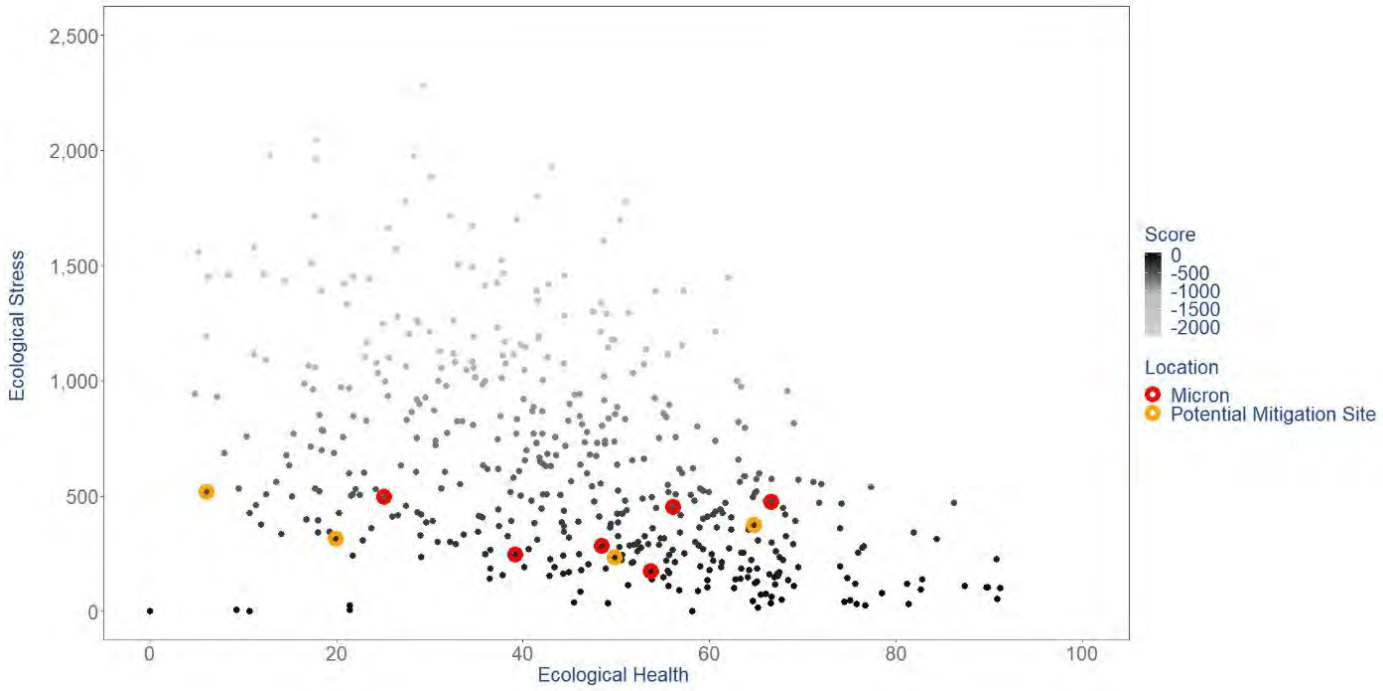
### 6.2.5 Credit calculation

For each stream within the Study Area, Ecological Health, Ecological Stress and Raw Composite Scores were derived from the NYSROA dataset (**Figure 6-2**). Higher Raw Composite Scores are attributed to streams with relatively high Health and low Stress; catchments with lower Ecological Health and Stress were targeted for inclusion in this CWSMP. **Figure 6-2** shows catchments in the study area based on their Ecological Health and Stress Scores, their Raw Composite Scores, and highlights both the catchments on the Micron Site and on potential mitigation sites. Consistent with the objective of the NYSROA, catchments with lower Ecological Health and Stress were targeted for inclusion in this CWSMP.

The intent of using the Raw Composite Score was to be able to characterize the quality of each stream in a quantitative manner by using the NYSROA analysis, and then use those values to weight both the magnitude of stream impact as well as the magnitude of stream mitigation. To implement such a weighting process the Raw Composite Scores were rescaled relative to 1 in two steps.

- First, The Raw Percent Rank was calculated by calculating the percentile of each Raw Composite Score in the Study Area, which resulted in values ranging from 0 to 1.

**Figure 6-2. Ecological Health and Stress Scores**




This Figure plots Raw Composite Scores with respect to Ecological Health (X-Axis) and Ecological Stress (Y-Axis) values from the NYSORA. Each point on the Figure depicts the Raw Composite Score for different streams in the study area. Raw Composite Scores are shown as the grayscale ramp, with higher Raw Composite Scores having darker values. Note that streams with high Ecological Health tended to have Stress scores below 500. This Figure demonstrates that the Micron and proposed mitigation sites tended to fall within the same range for Ecological Stress with values below 500 which means that the Potential Mitigation Sites have good potential for uplift without Ecological Stress factors (e.g., catchment impervious surfaces, general landscape condition, See Also **Table 6-3**) limiting overall success of the proposed mitigation sites.

- Second, to develop a quantitative factor that could be used to say which streams were "better" or "worse" than the typical stream in the Study Area, each stream's Raw Percent Rank value was divided by 0.5 (the median). This process resulted in Normalized Score values greater than 1 for streams that were "better" than the average and values less than 1 for streams that were "below" the average

The Normalized Score used herein is comparable to the Comprehensive Score calculated in the NYSROA. However, the Comprehensive Score calculated by the NYSROA includes a broad suite of habitat indicators, whereas the analysis completed herein uses only riparian specific indicators so that the scores generated more specifically pertain to the impact on riparian and stream reaches. For example, no brook trout habitat has been identified on-site and introduction of brook trout into proposed mitigation reaches is not practicable as part of this mitigation effort.

Further, the Comprehensive Scores calculated in the NYSROA are normalized at the sub-watershed level, only allowing for comparison of catchments within each sub-watershed. A catchment with a low Comprehensive score in a healthy sub-watershed may in fact represent overall better-quality habitat than the catchment with the highest Comprehensive Score in a sub-watershed with high ecological stress (Conley et al. 2018). For this analysis a larger Study Area was used to compare catchment scores across sub-watersheds, so the Normalized Scores calculated herein are normalized based on the scores from the entirety of the Oneida River Watershed. By normalizing based on the entire watershed rather than the sub-watershed, catchment scores can be compared across sub-watersheds without bias.

Stream credits required were then calculated by multiplying the linear footage of impact by the corresponding Normalized Scores for each impacted stream. Stream Credits achieved were calculated by multiplying the Linear Feet of the candidate mitigation reaches by the corresponding Normalized Score. Therefore, a higher normalized score for an impacted reach means a higher impact and more credit required. A higher normalized score for a candidate mitigation reach results in more credit achieved.

### 6.2.6 Results

The compensatory stream mitigation credits and resultant mitigation ratio has been assessed using three different methods. Each method suggests that the proposed compensatory stream mitigation package achieves sufficient compensation of the impacted ecological functions and services.

NYSROA Method

As shown in **Table 6-4** and **Table 6-5**, application of the NYSROA method to the proposed stream impacts on the Micron Site results in a total Stream Credits Required of 7,938 credits. The current

Stream Credits that can be achieved through mitigation on TWT identified mitigation parcels is 20,534 credits.

This represents a ratio of **2.59:1** based on credits calculated using the weighting system described herein.

For a full explanation of these notes and what they represent, see Section 6.2.

Linear Footage Method

The mitigation ratio using total linear footage acquired and total impacted linear footage of Micron streams is **2.23:1**.

USACE Method

Per the guidance in the USACE method, the following credits should be required based on the proposed impacts based on the documented flow regime and substrate:

- 3,698 LF of Ephemeral Stream with silt dominated substrate x 1:1 ratio = 3,698 Credits
- 2,505 LF of Intermittent Stream with silt dominated substrate x 1.5:1 ratio = 3,758 Credits

➔ 7,456 CREDITS REQUIRED

**Table 11-1. Suggested Debit Ratios**

| GROUP | STREAM TYPE | Debit Ratio |
|---|---|---|
| 1 | Ephemeral streams with sand/silt/muck/clay/artificial dominated substrates | 1:1 |
| 1 | Limited Resource Waters | 1:1 |
| 1 | Ephemeral streams with bedrock/boulder/cobble/gravel/sand mixed substrates | 1.5:1 |
| 1 | Intermittent streams with sand/silt/muck/clay/artificial dominated substrates | 1.5:1 |
| 1 | Modified Warmwater and Modified Warmwater Habitat Equivalent | 1.5:1 |
| | | |
| 2 | Intermittent with bedrock/boulder/cobble/gravel/sand mixed substrates | 2:1 |
| 2 | Warmwater and Warmwater Habitat Equivalent | 2:1 |
| | | |
| 3 | Headwater Perennial/Interstitial - Cold Water Habitat Equivalent (generally less than 3 square mile drainage area) | 3:1 |
| 3 | Coldwater and Coldwater Habitat Equivalent | 3:1 |
| 3 | Seasonal Salmonid | 3:1 |
| 3 | Special Waters | 3:1 |
| 3 | Exceptional Warmwater | 3:1 |

The recommended crediting for the restoration or enhancement of perennial, intermittent, and ephemeral stream through Channel Restoration (i.e., Activity Level 3) as included in the proposed mitigation plan is up to 1.5:1. Applying this ratio to the proposed 14,030 LF of mitigation, this equates to 21,045 credits. Assuming that the minimum credit ratio for this is 1:1 (i.e., the credit ratio for Activity Level 4, Channel Enhancement), the proposed 14,030 LF of proposed mitigation equates to 14,030 credits. Therefore, no matter the accounting, through the NYSROA Method, the USACE Method, or the Linear Foot methodology, the proposed mitigation meets the ratios provided by the guidance documents.

**Table 11-2. Suggested Credit Ratios**

| MITIGATION TYPE | ACTIVITY LEVEL | CREDIT RATIO |
|---|---|---|
| 1. Restoration/Enhancement Efforts | 1 | Up to 2:1 |
| | 2 | Up to 1.75:1 |
| | 3 | Up to 1.5:1 |
| | 4 | Up to 1:1 |
| | | |
| 2. Preservation | 1 | Up to 1:3 |
| Note: All preservation must comply with 33CFR332.3(h) | 2 | Up to 1:6 |
| | | |
| 3. Buffer Work Only | Re-establishment | Up to 1:2 |
| | Rehabilitation | Up to 1:4 |
| | | |
| 4. Extra Buffer | Re-establishment | Up to 1:4 |
| | Rehabilitation | Up to 1:8 |
| | Preservation | Up to 1:16 |

# 7 Financial Assurances

Micron will work to ensure that all financial assurances required from the NYSDEC and USACE are met for short-term management and understands that as the permittee, Micron must provide financial assurances, not the mitigation provider.

Micron will work with TWT through their verified contacts at Great American Insurance Group through the following steps.

Micron will provide financial assurances as described in CWSMP **Attachment B**.

Micron will provide financial assurances in the form of a casualty insurance policy in Micron's name to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with the performance standards and obligations set forth in the final instrument, and in accordance with items (a) through (i) below.

a) The casualty insurance policy will contain the information described in 33 CFR 332.3(n) and will be submitted to the USACE for review and approval prior to execution. The policy will have Micron as the policy holder.

b) The original, executed casualty insurance policy document(s) will be provided to the USACE at the following address after approval of the Mitigation Plan, prior to commencing activities authorized by any Department of Army permit associated with implementation of the Mitigation Plan: USACE Buffalo District, Regulatory Branch, Attn: Peter Krakowiak, US Army Corps of Engineers, 478 Main Street, Buffalo, NY 14202.

c) Once executed, the casualty insurance policy will be incorporated into and made part of the final permit.

d) The proposed financial assurance is a casualty insurance policy through Great American Insurance Group as follows:

| Casualty Insurance Schedule | |
|---|---|
| Schedule Item | **Insured Amount*** |
| After mitigation plan is approved and until as-built report is approved by USACE. | ** |
| After as-built report is approved and until first interim performance standards are met with credit release granted. | |
| After first interim report approval and until second interim performance standards are met with credit release granted. | |

| Casualty Insurance Schedule | |
|---|---|
| Schedule Item | **Insured Amount*** |
| After second interim report approval and until third interim performance standards are met with credit release granted. | |
| After the third interim report approval and until final performance standards are met and final credit release granted. | |

*Amount to be insured until the subsequent schedule item performance standards are met.
**Specific dollar amounts to be added in subsequent plan submittals once full quote is obtained.

e) Micron will notify the USACE at least 120 days in advance of any termination, revocation, or modification of the casualty insurance policy. Modification of the policy, including the amount, terms, and holder, requires prior written USACE approval.

f) Micron will ensure that the casualty insurance policy does not lapse.

g) In the event that the USACE determines that the Permittee is in noncompliance with or has defaulted on obligations set forth in the final permit, and the Permittee has failed to remedy the noncompliance in a timely manner, the USACE may make a claim on the insurance policy by providing written notice to the sponsor and the insurance company.

h) The USACE cannot itself directly accept, retain, or draw upon financial assurance funds. If the USACE makes a claim on the insurance policy, the funds shall be directed to a standby trust. Prior to any transfer of funds to a standby trust, the USACE shall have the opportunity to review and approve the financial or legal institution proposed to serve as

trustee as well as the terms and conditions of the standby trust. Any funds deposited into the standby trust shall remain secure until the USACE approves a designee to receive the funds that will develop and implement a proposal for completing the outstanding compensatory mitigation or provide replacement compensatory mitigation. The sponsor will make every effort to identify a trustee and a designee agreeable to the USACE.

i) After review of all required monitoring reports, a final site visit by the USACE, and evaluation of compliance with the terms and conditions of the final permit, the USACE will provide written notification to the Permittee stating that the requirements of the final permit have been satisfied and the sponsor may be fully released from the financial assurance requirements described herein.

# *Attachment A*

# *Wetland Impact Mitigation Ratio and Acreage Justification*

**Table A-1: Mitigation Ratios and Acreages for Federal Jurisdictional Wetlands (Weighted/F&V Derived)**

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W1_PEM | 1-3 | 5.75 | 5.75 | 5.75 | 0 | Habitat | | 1.25:1 | 7.19 | Recently active agricultural field, in agriculture within last 5 to 10 years. Significant presence of Invasive common reed and purple loosestrife. | Majority of W1 has been influenced and/or degraded by past human activity (agricultural use). This was evident by the presence of old furrows, successional vegetative growth in scrub shrub and forested areas, farm debris areas, and culverted drainages. |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W1_PFO | 5+ | 10.55 | 10.55 | 10.55 | 0 | Habitat | Endangered Species | 2.5:1 | 26.38 | Relatively young successional woods; historic images indicate agricultural activity as recent as the late 1970s/mid-1980s. Western portions of PFO dominated by invasive common buckthorn, central and eastern portions are narrow fragments surrounded by inactive ag fields and residential properties. | |
| W1_POW | 1 | 0.03 | 0.03 | 0.03 | 0 | Habitat | | 1:1 | 0.03 | Old farm pond | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W1_PSS | 3-5 | 2.01 | 2.01 | 2.01 | 0 | Habitat | | 1.25:1 | 2.51 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the late 1970s/mid-1980s. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W2_PEM | 1-3 | 12.35 | 5.17 | 5.17 | 0 | Habitat | Flood flow Alteration (northern portions) | 1:1 | 5.17 | Northern portions of PEM within maintained over-head electric ROW. Eastern portion within recently active agricultural field (within last 5 to 10 years); portions of PEM wetlands within old farm furrows. Significant presence of invasive species including reed canary grass and purple loosestrife. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W2_PFO | 5+ | 25.66 | 21.09 | 21.09 | 0 | Habitat | Endangered Species, some Flood flow Alteration (central and northwestern portions) | 3:1 | 63.27 | Northeastern and northern portions of W2 relatively young successional woods; historic images indicate these areas cleared of trees as recent as the late 1970s for agriculture. Central and northwestern portions relatively undisturbed dating back to 1938; however, fragmented habitat surrounded by agriculture and bisected by utility ROW. | |
| W2_PSS | 3-5 | 0.33 | 0 | 0.00 | 0 | Habitat | Flood flow Alteration (northern portions) | 1.25:1 | 0.00 | | |
| W2_POW | 1 | 0.19 | 0.19 | 0.19 | 0 | Habitat | | 1:1 | 0.19 | Old farm pond | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W3_PEM | 1-3 | 5.47 | 4.65 | 4.65 | 0 | Habitat | | 1:1 | 4.65 | Recently active agricultural field within last 5 to 10 years; portions of PEM wetlands within old farm furrows. | Majority of W3 has been influenced and/or degraded by past human activity (agricultural use). This was evident by the presence of old furrows, successional vegetative growth in forested areas. |
| W3_PFO | 5+ | 0.49 | 0.49 | 0.49 | 0 | Habitat | Endangered Species | 3:1 | 1.47 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the late 1970s/mid-1980s. | |
| W5_PEM | 1-3 | 2.39 | 2.39 | 2.39 | 0 | Habitat | | 1:1 | 2.39 | Recently active agricultural within last 10 to 15 years. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W5_PFO | 5+ | 0.21 | 0.21 | 0.21 | 0 | Habitat | Endangered Species | 3:1 | 0.63 | Relatively young successional woodland; historic images indicate portions of this PFO cleared for agricultural activity as recent as the mid-1950s. | |
| W5_POW | 1 | 0.31 | 0.31 | 0.31 | 0 | Habitat | | 1:1 | 0.31 | Old farm pond | |
| W5_PSS | 3-5 | 4.84 | 4.84 | 4.84 | 0 | Habitat | | 1.25:1 | 6.05 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the mid-2000s. | |
| W6a_PFO | 5+ | 0.38 | 0.38 | 0.38 | 0 | Habitat | Endangered Species | 3:1 | 1.14 | Relic farm furrows observed within the southern portion of this PFO indicating past agricultural disturbance; historic images indicate portions of this PFO were actively farmed. Wetland is a mosaic of wetland and upland, | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | partially due to past ag. activity. | |
| W11_PEM | 1-3 | 17.57 | 17.57 | 17.57 | 0 | Habitat | Flood flow Alteration | 1.25:1 | 21.96 | Majority of this wetland occurs in recently active agricultural field (within last 5 to 10 years); portions of PEM wetlands within old farm furrows. Invasive species (purple loosestrife and reed canary grass) present. Northern portion consists of recent wetland mitigation area for National Grid utility project. | Majority of W11 has been influenced and/or degraded by past human activity (agricultural use). This was evident by the presence of old furrows, successional vegetative growth in scrub shrub and forested areas, farm debris, and relic drainage ditches. |
| W11_PFO | 5+ | 1.32 | 1.32 | 1.32 | 0 | Habitat | Endangered Species | 3:1 | 3.96 | Portions of this PFO are relic pond based on 1938 historic image which indicate PFO devoid of trees. Portion of PFO within relic hedgerow. | |
| W11_POW | 1 | 0.24 | 0.24 | 0.24 | 0 | Habitat | | 1:1 | 0.24 | Old farm pond | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W11_PSS | 3-5 | 0.07 | 0.07 | 0.07 | 0 | Habitat | | 1.25:1 | 0.09 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the mid-2000s. | |
| W12_PEM | 1-3 | 0.2 | 0.2 | 0.05 | 0.15 | Habitat | | 1:1 | 0.20 | PEM portion nearest Burnet Road appears to have been active agricultural as late as mid-1980's. Wetland disturbance apparent for utilities and / or residential development through 2020s. Presence of invasive species purple loosestrife and common reed. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W12_PSS | 3-5 | 0.3 | 0.3 | 0.00 | 0.3 | Habitat | | 1.25:1 | 0.38 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the mid-1990s. | |
| W13_PEM | 1-3 | 0.43 | 0.43 | 0.32 | 0.11 | Habitat | | 1:1 | 0.43 | PEM portion nearest Burnet Road appears to have been active agricultural as late as late-1970's. Wetland disturbance apparent for utilities and/or residential development through 2020s. Presence of invasive species purple loosestrife and common reed. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W13_PSS | 3-5 | 0.38 | 0.38 | 0.38 | 0 | Habitat | | 1.25:1 | 0.48 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the mid-1990s. | |
| W14_PSS | 3-5 | 0.35 | 0.35 | 0.33 | 0.02 | Habitat | | 1.25:1 | 0.35 | Relatively young successional shrubland; historic images indicate agricultural activity as recent as the mid-1990s. | |
| W26_PEM | 1-3 | 0.81 | 0.81 | 0.81 | 0 | Habitat | | 1:1 | 0.81 | Wetland part of active agricultural field as recent as the mid-1960s. | |
| W26_PSS | 3-5 | 0.49 | 0.49 | 0.49 | 0 | Habitat | | 1.25:1 | 0.61 | Wetland part of active agricultural field as recent as the mid-1960s. Habitat fragmented to east from recent development activities off-site. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W28_PFO | 5+ | 0.49 | 0.49 | 0.00 | 0.49 | Habitat | Endangered Species | 2.5:1 | 1.23 | Relatively young successional woodland; historic images indicate portions of this PFO devoid of trees as recent as late-1970s and in agricultural activity as recent as the mid-to late-1960s.Wetland also impacted by underground utility (water main). Significant presence of invasive common buckthorn. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W29_PFO | 5+ | 1.08 | 1.08 | 0.00 | 1.08 | Habitat | Endangered Species | 2.5:1 | 2.70 | Relatively young successional woodland; historic images indicate portions of this PFO devoid of trees as recent as late-1970s and in agricultural activity as recent as the mid-to late-1960s.Wetland also impacted by underground utility (water main). Significant presence of invasive common buckthorn. | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W34_PEM | 1-3 | 77.37 | 54.48 | 5.94 | 48.54 | Habitat, Flood flow Alteration, Sediment/Toxicant Retention | GW Recharge/Discharge, Fish habitat(?), Nutrient Removal, Production Export, Sediment/Shoreline Stabilization | 1.75:1 | 95.34 | Southern portions of PEM in active agriculture as recent as late 2010s. Central portions in or subject to agricultural activities as recent as mid-1980s. Northern portions in ag or manipulated for ag activities as recent as the early-1960s. Portions subject to past ditching for ag as well as past and ongoing beaver activity. Ag activities for a majority of the W34 PEM occurred greater than 30 to 40 years ago and have become relatively stable. Based on this, replacement ratios are set at 1.75:1 vs. 1:1 for most other PEM occurring in areas recently subject to ag activities. | Large wetland complex on eastern portion of site providing several functions. W34 associated with Youngs Creek. W34 includes portions of historic Youngs Creek channel. Creek is predominantly a wetland due to apparent past channel manipulation, utility crossings, and beaver activity. |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W34_PFO | 5+ | 15.17 | 11.64 | 0.59 | 11.05 | Habitat | Endangered Species, Flood flow Alteration, GW Recharge/Discharge, Nutrient Removal, Production Export | 2.75:1 | 32.01 | Majority of PFO wetland devoid of trees from farming activity in mid-1950s with evidence of agricultural impacts through mid-to late 1960s. Higher replacement ratio applied vs. other site PFO based on association with large wetland complex offering several functions. | |
| W34_POW | 1 | 0.93 | 0.93 | 0.00 | 0.93 | Habitat | | 1:1 | 0.93 | Portions of old ag pond. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W34_PSS | 3-5 | 16.24 | 9.31 | 0.44 | 8.87 | Habitat, Flood flow Alteration | GW Recharge/Discharge, Nutrient Removal, Production Export | 1.5:1 | 13.97 | Majority of PSS wetland apparently devoid of woody vegetation from farming activity in mid-1950s with evidence of agricultural impacts through mid-to late 1970s for northern and southern portions of PSS. Significant presence of invasive common buckthorn. Howeverhigher replacement ratio applied vs. other site PSS based on association with large wetland complex offering several functions. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W35_PEM | 1-3 | 92.77 | 1.36 | 1.36 | 0 | Habitat, Flood flow Alteration, Sediment/Toxicant Retention | GW Recharge/Discharge, Fish habitat, Nutrient Removal, Production Export, Sediment/Shoreline Stabilization | 1.75:1 | 2.38 | Portions subject to past ditching for ag . Ag activities for a majority of the W35 PEM occurred greater than 30 to 40 years ago and have become relatively stable. Based on this, replacement ratios are set at 1.75:1 vs. 1:1 for most other PEM occurring in areas recently subject to ag activities. Majority of impacted PEM within maintained utility ROW - previously disturbed. | Large wetland complex on northern portion of site providing several functions. W35 associated with Youngs Creek. W35 includes portions of historic Youngs Creek channel. Creek is predominantly a wetland due to apparent past channel manipulation, utility crossings, and beaver activity. Impacts to PEM portions of W35 predominantly temporary. |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W35_PFO | 5+ | 87.32 | 20.54 | 20.54 | 0 | Habitat | GW Recharge/Discharge, Nutrient Removal, Production Export, Sediment/Shoreline Stabilization, Endangered Species | 3:1 | 61.62 | Impacted portions of PFO relatively young successional woodland; historic images indicate portions of this PFO devoid of trees as recent as mid-1980s and in agricultural activity as recent as the mid-to late-1970s. | |
| W35_PSS | 3-5 | 1.77 | 0 | 0.00 | 0 | Habitat | | | 0.00 | | |
| W40_PEM | 1-3 | 0.88 | 0.88 | 0.00 | 0.88 | Habitat | Flood flow alteration | 1:1 | 0.88 | Recently active agricultural within last 10 to 15 years. Significant presence of invasive reed canary grass and purple loosestrife. | |
| W49_PSS | 1-3 | 0.26 | 0.09 | 0.09 | 0 | Habitat | | 1.5:1 | 0.14 | | |
| W49_POW | 1-3 | 0.4 | 0.4 | 0.40 | 0 | Habitat | | 1:1 | 0.40 | Old farm pond | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W49_PFO | 5+ | 16.61 | 8.42 | 8.42 | 0 | Habitat | Flood flow alteration, Endangered Species | 2.75:1 | 23.16 | Relatively young successional woodland; historic images indicate portions of this PFO devoid of trees as recent as the late-1960s and in agricultural activity as recent as the early-1970s. Area also recently subject to extensive logging. | |
| W53_PEM | 1-3 | 0.35 | 0 | 0.00 | 0 | Habitat | | | 0.00 | | |
| W53_PFO | 5+ | 4.43 | 0 | 0.00 | 0 | Habitat | Endangered Species | | 0.00 | | |
| W54_PEM | 1-3 | 6.45 | 0 | 0.00 | 0 | Habitat | | | 0.00 | | |
| W54_PSS | 3-5 | 1.81 | 0 | 0.00 | 0 | Habitat | | | 0.00 | | |
| W55_PFO | 5+ | 4.71 | 0 | 0.00 | 0 | Habitat | Endangered Species | | 0.00 | | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W61_PFO | 5+ | 1.61 | 1.43 | 1.16 | 0.27 | Habitat | Endangered Species | 2.5:1 | 3.58 | Relatively young successional woodland; historic images indicate portions of this PFO devoid of trees as recent as the late-1960s and in agricultural activity as recent as the early-1970s. | |
| W61_PSS | 3-5 | 0.36 | 0.36 | 0.36 | 0 | Habitat | | 1.25:1 | 0.45 | Relatively young successional shrubland; historic images indicate PSS in agricultural activity as recent as the early-1970s. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W62_PSS | 3-5 | 0.95 | 0.95 | 0.95 | 0 | Habitat | | 1.25:1 | 1.19 | Relatively young successional shrubland; historic images indicate PSS in agricultural activity as recent as the early-1970s. Portions of this wetland subject to disturbance from neighboring stormwater facility. | |
| W63_PSS | 3-5 | 0.33 | 0.33 | 0.33 | 0 | Habitat | | 1.25:1 | 0.41 | Relatively young successional shrubland; historic images indicate PSS in agricultural activity as recent as the early-1970s. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W69_PSS | 3-5 | 0.07 | 0.07 | 0.07 | 0 | Habitat | | 1.25:1 | 0.09 | Common buckthorn dominated PSS, recently disturbed, appears area planted with Norway spruce. | |
| W70_PEM | 1-3 | 0.23 | 0.23 | 0.00 | 0.23 | Habitat | | 1:1 | 0.23 | Recently maintained field (mowed); agriculture activity within last 5 to 10 years. | |
| W70_PFO | 5+ | 0.15 | 0.15 | 0.00 | 0.15 | Habitat | | 2.5:1 | 0.38 | Relatively young successional woodland; historic images indicate portions of this PFO devoid of trees as recent as the late-1970s and in agricultural activity as recent as the early-1970s. | |

| Wetland ID | General Time to F&V Replacement (Years) based on cover type | Acreage | Federally Impacted Acreage | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | F & V Assessment (Principal) | F & V Assessment (Suitability) | Mitigation Ratio (Based on F&V condition and qualifiers in justification and notes columns) | Mitigation Acres (Weighted) | Justification | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| W71_PEM | 1-3 | 0.02 | 0.02 | 0.02 | 0 | Habitat | | 1:1 | 0.02 | Associated with small drainage that traverses residential property. Evidence of mowing and disturbance within and adjacent to this wetland; separated from larger wetland W2 by man-made berm with culvert. | |
| | | | | 120.31 | 73.07 | | | | 391.96 | | Approximately 60% of the wetland and stream impacts to occur in Ph 1, 40% in Ph. 2. |

| | | Existing (ac) | Impacted (ac) | | | | | Mitigation by Cover Type (ac) | | Overall Replacement Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| **SUMMARY BY COVER TYPE** | **PEM** | 223.04 | 93.94 | | | | | **PEM** | **134.46** | 1.45:1 |
| | **PFO** | 170.18 | 77.79 | | | | | **PFO** | **247.45** | 3.18:1 |
| | **POW** | 2.1 | 2.1 | | | | | **POW** | **2.10** | 1:1 |
| | **PSS** | 30.56 | 19.55 | | | | | **PSS** | **36.91** | 1.89:1 |
| | **TOTALS** | **425.88** | **193.38** | | | | | **Total** | **391.96** | **2.22:1** |

*Does not take into account any credits for preservation, buffers, enhancement.

**Table A-2: Mitigation Ratios and Acreages for NYS Jurisdictional Wetlands**

| Wetland ID | NYS Ecological Communities Cover Type | Acreage | State Impacted Acreage - Permanent | State Impacted Acreage - Forest Conversion | Phase 1 Impacted Acreage (Years 1-10) | Phase 2 Impacted Acreage (Years 10-20) | DEC Presented Ratio - Permanent | DEC Presented Ratio - Forest Conversion | Forest Conversion Mitigation Acreage | Total Mitigation Acres |
|---|---|---|---|---|---|---|---|---|---|---|
| W1 | Farm Pond/Artificial Pond | 0.03 | 0.03 | | 0.03 | 0 | 1.00 | | 0.00 | 0.03 |
| W1 | Red Maple-Hardwood Swamp | 10.55 | 10.55 | | 10.55 | 0 | 2.75 | 1.00 | 0.00 | 29.01 |
| W1 | Shallow Emergent Marsh | 5.75 | 5.75 | | 5.75 | 0 | 1.5 | | 0.00 | 8.63 |
| W1 | Shrub Swamp | 2.01 | 2.01 | | 2.01 | 0 | 1.50 | | 0.00 | 3.02 |
| W2 | Farm Pond/Artificial Pond | 0.19 | 0.19 | | 0.19 | 0 | 1 | | 0.00 | 0.19 |
| W2 | Floodplain Forest | 0.28 | 0.28 | | 0.28 | 0 | 3.00 | 1.00 | 0.00 | 0.84 |
| W2 | Hemlock-Hardwood Swamp | 3.14 | 3.04 | | 3.04 | 0 | 3.00 | 1.00 | 0.00 | 9.12 |
| W2 | Red Maple-Hardwood Swamp | 22.52 | 18.14 | 0.03 | 18.17 | 0 | 3.00 | 1.00 | 0.03 | 54.45 |
| W2 | Shallow Emergent Marsh | 12.29 | 5.01 | | 5.01 | 0 | 1.25 | | 0.00 | 6.26 |
| W2 | Shrub Swamp | 0.56 | 0.23 | | 0.23 | 0 | 1.50 | | 0.00 | 0.35 |
| W3 | Floodplain Forest | 0.49 | 0.49 | | 0.49 | 0 | 3.00 | 1.00 | 0.00 | 1.47 |
| W3 | Shallow Emergent Marsh | 4.58 | 4.58 | | 4.58 | 0 | 1.25 | | 0.00 | 5.73 |
| W3 | Shrub swamp | 0.89 | 0.07 | | 0.07 | 0 | 1.50 | | 0.00 | 0.11 |
| W5 | Farm Pond/Artificial Pond | 0.31 | 0.31 | | 0.31 | 0 | 1.00 | | 0.00 | 0.31 |
| W5 | Floodplain Forest | 0.21 | 0.21 | | 0.21 | 0 | 3.00 | 1.00 | 0.00 | 0.63 |
| W5 | Shallow Emergent Marsh | 2.39 | 2.39 | | 2.39 | 0 | 1.25 | | 0.00 | 2.99 |
| W5 | Shrub Swamp | 4.84 | 4.84 | | 4.84 | 0 | 1.50 | | 0.00 | 7.26 |
| W6a | Hemlock-Hardwood Swamp | 0.04 | 0.04 | | 0.04 | 0 | 3.00 | 1.00 | 0.00 | 0.12 |
| W6a | Red Maple-Hardwood Swamp | 0.34 | 0.34 | | 0.34 | 0 | 3.00 | 1.00 | 0.00 | 1.02 |
| W11 | Deep Emergent Marsh | 0.24 | 0.24 | | 0.24 | 0 | 2.00 | | 0.00 | 0.48 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| W11 | Floodplain Forest | 1.32 | 1.32 | | 1.32 | 0 | 3.00 | 1.00 | 0.00 | 3.96 |
| W11 | Shallow Emergent Marsh | 17.57 | 17.57 | | 17.57 | 0 | 1.50 | | 0.00 | 26.36 |
| W11 | Shrub Swamp | 0.07 | 0.07 | | 0.07 | 0 | 1.50 | | 0.00 | 0.11 |
| W28 | Floodplain Forest | 0.04 | 0.04 | | 0.00 | 0.04 | 2.75 | 1.00 | 0.00 | 0.11 |
| W29 | Floodplain Forest | 0.38 | 0.38 | | 0.00 | 0.38 | 2.75 | 1.00 | 0.00 | 1.05 |
| W34 | Deep Emergent Marsh | 60.26 | 40.74 | | 0.01 | 40.73 | 2.00 | | 0.00 | 81.48 |
| W34 | Farm Pond/Artificial Pond | 0.13 | 0.13 | | 0.00 | 0.13 | 1.00 | | 0.00 | 0.13 |
| W34 | Floodplain Forest | 6.94 | 4.35 | | 0.36 | 3.99 | 3.00 | 1.00 | 0.00 | 13.05 |
| W34 | Red Maple-Hardwood Swamp | 8.23 | 7.28 | | 0.23 | 7.05 | 3.00 | 1.00 | 0.00 | 21.84 |
| W34 | Shallow Emergent Marsh | 15.07 | 11.69 | | 3.57 | 8.12 | 2.00 | | 0.00 | 23.38 |
| W34 | Shrub Swamp | 15.80 | 8.87 | | 0.00 | 8.87 | 1.50 | | 0.00 | 13.31 |
| W35 | Deep Emergent Marsh | 91.43 | 0.03 | | 0.03 | 0 | 1.75 | | 0.00 | 0.05 |
| W35 | Floodplain Forest | 75.59 | 10.61 | 1.48 | 12.09 | 0 | 3.00 | 1.00 | 1.48 | 33.31 |
| W35 | Red Maple-Hardwood Swamp | 11.73 | 9.93 | 0.16 | 10.09 | 0 | 3.00 | 1.00 | 0.17 | 29.96 |
| W35 | Shrub Swamp | 3.11 | 1.34 | | 1.34 | 0 | 1.50 | | 0.00 | 2.01 |
| W40 | Shallow Emergent Marsh | 0.88 | 0.88 | | 0.00 | 0.88 | 1.25 | | 0.00 | 1.10 |
| W53 | Floodplain Forest | 4.43 | 0.00 | | 0.00 | 0 | 2.75 | 1.00 | 0.00 | 0.00 |
| W53 | Shallow Emergent Marsh | 0.35 | 0.00 | | 0.00 | 0 | 1.25 | | 0.00 | 0.00 |
| W54 | Shallow Emergent Marsh | 6.45 | 0.00 | | 0.00 | 0 | 1.25 | | 0.00 | 0.00 |
| W54 | Shrub Swamp | 1.81 | 0.00 | | 0.00 | 0 | 1.50 | | 0.00 | 0.00 |
| W55 | Floodplain Forest | 4.71 | 0.00 | | 0.00 | 0 | 2.75 | 1.00 | 0.00 | 0.00 |
| W63 | Shrub Swamp | 0.33 | 0.33 | | 0.33 | 0 | 1.50 | | 0.00 | 0.50 |
| W69 | Shrub Swamp | 0.07 | 0.07 | | 0.07 | 0 | 1.50 | | 0.00 | 0.11 |
| W70 | Floodplain Forest | 0.15 | 0.15 | | 0.15 | 0 | 2.75 | 1.00 | 0.00 | 0.41 |
| W70 | Shallow Emergent Marsh | 0.23 | 0.23 | | 0.23 | 0 | 1.25 | | 0.00 | 0.29 |
| W71 | Shallow Emergent Marsh | 0.02 | 0.02 | | 0.02 | 0 | 1.25 | | 0.00 | 0.03 |
| Total | | 398.75 | 174.77 | 1.67 | 104.58 | 70.19 | | | | **384.51** |

Approximately 60% of the wetland and stream impacts to occur in Ph 1, 40% in Ph. 2.

| **SUMMARY BY COVER TYPE** | Permanent Acres | MITIGATION RATIO | **Total Acres** |
|---|---|---|---|
| **Deep Emergent Marsh** | 41.01 | 1.84:1 | **74.95** |
| **Farm Pond/Artificial Pond** | 0.66 | 1:1 | **0.66** |
| **Floodplain Forest** | 19.31 | 3.41:1 | **65.91** |
| **Hemlock-Hardwood Swamp** | 3.08 | 3.06:1 | **9.44** |
| **Red Maple-Hardwood Swamp** | 46.43 | 3.71:1 | **172.09** |
| **Shallow Emergent Marsh** | 48.12 | 1.27:1 | **60.94** |
| **Shrub Swamp** | 17.83 | 2.07:1 | **36.91** |
| **TOTAL** | **176.44** | **2.39:1** | **420.9** |

# *Attachment B*

# *Off-site Compensatory Mitigation Plan (TWT, 2025)*

# Micron Four-Fab Central New York Semiconductor Manufacturing Complex

## Overview of Stream/Wetland Mitigation Plan

### Oswego County, NY




**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**


**July 2025**

## Table of Contents

List of Figures ..... ii
List of Tables ..... ii
List of Related Documents ..... ii
1. Introduction and Objectives ..... 1
2. Description of Mitigation Sites ..... 2
2.1 Site Selection Process ..... 3
2.2 Site Protection ..... 5
3. Credit Generation ..... 5
3.1 Credit Development Schedule ..... 8
4. Mitigation Work Plan ..... 10
4.1 Selection and Design Criteria ..... 10
4.3 Construction Methods, Timing, and Sequence ..... 11
4.3.1 Timing and Sequence ..... 12
5. Maintenance Plan ..... 13
6. Performance Standards ..... 14
7. Monitoring Schedule ..... 14
8. Long Term Management Plan ..... 14
8.1 Responsible Party ..... 15
8.2 Long-Term Monitoring and Management Activities ..... 15
8.3 Long-Term Funding Mechanism ..... 15
9. Adaptive Management Plan ..... 15
10. Regulatory Coordination ..... 15
10.1 USACE and NYSDEC ..... 15
10.2 New York State Historic Preservation Office ..... 16
10.3 U.S. Fish and Wildlife Service ..... 16
10.4 State Pollutant Discharge Elimination System ..... 16
11. Financial Assurances ..... 17
11.1 Short-term ..... 17
11.2 Long-term ..... 17
12. References ..... 19

# List of Figures

Figure 1. Site Locations and Search Areas

# List of Tables

Table 1. A Synopsis of Proposed Wetland/Stream Development Across Six Mitigation Sites

Table 2. Anticipated NYSDEC Wetland Mitigation Acreage by Mitigation site

Table 3. Anticipated USACE Wetland Mitigation Credit Generation by Mitigation site

Table 4. Anticipated Stream Feet and Credits Generated by Mitigation Site

Table 5. Micron Campus Impacts

Table 6. Project Schedule and Temporal Credit Accounting

Table 7. Construction sequence

Table 8. Anticipated Reporting Schedule

Table 9. Agency Consultation per Activity Type

Table 10. Budget estimate for long-term management of all 6 mitigation sites

# List of Related Documents

Buxton Creek Stream and Wetland Mitigation Plan

Fish Creek Stream and Wetland Mitigation Plan

Upper Caughdenoy Creek Wetland Mitigation Plan

Lower Caughdenoy Creek Wetland Mitigation Plan

Oneida River Wetland Mitigation Plan

Sixmile Creek Wetland Mitigation Plan

# 1. Introduction and Objectives

Micron NY Semiconductor Manufacturing, LLC (Micron) is proposing construction of four fabrication facilities and ancillary structures (Micron Campus) in the town of Clay, Onondaga County, New York. Construction of these facilities will result in unavoidable impacts to stream and wetland resources. Micron is providing this Permittee Responsible (PR) Compensatory Mitigation Project (Project) to satisfy stream and wetland mitigation requirements. The Project includes six sites in Oswego County, NY, each of which will have an individual mitigation plan. The Wetland Trust, Inc. (TWT) is the primary service provider facilitating the project, providing and implementing any and all aspects of this project to ensure Micron can meet its PR requirements.

The objective of this plan is to secure, preserve, and protect in perpetuity through conservation easements approximately 1,269 acres of upland and aquatic resources located across six separate sites within the Oneida River watershed, HUC 041402020905, and the southern portion of HUC 0414020209, and to provide a landscape for the development of wetlands and wetland/stream complexes consistent with federal and state regulatory requirements including:

- Restoration of 14,030 linear feet of stream channel to provide compensation for stream impacts on the Micron Campus required by both agencies,
- Develop wetlands that meet the compensation requirements for impacts to 193.38 acres of USACE federal jurisdictional wetlands (e.g., 405.71 USACE compensatory wetland mitigation credits) and impacts to 176.44 acres of NYSDEC state jurisdictional wetlands (e.g., 367.56 compensatory wetland acres) on the Micron Campus, as follows:
    - Re-establish/Restore approximately 133.9 acres of palustrine emergent marsh (PEM) including:
        - 60.4 acres of shallow emergent marsh
        - 73.5 acres of deep emergent marsh
    - Re-establish/Restore approximately 19.75 acres of palustrine scrub shrub (PSS)
    - Re-establish/Restore approximately 226.2 acres of palustrine forest (PFO), including
        - 159.3 acres of red maple-hardwood swamp
        - 9.3 acres of Hemlock-hardwood swamp
        - 57.6 acres of floodplain forest
    - Rehabilitate 111.1 acres of existing wetland, including 9.3 acres of PEM, 35.4 acres of PSS, and 66.4 acres of PFO.
- In addition to the compensatory restoration efforts, the project will protect in perpetuity

89.1 acres of existing wetlands and approximately 354.5 acres of established buffer habitat (not for credit).

This document provides an overview of the approach taken to develop the six individual mitigation sites and the wetland mitigation plan for each, including which sites integrate compensatory mitigation for impacts to both stream channels and wetlands. Each separate mitigation plan includes site-specific baseline data, details on construction and planting plans, performance standards, and timelines for construction, monitoring and management. The entirety of this Mitigation Project is designed to satisfy the requirements of the federal regulations governing compensatory mitigation, 40 C.F.R. Part 332 (2024) and NYSDEC regulations governing wetland mitigation, as outlined in ECL Article 24, 6 NYCRR Part 663 (2024).

Within one of the mitigation sites, there will be a separate area physically marked as the "National Grid Wooding Property Mitigation Compensation Site" and another marked as the "NG Duct Bank" These sites will have their own mitigation section within the appropriate site's plan. This Wooding Plan will follow the DEC-approved National Grid "Wooding Property Wetland Mitigation Plan" dated May 2019, and prepared by ESS Group Incorporated on behalf of National Grid.

## 2. Description of Mitigation Sites

TWT has secured six mitigation sites to compensate for unavoidable impacts to wetlands and streams. These sites combined will generate approximately 421 wetland credits/adjusted acres on 491 wetland acres and 14,030 ft of stream restoration described in Section 1. These sites are summarized in **Table 1** below and will be discussed in detail in their respective mitigation plans.

**Table 1. A Synopsis of Proposed Wetland/Stream Development Across Six Mitigation Sites**

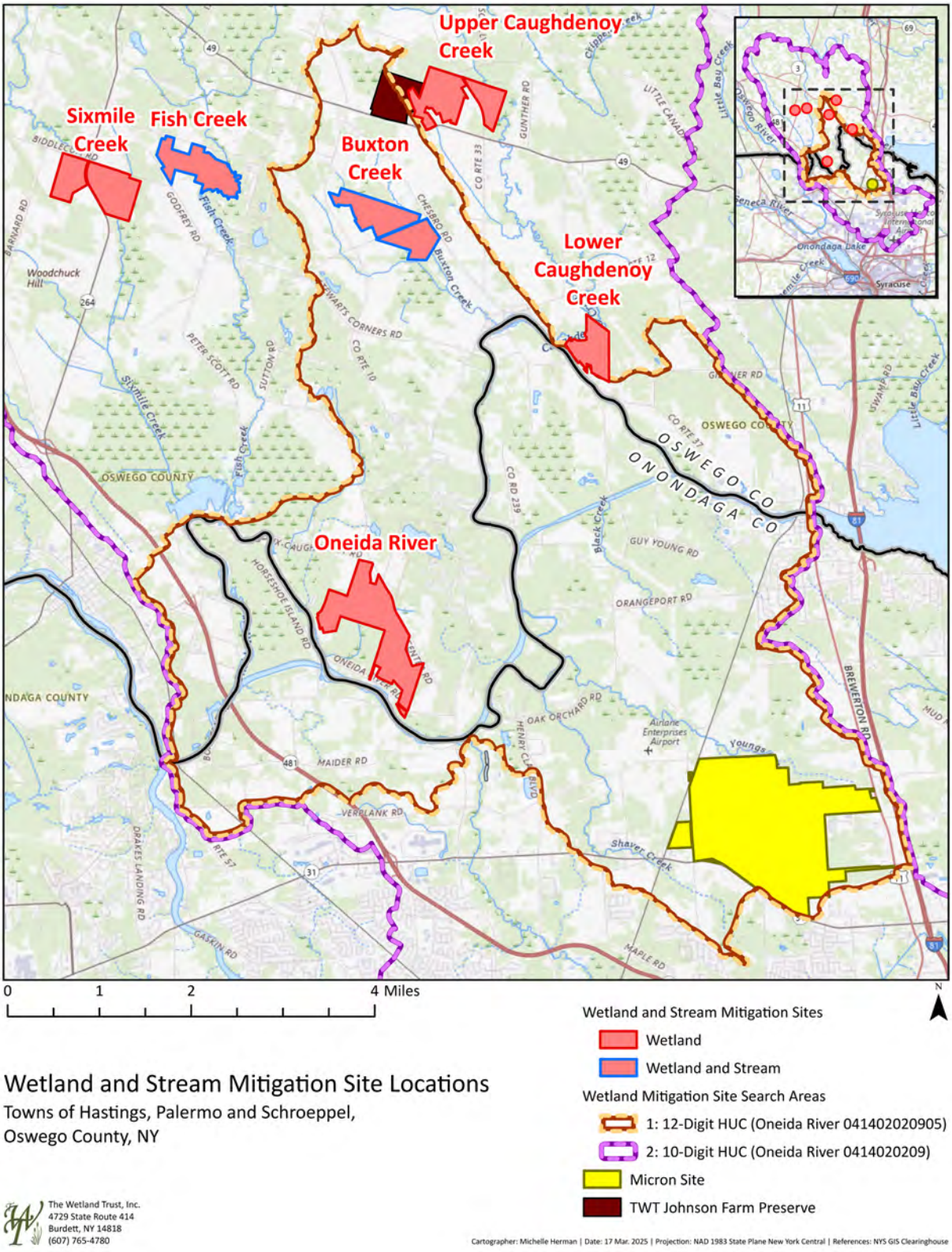
| Site # | Site Name | CE size (acres) | Anticipated Wetland Mitigation (acres) | Anticipated Wetland Credits (USACE)/ Adjusted Acres (DEC) | Anticipated Stream Restoration (linear ft) | Distance to Micron Campus Center (miles) | Oswego County Township |
|---|---|---|---|---|---|---|---|
| 1 | Buxton Creek | 188 | 116.4 | 97.8 | 8,617 | 7.8 | Schroeppel |
| 2 | Fish Creek | 180 | 20 | 19.3 | 5,413 | 8 | Schroeppel |
| 3 | Upper Caughdenoy Creek | 149 | 60.6 | 43.1 | - | 8.5 | Hastings |
| 4 | Lower Caughdenoy Creek | 109 | 58 | 53.3 | - | 5 | Hastings |
| 5 | Oneida River | 409 | 191.4 | 163.2 | - | 4 | Schroeppel |
| 6 | Sixmile Creek | 234 | 44.5 | 44.2 | - | 9 | Schroeppel |
| | **Total** | **1,269** | **490.9** | **420.9** | **14,030** | | |

## 2.1 Site Selection Process

TWT followed site selection protocols described in Federal Register 33 C.F.R. §§ 332.3, 332.4(c) to develop a technically and legally sufficient mitigation plan to meet both United States Army Corps of Engineers (USACE) and New York State Department of Environmental Conservation (NYSDEC) requirements, as well as additional requirements specifically requested by the agencies. The site selection protocols followed include:

1. Sites were selected based on their ecological suitability for providing the desired aquatic resource functions pertaining to hydrologic conditions, watershed-scale features, hydrologic resources, compatibility with adjacent land uses and watershed management plans, reasonably foreseeable effects, and other relevant factors as required in 332.2(d).
2. The search for sites occurred in an expanding radius beginning in the 12-digit HUC (041402020905) containing the proposed Micron Campus, followed by the 10-digit HUC (0414020209), then within four Onondaga Townships; Clay, Cicero, Lysander, and Van Buren and lastly, in the southern portion of Oswego County. TWT was able to secure all mitigation sites within the 12- or 10-digit HUC (**Figure 1**).
3. Prior to selection, all sites were pre-screened by regulatory agencies.
4. Sites were targeted that could provide a net wetland gain meaning, by USACE definition, established or re-established wetlands or by NYSDEC definition, restored wetlands. TWT was able to largely stay within those criteria, with 94 percent of the mitigation developed as re-established/restored and the remaining 6 percent as rehab/enhancement.
5. Sites were selected to offset impacts by replicating the frequency of wetland types as classified by Cowardin et al. (1979) and Edinger et al. (2014) between Micron Campus permanent impacts and Mitigation sites and functions (physical, chemical, and biological processes that occur in the ecosystem), with a total wetland credit target to be determined by the agencies.
6. Sites have sufficient stream restoration potential to meet agency stream compensation needs and provide an opportunity to integrate stream and wetland restoration into a functioning complex.
7. Sites were analyzed and mapped for existing wetlands to be avoided, soil characteristics pertinent to wetland development (i.e., soil moisture, depth to groundwater), and topography.
8. Priority was given to sites closer to the Micron Campus, sites within the same watershed, and to larger sites that more readily retain or enhance functionality for similar attributes found on the Micron Campus, such as flood attenuation, groundwater recharge, stormwater infiltration, wildlife habitat, habitat connectivity, carbon sequestration, and long-term sustainability.

**Figure 1.** Wetland Mitigation Sites and Search Areas



## 2.2 Site Protection

The Wetland Trust, Inc. (TWT) is a 501(c)(3) nonprofit corporation whose mission is the protection, conservation, and restoration of wetlands and other critical habitat. TWT will own all its mitigation properties fee simple and in perpetuity, with provisions to transfer to other similar nonprofits its lands and stewardship funds should TWT fail. All sites will be protected under this same procedure.

There are three layers of protection for all six sites. First, TWT will own in perpetuity all six mitigation sites. TWT's vested interest in the sites through fee-simple ownership reduces any risk of protection violations.

Second, TWT will file USACE- and NYSDEC-approved Conservation Easements (CE) with the Oswego County Clerk. The CE holder will be The Wetland Conservancy, Inc. (TWC), P.O. Box 220, Burdett, NY 14818-0220, a 501(c)(3) nonprofit corporation and qualifying conservation organization (NYS ECL). The easements will cite specific prohibitions. The site plans will provide the rationale basis for the easements and assist in their enforcement. Each mitigation plan includes the specific CE boundary and legal description. The CE names the USACE and NYSDEC as third-party enforcement entities.

Third, each mitigation site will have individual performance bonds to ensure compliance with permit requirements and project success. This approach ensures that each mitigation site is financially secured independently, providing clear accountability and reducing risk for both regulatory agencies and stakeholders. See Section 10 for details.

With the exception of activities approved as part of this Project or other activities approved by the USACE and NYSDEC, no further alterations to the sites shall occur.

# 3. Credit Generation

The total number of credits needed for impacts associated with the Micron campus will be generated across six sites, each of which will have an individual, site-specific mitigation plan. The USACE and NYSDEC will approve the number of credits or mitigation acres generated based on wetland acres that meet or exceed performance standards and meet agreed-upon credit ratios (**Tables 2 and 3**).

Credit development will occur on each of the six sites. Upon completion of this Project, all six sites together will generate the total credits/acres that address the overall compensation target for the cover types required by the agencies. Stream mitigation requirements will occur at the Buxton Creek and Fish Creek Sites. TWT will submit monitoring results for performance of mitigation regarding vegetation and hydrology standards as specified in each mitigation plan. Delineations and mapping will provide information on the size and quality of constructed wetlands.

Stream compensation is based on linear feet of restoration and will be cumulative with a target of 14,030 feet. Specific monitoring protocols for wetlands and streams are more fully described in each individual site plan.

The credit generation proposal is informed by numerous discussions with regulatory agencies, ensuring that the ratios reflect the anticipated ecological benefits and align with regional mitigation practices. Credit generation will be refined in each mitigation plan to account for additional design considerations such as a higher ratio for restoration in 100-foot property setbacks.

- One to one (1:1) mitigation ratios are proposed for Restoration/Re-establishment areas which are in the uplands of active soybean fields. Though uplands in present day, these areas were likely historically drained and altered wetlands for agriculture.
- Two to one (2:1) mitigation ratio is proposed for the scrub shrub Enhancement/Rehabilitation at the inactive muck farm portion of the Upper Caughdenoy Creek site due to the extensive nature of the Enhancement/Rehab. Managing the existing invasive population and restoring over 17,200 linear feet of drainage channels will require significant economic and staffing resources. See Micron – Upper Caughdenoy Creek Mitigation Plan.
- Three to one (3:1) mitigation ratios are proposed for the Enhancement/Rehabilitation of additional scrub shrub, floodplain forest, and red maple hardwood swamp at Buxton Creek and Oneida River.
- Three and a half to one (3.5:1) mitigation ratios are proposed for the Enhancement/Rehabilitation of existing, non-functioning wetlands within the active soybean fields. These are incidental Enhancement/Rehab areas where wetlands overlap with designed Restoration/Re-establishment polygons.

**Table 2. Anticipated NYSDEC Wetland Mitigation Acreage by Mitigation site**

| Site | NYSDEC Mitigation Type | Mitigation Ratio | Mitigation Acres of Specific Cover Type (acres) | | | | | | | | Total acres | Adjusted acres with ratio applied |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | PEM | | PSS | PFO | | | Upland Buffer* | | | |
| | | | Shallow em. marsh | Deep em. marsh | Scrub shrub | Flood plain forest | RMH swamp | HH swamp | Scrub shrub | Forest | | |
| Buxton Creek | Restoration | 1:1 | 11.2 | 18.7 | - | 31.7 | 24.4 | 2.9 | | | **88.9** | **88.9** |
| | Enhancement (ag fields) | 3.5:1 | 0.5 | 1.8 | - | 3.6 | 0.5 | 0.1 | | | **6.5** | **1.86** |
| | Enhancement | 3:1 | - | - | - | 21 | - | - | | | **21** | **7** |
| Fish Creek | Restoration | 1:1 | 2.2 | 0.7 | 2.4 | 9.2 | 4.5 | - | | | **19** | **19** |
| | Enhancement (ag fields) | 3.5:1 | 0.1 | - | - | 0.8 | 0.1 | - | | | **1** | **0.29** |
| Upper Caughdenoy Creek | Restoration | 1:1 | 4.3 | 7.9 | 4.2 | - | 9.9 | - | | | **26.3** | **26.3** |
| | Enhancement (ag fields) | 3.5:1 | 0.5 | 1.1 | - | - | - | - | | | **1.6** | **0.46** |
| | Enhancement | 2:1 | - | - | 32.7 | - | - | - | | | **32.7** | **16.35** |
| Lower Caughdenoy Creek | Restoration | 1:1 | 3.3 | 2.4 | 0.35 | 11.2 | 34.2 | - | | | **51.45** | **51.45** |
| | Enhancement | 3.5:1 | 0.3 | 0.3 | 0.05 | 0.2 | 5.7 | - | | | **6.5** | **1.87** |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oneida River | Restoration | 1:1 | 19.4 | 26.4 | 12.8 | - | 85.1 | 6.4 | | | **150.1** | **150.1** |
| | Enhancement (ag fields) | 3.5:1 | 0.4 | 3.9 | 1.4 | - | 7.2 | 0.4 | | | **13.3** | **3.8** |
| | Enhancement | 3:1 | - | - | 1.2 | - | 26.8 | - | | | **28** | **9.33** |
| Sixmile Creek | Restoration | 1:1 | 20 | 17.4 | - | 5.5 | 1.2 | - | | | **44.1** | **44.1** |
| | Enhancement (ag fields) | 3.5:1 | 0.1 | 0.3 | - | - | - | - | | | **0.4** | **0.1** |
| Wooding Site** | Creation | | - | | - | 1.0 | | | - | - | | |
| | Enhancement | | - | | - | 1.6 | | | - | 4.02 | | |
| | Preservation | | - | | 0.83 | 2.86 | | | 0.72 | 9.31 | | |
| **Total Compensation (acres)** | | | **62.3** | **80.9** | **55.1** | **83.2** | **199.6** | **9.8** | | | **490.9** | |
| **Total Adjusted (acres) with ratios applied** | | | **60.94** | **75.6** | **36.9** | **65.91** | **172.1** | **9.44** | | | | **420.9** |
| **Total Required by NYSDEC (acres)** | | | *72.18* | *62.18* | *26.75* | *57.93* | *139.29* | *9.24* | | | *367.56* | |

* while upland buffer will be established at all six mitigation sites, it is omitted from this table because it will not generate mitigation credit outside of the Wooding Site requirements.
** the Wooding Site mitigation will be re-created in its own separate section at one of the six mitigation sites. As such, the Wooding Mitigation acres outlined in this table are not added to the totals since it is already accounted for at one of the six sites.

**Table 3. Anticipated USACE Wetland Mitigation Credit Generation by Mitigation site**

| Site | USACE Mitigation Type | Credit Ratio (acres:credit) | Mitigation Acres of Specific Wetland Cover Type (acres) | | | | | | Total (acres) | Total (credits) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Shallow em. marsh | Deep em. marsh | Scrub shrub | Floodplain forest | RMH swamp | HH swamp | | |
| Buxton Creek | Re-establishment | 1:1 | 11.2 | 18.7 | - | 31.7 | 24.4 | 2.9 | **88.9** | **88.9** |
| | Rehabilitation (ag fields) | 3.5:1 | 0.5 | 1.8 | - | 3.6 | 0.5 | 0.1 | **6.5** | **1.86** |
| | Rehabilitation | 3:1 | - | - | - | 21 | - | - | **21** | **7** |
| Fish Creek | Re-establishment | 1:1 | 2.2 | 0.7 | 2.4 | 9.2 | 4.5 | - | **19** | **19** |
| | Rehabilitation | 3.5:1 | 0.1 | - | - | 0.8 | 0.1 | - | **1** | **0.29** |
| Upper Caughdenoy Creek | Re-establishment | 1:1 | 4.3 | 7.9 | 4.2 | - | 9.9 | - | **26.3** | **26.3** |
| | Rehabilitation (ag fields) | 3.5:1 | 0.5 | 1.1 | - | - | - | - | **1.6** | **0.46** |
| | Rehabilitation | 2:1 | - | - | 32.7 | - | - | - | **32.7** | **16.35** |
| Lower Caughdenoy Creek | Re-establishment | 1:1 | 3.3 | 2.4 | 0.35 | 11.2 | 34.2 | - | **51.5** | **51.5** |
| | Rehabilitation | 3.5:1 | 0.3 | 0.3 | 0.05 | 0.2 | 5.7 | - | **6.5** | **1.86** |
| Oneida River | Re-establishment | 1:1 | 19.4 | 26.4 | 12.8 | - | 85.1 | 6.4 | **150.1** | **150.1** |
| | Rehabilitation (ag fields) | 3.5:1 | 0.4 | 3.9 | 1.4 | - | 7.2 | 0.4 | **13.3** | **3.8** |
| | Rehabilitation | 3:1 | - | - | 1.2 | - | 26.8 | - | **28** | **9.33** |
| Sixmile Creek | Re-establishment | 1:1 | 20 | 17.4 | - | 5.5 | 1.2 | - | **44.1** | **44.1** |
| | Rehabilitation | 3.5:1 | 0.1 | 0.3 | - | - | - | - | **0.4** | **0.1** |
| **Total Compensation (acres)** | | | **62.3** | **80.9** | **55.1** | **83.2** | **199.6** | **9.8** | **490.9** | |
| **Total Compensation (credits)** | | | **136.5** | | **36.9** | **247.45** | | | | **420.9** |
| **Total Compensation (Credits) required by USACE** | | | *143.01* | | *29.33* | *233.37* | | | | *405.71* |

**Table 4. Anticipated Stream Feet and Credits Generated by Mitigation Site**

| Site | Stream Restoration linear feet | Credit Ratio | Total Credits |
|---|---|---|---|
| Buxton Creek | 8,617 | Re-establishment (1:1) | 8,617 |
| Fish Creek | 5,413 | Re-establishment (1:1) | 5,413 |
| Total | 14,030 | | 14,030 |

Open water areas (includes deep water aquatic habitats and vegetated shallows) greater than 0.1 contiguous acre will only be credited where they equal 10% or less of the total wetland establishment and reestablishment areas or so long as they are part of a well-integrated complex of open water and emergent vegetation as in a hemi-marsh. As open water areas do not meet the definition of wetland, it is appropriate to credit these areas as buffers as they don't truly represent wetland establishment or reestablishment. Deepwater aquatic habitat is defined as any open water area that is either a) permanently inundated at mean annual water depths >6.6 ft, lacks soil, and/or is either unvegetated or supports only floating or submersed macrophytes, or b) permanently inundated areas ≤6.6 ft in depth that do not support rooted-emergent or woody plant species. Areas ≤6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands. The 2 acres of open water (POW) that will be impacted will be accommodated by POW areas within the wetlands where they are not counted toward the credit total. Should this not occur TWT has sufficient land available on the mitigation parcel to construct POW acreage to accommodate permit requirements.

## 3.1 Credit Development Schedule

The large size of the Project requires phases for construction consistent with regulatory requirements 33 C.F.R. § 332.3(m) "Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of **or concurrent with the activity causing the authorized impacts**" (emphasis added). The approach is to complete the construction of each mitigation site over the first six years, so the total compensation acreage is built during Phase 1 of the Micron Campus project during which approximately 60% of the existing site wetlands have been impacted. Implementation of the proposed Mitigation Plan achieves not only "no net loss" in wetland functions and values but provides a "temporal gain" in wetland functions and values in Years 5-8 (see temporal credit accounting in **Table 6**). Temporal accounting is also largely addressed through the compensation credit ratios required by the agencies.

This approach provides the latitude to add additional wetland acres, if necessary, on a realistic, adaptive timeline. Planning and development of each site is a separate effort but compiled into one Project. Stream restoration sites are a priority and will be completed early in the timeline. Construction is planned to run for six years in the following order: Buxton Creek/Oneida River/Lower Caughdenoy Creek, Fish Creek, Upper Caughdenoy Creek, and Six Mile Creek. In addition, a separate 20-acre area will be set aside in one of these sites for the "Wooding Site Compensation Project" with its own mitigation plan. The credits/acres generated for that project are part of the compensation total.

The focus is on net wetland gain via re-establishment/restoration with added wetland rehabilitation/enhancement. As of the writing of this Project, TWT anticipates the sites will generate a total of 420.9 credits/acres. Each site will have a 15-year maintenance and monitoring period as shown in **Table 6,** with all construction beginning in year one of each project timeline. Construction of all sites will be phased in over the first initial 6-year period. Should additional

**Table 5. Micron Campus Impacts**

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Construction Phase | Phase 1 A | | | Phase 1 B | | | | | Phase 2 A | | | | | | Phase 2 B | | |
| Total Wetlands USACE | 112.62 | | | 8.37 | | | | | 69.83 | | | | | | 2.56 | | |
| Main site | 103.71 | | | 8.37 | | | | | 69.83 | | | | | | 2.56 | | |
| Rail Spur | 8.91 | | | 0 | | | | | 0 | | | | | | 0 | | |
| Total Wetlands NYSDEC | 101.98 | | | 4.27 | | | | | 68.81 | | | | | | 1.38 | | |

**Table 6. Project Schedule and Temporal Credit Accounting**

| Site Name | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 ~ | ∞ In Perpetuity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buxton Creek Wetlands | Mobilize | **Construction begins 97.8 cr/ac** | | | | Monitoring, maintenance, and adaptive management for a **15-year period* after construction is completed and as-built approved (not to scale)** | | | | | | | | | **Permanent stewardship begins after monitoring period ends for each site** |
| Buxton Creek Stream | | **Construction begins 8,617 ft** | | | | | | | | | | | | | |
| Oneida River Wetlands | | **begins 163.2cr/ac** | | | | | | | | | | | | | |
| Lower Caughdenoy Creek Wetlands | | **Construction begins 53.3cr/ac** | | | | | | | | | | | | | |
| Fish Creek Wetlands | Mobilize | | **Construction begins 19.3cr/ac** | | | Monitoring, maintenance, and adaptive management for a **15-year period* after construction is completed and as-built approved (not to scale)** | | | | | | | | | |
| Fish Creek Stream | | | **Construction begins 5,413 ft** | | | | | | | | | | | | |
| Upper Caughdenoy Creek Wetlands | Mobilize | | | **Construction begins 43.1 cr/ac** | | Monitoring, maintenance, and adaptive management for a **15-year period* after construction is completed and as-built approved (not to scale)** | | | | | | | | | |
| Six Mile Creek Wetlands | Mobilize | | | | **Construction begins 44.2cr/ac** | Monitoring, maintenance, and adaptive management for a **15-year period* after construction is completed and as-built approved (not to scale)** | | | | | | | | | |
| **Construction initiated USACE cr/NYSDEC ac** | | **314.3 cr/ac** | **333.6 cr/ac** | **376.7 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | **420.9 cr/ac** | |
| **Mitigation needs including replacement ratio USACE credits impacted NYSDEC Acres impacted** | | **-241.98 cr -212.5 ac** | **-241.98 cr -212.5 ac** | **-241.98 cr -212.5 ac** | **-241.98 cr -212.5 ac** | **-241.98 cr -212.5 ac** | **-241.98 cr -212.5 ac** | **-241.98 cr -212.5 ac** | **-405.71cr -367.56ac** | **-405.71cr -367.56ac** | **-405.71cr -367.56ac** | **-405.71cr -367.56ac** | **-405.71cr -367.56ac** | **-405.71cr~ -367.56ac~** | |
| **Credit/Acres Balance USACE Credit balance NYSDEC ac balance** | | **+73.32 cr +101.8 ac** | **+91.62 cr +121.1 ac** | **+134.7 cr +164.2 ac** | **+178.9cr +208.4ac** | **+178.9cr +208.4ac** | **+178.9cr +208.4ac** | **+178.9cr +208.4ac** | **+15.9cr +53.34ac** | **+15.9cr +53.34ac** | **+15.9cr +53.34ac** | **+15.9cr +53.34ac** | **+15.9cr +53.34ac** | **+15.9cr +53.34ac** | |

credits be required, or some wetlands do not meet success criteria, additional acreage will be added within the 6-year building window, or if needed, in the 7th year.

At the end of year-one (construction and planting) for each site or partial site, TWT will develop an as-built report to submit to the agencies. The as-built report will include a plan sheet of constructed features with 1' contours, map/descriptions of planted materials, wetland delineation by wetland cover type, and other habitat types e.g. tributaries, ditches, vegetated shallows, deepwater, estimates of invasive plant species cover within the re-establishment areas, and other information relevant for monitoring comparison. This report will be the basis for each site's yearly vegetation monitoring that tracks all wetland development over the life of the project. The vegetation monitoring will inform any maintenance or adaptive management necessary to keep the sites in compliance with the success criteria for credit development.

The monitoring reports will track the total wetland credits and stream restoration targets and how they are performing. Monitoring will continue for the full 15-year period, even if all performance standards are met early. If all performance standards are not met by the 15th year, the monitoring period will be extended. The monitoring period ends and transitions into long-term management when; (1) all final performance goals are met, (2) a funded long-term management plan is approved by USACE and NYSDEC, (3) a conservation easement for each site has been filed with the Oswego County Clerk, and (4) all other obligations in this Project have been met.

# 4. Mitigation Work Plan

Each site will have a unique work Plan including invasive species control, grading to reach desired hydrology, and seeding/planting for establishing native vegetative communities. The site plans will discuss the stream and wetland mitigation components of the Micron Compensatory Mitigation only. The detailed, site-specific mitigation work plans will be discussed in each site's individual mitigation plan.

## 4.1 Selection and Design Criteria

The following characteristics inform the selection priority and design criteria for wetland work areas at all six mitigation sites:

1. Work areas contain few, if any, existing wetlands, which allows for focus on re-establishment and are near or adjacent to existing DEC wetlands. Delineated wetlands will be subsumed into the work area and will be either registered as rehabilitation if the area is marginal, which is usually the case, or will otherwise be subtracted from the total acreage built and corresponding credits generated. The agencies decide which option is selected.

2. Sites are in active soybean production. The sites will stay in active agriculture until construction commences, which helps prevent invasive species and incompatible land uses.
3. Most of the six mitigation sites contain large expanses of fields with slopes of 2 percent or less. Wetlands constructed on steeper slopes will be smaller in size to minimize earthwork and the potential for erosion.
4. NRCS soil maps show poorly drained soils such as clay or silt loam-textured soils. This was field-verified by digging a series of soil test holes by hand using a 2.5-inch open-faced soil auger either 52 or 126 inches long and determining soil texture using the ribbon test.
5. Evidence of historic wetland drainage is visible in historic and recent orthoimagery. This is verified on the ground by examining each site closely to identify signs of hydrologic alteration, including ditches, stream diversions, stream channeling, sloping, filling, surface inlets, or buried drainage structures (e.g., drainage tiles). These landscape components are key for re-establishing wetlands by disabling and reversing historic drainage practices.
6. Some ditches on the property can be filled to restore wetlands without flooding neighboring property or roads.
7. The land adjoins other properties with similar characteristics that present an opportunity to expand the Site.There is potential for stream restoration and the creation of a stream wetland complex.

## 4.2 Invasive Vegetation Control

Prior to the initiation of earthwork at the mitigation sites, invasive vegetative species management will begin. Efforts will target non-native, invasive plants identified at each site (see ISMP of each individual mitigation plan) that are within the restoration work area, and any area within the TWT ownership boundary that may present a current or future problem. Control methods may include mechanical removal, such as hand-pulling or mowing, and chemical treatments using targeted herbicide treatments or both. These actions will be timed during the appropriate season of the target species to maximize effectiveness. Invasive species control will be completed in a manner that avoids soil disturbance, reduces seed dispersal, and limits impacts on local resources. All treated areas will be monitored to ensure the effectiveness of the control measures, and follow-up treatments will be applied as necessary.

## 4.3 Construction Methods, Timing, and Sequence

Wetland construction will largely consist of removing or disabling existing drainage tiles, filling, blocking, and disabling ditches, restoring natural wetland basins and rims, restoring microtopography, and loosening compacted soil. These methods will ensure the target hydrology is met and ensure a diverse community of hydrophytic vegetation.

Complete stream channel grading per construction drawings included in the Buxton and Fish Creek plans, generally working from the downstream end to upstream end. Flow shall not be directed into the proposed channel until the proposed channel is stabilized.

Equipment operators will include local construction and farming personnel, including those currently farming the sites, and TWT staff. The on-site experience of farming and local knowledge of the operators will maximize productivity and work quality. Prior to construction, work areas will be mowed and/or crops harvested to increase visibility. Work areas on each site will remain in crops until the year of construction. A parking and staging area for heavy equipment and vehicles will be constructed or designated for each mitigation site. TWT staff will be onsite every day to direct and oversee construction.

### 4.3.1 Timing and Sequence

Construction will occur in phases due to the size of the Project; the wetland mitigation effort will follow a similar approach consistent with regulatory requirements (see 33 C.F.R. § 332.3(m) "Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of **or concurrent with the activity causing the authorized impacts**."). Site preparation, grading, and planting of each mitigation site is anticipated to be completed concurrently with the construction of Phase 1 of the Micron Project. The timing of the proposed wetland mitigation site construction/development should be completed within six (6) to seven (7) years of permit issuance and within the 10-year construction window available for mitigation before Micron Phase 2 construction begins:

- Year 1 - Buxton Creek – *wetland/stream complex*
- Year 1 – Oneida River – *wetlands*
- Year 1 - Lower Caughdenoy Creek - *wetlands*
- Year 2 - Fish Creek – *wetland/stream complex*
- Year 3 - Upper Caughdenoy Creek - *wetlands*
- Year 4 - Sixmile Creek - *wetlands*
- Year 5 – Potential for other additional site(s) or additional work on above sites

Staggered mitigation site construction such as this is preferable for the large project size as it allows for an adaptive management framework, ensuring that lessons learned from earlier phases can be applied to later ones, improving overall ecological success. Phased construction can better align with seasonal planting windows and monitoring requirements, ultimately enhancing the long-term viability of mitigation efforts.

Sequencing within each construction site follows the pattern shown in **Table 7**. Each site will be constructed in one year with the following spring dedicated to planting that will initiate the 15-year monitoring and maintenance window to meet success criteria.

| Table 7. Example of construction sequence for one site* | | |
|---|---|---|
| **Activity** | **Timing** | **Phase** |
| Work area layout and preparation, SWPPP implementation. | Spring Year 1 | Pre-construction |
| Invasive management. | Spring Year 1 | Pre-construction |
| Groundwater dam installation, erosion control seeding. | Summer Year 1 | Construction Phase I: Earthwork |
| Final grading to develop microtopography, loosening of soil as necessary, placing woody debris | Summer Year 1 | Construction Phase II: Topography Enhancement |
| Seeding, planting, and mulching per planting plan and SWPPP | Spring Year 2 | Construction Phase III: Seeding & Planting |
| Removal of construction materials. | Spring Year 2 | Post-construction |

*This table provides the typical sequence for Buxton Creek, which is anticipated to be the first site developed. Each subsequent site will follow the same sequence on a yearly schedule.

### 4.4 Planting plan and vegetation establishment

The desired wetland plant communities will be established through broadcasting high-quality, native seeds and planting trees and shrubs as per the planting plans detailed in the individual site mitigation plans. The objective is to re-establish and rehabilitate high-quality emergent, shrub, and forested wetlands of select communities to replace the lost functions at the Micron Site.

Species proposed in individual site plans are based on many factors including commercial availability, typical species present in similar/local plant communities, species present at the Impact Site and Mitigation Sites, species establishment considerations (e.g. rhizomatous), etc. The species provided in each individual plan are not intended to be exclusive and may be supplemented or changed with ecologically similar species.

Spacing depends on site conditions, targeted community types, and will be random and not grid like. Site conditions and topographic features will be utilized in plant placements, such as black willow (*Salix nigra*) along riparian features. TWT staff will coordinate and provide guidance to the planting crew prior to the start of work and will be on-site during operations. Pre-staking of planting locations, used to facilitate instruction to planting staff, will be completed as necessary.

## 5. Maintenance Plan

Periodic maintenance activities will be expected to occur following initial construction and planting to ensure the long-term viability of the restored and protected resources (wetlands and streams) on the project sites. Each individual mitigation site plan will include descriptions outlining the projected maintenance activities during the monitoring period. Any maintenance activities undertaken will be documented in the appropriate monitoring report along with a

discussion of any anticipated maintenance to be completed in future years. Any significant adjustments such as earthwork will require USACE and NYSDEC approval.

## 6. Performance Standards

See site-specific mitigation plans for performance standards based on the characteristics and work plan at each individual site.

## 7. Monitoring Schedule

After an initial Post-Construction As-Built Report, monitoring reports will be submitted by December 31st of the monitoring year to describe conditions in the growing season (**Table 8**). All reports in digital format will be submitted to USACE, Regulatory Branch, Auburn Office and NYSDEC, Region 7 Headquarters in Syracuse, with any hard copies provided upon request. All monitoring, reporting, requests, and adaptive management implementation are Micron's responsibility; TWT will provide support to ensure all reports are developed and submitted.

**Table 8. Anticipated Reporting Schedule**

| Activity | Description | Year |
|---|---|---|
| Post-Construction Report | Year of planting completion | 0 |
| 1st Monitoring Report | Year following first full growing season after approval of the post-construction report | 1 |
| 2nd Monitoring Report | Second full year of vegetation growth | 2 |
| 3rd Monitoring Report | Third full year of vegetation growth | 3 |
| 4th Monitoring Report | Fourth full year of vegetation growth | 4 |
| 5th Monitoring Report | Fifth full year of vegetation growth | 5 |
| 6th Monitoring Report | Seventh full year of vegetation growth | 7 |
| 7th Monitoring Report | Tenth full year of vegetation growth | 10 |
| 8th Monitoring Report | Twelfth full year of vegetation growth | 12 |
| 9th Monitoring Report | Thirteenth full year of vegetation growth | 13 |
| Final Monitoring Report | Fifteenth full year of vegetation growth | 15 |

If construction takes more than one growing season to be completed, an interim construction report will be submitted and will describe completed tasks and those remaining. The monitoring timeline will begin following the completion of construction and planting activities described herein.

## 8. Long Term Management Plan

The purpose of the Long-Term Management Plan (LTMP) is to ensure the long-term sustainability of the protected and restored resources after mitigation performance standards have been achieved. The LTMP for each site will be included as an Appendix to each of the individual mitigation plans. As the site develops and matures, the LTMPs will be amended as needed to include relevant information. After the monitoring period has ended, TWT will prepare a final LTMP to be submitted with the project's final monitoring report that will be reviewed and approved by the

USACE and NYSDEC. The final LTMPs will address the site-specific future needs of the project based upon conditions at the time of the active period closeout.

### 8.1 Responsible Party

As the fee simple owner for all Micron mitigation sites, TWT will be the long-term steward and responsible party for long-term management of the wetland mitigation sites including, but not limited to, identification of needs, development of recommendations, review with regulatory agencies as required, LTMP implementation, and efficacy measures.

### 8.2 Long-Term Monitoring and Management Activities

The LTMP includes the anticipated long-term monitoring and management activities and their estimated costs. These activities will be adjusted as needed throughout and after the active ecological monitoring period.

### 8.3 Long-Term Funding Mechanism

TWT has a director-controlled Stewardship Management Investment Account provided by Micron Semiconductor Manufacturing LLC specifically dedicated to ensuring full implementation and maintenance of the Micron Compensatory Mitigation Sites. This account's investment income (investment instruments are low-risk and broad-based) is used to support permanent long-term management and maintenance as described in the final LTMP. The funding level designed in the Long-Term Management Budget in the LTMP is sufficient to sustain the long-term management of the Micron Compensatory Mitigation Sites.

## 9. Adaptive Management Plan

Beyond the anticipated maintenance needs for each site, preparedness for unexpected changes in site conditions is imperative to the continued success of the project. An adaptive management strategy for each site will outline the approach for addressing potential challenges and unexpected changes, including those related to fire, climate change, disease, and other factors. Long-term monitoring (minimum quarterly visits) to inform the adaptation of management strategies will ensure that the protected and restored resources remain resilient and meet long-term conservation goals.

## 10. Regulatory Coordination

### 10.1 USACE and NYSDEC

After mitigation plan approvals, continued coordination with USACE and NYSDEC is required throughout various phases of the mitigation project to ensure compliance with applicable federal and state regulations. Certain construction, maintenance, and adaptive management activities listed above may trigger the need for agency consultation or formal approval under Section 404 of

the Clean Water Act and Article 24 of the Environmental Conservation Law. The level of coordination required is activity-specific and is dependent on the scope, location, and potential impact of the proposed work. The table below outlines key project activities and indicates whether prior approval or notification to the USACE and/or NYSDEC is required before implementation.

**Table 9. Agency Consultation per Activity Type**

| Activity Type | Examples | USACE Approval Required? | NYSDEC Approval Required? | Notes |
|---|---|---|---|---|
| **Invasive control** | - Invasive species control (mechanical, herbicide) | **No** (if consistent with approved plan) | **Yes** | Article 24 for herbicide in wetlands, Article 15 may be required if standing water is present. |
| **Routine Maintenance & Monitoring** | - Annual monitoring (vegetation, hydrology)<br>- Minor maintenance of structures (i.e. fences)<br>- Mowing, weed-whacking, hand-pulling | **No** (if consistent with approved plan) | **No** (if consistent with approved plan) | Proceed as described in the mitigation plan. If in doubt, consult agencies. |
| **Adaptive Management Actions** | - Altering hydrology<br>- Grading or regrading<br>- Adding/removing plantings<br>- New management techniques not specified in the plan | **Yes** | **Yes** | Notify USACE/NYSDEC and request approval before implementation. |
| **Deviations from Monitoring Protocols or Performance Standards** | - Changing success criteria<br>- Altering monitoring methods significantly | **Yes** | **Yes** | Must maintain consistency with 33 CFR 332 and Article 24 requirements. |
| **Changes to Long-Term Protection Mechanisms** | - Amending a conservation easement<br>- Transferring ownership<br>- Modifying management responsibility | **Yes** | **Yes** | Ensures permanent protection is upheld under USACE/NYSDEC oversight. |

## 10.2 New York State Historic Preservation Office

In accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), consultation for each mitigation site was initiated with the New York State Historic Preservation Office (NY SHPO) to assess the potential for the proposed mitigation site to affect historic properties or cultural resources. See each mitigation plan for details.

## 10.3 U.S. Fish and Wildlife Service

Consultation has been initiated for the six mitigation sites with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act to ensure that the proposed stream/wetland mitigation activities will not adversely affect federally listed species or their critical habitats. See each mitigation plan for details.

## 10.4 State Pollutant Discharge Elimination System

Prior to the commencement of any ground-disturbing activities at each of the mitigation sites, a State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) must be obtained from the New York State Department

of Environmental Conservation (NYSDEC). No construction may begin until an electronic Notice of Intent (NOI) has been filed with and acknowledged by the NYSDEC, a SWPPP has been developed and approved, and proof of permit coverage is on file.

# 11. Financial Assurances

## 11.1 Short-term

The short-term financial assurances for this compensatory mitigation plan will include individual performance bonds for each mitigation site to ensure compliance with permit requirements and project success. Experienced insurance brokers shall assist in preparing these financial assurances by providing guidance on structuring the performance bonds and ensuring they meet regulatory expectations. This approach ensures that each mitigation site is independently financially secured, providing clear accountability and reducing risk for both regulatory agencies and stakeholders. The performance bonds are provided by Micron Semiconductor Manufacturing LLC.

## 11.2 Long-term

To ensure long-term financial assurance TWT will continue to own the site fee simple in perpetuity. As a 501(c)(3) nonprofit, TWT has received tax-exempt status for the site, which helps assure its long-term protection. A director-controlled Stewardship Management Investment Account has been established specifically for the Micron Compensatory Mitigation project with funds provided by Micron Semiconductor Manufacturing LLC. Funds will be deposited into this account with the investment income (investment instruments are low risk and broad-based) used to support permanent long-term management and maintenance. These funds are sufficient to sustain long-term management as outlined in **Table 10**, in which the budget covers long-term management for all six sites combined.

**Table 10.** Budget estimate for potential long-term management and maintenance tasks, all six Micron Wetland/Stream mitigation sites, a total of 1,269 acres*

| Category | Task | Frequency | Estimated Cost per acre | Annualized Cost |
|---|---|---|---|---|
| Adaptive Management | Replanting | 5 | | |
| | Reshaping terrain | 5 | | |
| | Invasive species removal | 2 | | |
| Maintenance | Site manipulation | 10 | | |
| | Boundary posting | 10 | | |
| | Other practices | 3 | | |
| Long-Term Management | Other corrective adaptive management actions to ensure natural stability of site | 5 | | |
| Monitoring | To determine implementation tasks | 1 | | |
| Administration | For all tasks above including tax exempt status | 1 | | |
| Total annual budget | | | | |
| **Total Stewardship investment** | | | | |

*all funding is provided by Micron Semiconductor Manufacturing, LLC.

PROVIDED UNDER SEPERATE COVER

# 12. References

Biebighauser, T.R., 2015. Wetland Restoration and Construction: A Technical Guide (3rd ed.). Wetland Restoration and Training, LLC.

Blossey, B., D. Hare, and D.M. Walter. Where have all the flowers gone? A call for federal leadership in deer management in the United States. 2024. Front. Conserv, Sci. 5:1382132

Cowardin et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States.

Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2014. Ecological Communities of New York State (2nd ed.). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Environmental Laboratory, 1987. Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS.

US Army Corps of Engineers. 2008. Jurisdictional Determination Form Instructional Guidebook.

US Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (v.2). ERDC/EL TR-12-1. Vicksburg, MS.

US Army Corps of Engineers. 2016b. Guidelines for Stream Mitigation Banking and In-lieu Fee Programs in Ohio

US Army Corps of Engineers 2016b. Wilmington District Stream and Wetland Compensatory Mitigation Update

US Environmental Protection Agency. 2005. Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations

# Micron Four-Fab Central New York Semiconductor Manufacturing Complex

## Buxton Creek

### Stream and Wetland Mitigation Plan

**Oswego County, NY**


**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**


July 2025

## Table of Contents

List of Figures ..... iii
List of Tables ..... iii
List of Appendices ..... iii
List of Related Documents ..... iv
1. Introduction and Objectives ..... 1
2. Site Description ..... 2
2.1 Site Selection ..... 2
2.2 Site Protection ..... 2
3. Baseline Information ..... 5
3.1 Land Use History ..... 5
3.2 Soils ..... 6
3.3 Wetlands and Hydrology ..... 9
3.4 Existing Wildlife ..... 11
3.5 Existing Vegetation ..... 13
3.6 Invasive Species ..... 13
3.7 Cultural and Historic Considerations ..... 13
4. Wetland Credit Accounting ..... 13
5. Wetland Mitigation Work Plan ..... 14
5.1 Invasive Vegetation Control ..... 18
5.2 Grading Plan ..... 18
5.3 Buffer Establishment ..... 19
5.4 Planting Plan ..... 19
5.6 Timing and Sequence ..... 25
5.7 Sediment and erosion control measures ..... 27
6. Wetland Performance Standards ..... 27
7. Stream Credits ..... 31
8. Stream Mitigation Work Plan ..... 31
8.1 Design Considerations ..... 31
8.2 Work Plan ..... 36
8.3 Timing and Sequence ..... 39
9. Stream Performance Standards ..... 39
10. Monitoring Requirements ..... 41

10.1 Reporting schedule..... 42
11. Maintenance Plan..... 43
11.1 Hydrology Maintenance..... 43
11.2 Vegetation Maintenance ..... 44
11.3 General Site Maintenance ..... 44
12. Long Term Management Plan..... 45
12.1 Responsible Party ..... 45
12.2 Long-Term Monitoring and Management Activities..... 45
12.3 Long-Term Funding Mechanism ..... 45
13. Adaptive Management Plan ..... 45
14. Financial Assurances ..... 46
15. References ..... 48

## List of Figures

**Figure 2-1.** Wetland Mitigation Sites Location Overview
**Figure 2-2.** Buxton Creek Imagery 2023
**Figure 3-1** NRCS Wetland Reserve Easements
**Figure 3-2.** Buxton Creek Soils
**Figure 3-3.** Hydrology Monitoring Locations
**Figure 5-1.** Buxton Creek Site Plan
**Figure 6-1.** Vegetation Monitoring and Photo Point Locations
**Figure 8-1.** Buxton Creek Stream Restoration Profile
**Figure 8-3.** Riffle Crest Plan View

## List of Tables

**Table 3-1.** Soils Series Mapped within the Mitigation Area
**Table 3-2.** Staff Gauge Location
**Table 3-3** Monitoring Well Location
**Table 4-1.** Buxton Creek Credit Ratios and Anticipated Credit Generation for Wetlands
**Table 5-1.** Buxton Creek Grading for Wetland Types
**Table 5-2a.** PEM- Shallow Emergent Marsh Planting List
**Table 5-2b.** PEM- Deep Emergent Marsh Planting List
**Table 5-2c.** PFO- Floodplain Forest Planting List
**Table 5-2d.** PFO- Red Maple Hardwood Swamp Planting List
**Table 5-2e.** PFO- Hemlock Hardwood Swamp Planting List
**Table 5-3.** Mitigation Site Sequence
**Table 5-4.** Construction Sequence
**Table 6-1.** Wetland Performance Standards and Interim Goals
**Table 7-1.** Anticipated Stream Feet and Credits Generated
**Table 8-1.** Stream Construction Sequence
**Table 9-1.** Stream SVAP 2 Elements
**Table 10-1.** Anticipated Reporting Schedule

## List of Appendices

**Appendix A.** Buxton Creek Conservation Easement
**Appendix B**. Historical Aerial Imagery
**Appendix C.** Wetland Delineation Report
**Appendix D.** Species Lists
**Appendix E**. Invasive Species Management Plan
**Appendix F**. SHPO Correspondence
**Appendix G.** Wetland Design Forms
**Appendix H.** Wetland Construction Plan Set
**Appendix I.** SWPPP (to be added in future submittals)
**Appendix J.** StreamStats Reports
**Appendix K**. Stream Construction Plan Set
**Appendix L.** Long Term Management Plan

## List of Related Documents

Overview of Stream/Wetland Mitigation
Fish Creek- Stream and Wetland Mitigation Plan
Upper Caughdenoy Creek Wetland Mitigation Plan
Lower Caughdenoy Creek Wetland Mitigation Plan
Sixmile Creek Wetland Mitigation Plan
Oneida River Wetland Mitigation Plan

# 1. Introduction and Objectives

Six sites in Oswego County make up the Permittee Responsible Offsite Compensatory Mitigation Project (Project) for the Micron NY Semiconductor Manufacturing, LLC (Micron) semiconductor fabrication site in the town of Clay, Onondaga County, New York. The Buxton Creek Stream and Wetland Mitigation Plan (Buxton Creek Plan) location is along the eastern stretch of Bell Road in the Town of Schroeppel, NY. The Project will address the total mitigation need for wetland credits and stream restoration to meet Micron permit requirements. The final number of credits required for compensation is still pending as of the drafting of this plan, however, an Overview document accompanying the six plans will be updated with final credit accounting. TWT submits this Buxton Creek Plan as one of six plans to satisfy Project mitigation needs and in fulfillment of the requirements of 33 C.F.R. Part 332 (2024).

This Buxton Creek Plan includes both stream and wetland mitigation components. Stream restoration will be achieved through the construction of new channels to replace the ditches where the altered portion of Buxton Creek currently flows and integrates them into a stream/wetland complex. Re-establishment of wetlands will be the primary approach to achieving the necessary credits. Design and hydrology analysis assistance by Ramboll largely informs and verifies the stream restoration component of this plan following the extensive field investigation and conceptual approach TWT provided.

The objectives of the Buxton Creek Plan are to develop approximately 97.8 wetland mitigation credits over 116 mitigation acres toward a total compensation requirement of 405.7 credits (USACE) or 367.6 acres (NYSDEC) for the entire project. This includes:

- Re-establish wetlands to generate 89 USACE wetland credits equivalent to the Restoration of 89 NYSDEC wetland mitigation acres, including:
    - 11.2 acres of PEM - Shallow Emergent Marsh
    - 18.7 acres of PEM - Deep Emergent Marsh
    - 31.7 acres of PFO - Floodplain Forest
    - 24.4 acres of PFO - Red Maple Hardwood Swamp
    - 2.9 acres of PFO - Hemlock Hardwood Swamp
- Rehabilitate wetlands of the above cover types to generate 8.7 USACE wetland credits equivalent to the enhancement of 27.5 NYSDEC wetland mitigation acres.
- Establish 75.7 acres of upland buffer habitat (not for credit) including:
    - 26.7 acres of herbaceous upland buffer habitat
    - 49 acres of shrub/forested upland buffer habitat

- Construct 8,617 feet of Buxton Creek stream channels to develop wetland/stream complexes on the site.

The distribution of wetland types may change due to balancing distribution among the other five mitigation plans in development. The distribution of wetland cover types, mitigation type, and acreage is dependent on site-specific characteristics which ultimately determine what wetlands are suitable at specific locations.

# 2. Site Description

The Buxton Creek Site is approximately 253.9 acres in size in the Town of Schroeppel, Oswego County, New York (**Figure 2-1**). The Site is within the Oneida River 12-digit HUC (041402020905) watershed, and the U.S. Geological Survey 7.5-minute quadrangle indexed as Central Square. Coordinates for the approximate center of the Site are: [43.28625145, -76.23092591]. The Site is bisected by Bell Road and west of Chesbro Road (**Figure 2-2**).

## 2.1 Site Selection

The Buxton Creek Mitigation Site was selected along with five other sites to satisfy compensatory mitigation requirements for Micron Campus Impacts using site selection protocols described in Section 2.1 and 4.1 of the Micron Overview of Stream/Wetland Compensation on Six Mitigation Sites document. This Site is particularly well suited for restoration of a stream/wetland complex. TWT and Ramboll performed assessments of all TWT-held Wetland Mitigation properties for potential restoration of stream/wetland complexes. While all sites have some potential, the Buxton Creek site has a combination of:

- heavily disturbed and modified stream reaches,
- very flat topography,
- thick clay and compacted sand/clay layers near the surface,
- a clear history of stream wetland complexes and beaver meadows,
- sufficient perennial flow in the existing stream to support the desired hydrology and channel design, and
- extensive opportunity for construction of adjacent wetlands on either side of the designed stream channels.

## 2.2 Site Protection

The Wetland Trust, Inc. (TWT) is a 501(c)(3) nonprofit corporation and qualifying conservation organization (NYS ECL) whose mission is the protection, conservation, and restoration of wetlands and other critical habitat. TWT owns the Buxton Creek site fee simple and in perpetuity,

**Figure 2-1.** Wetland Mitigation Sites Location Overview

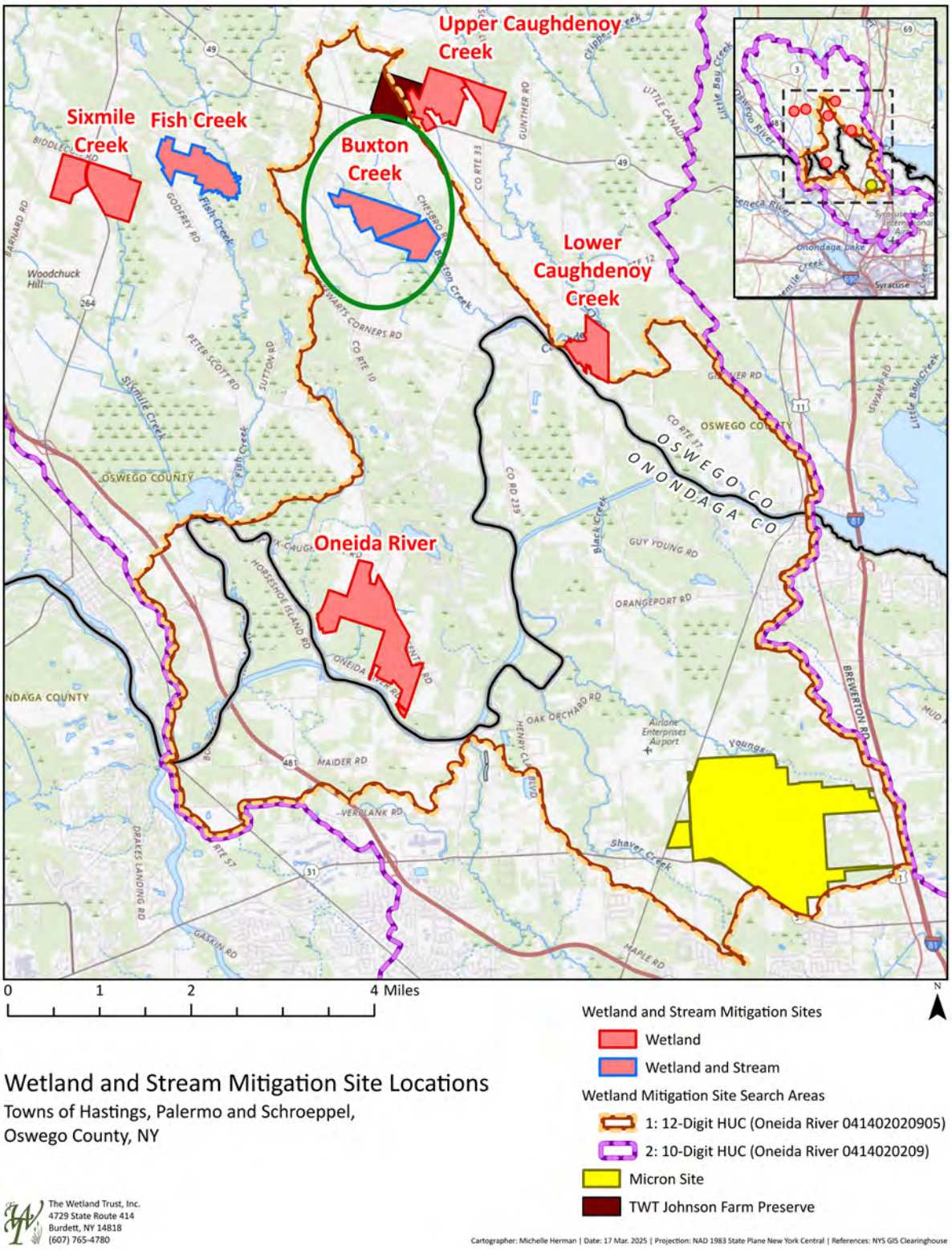


**Figure 2-2.** Buxton Creek Property (2023)




Figure 2-2: Imagery (2023)
Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

with provisions to transfer to other similar nonprofits its lands and stewardship funds should TWT fail. All sites will receive the same protection. There are two layers of protection for this site:

First, TWT will own the Buxton Creek mitigation site in perpetuity. TWT's vested interest in the site through fee-simple ownership reduces the risk of failure to satisfy performance standards.

Second, TWT will file a USACE- and NYSDEC-approved Conservation Easement (CE, **Appendix A**) with the Oswego County Clerk. The Wetland Conservancy, Inc. (TWC), P.O. Box 220, Burdett, NY 14818-0220, a 501(c)(3) nonprofit corporation and qualifying conservation organization (NYS ECL), will be the easement holder. The easement will cite specific conditions and prohibitions and apply to the credit generating areas of the site. The site plan provides the rationale for the easement and assists in its enforcement. The CE names the USACE and NYSDEC as third-party enforcement entities.

This site will be protected under Article 24 of the Environmental Conservation Law. With the exception of activities approved as part of this Project permit or other activities approved by the USACE and NYSDEC, no further alterations within the easement boundary shall occur.

# 3. Baseline Information

## 3.1 Land Use History

*Historic*

Historic land use on the property, likely since European settlement, predominantly consisted of commercial agriculture. The extensive actions taken to drain and clear fields are visible in the aerial photographs (**Appendix B**). Early imagery shows a landscape largely cleared of forest, and the earliest aerial photos available (1950's) show nearly the entire parcel denuded of woody vegetation with linear features visible, indicating efforts to drain the fields. The pond in the northwest portion of the site (approximately 0.25 acres) pre-dated imagery taken in 1955.

Signs of a historic stream, a tributary to Buxton Creek, are visible in imagery and old surveys, starting in the northwestern area of the property and flowing through the field to a drainage ditch that runs through the property to a culvert on Bell Road. By 1978 the significantly altered creek was routed into a drainage ditch, which is where the tributary to Buxton Creek flows today. Between 1978 and 1994, another large ditch was excavated along the southwestern site boundary. The main channel of Buxton Creek flows across the property from north to south in the eastern portion of the site. The creek received the same treatment as the tributary, forcing the flow into a straightened deep ditch to dewater the fields for cultivation. The two altered stream channels rejoin on property south of the site, and flow under a bridge part of the former railbed (now public trail).

*Current Land Use*

Present day activities largely consist of commercial crop production (soybeans in 2024, corn in 2023). Dug ditches in and around the fields are still active and aiding site drainage. Some portions of the property are currently forested including the hill North of Bell Road and areas bordering Buxton Creek on the eastern edge of the property and the ditched tributary on the western portion. Wetland Reserve Program easements placed by a former landowner and held by the Natural Resource Conservation Service occur in and adjacent to portions of the property. NRCS-held easement areas A-D are depicted in **Figure 3-1** and are excluded from the Buxton Creek Mitigation Plan and conservation easement.

## 3.2 Soils

USDA Natural Resources Conservation Service (NRCS) soil mapping of the site is summarized in **Table 3-1** and **Figure 3-2** below. Poorly drained soils and/or soils with a predominately hydric rating category dominate the site. In particular, Canandaigua silt loam (Cd), Lamson very fine sandy loam (Lf), and Madalin silt loam (Ma) dominate the lower, flatter regions where elevation changes are minimal.

**Table 3-1. Soil Series Mapped within the Mitigation Area**

| Series | Symbol | Acres | % of Area | Drainage Class | Hydrologic Soil Group |
|---|---|---|---|---|---|
| Canandaigua silt loam | Cd | 38.69 | 15.49% | Poorly drained | C/D |
| Fonda mucky silt loam | Fn | 11.1 | 4.44% | Very poorly drained | D |
| Lamson very fine sandy loam | Lf | 21.31 | 8.53% | Poorly drained | A/D |
| Madalin silt loam, 0-3% slopes | Ma | 63.24 | 25.32% | Moderately well drained | A/D |
| Minoa very fine sandy loam | Mn | 18.46 | 7.39% | Somewhat poorly drained | B/D |
| Minoa fine sandy loam, moderately well drained variant, 0-6% slopes | MoB | 13.94 | 5.58% | Poorly drained | C/D |
| Rhinebeck silt loam | RhA | 10.52 | 4.21% | Somewhat poorly drained | C/D |
| Rhinebeck silt loam, 2-6% slopes | RhB | 33.58 | 13.45% | Somewhat poorly drained | C/D |
| Sodus gravelly fine sandy loam, 3-8% slopes | SgB | 19.11 | 7.65% | Well drained | C |
| Sodus gravelly fine sandy loam, 8-15% slopes | SgC | 6.11 | 2.45% | Well drained | C |
| Sodus gravelly fine sandy loam, 15-25% slopes | SgD | 13.37 | 5.35% | Well drained | C |

A 4-foot-long and 11-foot-long open-faced clay auger was used to sample soils across the property, revealing clay layers sufficient for holding water on site in every test hole. Locations of soil test pits and the description of soil textures and depth to groundwater are detailed in **Figure 3-2** below.

**Figure 3-1.** NRCS Wetland Reserve Easements

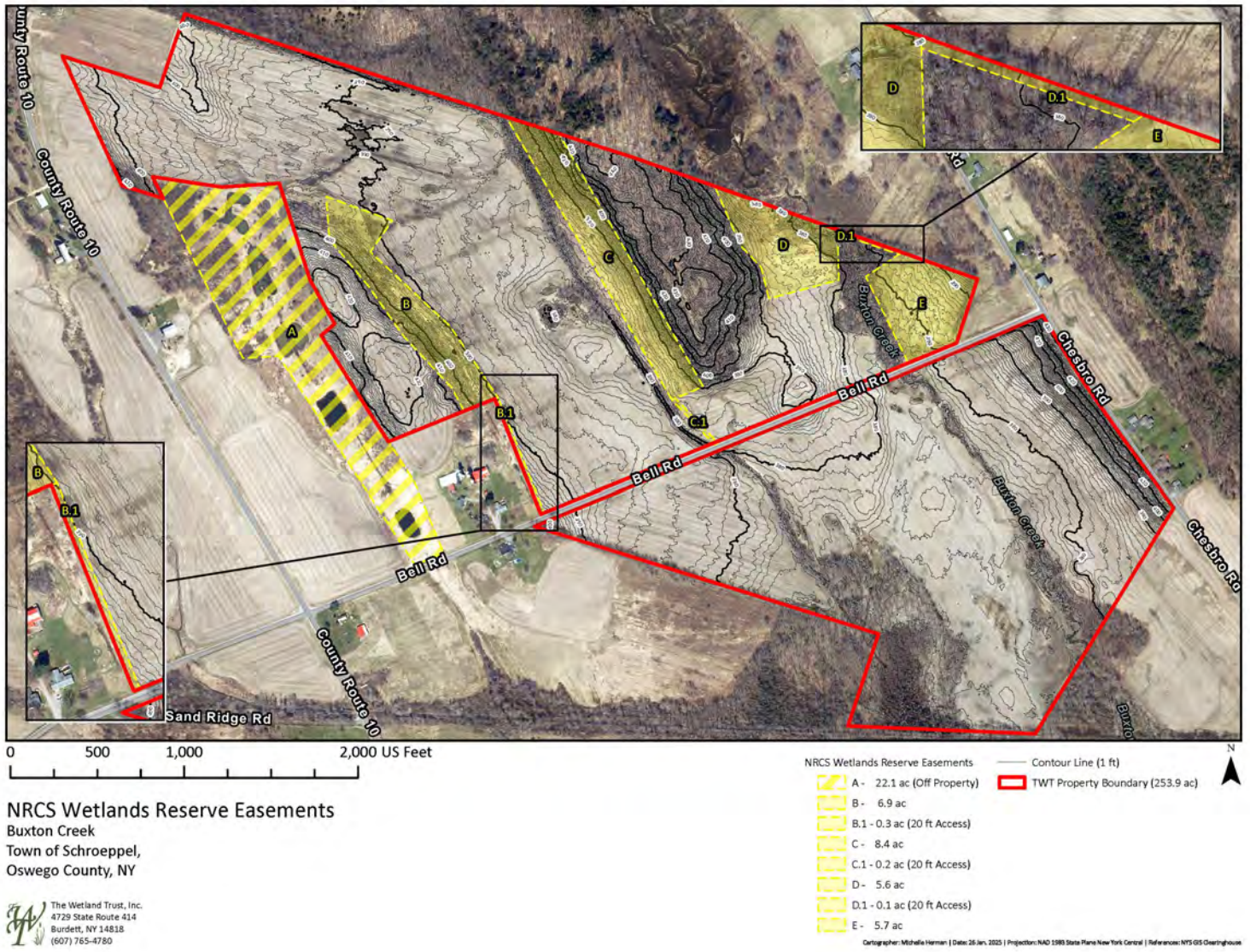
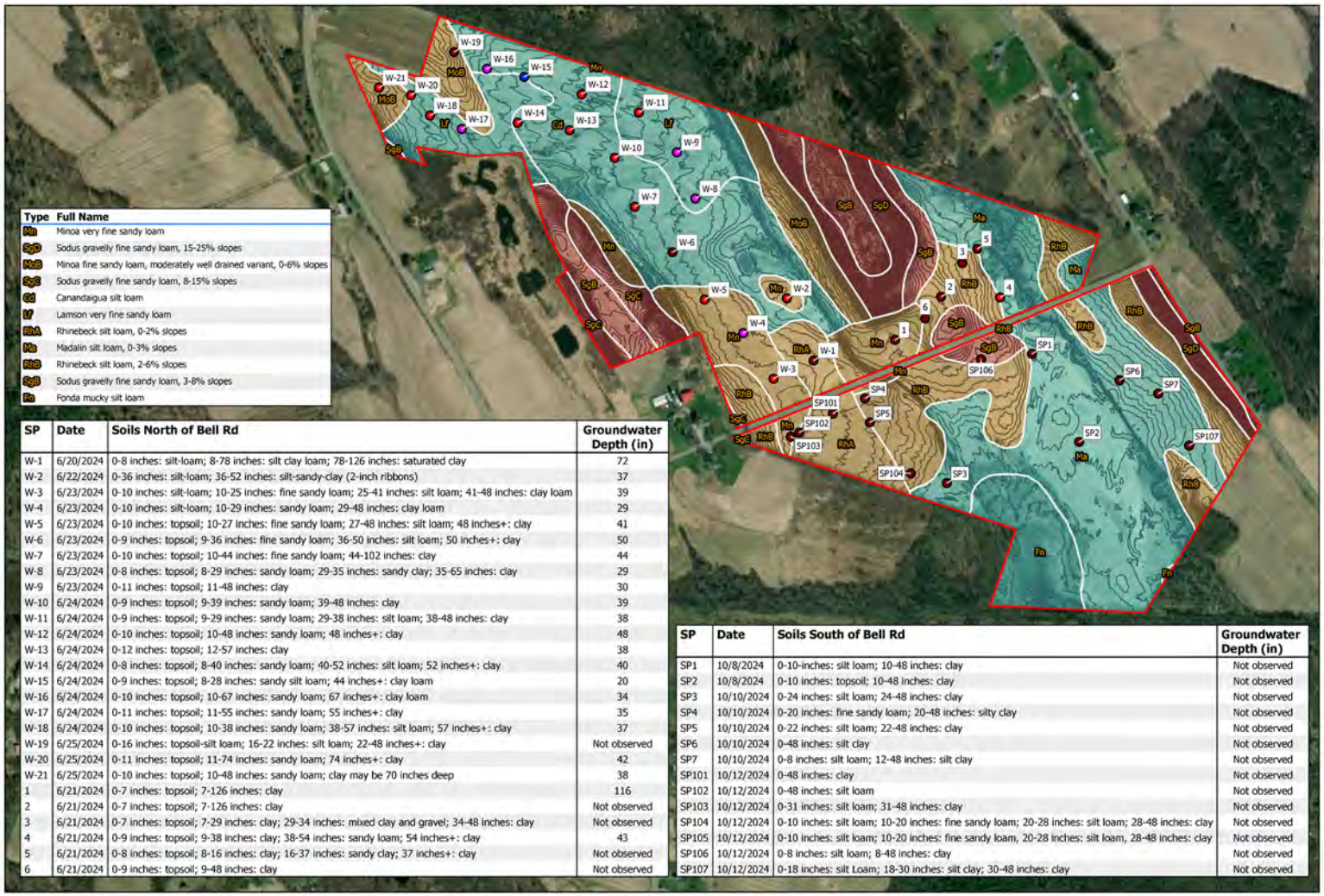


**Figure 3-2.** Buxton Creek Soils



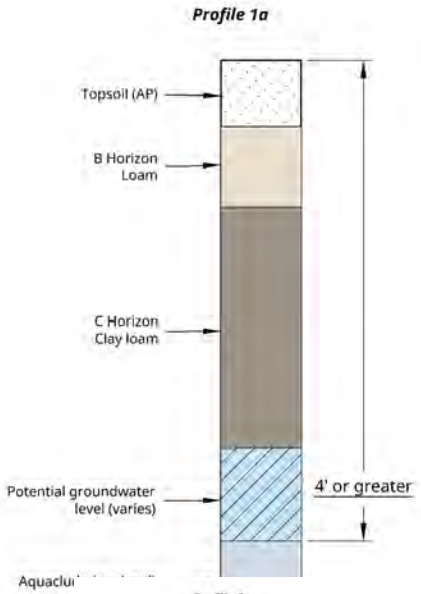

| SP | Date | Soils North of Bell Rd | Groundwater Depth (in) |
|---|---|---|---|
| W-1 | 6/20/2024 | 0-8 inches: silt-loam; 8-78 inches: silt clay loam; 78-126 inches: saturated clay | 72 |
| W-2 | 6/22/2024 | 0-36 inches: silt-loam; 36-52 inches: silt-sandy-clay (2-inch ribbons) | 37 |
| W-3 | 6/23/2024 | 0-10 inches: silt-loam; 10-25 inches: fine sandy loam; 25-41 inches: silt loam; 41-48 inches: clay loam | 39 |
| W-4 | 6/23/2024 | 0-10 inches: silt-loam; 10-29 inches: sandy loam; 29-48 inches: clay loam | 29 |
| W-5 | 6/23/2024 | 0-10 inches: topsoil; 10-27 inches: fine sandy loam; 27-48 inches: silt loam; 48 inches+: clay | 41 |
| W-6 | 6/23/2024 | 0-9 inches: topsoil; 9-36 inches: fine sandy loam; 36-50 inches: silt loam; 50 inches+: clay | 50 |
| W-7 | 6/23/2024 | 0-10 inches: topsoil; 10-44 inches: fine sandy loam; 44-102 inches: clay | 44 |
| W-8 | 6/23/2024 | 0-8 inches: topsoil; 8-29 inches: sandy loam; 29-35 inches: sandy clay; 35-65 inches: clay | 29 |
| W-9 | 6/23/2024 | 0-11 inches: topsoil; 11-48 inches: clay | 30 |
| W-10 | 6/24/2024 | 0-9 inches: topsoil; 9-39 inches: sandy loam; 39-48 inches: clay | 39 |
| W-11 | 6/24/2024 | 0-9 inches: topsoil; 9-29 inches: sandy loam; 29-38 inches: silt loam; 38-48 inches: clay | 38 |
| W-12 | 6/24/2024 | 0-10 inches: topsoil; 10-48 inches: sandy loam; 48 inches+: clay | 48 |
| W-13 | 6/24/2024 | 0-12 inches: topsoil; 12-57 inches: clay | 38 |
| W-14 | 6/24/2024 | 0-8 inches: topsoil; 8-40 inches: sandy loam; 40-52 inches: silt loam; 52 inches+: clay | 40 |
| W-15 | 6/24/2024 | 0-9 inches: topsoil; 8-28 inches: sandy silt loam; 44 inches+: clay loam | 20 |
| W-16 | 6/24/2024 | 0-10 inches: topsoil; 10-67 inches: sandy loam; 67 inches+: clay loam | 34 |
| W-17 | 6/24/2024 | 0-11 inches: topsoil; 11-55 inches: sandy loam; 55 inches+: clay | 35 |
| W-18 | 6/24/2024 | 0-10 inches: topsoil; 10-38 inches: sandy loam; 38-57 inches: silt loam; 57 inches+: clay | 37 |
| W-19 | 6/25/2024 | 0-16 inches: topsoil-silt loam; 16-22 inches: silt loam; 22-48 inches+: clay | Not observed |
| W-20 | 6/25/2024 | 0-11 inches: topsoil; 11-74 inches: sandy loam; 74 inches+: clay | 42 |
| W-21 | 6/25/2024 | 0-10 inches: topsoil; 10-48 inches: sandy loam; clay may be 70 inches deep | 38 |
| 1 | 6/21/2024 | 0-7 inches: topsoil; 7-126 inches: clay | 116 |
| 2 | 6/21/2024 | 0-7 inches: topsoil; 7-126 inches: clay | Not observed |
| 3 | 6/21/2024 | 0-7 inches: topsoil; 7-29 inches: clay; 29-34 inches: mixed clay and gravel; 34-48 inches: clay | Not observed |
| 4 | 6/21/2024 | 0-9 inches: topsoil; 9-38 inches: clay; 38-54 inches: sandy loam; 54 inches+: clay | 43 |
| 5 | 6/21/2024 | 0-8 inches: topsoil; 8-16 inches: clay; 16-37 inches: sandy clay; 37 inches+: clay | Not observed |
| 6 | 6/21/2024 | 0-9 inches: topsoil; 9-48 inches: clay | Not observed |

| SP | Date | Soils South of Bell Rd | Groundwater Depth (in) |
|---|---|---|---|
| SP1 | 10/8/2024 | 0-10-inches: silt loam; 10-48 inches: clay | Not observed |
| SP2 | 10/8/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not observed |
| SP3 | 10/10/2024 | 0-24 inches: silt loam; 24-48 inches: clay | Not observed |
| SP4 | 10/10/2024 | 0-20 inches: fine sandy loam; 20-48 inches: silty clay | Not observed |
| SP5 | 10/10/2024 | 0-22 inches: silt loam; 22-48 inches: clay | Not observed |
| SP6 | 10/10/2024 | 0-48 inches: silt clay | Not observed |
| SP7 | 10/10/2024 | 0-8 inches: silt loam; 12-48 inches: silt clay | Not observed |
| SP101 | 10/12/2024 | 0-48 inches: clay | Not observed |
| SP102 | 10/12/2024 | 0-48 inches: silt loam | Not observed |
| SP103 | 10/12/2024 | 0-31 inches: silt loam; 31-48 inches: clay | Not observed |
| SP104 | 10/12/2024 | 0-10 inches: silt loam; 10-20 inches: fine sandy loam; 20-28 inches: silt loam; 28-48 inches: clay | Not observed |
| SP105 | 10/12/2024 | 0-10 inches: silt loam; 10-20 inches: fine sandy loam, 20-28 inches: silt loam, 28-48 inches: clay | Not observed |
| SP106 | 10/12/2024 | 0-8 inches: silt loam; 8-48 inches: clay | Not observed |
| SP107 | 10/12/2024 | 0-18 inches: silt Loam; 18-30 inches: silt clay; 30-48 inches: clay | Not observed |

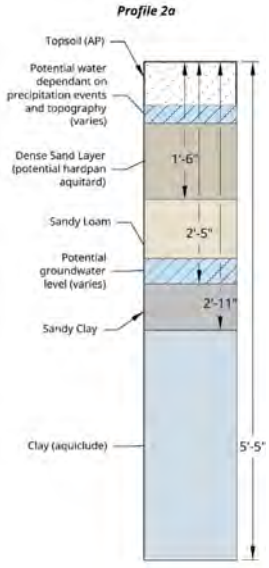
## 3.3 Wetlands and Hydrology

Hydrological characteristics at Buxton Creek were determined by TWT through wetland and aquatic resource delineations, aerial imagery interpretation, review of regulatory maps, wetland design field assessments which included a series of soil test pits, and interviews with previous property owners.

Both state and federal wetlands are mapped onsite. Existing wetlands, streams, and drainage features were delineated in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplement. Field visits for delineation concurrence by USACE and NYSDEC were conducted in August 2024 with final concurrence and pending as of this writing. All field data points were recorded with a centimeter-level accurate GNSS receiver and mapped in ArcGIS Pro. See **Appendix C** for the full delineation report including mapped wetlands and drainage features, delineated features summary table and data sheets.




A series of soil test pits and site assessments indicate the hydrology of Buxton Creek is driven largely by shallow silt loam and sandy topsoil layers over clay and/or compacted sand clay layers near the surface. As shown in the auger data, clay is generally within one foot of the surface. Groundwater is present deep below the surface in almost all auger holes and sometimes needed time to seep into the hole for measurement. Groundwater layers flow generally north to south (with stream flow directions). Adjacent areas on the west side of each drainage tend to slope west to east with surface and groundwater flowing in this direction toward the ditches. On the east side of each drainage the slope is east to west with surface and subsurface flow the same. Areas where the confining layer is deeper than 4 feet, the groundwater can fluctuate within soil horizons more freely depending on permeability of those soil horizons. Precipitation and runoff have an influence on these water levels as well.




Conditions at the site are conducive to constructing wetlands at a large scale and point to a high probability of successful construction and restored wetlands. To further support planning efforts, hydrology at the site will continue to be monitored until work begins. Staff gauges, groundwater monitoring wells, and a rain gauge will be installed at the site in March or April 2025.

Staff Gauges

Staff gauges will be installed at Buxton Creek for the purpose of measuring water levels in the streams, ditches, and ponds, providing critical data to monitor surface water dynamics and its relationship to groundwater monitoring well data. A total of 11 staff gauges will be strategically installed based on hydrology, field observations, contour maps, and wetland and stream design plans. Placement will ensure easy accessibility and unobstructed views to accommodate both drone and physical observations. Approximate elevations derived from GIS data will be field verified during installation using survey grade GPS. As detailed in **Table 3-2** below and **Figure 3-5**, staff gauges 1-6 will be placed in the western portion of the site and gauges 7-11 placed in the eastern portion.

**Table 3-2. Staff Gauge Locations**

| Gauge Number | Elevation (ft) | Latitude | Longitude | Description |
|---|---|---|---|---|
| **1** | 398.884972 | 43.291826 | -76.24167 | West Creek entry point supplying water to the west side of North Buxton property. |
| **2** | 389.281119 | 43.289854 | -76.236622 | In deep emergent wetland W-11 |
| **3** | 383.262346 | 43.290125 | -76.234775 | Midpoint to assist in stream and wetland design planning. |
| **4** | 387.928537 | 43.288596 | -76.236245 | In deep emergent wetland W-07 |
| **5** | 380.134674 | 43.287169 | -76.233884 | Middle of a made pond near stream drainage channel to east |
| **6** | 382.139446 | 43.286482 | -76.232727 | In deep emergent wetland W-02 |
| **7** | 385.245021 | 43.28512 | -76.231655 | In deep emergent wetland W-01 |
| **8** | 377.540077 | 43.285109 | -76.230497 | Culvert under Bell Road at West Creek |
| **9** | 383.777648 | 43.285599 | -76.230091 | In deep emergent wetland R-01 |
| **10** | 382.888685 | 43.284079 | -76.231087 | In deep emergent wetland C-06 |
| **11** | 377.46989 | 43.284453 | -76.229266 | Middle of West Creek drainage south of Bell Road. |
| **12** | 374.095838 | 43.287256 | -76.227182 | Near the Buxton Creek to guide stream design considerations. |
| **13** | 373.667159 | 43.286352 | -76.226332 | Buxton Creek at Bell road culvert . |
| **14** | 375.633698 | 43.285214 | -76.225365 | Post-stream construction location within the new stream design |
| **15** | 372.444223 | 43.284563 | -76.224296 | Middle of Buxton Creek drainage area. |
| **16** | 372.655654 | 43.283249 | -76.223228 | Connection point where the stream design ties into existing Buxton creek. |
| **17** | 371.117919 | 43.2806 | -76.224887 | Culvert connecting outside water source |

Monitoring Wells

Up to 16 groundwater monitoring wells using Onset HOBO water level dataloggers will be strategically placed across the site to capture critical groundwater data every four hours, with locations informed by hydrology and drainage patterns, soil delineations, and observed site characteristics. Elevations will be verified during installation to ensure accuracy, and placement adjustments may be made based on field findings. Any changes will be documented in the as-built report. Depending on the depth and presence of the restricted layer, a shallow (approximately 15-20 inches deep) or deeper well (approximately 4-6 feet deep) will be used. See **Table 3-4** and **Figure 3-5** for details.

**Table 3-3. Monitoring Well Location**

| Well # | Elevation (ft) | Latitude | Longitude | Location | Description |
|---|---|---|---|---|---|
| **1** | 397.90 | 43.29017729 | -76.24114043 | Northwest Field | Near planned wetland 25; highest elevation point. |
| **2** | 389.70 | 43.29043652 | -76.23819699 | Northwest Field | Near planned wetland 12; located on a sandy aquiclude. |

| | | | | | |
|---|---|---|---|---|---|
| **3** | 387.73 | 43.28819825 | -76.23685137 | Northwest Field | Between planned wetland 7 and 9 |
| **4** | 382.25 | 43.28530206 | -76.2318681 | Northwest Field | Near planned wetland 2; lower elevation point, adjacent to stream drainage. |
| **5** | 388.27 | 43.2862937 | -76.22901951 | Northeast Field | Between wetlands R-02 and R-06; determines groundwater presence at 16 feet above creek. |
| **6** | 379.77 | 43.28414694 | -76.23114631 | Southwest Field | Near wetland C-07; monitors sandy patch influence on water retention. |
| **7** | 380.27 | 43.28364753 | -76.22981336 | Southcentral Field | Near planned wetland C-34 |
| **8** | 374.11 | 43.28308109 | -76.22875915 | Southcentral Field | Between wetland C-15 and C-19 |
| **9** | 381.02 | 43.28395612 | -76.22794334 | Southeast Field | In wetlands C-1 |

Rain Gauge

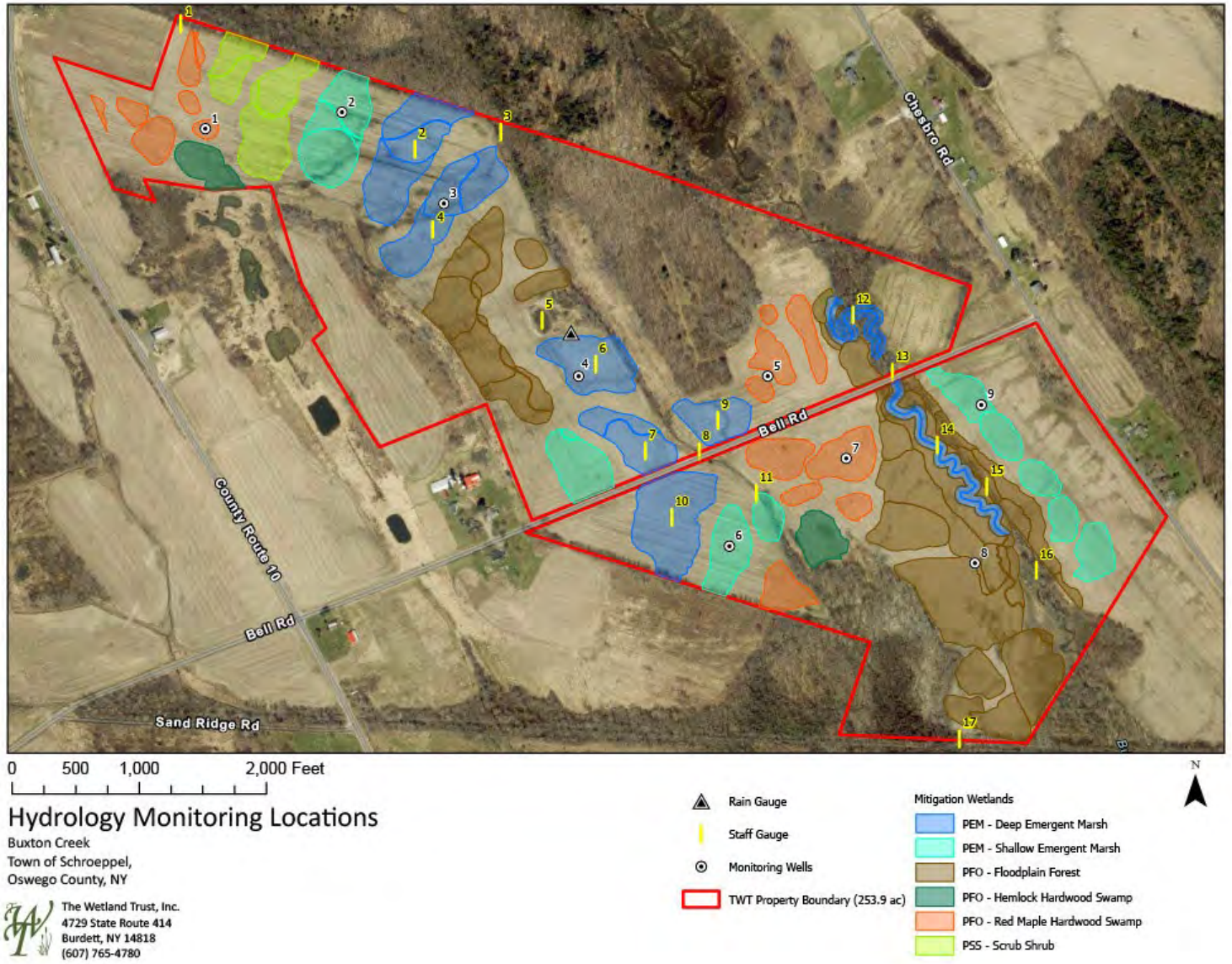
One HOBO Rain Gauge Data Logger (RG3) is installed at the site to measure precipitation on-site (coordinates: 43.295656, -76.278014) and has been recording data since April 28, 2025. This data will support the interpretation of hydrologic responses observed in monitoring wells and staff gauges. This device will not be used in peak winter as it cannot measure snow, only rainfall.

## 3.4 Existing Wildlife

Various wildlife, including amphibian, bird, and mammal species, have been recorded at the Buxton Creek mitigation site, either through visual or auditory observations. Amphibians were identified by sight using egg mass, juvenile, or adult presence and by sound if mating calls were discernible. Two main species were noted at this site, including the gray treefrog (*Dryophytes versicolor*) and American toad (*Anaxyrus americanus*). Both species have a state rank of S5 and a global rank of G5, indicating that they are secure statewide and globally. Several other amphibian species were documented in the surrounding area and are likely present at the Buxton Creek site as well, including the northern green frog (*Lithobates clamitans melanota*), northern leopard frog (*Lithobates pipiens*), and wood frog (*Lithobates sylvaticus*), all of which are secure both statewide and globally.

Numerous bird species were observed at the Buxton Creek mitigation site using both visual and auditory identification. Several species of note include the Baltimore oriole (*Icterus galbula*), willow flycatcher (*Empidonax traillii*), gray catbird (*Dumetella carolinensis*), and killdeer (*Charadrius vociferus*), all of which are secure both statewide and globally. Many more birds were found in the surrounding area, including the bald eagle (*Haliaeetus leucocephalus*), which is a threatened species in New York State, and the osprey (*Pandion haliaetus*), a species of special concern in New York State, among others. Various mammal species were also documented at the Buxton Creek site and immediate area either directly or indirectly (i.e., scat, footprints, etc.), including the white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), North American beaver (*Castor canadensis*), raccoon (*Procyon lotor*), and eastern cottontail (*Sylvilagus floridanus*). **Appendix D**.

**Figure 3-3.** Buxton Creek Hydrology Monitoring Locations



### 3.4.1 Federally Listed Species and Habitat Consideration

Consultation has been initiated with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act to ensure that the proposed stream/wetland mitigation activities will not adversely affect federally listed species or their critical habitats. Coordination is ongoing, and any conservation measures or recommendations provided by USFWS will be incorporated into the project design and implementation, as appropriate. The official species list generated through the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) system is included in **Appendix D**.

## 3.5 Existing Vegetation

The Buxton Creek site features a mix of agricultural, upland, and wetland ecosystems. Most of the site is currently cultivated as soybean (*Glycine max*) fields, resulting in limited vegetative diversity within the agricultural zone. Surrounding the fields are a mix of uplands and delineated wetlands that support a combination of native and invasive plant species. Native vegetation, including swamp milkweed (*Asclepias incarnata*), soft rush (*Juncus effusus*), and blue vervain (*Verbena hastata*), contribute to vital habitat and ecological functions. A complete list of species observed at the Buxton Creek site can be found in **Appendix D.**

## 3.6 Invasive Species

Key invasive plants include purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), and cattail (*Typha* spp.). These species are highly competitive, forming dense monocultures that outcompete native vegetation, diminish biodiversity, and disrupt wetland functionality. These species cover approximately 7 acres across the site but are largely outside of the wetland work areas. Refer to the Invasive Species Management Plan in **Appendix E** for baseline maps of existing invasive species.

## 3.7 Cultural and Historic Considerations

In accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), initial consultation was initiated with the New York State Historic Preservation Office (NY SHPO) in August 2024 to assess the potential for the proposed mitigation site to affect historic properties or cultural resources. An August 13, 2024 letter from NY SHPO indicated that no historic properties or cultural resources would be affected by this project. Further tribal consultation with Onondaga Nation required a Phase 1A Report of the site to show why no field work was proposed. A Phase 1A Report was submitted on June 12, 2025, indicating that no additional archaeological survey is recommended (**Appendix F)**.

# 4. Wetland Credit Accounting

The USACE and NYSDEC will determine credit generation based on wetland acres that meet or exceed performance standards and proposed credit ratios (**Table 4-1**). One-to-one ratios are based

on Re-establishment (or Restoration) of the specific cover types targeted to replace lost functions. 3.5-to-one ratios are based on Rehabilitation (or Enhancement) of existing wetlands and were informed by numerous discussions with regulatory agencies. The final credit generation will be adjusted based on monitoring results and meeting the performance standards of the mitigation site.

**Figure 4-1. USACE Wetland Credit Generation and NYSDEC Mitigation Acreage**

| **Wetland type** Cowardin | **Cover type** Edinger | **Mitigation Type** NYSDEC | **Acres** | **Mitigation type** USACE | **Mitigation Ratio** | **Credits/ Adjusted Acres** |
|---|---|---|---|---|---|---|
| **PEM** | **Shallow emergent marsh** | Restoration | 11.2 | Re-establishment | 1:1 | 11.2 |
| | | Enhancement | 0.5 | Rehabilitation | 3.5:1 | 0.14 |
| | **Deep emergent marsh** | Restoration | 18.7 | Re-establishment | 1:1 | 18.7 |
| | | Enhancement | 1.8 | Rehabilitation | 3.5:1 | 0.51 |
| **PFO** | **Floodplain forest** | Restoration | 31.7 | Re-establishment | 1:1 | 31.7 |
| | | Enhancement (ag fields) | 3.6 | Rehabilitation (ag fields) | 3.5:1 | 1.03 |
| | | Enhancement | 21 | Rehabilitation | 3:1 | 7 |
| | **Hemlock hardwood swamp** | Restoration | 2.9 | Re-establishment | 1:1 | 2.9 |
| | | Enhancement | 0.1 | Rehabilitation | 3.5:1 | 0.03 |
| | **Red maple- hardwood swamp** | Restoration | 24.4 | Re-establishment | 1:1 | 24.4 |
| | | Enhancement | 0.5 | Rehabilitation | 3.5:1 | 0.14 |
| | | **Total** | **116.4** | | | **97.8** |

Open water areas (deep water aquatic habitats and vegetated shallows) greater than 0.1 contiguous acre will only be credited where they equal 10% or less of the total wetland creation and re-establishment areas or so long as they are part of a well-integrated complex of open water and emergent vegetation. Deepwater aquatic habitat is defined as any open water area that is either a) permanently inundated at mean annual water depths >6.6 ft, lacks soil, and/or is either unvegetated or supports only floating or submersed macrophytes, or b) permanently inundated areas ≤6.6 ft in depth that do not support rooted-emergent or woody plant species. Areas ≤6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands. The 2 acres of open water (POW) that will be impacted will be accommodated by POW areas within the wetlands where they are not counted toward the credit total.

# 5. Wetland Mitigation Work Plan

The wetland mitigation work plan at Buxton Creek will focus on re-establishing/restoring naturally appearing and functioning wetlands as part of an integrated stream/wetland complex. Work methods include removing or disabling existing drainage tiles, disabling ditches, restoring shallow basins and the natural rims of drained and filled wetlands, and restoring microtopography as described throughout this section. These methods will ensure the target hydrology is met, supporting a diverse community of hydrophytic vegetation. The treatment of

existing invasive vegetation will begin prior to construction to minimize the extent of spread to work areas. Streams and wetlands will be constructed concurrently, and seeding/planting will be completed after all grading is complete. Existing degraded wetlands onsite will be rehabilitated through a combination of invasive species management, native vegetation management and planting, and minor hydrology alterations (i.e. repairing tractor ruts/installing small vernal pools).

Wetlands were designed at the site in June and July 2024 by TWT staff. Field design forms were filled out for each wetland polygon **(Appendix G)**. Determination of the types of wetlands to be re-established for each area within the Buxton Creek Site is based on the cover types outlined in Ecological Communities of New York State (Edinger, 2014) and is guided by the number of acres of each wetland type necessary to meet mitigation requirements for the Micron impacts.

Approximately 11.2 acres of shallow emergent marsh, 18.7 acres of deep emergent marsh, 31.7 acres of floodplain forest, 24.4 acres of red maple hardwood swamp, and 2.9 acres of hemlock hardwood swamp will be re-established/restored with 6.5 acres of incidental rehabilitation/enhancement of these cover types and 21 additional acres of rehabilitation/enhancement of existing degraded wetlands **(Figure 5-1)**. The following characteristics guide the locations and targeted hydroperiod of each type of wetland to be re-established/restored.

**Shallow Emergent Marsh**

Considerations/Characteristics

- Often placed so they are visible to the public
- Prioritized for building within grasslands
- Occurs on mineral soil or deep muck soils (rather than true peat)
- Composition of approximately 75% herbaceous vegetation, 10% emergent aquatics, 5% shrubs under 2 m, 2% shrubs between 2-5 m, 2% trees, and 5% floating aquatics.

Targeted Hydroperiod

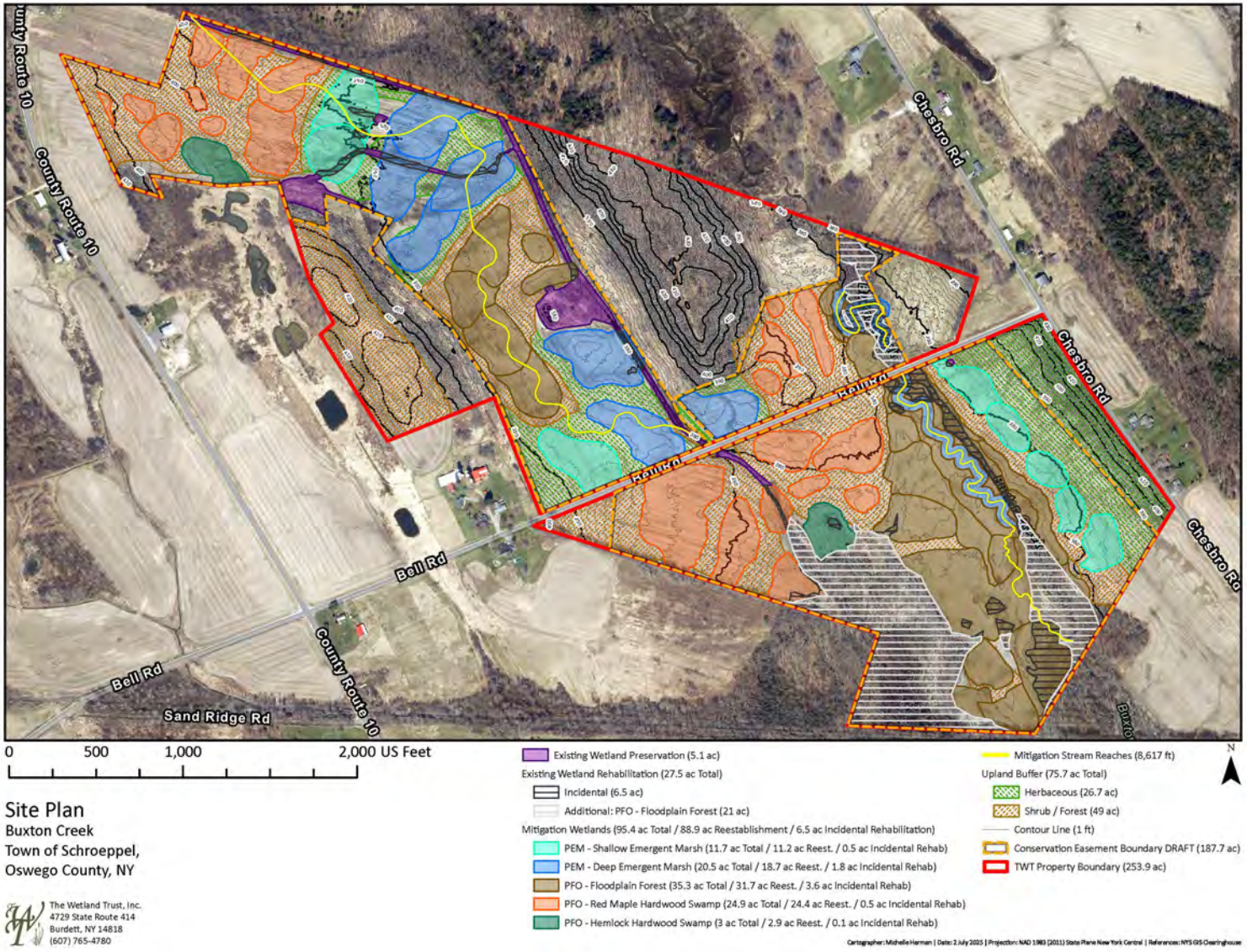
- Water depth will range from 1 to 24 inches (during flooding)
- Permanently saturated soils and seasonally flooded
- Periods of dry substrate in mid-late summer
- Water level within 12 inches of the surface for 14-28 consecutive days during the growing season.

**Deep Emergent Marsh**

Considerations/Characteristics

- Prioritized for building within grassland areas
- Mineral soils or fine-grained organic soils
- Substrate is flooded by waters that are not subject to violent wave action

**Figure 5-1.** Buxton Creek Site Plan



- Composition of approximately 85% emergent herbaceous vegetation and 25% floating aquatic vegetation in areas.

Targeted Hydroperiod

- Water depth will range from 6 to 36 inches
- Water level will fluctuate seasonally with water remaining year-round. There will be standing water remaining in the fall.

**Floodplain Forest**

Considerations/Characteristics

- Low terraces of river floodplains, and the floodplains of stream restoration areas
- Mineral soils
- Composition of approximately 85% trees, 60% herbaceous vegetation, 40% shrubs, 25% vines and nonvascular plants.

Targeted Hydroperiod

- Hollows and low areas inundated in early spring
- High areas irregularly inundated
- Periods of inundation lasting approximately 14-28 days

**Hemlock-Hardwood Swamp**

Considerations/Characteristics

- Mineral soils and deep muck in depressions
- Receives groundwater discharge
- Composition of approximately 85% trees, 25% shrubs, 35% herbaceous vegetation, and 10% vines and non-vascular plants.

Targeted Hydroperiod

- Periods of spring inundation
- Dry substrate in late summer and fall

**Red Maple-Hardwood Swamp**

Considerations/Characteristics

- Poorly drained depressions
- Usually inorganic soils with peat, if present, that is less than 20 cm deep
- Occasionally on muck or shallow peat, that is typically acidic to circumneutral
- Composition of approximately 80% trees, 80% shrubs, 50% herbaceous vegetation, and 20% non-vascular plants.

Targeted Hydroperiod

- Seasonal flooding with saturated soils

Equipment operators will include local construction and farming personnel, including those currently farming the sites, and TWT staff. The on-site experience of farming and local knowledge of the operators will maximize productivity and work quality. Prior to construction, work areas will be mowed and/or crops harvested to increase visibility. One or more parking/staging areas for heavy equipment and vehicles will be designated along Bell Road as necessary, avoiding any identified wetlands or aquatic resources. TWT staff will be onsite every day to direct and oversee construction. No tree removal is planned. Should any tree removal be necessary, it will only occur after November 1st.

## 5.1 Invasive Vegetation Control

Prior to the initiation of earthwork, invasive vegetative species will be controlled following strategies outlined in the Invasive Species Monitoring Plan (ISMP, **Appendix E**). This Buxton Creek ISMP details the target species, timing, and control methods. Methods may include mechanical removal, such as hand-pulling or mowing and chemical treatments using targeted herbicides. These actions will occur during the appropriate season of the target species to maximize effectiveness. Invasive species control will avoid soil disturbance, reduce seed dispersal, and limit impacts on local resources. All treated areas will be monitored to ensure the effectiveness of the control measures, and follow-up treatments will be applied as necessary.

## 5.2 Grading Plan

Basin and core trench/berm construction

A shallow basin will be shaped for each designed wetland. The basins will measure 10 feet in diameter to over 200-feet in diameter based on location characteristics and targeted cover type. The basin is dug so that it is deepest in the center in relation to the low edge of the marked perimeter. Basins will range in depth from 1-inch to 36-inches, based on targeted cover type. Refer to **Appendix H** for plan view details. Small, earthen berms around the lower two-thirds of the wetland basin will be constructed from 1.0 to 2.0 feet high at a minimum width of 3-feet wide and gradual 5 percent slopes. Core trenches filled with compacted clay layers will be constructed under the berms to disable the buried drainage structures (**Appendix H**).

An excavator and dozer will be used to shape gradual slopes and bays along the inside edge of the constructed wetland for a natural look and function. Elevations are verified during construction using a laser level. Topsoil will be temporarily stored on site and spread in and around the finished wetland basin. Spoil material removed is shaped with gradual slopes so that it appears like natural hummock/hollow and ridges. Operators will aim to create wetlands on top of clay texture spoil material by leveling areas of spread soil and creating shallow basins in the soil.

Microtopography restoration

Pit and mound microtopography will be created within each wetland basin, with average specifications depending on the desired wetland type (**Table 5-1**). Emergent basins will generally have the deepest pits, i.e. maximum water depth (approximately 36 inches), and higher and larger mounds (24-30 inches high and 36 inches in diameter) that are spaced farther apart (30 feet) relative to all other wetland types. The remaining PSS and PFO wetland types will have 10-foot-spaced mounds ranging from 4-12 inches high and 12-48 inches in diameter set within 1-6 inches of water. The soil in these features will not be compacted so it can be expected to settle by 50-percent. Typical cross sections for emergent, scrub-shrub, and forested cover types are depicted in **Figures C-E** of **Appendix G.**

**Table 5-1. Buxton Creek Grading for Wetland Types**

| Wetland Type | Maximum wetland basin depth (in) | Average individual mound height (in)* | Average mound diameter (in) | Mound Spacing (ft) | Mound Density/acre |
|---|---|---|---|---|---|
| PEM – Shallow Emergent Marsh | 24 | 24 | 36 | 30 | 80 |
| PEM – Deep Emergent Marsh | 36 | 30 | 36 | 30 | 40 |
| PFO – Floodplain Forest | 4 | 12 | 36 | 10 | 200 |
| PFO – Hemlock Hardwood Swamp | 1 | 12 | 36 | 10 | 400 |
| PFO – Red Maple Hardwood Swamp | 1 | 6 | 48 | 10 | 200 |
| PSS – Scrub-shrub | 6 | 4 | 12 | 10 | 400 |

*soil is kept uncompacted and will settle by up to 50%

## 5.3 Buffer Establishment

Upland buffers will be established surrounding all re-established, restored, or rehabilitated wetland areas to enhance habitat quality, protect water quality, and improve ecological function. Where buffers surround re-established palustrine emergent (PEM) wetlands, they will be planted with native herbaceous upland species to maintain open habitat structure and provide transitional zones that support pollinators and other wildlife. In areas adjacent to re-established palustrine scrub-shrub (PSS), palustrine forested (PFO) wetlands, or restored stream channels, upland buffers will be planted with native shrub and tree species to create structurally diverse, forested buffer zones. These plantings will promote shading, nutrient uptake, and habitat connectivity.

## 5.4 Planting Plan

The desired wetland plant community will be established through broadcasting high-quality, native seeds and planting trees and shrubs as per the planting plan in Table **5-2a-g** below. The objective is to re-establish and rehabilitate (restore and enhance) high-quality emergent, shrub, and forested wetlands of select communities to replace the lost functions at the Micron Impact Site.

Species proposed are based on many factors including commercial availability, typical species present in similar/local plant communities, species present at the impact site and Mitigation site,

species establishment considerations (e.g. rhizomatous), etc. The species listed are not intended to be exclusive and may be supplemented or changed with ecologically similar species.

Spacing is a general recommendation and will be random and not grid like. Site conditions and topographic features will be utilized in plant placements, such as black willow (Salix nigra) along riparian features. TWT staff will coordinate and provide guidance to the planting crew prior to the start of work and will be on-site during operations. Pre-staking of planting locations, used to facilitate instruction to planting staff, will be completed as necessary.

The site will also be seeded and planted to increase the likelihood of successfully establishing target species/quantities and to minimize the opportunity for invasive species to become established. Seeding shown are targeted to supplement plantings and will be further customized with distributor based on site factors and seed/plant material availability. The distributor has confirmed that all mixes can be customized as necessary.

TWT plans on erecting a deer-proof fence around the Buxton Creek Site construction areas to increase the survival rate of planted trees and shrubs. The lower portion of the fence will be modified for the passage of frogs, toads, salamanders, snakes, turtles, and small mammals.

Both PSS and PFO wetland Re-Establishment/Restoration areas will use a mix of herbaceous species derived from **Table 5-2a**, PEM- Shallow Emergent Plant List, as the foundational understory mix. The PSS and PFO areas will be at an early successional state and these herbaceous species are important early succession companion species that support success. While each community type listed includes a few representative herbaceous plantings tailored to sites specific goals, the broader PEM list will be used to add plant species diversity for each creation site.

**Table 5-2a. PEM - Shallow Emergent Marsh**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| Swamp Milkweed | *Asclepias incarnata* | OBL | 4 | S5 | 15-20 pounds per acre |
| Symphyotrichum puniceum | *Aster puniceus* | OBL | 4 | S5 | |
| False nettle | *Boehmeria cylindrica* | OBL | 7 | S5 | |
| Canada bluejoint grass | *Calamagrostis canadensis* | OBL | 7 | S5 | |
| wild calla | *Calla palustris* | OBL | 7 | S5 | |
| Longhair Sedge | *Carex comosa* | OBL | 4 | S5 | |
| Fringed Sedge | *Carex crinita* | OBL | 3 | S5 | |
| Bottlebrush Sedge | *Carex hystericina* | OBL | 5 | S5 | |
| Shallow Sedge | *Carex lurida* | OBL | 4 | S5 | |
| Pointed Broom Sedge | *Carex scoparia* | FACW | 1 | S5 | |
| Upright Sedge | *Carex stricta* | OBL | 4 | S5 | |
| Hairy-fruited sedge | *Carex trichocarpa* | OBL | 5 | S5 | |
| fox sedge | *Carex vulpinoidea* | OBL | 2 | S5 | |
| White Turtlehead | *Chelone glabra* | OBL | 6 | S5 | |
| Swamp Loosestrife | *Decodon verticillatus* | OBL | 7 | S5 | |
| deer-tongue rosette grass | *Dichanthelium clandestinum* | FACW | 4 | S5 | |

| | | | | | |
|---|---|---|---|---|---|
| Crested wood fern | *Dryopteris cristata* | OBl | 8 | S5 | |
| Three-way Sedge | *Dulichium arundinaceum* | OBL | 8 | S5 | |
| Common Spikerush | *Eleocharis palustris* | OBL | 5 | S5 | |
| Eastern riverbank wild rye | *Elymus riparius* | FACW | 6 | S5 | |
| Virginia Wildrye | *Elymus virginicus* | FACW | 6 | S5 | |
| Virginia wild rye | *Elymus virginicus* | FACW | 6 | S5 | |
| Boneset | *Eupatorium perfoliatum* | FACW | 3 | S5 | |
| common flat-topped goldenrod | *Euthamia graminifolia* | FAC | 1 | S5 | |
| Spotted Joe-Pye Weed | *Eutrochium maculatum* | OBL | 4 | S5 | |
| fowl manna grass | *Glyceria striata* | OBL | 6 | S5 | |
| Common sneezeweed | *Helenium autumnale* | FACW | 4 | S5 | |
| Swamp sunflower | *Helianthus angustifolius* | FACW | 10 | S2 | |
| Spotted Touch-me-not | *Impatiens capensis* | FACW | 3 | S5 | |
| Pale Touch-me-not | *Impatiens pallida* | FACW | 3 | S4 | |
| Northern Blue Flag | *Iris versicolor* | OBL | 4 | S5 | |
| Canada Rush | *Juncus canadensis* | OBL | 8 | S5 | |
| Soft Rush | *Juncus effusus* | OBL | 2 | S5 | |
| Cardinal Flower | *Lobelia cardinalis* | FACW | 7 | S4S5 | |
| Great Blue Lobelia | *Lobelia siphilitica* | FACW | 5 | S5 | |
| American bugleweed | *Lycopus americanus* | OBL | 4 | S5 | |
| Square-stemmed Monkey Flower | *Mimulus ringens* | OBL | 6 | S5 | |
| common wild bergamot | *Monarda fistulosa* | FACU | 2 | S5 | |
| Sensitive Fern | *Onoclea sensibilis* | FACW | 2 | S5 | |
| Cinnamon Fern | *Osmunda cinnamomea* | FACW | 6 | S5 | |
| Royal fern | *Osmunda regalis* | OBL | 6 | S5 | |
| Lizard's Tail | *Saururus cernuus* | OBL | 6 | S5 | |
| soft-stemmed bulrush | *Schoenoplectus tabernaemontani* | OBL | 4 | S5 | |
| dark-green bulrush | *Scirpus atrovirens* | OBL | 2 | S5 | |
| common wool grass | *Scirpus cyperinus* | OBL | 4 | S5 | |
| rough-leaved goldenrod | *Solidago patula* | OBL | 7 | S5 | |
| rough goldenrod | *Solidago rugosa* | FAC | 1 | S5 | |
| Indian grass | *Sorghastrum nutans* | FACU | 6 | S5 | |
| American bur-reed | *Sparganium americanum* | OBL | 4 | S5 | |
| lance-leaved aster | *Symphyotrichum lanceolatum* | FACW | 1 | S5 | |
| New England aster | *Symphyotrichum novae-angliae* | FACW | 1 | S5 | |
| Purple-Stemmed Aster | *Symphyotrichum puniceum* | OBL | 4 | S5 | |
| Marsh Fern | *Thelypteris palustris* | FACW | 4 | S5 | |
| Blue Vervain | *Verbena hastata* | FACW | 3 | S5 | |
| white vervain | *Verbena urticifolia* | FAC | 2 | S5 | |
| New York ironweed | *Vernonia noveboracensis* | FACW | 3 | S4 | |
| Culver's root | *Veronicastrum virginicum* | FACW | 5 | S2 | |
| common golden Alexanders | *Zizia aurea* | FAC | 4 | S5 | |

**Table 5-2b. PEM - Deep Emergent Marsh**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| Sweet flag | *Acorus americanua* | OBL | 5 | S5 | Herbaceous plugs 3-ft spacing |
| river bulrush | *Bolboschoenus fluviatilis* | OBL | 4 | S5 | |
| bristly sedge | *Carex comosa* | OBL | 4 | S5 | |
| long sedge | *Carex folliculata* | OBL | 7 | S5 | |

| | | | | | |
|---|---|---|---|---|---|
| Gray's Sedge | *Carex grayi* | FACW | 7 | S5 | 15-20 pounds per acre in applicable areas |
| Cartex lacustris | *Carex lacustris* | OBL | 5 | S5 | |
| cyperus-like sedge | *Carex pseudocyperus* | OBL | 6 | S5 | |
| three-fruited sedge | *Carex trisperma* | OBL | 8 | S5 | |
| Swamp Loosestrife | *Decodon verticillatus* | OBL | 7 | S5 | |
| blue flag | *Iris versicolor* | OBL | 4 | S5 | |
| Canada rush | *Juncus canadensis* | OBL | 8 | S5 | |
| bayonet rush | *Juncus militaris* | OBL | 9 | S4 | |
| rice cut grass | *Leersia oryzoides* | OBL | 4 | S5 | |
| Royal Fern | *Osmunda regalis* | OBL | 6 | S5 | |
| green arrow arum | *Peltandra virginica* | OBL | 6 | S5 | |
| pickerel weed | *Pontederia cordata* | OBL | 4 | S5 | |
| common arrowhead | *Sagittaria latifolia* | OBL | 3 | S5 | |
| Lizards tail | *Saururus cernuus* | OBL | 3 | S5 | |
| three-square bulrush | *Schoenoplectus pungens* | OBL | 6 | S5 | |
| soft-stemmed bulrush | *Schoenoplectus tabernaemontani* | OBL | 4 | S5 | |
| Green Bulrush | *Scirpus atrovirens* | FACW | 2 | S5 | |
| Woolgrass | *Scirpus cyperinus* | FACW | 4 | S5 | |
| Water Parsnip | *Sium suave* | OBL | 6 | S5 | |
| Bur-reed | *Sparganium americanum* | OBL | 4 | S5 | |
| giant bur-reed | *Sparganium eurycarpum* | OBL | 4 | S5 | |
| Wild rice | *Zizania palustris* | OBL | 8 | SNR | |
| Sweet flag | *Acorus americanua* | OBL | 5 | S5 | |
| river bulrush | *Bolboschoenus fluviatilis* | OBL | 4 | S5 | |
| bristly sedge | *Carex comosa* | OBL | 4 | S5 | |
| long sedge | *Carex folliculata* | OBL | 7 | S5 | |
| Gray's Sedge | *Carex grayi* | FACW | 7 | S5 | |

**Table 5-2c. PSS – Scrub Shrub**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| speckled alder | *Alnus incana* | FACW | 5 | S5 | 450/acre<br><br>Shrub clusters |
| Smooth alder | *Alnus serrulata* | OBL | 6 | S5 | |
| black chokeberry | *Aronia melanocarpa* | FACW | 7 | S5 | |
| Purple chokeberry | *Aronia prunifolia* | FACW | 7 | S4 | |
| Buttonbush | *Cephalanthus occidentalis* | OBL | 7 | S5 | |
| Silky dogwood | *Cornus amomum* | FACW | 6 | S5 | |
| Gray dogwood | *Cornus racemosa* | FAC | 2 | S5 | |
| Red osier dogwood | *Cornus sericea* | FACW | 6 | S5 | |
| Common winterberry | *Ilex verticillata* | FACW | 7 | S5 | |
| Northern spicebush | *Lindera benzoin* | FACW | 6 | S5 | |
| Ninebark | *Physocarpus opulifolius* | FACW | 7 | S5 | |
| Swamp rose | *Rosa palustris* | FACW | 9 | S5 | |
| Bebbs willow | *Salix bebbiana* | FACW | 3 | S5 | |
| Pussy willow | *Salix discolor* | FACW | 3 | S5 | |
| shining willow | *Salix lucida* | FACW | 5 | S5 | |
| meadow willow | *Salix petiolaris* | FACW | 5 | S5 | |
| Silky willow | *Salix sericea* | OBL | 5 | S5 | |
| Common elderberry | *Sambucus canadensis* | FACW | 4 | S5 | |
| Meadow-sweet | *Spiraea alba* | FACW | 3 | S4 | |
| steeplebush | *Spiraea tomentosa* | FACW | 4 | S5 | |
| High bush blueberry | *Vaccinium corymbosum* | FACW | 6 | S5 | |

| | | | | | |
|---|---|---|---|---|---|
| Northern wild raisin | *Viburnum cassinoides* | FACW | 7 | S5 | |
| Arrow-wood | *Viburnum dentatum* | FAC | 3 | S5 | |
| Nannyberry | *Viburnum Lentago* | FAC | 4 | S5 | |

**Table 5-2d. PFO – Floodplain Forest**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Red maple | *Acer rubrum* | FAC | 4 | S5 | |
| Silver maple | *Acer saccharinum* | FACW | 6 | S5 | |
| speckled alder | *Alnus incana* | FACW | 5 | S5 | |
| Grey birch | *Betula populifolia* | FAC | 4 | S5 | |
| ironwood | *Carpinus caroliniana* | FAC | 6 | S5 | |
| Hackberry | *Celtis occidentalis* | FAC | 7 | S4 | |
| Black gum | *Nyssa sylvatica* | FAC | 7 | S5 | |
| Ninebark | *Physocarpus opulifolius* | FACW | 7 | S5 | |
| American sycamore | *Platanus occidentalis* | FACW | 3 | S5 | |
| Eastern cottonwood | *Populus deltoides* | FAC | 2 | S5 | |
| swamp white oak | *Quercus bicolor* | FACW | 7 | S5 | |
| Bur oak | *Quercus macrocarpa* | FAC | 6 | S4 | |
| Pin oak | *Quercus palustris* | FACW | 7 | S4 | |
| Black willow | *Salix nigra* | OBL | 5 | S5 | |
| American elm | *Ulmus americana* | FACW | 4 | S5 | |
| slippery elm | *Ulmus rubra* | FAC | 8 | S5 | |
| Shrub Species* | | | | | |
| Buttonbush | *Cephalanthus occidentalis* | OBL | 8 | S5 | |
| Spicebush | *Lindera benzoin* | FACW | 6 | S5 | |
| Nannyberry | *Viburnum Lentago* | FAC | 4 | S5 | |
| Silky dogwood | *Cornus amomum* | FACW | 6 | S5 | |
| Gray dogwood | *Cornus racemosa* | FAC | 2 | S5 | |
| Red osier dogwood | *Cornus sericea* | FACW | 6 | S5 | |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | | |
| Herbaceous** | | | | | |
| Jack-in-the-Pulpit | *Arisaema triphyllum* | FAC | 5 | S5 | |
| False Nettle | *Boehmeria cylindrica* | OBL | 7 | S5 | |
| Gray's sedge | *Carex grayi* | FACW | 7 | S5 | |
| Marsh Marigold | *Caltha palustris* | OBL | 4 | S5 | |
| tussock sedge | *Carex stricta* | OBL | 4 | S5 | |
| Fox Sedge | *Carex vulpinoidea* | FACW | 2 | S5 | |
| Blue Flag | *Iris versicolor* | OBL | 4 | S5 | |
| Wood Nettle | *Laportea canadensis* | FAC | 8 | S5 | |
| Sensitive Fern | *Onoclea sensibilis* | FACW | 2 | S5 | |
| Skunk Cabbage | *Symplocarpus foetidus* | OBL | 5 | S5 | |
| swamp goldenrod | *Solidago gigantea* | FACW | 3 | S5 | |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | | |

| **Table 5-2e. PFO – Red Maple Hardwood Swamp** | | | | | |
|---|---|---|---|---|---|
| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Red maple | *Acer rubrum* | FAC | 4 | S5 | |
| Silver maple | *Acer saccharinum* | FACW | 6 | S5 | |
| yellow birch | *Betula alleghaniensis* | FAC | 7 | S5 | |
| Ironwood | *Carpinus caroliniana* | FAC | 6 | S5 | |
| Bitternut hickory | *Carya cordiformis* | FAC | 7 | S5 | |
| Blackgum | *Nyssa sylvatica* | FAC | 7 | S5 | |
| American sycamore | *Platanus occidentalis* | FACW | 3 | S5 | |
| Eastern cottonwood | *Populus deltoides* | FAC | 2 | S5 | |
| Swamp white oak | *Quercus bicolor* | FACW | 7 | S5 | |
| American elm | *Ulmus americana* | FACW | 4 | S5 | |
| Slippery elm | *Ulmus rubra* | FAC | 8 | S5 | |
| Shrub Species* | | | | | |
| speckled alder | *Alnus incana* | FACW | 5 | S5 | |
| common winterberry | *Ilex verticillata* | FACW | 7 | S5 | |
| spicebush | *Lindera benzoin* | FACW | 6 | S5 | |
| Arrow-wood | *Viburnum dentatum* | FAC | 3 | S5 | |
| Nannyberry | *Viburnum Lentago* | FAC | 4 | S5 | |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | | |
| Herbaceous** | | | | | |
| False Nettle | *Boehmeria cylindrica* | OBL | 7 | S5 | |
| tussock sedge | *Carex stricta* | OBL | 4 | S5 | |
| Spotted Touch-me-not | *Impatiens capensis* | FACW | 3 | S5 | |
| Sensitive Fern | *Onoclea sensibilis* | FACW | 2 | S5 | |
| royal fern | *Osmunda regalis* | OBL | 6 | S5 | |
| cinnamon fern | *Osmundastrum cinnamomeum* | FACW | 6 | S5 | |
| tall meadow rue | *Thalictrum pubescens* | FACW | 4 | S5 | |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | | |

| **Table 5-2f. PFO – Hemlock Hardwood Swamp** | | | | | |
|---|---|---|---|---|---|
| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Balsam fir | *Abies balsamea* | FAC | 6 | S5 | |
| Red maple | *Acer rubrum* | FAC | 4 | S5 | |
| Yellow birch | *Betula alleghaniensis* | FAC | 7 | S5 | |
| tamarack | *Larix laricina* | FACW | 5 | S5 | |
| black gum | *Nyssa sylvatica* | FAC | 7 | S5 | |
| black spruce | *Picea mariana* | FACW | 7 | S5 | |
| Red spruce | *Picea rubens* | FACU | 6 | S5 | |
| Eastern white pine | *Pinus strobus* | FACU | 3 | S5 | |
| northern white cedar | *Thuja occidentalis* | FACW | 6 | S5 | |
| american elm | *Ulmus americana* | FACW | 4 | S5 | |
| slippery elm | *Ulmus rubra* | FAC | 8 | S5 | |
| Shrub Species* | | | | | |
| common winterberry | *Ilex verticillata* | FACW | 7 | S5 | |
| spicebush | *Lindera benzoin* | FACW | 6 | S5 | |

| | | | | |
|---|---|---|---|---|
| High bush blueberry | *Vaccinium corymbosum* | FACW | 6 | S5 |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | |
| Herbaceous** | | | | |
| brome-like sedge | *Carex bromoides* | FACW | 7 | S5 |
| long sedge | *Carex folliculata* | OBL | 7 | S5 |
| three-fruited sedge | *Carex trisperma* | OBL | 8 | S5 |
| goldthread | *Coptis trifolia* | FACW | 8 | S5 |
| spotted jewelweed | *Impatiens capensis* | FACW | 3 | S5 |
| sensitive fern | *Onoclea sensibilis* | FACW | 2 | S5 |
| cinnamon fern | *Osmundastrum cinnamomeum* | FACW | 6 | S5 |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | |

**Table 5-2g. PFO – Rehabilitation/Enhancement**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Red Maple | *Acer rubrum* | FAC | 2 | S5 | |
| Black gum | *Nyssa sylvatica* | FAC | 5 | S5 | |
| Swamp white oak | *Quercus bicolor* | FACW | 7 | S5 | |
| Bur oak | *Quercus macrocarpa* | FAC | 6 | S5 | |
| Pin oak | *Quercus palustris* | FACW | 7 | S4 | |
| Black willow | *Salix nigra* | OBL | 2 | S5 | |
| Shrub Species* | | | | | |
| Chokeberry | *Aronia melanocarpa* | FACW | 6 | S5 | |
| Silky dogwood | *Cornus amomum* | FACW | 4 | S5 | |
| Red osier dogwood | *Cornus sericea* | FACW | 5 | S5 | |
| Buttonbush | *Cephalanthus occidentalis* | OBL | 7 | S5 | |
| Spicebush | *Lindera benzoin* | FAC | 5 | S5 | |
| Elderberry | *Sambucus canadensis* | FACW | 3 | S5 | |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | | |
| Herbaceous** | | | | | |
| Grey sedge | *Carex grayi* | FACW | 7 | S5 | |
| Franks sedge | *Carex frankii* | OBL | 1 | S2 | |
| Pointed Broom Sedge | Carex scoparia | FACW | 1 | S5 | |
| Upright Sedge | Carex stricta | OBL | 4 | S5 | |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | | |

## 5.6 Timing and Sequence

Micron's large project size will require a phased approach for construction; and the wetland mitigation effort will follow a similar phased approach consistent with regulatory requirements. See 33 C.F.R. § 332.3(m) "Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of **or concurrent with the activity causing the authorized impacts**." The Buxton Creek Site will be developed first, along with Oneida River and Lower Caughdenoy Creek wetlands (**Figure 5-3**).

| Table 5-3. Mitigation Site Sequence | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Site Name** | **2025** | **2026** | **2027** | **2028** | **2029** | **2030** | **2031 ~** | **∞ In Perpetuity** |
| **Buxton Creek Stream and Wetlands** | | **Construction begins** | | **Monitoring, maintenance, and adaptive management after construction for a 15-year period* after approved as-built (not to scale)** | | | | **Permanent stewardship begins after monitoring period ends, pending agency approval** |
| Oneida River Wetlands | | **Construction begins** | | | | | | |
| Lower Caughdenoy Creek Wetlands | | **Construction begins** | | | | | | |
| Fish Creek Stream and Wetlands | | | **Construction begins** | | | | | |
| Upper Caughdenoy Creek Wetlands | | | | **Construction begins** | | | | |
| Sixmile Creek Wetlands | | | | | **Construction begins** | | | |

The construction sequence at Buxton Creek follows that shown in **Table 5-4**. The site will be constructed in one year or less with the following spring dedicated to planting that will initiate the 15-year monitoring and maintenance window to meet success criteria. Planting in the fall may occur if it is advantageous to plant establishment.

The mitigation work plan at Buxton Creek will be phased in several steps. The treatment of existing invasive vegetation will begin as early as possible to minimize spread to work areas once agricultural activities cease and the stream and wetlands are constructed. Sections of stream and adjacent wetlands will be constructed concurrently and seeding/planting will be completed after all grading is complete.

| Table 5-4. Construction Sequence | | |
|---|---|---|
| **Activity** | **Timing** | **Phase** |
| Invasive species management. | Spring Year 1* | Pre-construction |
| Work area layout and preparation, SWPPP implementation. | Spring Year 1 | Pre-construction |
| Groundwater dam installation, basin excavation, pond and ditch filling. Erosion control seeding. | Summer Year 1 | Construction Phase I: Earthwork |
| Final grading to develop microtopography, loosening of soil as necessary. | Summer Year 1 | Construction Phase II: Topography Enhancement |
| Seeding, planting, and mulching per planting plan and SWPPP, placement of woody debris for a natural look | Fall Year 1 | Construction Phase III: Seeding & Planting |
| Removal of all construction materials and general site clean-up. Erosion and sediment control structures (silt fencing) will be removed once site is stabilized. | Fall Year 1 | Post-construction |
| *invasive species management will likely begin prior to this time with repeat treatments | | |

### 5.7 Sediment and erosion control measures

All erosion and sediment control practices will be installed as specified by the Stormwater Pollution Prevention Plan (SWPPP, **Appendix I**) prior to any ground disturbance. The limit of disturbance and spoil deposition areas will be clearly marked to ensure ground disturbances are minimized. Temporary erosion and sedimentation control measures in and around mitigation sites will receive consistent and constant inspection and maintenance by qualified personnel. Spoil and sediment collected will be removed and placed upland in a manner that prevents erosion and transportation of sediment to a waterway or wetland. All erosion and sediment control devices and structures will be removed once full stabilization is achieved and no later than three full growing seasons after the planting of the mitigation site.

## 6. Wetland Performance Standards

Success within the mitigation site is based on several factors. First, mitigation acreage must meet the three wetland criteria described in the 1987 Corps of Engineers Wetland Delineation Manual and 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, or any amendments thereto:

- Hydrology: the wetland area is inundated, or the water table is ≤12 inches below the soil surface for ≥14 consecutive days during the growing season. Hydrology must be met more than 50% of the monitoring period at a minimum frequency of 6 years in 10 or 8 years in 15. Any combination of inundation or shallow water table is acceptable in meeting the 14-day minimum requirement.
- Vegetation: the wetland area demonstrates a relative dominance of Facultative (FAC) or wetter plant coverage, meeting one or more USACE Wetland Determination Data Form Hydrophytic Vegetation Indicators.
- Soils: the wetland area contains soil profiles that demonstrate one or more USACE Wetland Determination Data Form Hydric Soil Indicators.

Second, mitigation success will depend on the establishment of wetland community types (as described in Section 5) that replace in form and function the impacted wetlands. At Buxton Creek, the targeted cover types are shallow and deep emergent marsh, floodplain forest, red maple and hemlock hardwood forest.

Third, by the end of the 15-year monitoring period, the site shall meet or exceed the following vegetative performance standards (see also **Table 6-1**):

- **Palustrine Emergent Wetland (PEM):** The areas meeting palustrine emergent wetland criteria will have ninety percent (90%) relative cover of wetland work areas by native hydrophytes (FAC, FACW, or OBL). Monitoring will be conducted yearly with interim

targets of 20% relative cover after the first full year after planting, 40% by Year 3, 60% by Year 5, and 80% by Year 7, providing sufficient time to assess progress and account for any adaptive management needs to ensure final success criteria will be met. The final performance standard of 90% shall be met at 10 years.

Deep emergent and shallow emergent marsh (Edinger et al. 2014) are the targeted cover types for PEM areas.

- Shallow marshes will be 2 to 24 inches deep during inundation periods with exposed soils in the summer and very variable in species.
- Deep emergent marshes will be 6 inches to 36 inches deep, less likely to have exposed soils, and very variable in species, with species more likely to be submerged or floating.

- **Palustrine Scrub Shrub (PSS)**: The areas meeting palustrine scrub shrub criteria will have at least 400 native shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. At least 280 will be native shrub species. Stem density standards will include native volunteer species. Up to 800 woody stems will be planted, as needed, based on survival. Stem density monitoring will be conducted at a frequency of 10 times in 15 years, providing sufficient time to assess progress and account for any adaptive management needs to ensure final success criteria will be met.
- **Palustrine Forest (PFO)**: The areas meeting palustrine forest criteria will have a minimum of 400 native, live, and healthy (disease- and pest-free) woody plants growing per acre. At least 280 will be native tree species. Stem density standards will include native volunteer species. Up to 600 woody stems will be planted, as needed, based on survival. Stem density monitoring will be conducted at a frequency of 10 times in 15 years, providing sufficient time to assess progress and account for any adaptive management needs to ensure final success criteria will be met.

  Because tree height is an important factor in reducing long-term herbivory and ensuring overall success, monitoring will also occur for a period of 15 years, with average tree height targets within planting areas at 2 ft. by the 3rd year of vegetation growth, 3 ft. by the 5th year of vegetation growth, 4 ft. by the 7th year of vegetation growth, 6 ft. by the 10th year of vegetation growth, 8 ft by the $12^{th}$ year, and 9 ft by the $15^{th}$ year. The wetland forest types targeted are:
  - Floodplain Forest, will be planted adjacent to streams
  - Red-maple hardwood swamp- can be characterized by being seasonally flooded with hummocks and hollows, and red maple will most likely be the dominant canopy tree. Although ash may be abundant, those species are no longer planted.
- **Invasive Species**
  - Wetland acreage will have a final target of less than 5% relative cover of all non-Typha invasive plant species such as, but not limited to: purple loosestrife, common

reed, and reed canarygrass. Interim targets will be 15% the first year following planting, 15% by Year 3, 12.5% by Year 5 and 10% by Year 7.

- Due to the difficulty of distinguishing the three species of cattails, as well as the likelihood that at least one of these will be present in many types of New York wetlands, the total relative cover of all invasive species, including cattails, will be less than 10%. Interim targets will be 20% the first year following planting, 18.5% by Year 3, 15% by Year 5 and 12.5% by Year 7.

- **VIBI:** The vegetation index of biotic integrity "floristic quality" (VIBI-FQ) of the rehabilitated and re-established wetlands will be equal to or greater than 40 by the end of the monitoring period. Final scores will be dependent on baseline VIBI scores and will have a minimum of 10-point increase. VIBI plots will be placed in each cover type for re-establishment and rehabilitation. Interim targets will aim for a score of 15 or more by the first year following planting, ≥20 by Year 3, ≥30 by Year 5, and ≥35 by Year 7.

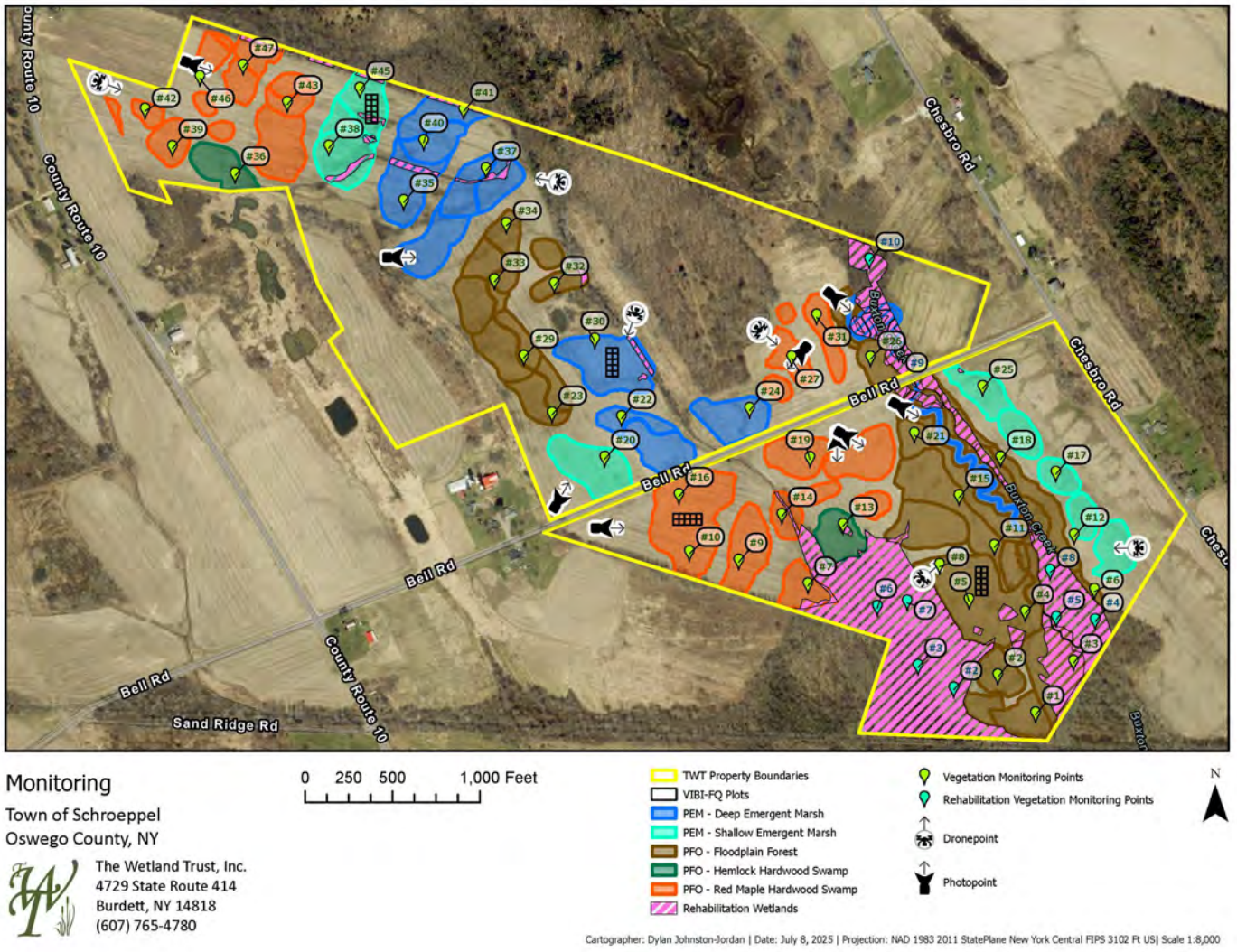
- **Stratified Randomized Permanent Plots:** To obtain a comprehensive view of characteristics at the site, random permanent plots will be established for data collection. The plots will be stratified among the different wetland cover types and mitigation types in which plots will have an equal chance of being selected in each stratum. Vegetation data such as relative cover, stem counts, tree height, and invasive coverage will be observed and documented within these plots for baseline data and post-mitigation monitoring for the 15-year period. See **Figure 6-1.** for proposed permanent data collection locations.

**Table 6-1. Wetland Performance Standards and Interim Goals**

| Performance Standard | Interim and Final Goals | | | | | | |
|---|---|---|---|---|---|---|---|
| | Year 1[1] | Year 3 | Year 5 | Year 7 | Year 10[2] | Year 12 | Year 15[3] |
| Relative cover by native perennial hydrophytes (FAC or wetter) | 20% | 40% | 60% | 80% | 90% | | |
| Stem density in PSS areas (per acre, maximum of 160 shall be tree species) | 400[4] | 400 | 400 | 400 | 400 | 400 | 400 |
| Stem density in PFO areas (per acre, maximum of 200 shall be shrub species) | 400[4] | 400 | 400 | 400 | 400 | 400 | 400 |
| Tree height in PFO areas | 1 ft | 2 ft | 3 ft | 4 ft | 6.6 ft | 8ft | 9ft |
| Relative cover of all non-Typha invasive plant species in PEM, PSS, and PFO areas | 15% | 15% | 12.5% | 10% | 5% | | |
| Total relative cover of all invasive species, including Typha spp. in PEM, PSS, and PFO areas | 20% | 18.5% | 15% | 12.5% | 10% | | |
| VIBI-FQ score | ≥15 | ≥20 | ≥30 | ≥35 | ≥40 | | |

1. First full growing season following planting
2. Final herbaceous/PEM and PSS goals to be met at this time or additional monitoring years added
3. Final PFO (tree height and density) goals to be met at this time
4. Based on a beginning planting rate of 450 stems per acre with additional stems to be planted within the first three monitoring years, if needed, depending on survival. Approximately 25% of the final stem goals are expected to be native volunteer species.

**Figure 6-1.** Vegetation Monitoring and Photo Point Locations



# 7. Stream Credits

The stream credits for this Buxton Creek Plan are based on re-establishment, thus a 1:1 credit ratio has been applied, ensuring that each linear foot of restored stream generates an equivalent amount of mitigation credit in accordance with regulatory expectations.

**Table 7-1. Anticipated stream feet and credits generated**

| Site | Stream Restoration linear feet | Credit Ratio | Credits |
|---|---|---|---|
| Buxton Creek | 8,617 | Re-establishment (1:1) | 8,617 |
| Total | 8,617 | | 8,617 |

# 8. Stream Mitigation Work Plan

## 8.1 Design Considerations

To develop a Stream Mitigation Strategy to offset impacts to streams on the Micron Campus, TWT and Ramboll took into consideration the following strategies:

1. Use of NYSDEC Tribs for Trees assessment to account for different stream restoration and protection measures. This enabled comparison of mitigation measures using a comprehensive system of stream credits.
2. Protection and restoration of singular stream corridors as stand-alone projects.
3. Restoration of stream reaches and buffers on TWT wetland mitigation properties.
4. Full restoration of stream reaches on TWT properties in concert with wetland mitigation to create a more functional stream wetland complex.

After examining these options, and assessing the benefits of each, full restoration of a stream/wetland complex is found to be the best option. It provides not only the highest ecological lift for streams but complements the wetland restoration resulting in the entire system demonstrating the maximum uplift over individual stream and wetland components alone.

Reference Stream Reaches

Local streams that have not been relocated, channelized, placed underground, affected by head cuts, or otherwise heavily altered were used to inform the design of the mitigation streams. Key reference streams were portions of Fish Creek, Bell Creek, and Sixmile Creek as shown in **Figures 8-1a-e.** Reference reach #1 (**Figure 8-1b**) is most proximate to the Buxton Creek property to the northwest. The imagery shows a stream that is braided with a complex of wetlands on nearly level ground. Bell Creek and Sixmile Creek references reaches #2-4 **(Figures 8-1c-e**) exemplify the sinuosity and presence of wetlands on the floodplain of natural streams in the area.

Watershed Characteristics

Buxton Creek flows 4.28 miles north to south in a watershed of 3.96 square miles. The stream originates from an area around Blumer Road south through TWT's Johnson Farm Preserve, under NYS Route 49, to Buxton Creek, under Bell Road and off TWT property through wooded areas and agricultural areas to the Oneida River. There are no human constructed dams along the length of the stream, only beaver activity. The watershed is largely dominated by conventional farming, former muck farms, forested wetlands, forested uplands, and scattered residential development along main roads. There are no industrial sites or extensive impermeable developed areas in the watershed. The amount of land farmed today is considerably less than even recent history with many farmed areas growing or having grown into forests. There are a few road crossings with bridges and culverts across the stream.

Existing Channel Characteristics

Stream restoration at the Buxton Creek site involves the main channel and a tributary to the main channel. The existing stream channels are ditches measuring approximately 8 feet wide by three feet deep. The channels have been straightened and designed to carry water around and away from the agriculture fields. See **Figures 8-2a and 8-2b** for 1994 aerial imagery where the remnant historic channel is clear in comparison to the straightened existing channels. The channels are deeper than historic channels, flowing in a thick clay layer. The floodplain of the streams is regularly cleared using heavy machinery. The streams have artificially high banks to contain flows in the stream with sporadic cuts in the bank to allow sheet flow from fields to discharge into the ditch. Former channels can be found adjacent to the excavated channel, and are considerably higher, more shallow and wider in comparison to the ditch. On the north side of Bell Road, Buxton Creek restored reaches 1.2-1.4 are historic natural channels of Buxton Creek where the flows will be returned. The southern reaches of the existing channel south of Bell Road show sinuosity, but this is not a historic channel. This sinuosity is where the stream was left to find its own course after being tilled over, and it cut through the fine material placed in it.

**Figure 8-1a.** Reference Stream Reaches

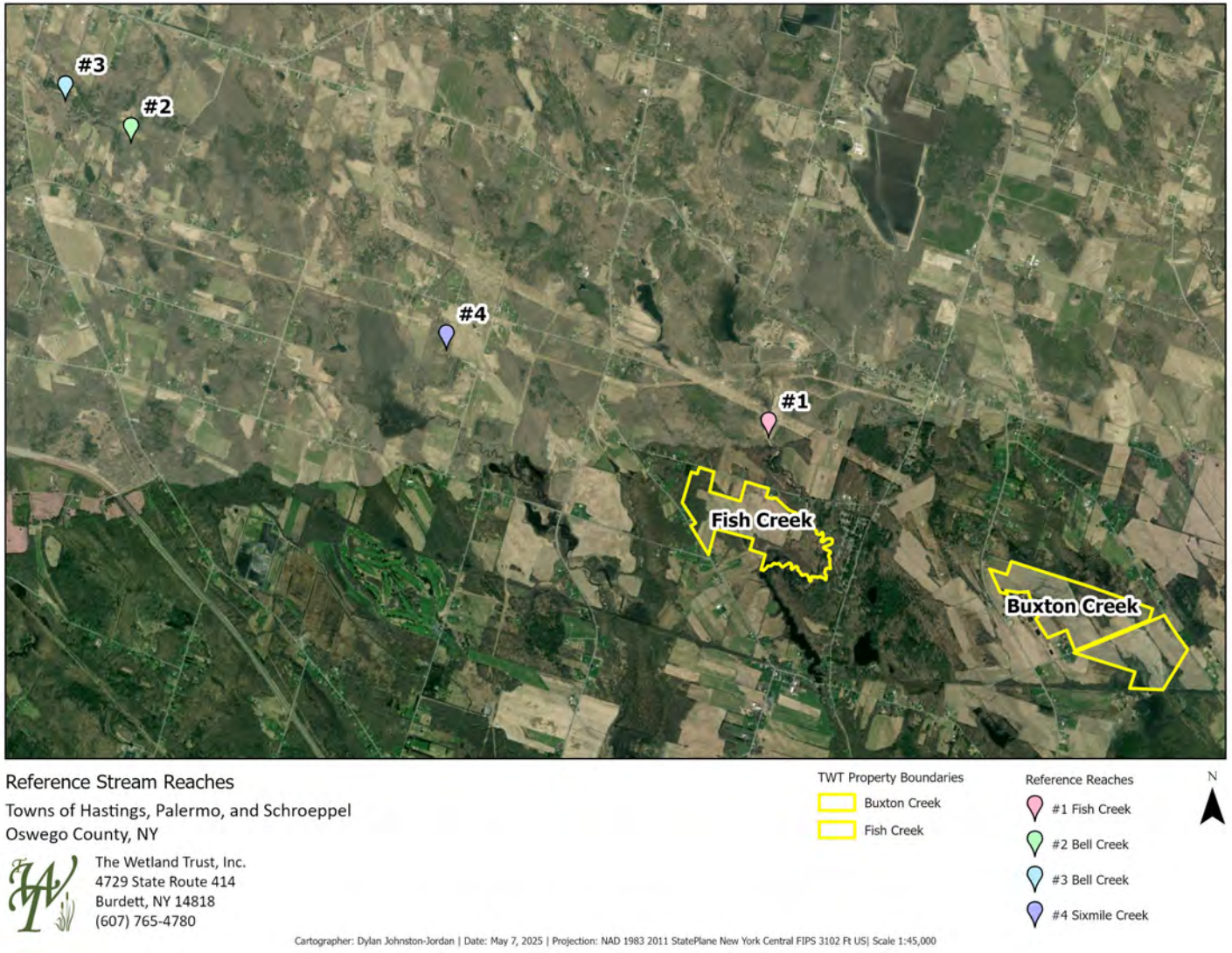
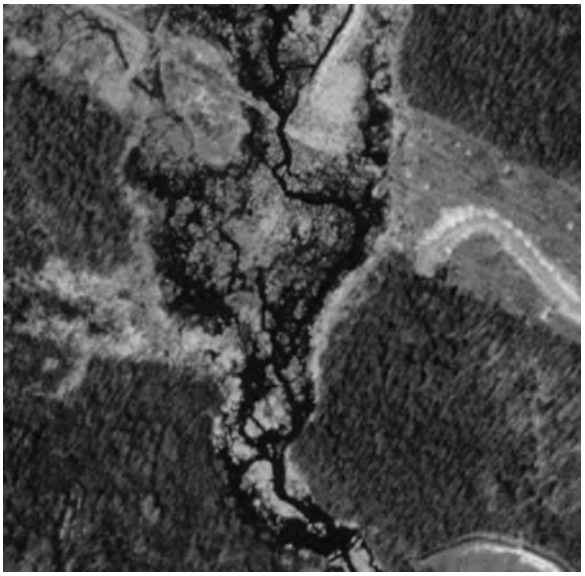


**Figure 8-1b.** Reference Reach #1 Fish Creek



Imagery: 1994, Location: 43.304067, -76.271105

**Figure 8-1c.** Reference Reach #2 Bell Creek



Imagery: 2017, Location: 43.330381, -76.348298

**Figure 8-1d.** Reference Reach #3 Bell Creek



Imagery: 2017, Location: 43.334094 -76.356244

**Figure 8-1e.** Reference Reach #4 Sixmile Creek



Imagery: 1994, Location: 43.311918, -76.310130

**Figure 8-2a.** Buxton Creek North of Bell Road (1994)




**Figure 8-2b.** Buxton Creek South of Bell Road (1994)



Bell Road Bridge



Buxton Creek flows under Bell Road through a small concrete bridge with an opening measuring approximately 4 feet 4 inches high by 10 feet wide (see right). This design has taken every precaution to ensure that the Bell Road bridge over Buxton Creek will continue to perform as well if not better than current conditions. This will be accomplished by ensuring that streambed elevations below the bridge are lower than the streambed flowing under the bridge so water will not back up under the bridge. Similarly, the restored channels to the north of the Bell Road bridge largely use existing historic channels that will slow and calm the flow approaching the bridge. Further, high flows north of the bridge will be able to spread into established wetlands in the adjacent field. And there are no changes proposed for the straight reach approaching the bridge.

## 8.2 Work Plan

Shallow sinuous stream channels with wide and varied floodplains will be built to create conditions where the valley becomes saturated, supporting a diversity of wetlands. The streams, floodplain, and re-established wetlands will mimic the undisturbed nature of streams in the area. Existing ditches will be filled in select areas and restored to wetlands. Ramboll hydrologists and engineers reviewed the restoration concept and using StreamStats data (**Appendix J**), field data (stream surveys, velocity data, sediment assessment), and current topography to .5-1 feet resolution collected by a drone with LiDAR sensor confirmed the channel dimensions, slope, sinuosity and overall approach to restoration of creating a stream wetland complex. See **Appendix K** for detailed stream mitigation plan specifications.

Stream Channel

Stream channels from 2-6 feet wide with 6-18 inches deep pools, depending on the characteristics of the reach, will be restored. Stream channels will be narrower where the valley slope is steeper than 3-percent and wider where the valley slope is less than 3-percent.

Streambanks

Bank will generally be 6 inches high and allow flow across the floodplain in a sheet-like pattern. (**Appendix K**). The stream banks will have slopes ranging from 5-33 percent.

Floodplains

Floodplains will be restored to a width of 66 feet, generally, where valley slopes are less than 1 percent, with narrower floodplains being built on any steeper slopes. Floodplains will be restored to support wet-meadow wetlands on either side of the stream channel, with shrub-scrub wetlands

on slightly higher ground, and forested wetlands being restored along the outer edge of the floodplain.

Established Wetlands and Buffers

Established wetlands will be constructed up to the floodplain along with small upland inclusions and upland buffers.

Vertical Grade Control

Head-cuts greater than 2-foot vertical will generally be controlled by installing vertical grade control structures made using 6–12-inch diameter angular rock, mixed with fines, that is buried in the ground across the floodplain of the stream, immediately upstream and adjacent to the head-cut being controlled. Buried vertical grade control structures will also be placed near the downstream end of each stream being restored to protect the stream from head-cuts located downstream on land not owned by TWT. Head-cuts less than 2-foot vertical may be controlled using the slope and armor technique.

Embedded Rock

If necessary, erosion will be controlled by embedding rock in the ground beneath restored stream channels and floodplains. Topsoil will be spread over the rock on the floodplain to establish plants. Topsoil will generally not be spread in the restored stream channel to control erosion. Rock will be used as needed to armor sections of the restored stream channel and floodplain to control erosion. This armoring will be necessary on steeper sections downstream of the bridge and where the restored stream connects with the existing ditch.

Riffle Crests

Naturally appearing riffles and riffle crests will be built where restored streams flow out of re-established wetlands. These riffle crests will be placed to prevent erosional head-cuts from forming and prevent erosion from occurring in the restored stream and re-established wetlands. (**Figure 8-3** and **8-4**).

**Figure 8-3.** Buxton Creek Stream Restoration Profile

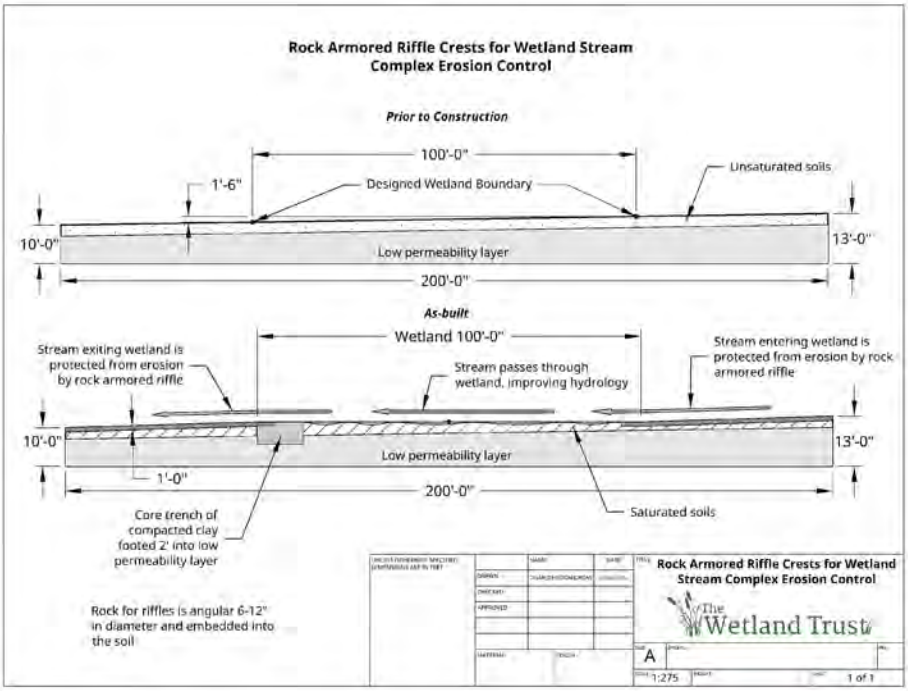
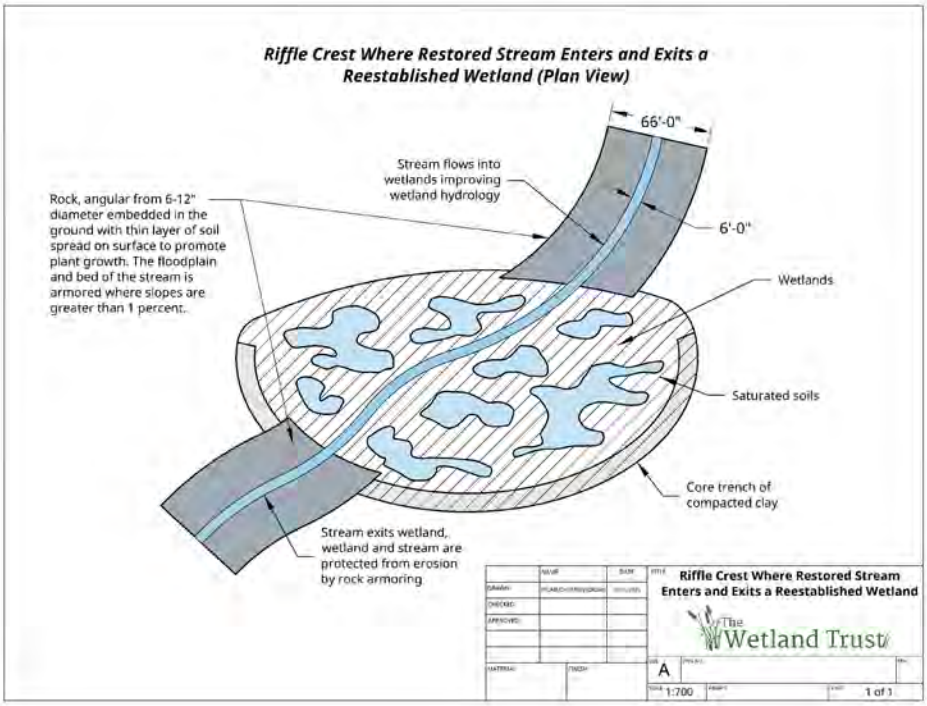



**Figure 8-4.** Riffle Crest Plan View



## 8.3 Timing and Sequence

Sections of stream and adjacent wetlands will be constructed concurrently to ensure integrated grading and hydrologic function across the stream/wetland complex. The new stream channel will be constructed first, with careful attention to alignment and grade, vertical grade control structure construction, erosion seeding. Once complete, log jams will be used to divert flow into the new channel and select portions of the existing channel will be filled to promote floodplain reconnection and wetland development. Earthwork will be conducted in dry conditions, with no temporary water management anticipated. Final seeding and planting of both the stream corridor and adjacent wetlands will occur after grading is complete to stabilize soils and initiate vegetation establishment.

**Table 8-1. Stream Construction Sequence**

| Activity | Timing | Phase |
|---|---|---|
| Work area layout and preparation, SWPPP implementation. | Spring Year 1 | Pre-construction |
| Vegetation clearing and grubbing: construction area cleared of debris, vegetation*, and any obstructions. | Summer Year 1 | Construction Phase I: Earthwork |
| Temporary water management if needed. | Summer Year 1 | Construction Phase I: |
| Stream channel excavation, floodplain bench and depression excavation. Grade banks to stable slopes and tie into adjacent floodplain. Erosion control seeding. | Summer Year 1 | Construction Phase I: |
| Vertical grade control structure installation | Summer Year 1 | Construction Phase II: Topography Enhancement |
| Log jam installation | Summer Year 1 | Construction Phase II |
| Divert water to new channel | Summer Year 1 | Construction Phase II |
| Filling of portions of former ditch | Summer Year 1 | Construction Phase II |
| Seeding and planting per planting plan | Fall Year 1 | Construction Phase III: Seeding & Planting |
| Removal of all construction materials and general site clean-up. Erosion and sediment control structures (silt fencing) will be removed once site is stabilized. | Fall Year 1 | Post-construction |
| *no trees will be removed | | |

# 9. Stream Performance Standards

Success of stream restoration will rely on the linear footage of re-established stream that meets the performance standards (USACE 2016b) described below:

- **Perennial Stream Reaches:** The sections of re-established streams exhibiting perennial flow shall meet the following performance standards:
  - Less than 15% increase in cross sectional area of stream reaches caused by erosion.
  - A bank height ratio (BHR) less than 1.2 at riffle cross-sections.
  - Entrenchment ratio (ER) greater than 1.4 at riffle cross-sections.
  - Stream reach meets a Natural Resource Conservation Service (NRCS) Stream Visual Assessment Protocol Version 2 (SVAP 2) average of 7.

| Table 9-1. Stream SVAP 2 Elements |
|---|
| Channel Condition |
| Bank Condition |
| Riparian area quantity |
| Canopy Cover |
| Water appearance |
| Manure or human waste |
| Aquatic invertebrate habitat |
| Aquatic invertebrate community |
| Fish habitat complexity |
| Pools |
| Hydrologic alteration |
| Nutrient enrichment |
| Riffle embeddedness |
| Barriers to movement |
| Salinity |

- The Natural Resource Conservation Service (NRCS) *Stream Visual Assessment Protocol Version 2* (SVAP 2) will evaluate the physical and biological parameters of restored reaches qualitatively and quantitatively. This evaluation tool provides an indication of the health of a stream and its associated riparian area and of the functions and services they perform in the landscape. This is achieved by scoring and averaging up to 16 different stream attributes, or "elements", identified in Table 9-1, to derive an overall stream health score.
- Each relevant assessment element (e.g., salinity is not applicable to the proposed mitigation reaches) will be scored with a value of zero to 10 by comparing the observations to the descriptions in the SVAP2 Manual. Adding the values for each element and dividing by the number of elements will determine the overall assessment SVAP score. The following SVAP score index classify and describe the results:
    - 1 to 2.9 = Severely degraded
    - 3 to 4.9 = Poor
    - 5 to 6.9 Fair
    - 7 to 8.9 = Good
    - 9 to 10 = Excellent

  An SVAP score less than 7 indicates the need for adaptive management actions to the extent they raise the SVAP score to at least 7.

- **<u>Intermittent and Ephemeral Stream Reaches:</u>** The following indicators of stream hydrology shall be observed during the monitoring period or adaptive management shall be implemented:
    - Scour (indicating sediment transport by flowing water)
    - Sediment deposition (accumulations of sediment and/or formation of ripples)
    - Sediment sorting (sediment sorting indicated by grain-size distribution within the primary path of flow)
    - Multiple observed flow events (must be documented by gauge data and/or photographs)
    - Destruction of terrestrial vegetation
    - Presence of litter and debris
    - Wracking (deposits of drift material indicating surface water flow)
    - Vegetation matted down, bent, or absent (herbaceous or otherwise)
    - Leaf litter disturbed or washed away

- **Vegetation**
  - Vegetation performance standards will be consistent with those described above for wetlands.

## 10. Monitoring Requirements

There will be an initial post-construction "as-built" plan sheet of constructed features with 1' contours, map/descriptions of planted materials, wetland delineation by wetland cover type (PEM, PSS, PFO) and other habitat types e.g. tributaries, ditches, vegetated shallows, deepwater, estimates of invasive plant species cover within the re-establishment areas, and other information relevant for monitoring comparison.

Site monitoring begins after construction is completed and will consist of ten (10) monitoring reports over fifteen (15) years unless additional monitoring is required to demonstrate achievement of performance standards. Monitoring information collected will determine if performance standards are being met and inform maintenance tasks or adaptive management needed to help meet those standards.

Each monitoring report will include:

- Work completed, as-builts, and milestones
  - Evaluation of progress toward all performance goals (i.e. Sections 6 and 9) as appropriate.
  - Report on the status of all erosion control measures on the mitigation site, and any additional temporary measures needed.
  - Weekly mapping of all work completed.
- Hydrological reporting
  - Hydrology data collected from permanent water wells, as well as hydrology information derived from Wetland Determination Data Forms completed throughout the site.
  - Maps showing the location and extent of wetland cover types (PEM, PSS, PFO) and other habitat types (e.g., tributaries, ditches, vegetated shallows, deepwater), locations of monitoring wells, staff gauges, and precipitation gauges.
  - Vegetated shallows and/or deep-water habitats >0.1 acre in size will be mapped and reported.
- Vegetation reporting
  - Description of the general plant health, vigor, and mortality including a prognosis for future survival with qualitative descriptions and photos illustrating tree growth.
  - Relative cover, stem density, and tree height reporting with descriptions of the monitoring protocols used.

  - VIBI scores and data sheets for wetland rehabilitation areas.
- Wildlife reporting
  - List of wildlife observed and other salient biological occurrences.
- Invasive species reporting
  - Relative cover of invasive species with descriptions of the monitoring protocols used.
  - Any areas >0.1 acre that are dominated by invasives will be mapped with acreages.
- Corrective actions proposed/implemented
  - Description of remedial actions completed during the monitoring year. Any measures requiring additional soil manipulation or changes in hydrology, all of which will be undertaken only after written approval from NYSDEC and USACE Buffalo District.
- Stream Data
  - Stream reach cross sectional measurements
  - Bank dimensions
  - SVAP scores
  - Stream hydrology observations (see Section 9)
- Other
  - Photographs at permanent photo points.

## 10.1 Reporting schedule

After an initial Post-Construction As-Built Report, monitoring reports will be submitted by December 31st of the monitoring year to describe conditions in the growing season. All reports in digital format will be submitted to USACE, Regulatory Branch, Auburn Office and NYSDEC, Region 7 Headquarters in Syracuse, with any hard copies provided upon request. All monitoring, reporting, requests, and adaptive management is the responsibility of the permittee, Micron, with implementation by TWT.

**Table 10-1. Anticipated Reporting Schedule.**

| **Activity** | **Years Post Construction** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Wetland** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| Wetland and aquatic resources delineation | | X | | X | | X | | X | | | X | | | X | | X |
| Hydrologic monitoring | * | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Vegetation: native and invasive relative cover | | X | X | X | X | X | X | X | X | X | X | | | X | | X |
| Vegetation: woody stem | | X | | X | | X | | X | | | X | | | X | | X |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| density and tree height | | | | | | | | | | | | | | | | |
| Vegetation: VIBI-FQ | | X | | X | | X | | X | | | X | | | X | | X |
| Photo sequence | | X | X | X | X | X | | X | | | X | | | X | | X |
| Detailed site mapping | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Stream** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | | | | | |
| Erosion monitoring (BHR, ER, cross section area) | | X | X | X | X | X | X | X | X | X | X | | | | | |
| SVAP2 assessment | | X | X | X | X | X | X | X | X | X | X | | | | | |
| Vegetation monitoring | | X | X | X | X | X | X | X | X | X | X | | | | | |
| Detailed site mapping | | X | X | X | X | X | X | X | X | X | X | | | | | |
| **Reports** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| As-built report | X | | | | | | | | | | | | | | | |
| Monitoring & management report | | X | X | X | X | X | | X | | | X | | X | X | | X |
| *Location of wells and gauges will be detailed in the as-built report | | | | | | | | | | | | | | | | |

If construction takes more than one growing season to be completed, an interim construction report will be submitted and will describe completed tasks and those remaining. The monitoring timeline will begin following the completion of construction and planting activities described herein.

# 11. Maintenance Plan

Periodic maintenance activities will be expected to occur following initial construction and planting to ensure long-term viability of the restored and protected resources on the project sites. Below are descriptions outlining the projected maintenance activities during the monitoring period. Any maintenance activities undertaken will be documented in the appropriate monitoring report along with a discussion of any anticipated maintenance to be completed in future years. Significant adjustments such as earthwork will require USACE and NYSDEC approval.

## 11.1 Hydrology Maintenance

Immediately following construction and throughout the 15-year monitoring period, Micron, facilitated by TWT, will monitor the development of site hydrology to ensure that adequate and anticipated hydrology has been restored. It is understood that wetland hydrology may take time to develop, sometimes years, and the desired hydrology or hydric soils may not be achieved until later in the monitoring period. Factors that could negatively impact the intended hydrology include

erosion of spillways, failed ditch plugs, compromised groundwater dams, unidentified drainage tiles, and wildlife activity (i.e. beaver and muskrats). If hydrology standards are not being met, TWT will determine if more time is needed for development or make the appropriate adjustments as soon as practicable, preferably before vegetation establishment to minimize disturbance. Possible maintenance actions addressing hydrology issues include:

- Reinforcing spillways with rock or installing other vertical grade control structures (requires USACE and NYSDEC approval),
- Adjusting height/depth of ditch fill or groundwater dams (requires USACE and NYSDEC approval),
- Additional drain tile searches,
- Trapping and/or relocating nuisance wildlife.

## 11.2 Vegetation Maintenance

The development of a healthy and diverse native vegetative community is crucial for the success of this wetland restoration project, therefore, Micron (via TWT) will closely monitor vegetative establishment following initial planting/seeding and throughout the 15-year monitoring period. Regular maintenance is intended to ensure the health and survival of native woody plants and herbaceous species, to limit the establishment and spread of invasive plant species, and to keep performance standard progress on track. Maintenance actions for vegetative community health include:

- Herbivory prevention- Whitetail deer are a major threat to plant diversity (Blossey et al. 2024). TWT, to the degree practical, will install deer fence along the entirety of the wetland compensation areas with commercial grade 8 ft deer fence. The fence will stay on site for the project duration. To ensure other wildlife's free passage, the fence bottom will be raised to allow small mammals and herpetofauna to pass (about 6 inches),
- Tree and shrub maintenance to combat disease, herbivory, or competition from other plants,
- Supplemental planting/seeding of native trees, shrubs, or herbaceous vegetation,
- Managing invasive species as needed through mechanical or chemical control using aquatic-safe herbicides by a licensed applicator (requires NYSDEC approval).

## 11.3 General Site Maintenance

General site maintenance is anticipated to occur regularly throughout the 15-year monitoring period and beyond. Micron bears responsibility for site maintenance, as facilitated by TWT, the fee-simple owner of the site. Non-ecological maintenance tasks include but are not limited to fence and gate upkeep, structural maintenance where applicable, signage installation, monitoring for vandalism, and maintaining trail/security cameras if deemed necessary.

# 12. Long Term Management Plan

The purpose of the Long-Term Management Plan (LTMP) is to ensure the long-term sustainability of the protected and restored resources after mitigation performance standards have been achieved. The LTMP has been included in **Appendix L**. As the site develops and matures, the LTMP will be amended as needed to include relevant information. After the monitoring period has ended, TWT will prepare a final LTMP to be submitted with the project's final monitoring report that will be reviewed and approved by the USACE and NYSDEC. The final LTMP will address the site-specific future needs of the project based upon conditions at the time of the active period closeout.

## 12.1 Responsible Party

Micron is the Responsible Party for all phases of this permittee responsible mitigation through monitoring and final acceptance when a Certificate of Completion (or an equivalent) will be provided by the agencies. Once the mitigation is complete Micron will transfer long-term management to TWT.

## 12.2 Long-Term Monitoring and Management Activities

The LTMP includes the anticipated long-term monitoring and management activities and their estimated costs. These activities will be adjusted as needed throughout and after the active ecological monitoring period.

## 12.3 Long-Term Funding Mechanism

TWT has a director-controlled Stewardship Management Investment Account specifically established for Micron mitigation projects. This account's investment income will come from investment instruments that are low-risk and broad-based, (e.g., TWT may use 30-year Treasury Bonds) to support permanent long-term management and maintenance as described in the final LTMP. The entirety of the account will be funded before implementation starts at $8,000/credit (or per DEC restoration/creation acre) for the wetland compensation and $60/ft for stream compensation. The funding level designed in the Long-Term Management Budget in the LTMP is sufficient to sustain the long-term management of all of Micron's wetland and stream compensation. This fund will also have a clause in TWT's Bylaws that provides for its transfer along with the Micron lands to another NGO should that issue arise.

# 13. Adaptive Management Plan

Beyond the anticipated maintenance needs detailed in Section 11, preparedness for unexpected changes in site conditions is imperative to the continued success of the project. This adaptive management strategy outlines the approach for addressing potential challenges and unexpected changes, including those related to fire, climate change, disease, and other factors. Continuous

monitoring to inform the adaptation of management strategies will ensure that the protected and restored resources remain resilient and meet long-term conservation goals. Potential challenges warranting adaptive management include:

- **Fire**: The effects of a significant fire event can lead to negative impacts on a young, re-established wetland. Fire can scorch and kill newly planted or immature vegetation, particularly woody species like trees and shrubs. The loss of vegetative cover can lead to increased soil erosion resulting in potential sedimentation issues to connected water bodies. Fire can create favorable conditions for invasive species as well as affect soil structure and permeability thereby altering hydrology. In the event of a significant fire event, TWT will address the loss of plants, erosion, and any other impacts and determine the appropriate adaptive management approach such as replanting, stabilizing soils, and/or monitoring water quality to facilitate recovery.
- **Climate change**: Changes in precipitation and temperatures associated with climate change can significantly affect wetland mitigation sites through a variety of mechanisms, impacting the hydrology, vegetation, wildlife, and overall ecological functions. To adaptively manage the impacts of climate change on wetland mitigation sites, TWT can implement strategies such as altered water management practices and management of vegetative communities with an emphasis on native species resilient to climate variability and extremes.
- **Disease**: Unforeseen damage to wildlife, vegetation, and ecosystem services is possible via disease or pests. Pathogen spread or a pest invasion can decrease plant diversity and biomass, disrupting the wetland's structural integrity and the success of mitigation performance standards. Monitoring and early detection will be key to assessing such an event and implementing adaptive management strategies such as replanting (i.e. with hardier, disease-resistant species), sanitation processes and controlling the spread.
- **Flood**: Though wetlands aid in flood attenuation, a significant flooding event can have negative effects on a young wetland mitigation project. High energy floodwaters can cause soil erosion and sedimentation, leading to the damage of plant roots and flooding of vegetation. Ditch plugs or groundwater dams/low earthen berms that were installed during construction may fail or breach under serious flooding events. In such an event, TWT will determine the appropriate adaptive management action including replanting of the site, soil stabilization, or re-construction of ditch plugs and groundwater dams.

## 14. Financial Assurances

The financial assurances for this compensatory mitigation plan will be in the form of a performance bond or equivalent to ensure compliance with permit requirements and project success. Experienced insurance brokers will assist Micron in preparing these financial assurances by

providing guidance on structuring the performance bonds and ensuring they meet regulatory expectations. This ensures the site is financially secured independently, providing clear accountability and reducing risk for both regulatory agencies and stakeholders.

# 15. References

Biebighauser, T.R., 2007. Wetland Drainage, Restoration, and Repair. University Press of Kentucky. 241 pages.

Biebighauser, T.R., 2015. Wetland Restoration and Construction: A Technical Guide (3rd ed.). Wetland Restoration and Training, LLC.

Blossey, B., D. Hare, and D.M. Walter. Where have all the flowers gone? A call for federal leadership in deer management in the United States. 2024. Front. Conserv, Sci. 5:1382132

Conley et al. 2018. New York State Riparian Opportunity Assessment.

Cowardin et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States.

Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2014. Ecological Communities of New York State (2nd ed.). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Environmental Laboratory, 1987. Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS.

Natural Resource Conservation Service (NRCS) 2009. Stream Visual Assessment Protocol Version 2 (SVAP 2)

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed Jun 2022.

US Army Corps of Engineers. 1999. USACE Highway Methodology Workbook Supplement

US Army Corps of Engineers. 2005. Regulatory Guidance Letter No 05-05 – Ordinary High Water Mark Identification

US Army Corps of Engineers. 2008. Jurisdictional Determination Form Instructional Guidebook.

US Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (v.2). ERDC/EL TR-12-1. Vicksburg, MS.

US Army Corps of Engineers. 2016b. Guidelines for Stream Mitigation Banking and In-lieu Fee Programs in Ohio

US Army Corps of Engineers 2016b. Wilmington District Stream and Wetland Compensatory Mitigation Update

US Environmental Protection Agency. 2005. Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations

# Appendix A.

# CONSERVATION EASEMENT

On lands of The Wetland Trust, Inc.

Bell Road, Town of Schroeppel, Oswego County, NY

*covering a 201.7-acre portion of*

Tax Parcels 274.00-02-15, 274.00-02-04.06 and 274.00-02-04.09

THIS DECLARATION OF CONSERVATION EASEMENT is made as of the _____ day of _____202_, by The Wetland Trust, Inc. (the "Grantor"), a New York not-for-profit with offices at 4729 State Route 414, Burdett, NY 14818, for the benefit of, but not the burden upon, The Wetland Conservancy, Inc. (the "Holder"), a New York not-for-profit entity having its office at P.O. Box 220, Burdett, New York 14818.

**WHEREAS**, Grantor is the owner in fee simple of approximately 253.9 acres of certain real property located in the Town of Schroeppel, County of Oswego, and State of New York, of which property is covered by this conservation easement and more fully described in Schedule A and annexed hereto (the "Protected Property"), and

**WHEREAS,** The Wetland Trust, Inc., a non-profit 501(c)(3) organization, is providing compensatory mitigation services to Micron New York Semiconductor Manufacturing LLC, with principal offices at 8000 South Federal Way, Boise, Idaho, 83716 for unavoidable adverse impacts to waters of the United States authorized under Section 404 of the Clean Water Act (33 U.S.C. § 1344) , and/or Sections 9 or 10 of the Rivers and Harbors Act (33 U.S.C. §§ 401, 403); and impacts to jurisdiction waters of New York State authorized under …….

**WHEREAS,** the Protected Property is to be protected in perpetuity through this Conservation Easement for those purposes as described in the Micron Buxton Creek Mitigation Plan, attached to this CE, pursuant to which The Wetland Trust, Inc., has committed to permanently protect and maintain a mitigation project on the Protected Property; and

**WHEREAS**, in relation to the compensatory mitigation activities, the Protected Property is subject to the conditions of the Mitigation plan, and any Federal or NY State Permit; and

**WHEREAS**, to ensure the long-term protection of the Protected Property, Grantor agrees to restrict ownership and use of the Protected Property: in order to protect, restore, and maintain the chemical, physical, and biological integrity of waters of the United States including wetlands through the control of discharges of dredged or fill material located on the Protected Property; in accordance with the common law and with the Conservation Easements provisions of New York Environmental Conservation Law ("**ECL**") Article 49, Title 3; in recognition of the continuing benefit to scenic and natural resources and the environment; and as a condition of being issued the Permit; and

**WHEREAS**, Grantor desires to declare, create, and convey to the Holder a Conservation Easement placing certain limitations and affirmative obligations on the Protected Property for the purpose of maintaining the Protected Property substantially in its natural condition, in perpetuity; and

**WHEREAS**, the purposes of this Conservation Easement are to protect the scenic, natural resource, and aquatic resource values of the Protected Property including native flora and fauna and the ecological processes that support them, diverse forest types and conditions, soil productivity, biological diversity, water quality, and aquatic habitats including wetlands; and

**WHEREAS**, the Holder is a 501 (c)(3) not-for-profit corporation and is qualified to hold a Conservation Easement in accordance with ECL Section 49-0305; and

**WHEREAS**, Grantor agrees, in accordance with ECL Section 49-0305.5, that rights of enforcement of the terms of this Conservation Easement shall be held by the Holder, and that the USACE, NYSDEC or other appropriate enforcement agencies of the United States or New York State hold rights of enforcement under the Permit; and

**NOW, THEREFORE**, for the foregoing consideration, and in further consideration of the restrictions, rights, and agreements herein, and for the purposes of preservation, protection, and conservation of the Protected Property and the conservation and wildlife resources thereon, Grantor hereby creates, gives, grants, bargains, and conveys to the Holder a perpetual easement in, to, over, and across the Protected Property subject to the Permit, , and any current and future modifications thereto.

## A. RESTRICTIONS

Grantor shall ensure compliance with the following Restrictions on the Protected Property, which shall run with the Protected Property in perpetuity, and be binding on the Grantor, the Holder, and their respective successors, assigns, lessees, and other occupiers and users. These Restrictions are subject to Grantor's Reserved Rights, which follow.

1. **General**. There shall be no future fillings, flooding, excavating, mining, or drilling; no removal of natural materials (soil, sand, gravel, rock, minerals, etc.); no dumping of materials; and no alteration of the topography which would materially affect the Protected Property in any manner, except as authorized by the Permit, , and any modifications thereof.

2. **Waters and Wetlands**. In addition to the general restrictions above, within the Protected Property there shall be no draining, dredging, damming, or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws and regulations, except as authorized by the Permit, and any modifications thereof.

3. **Trees/Vegetation**. On the Protected Property there shall be no clearing, burning, cutting, or destroying of trees or vegetation, except as may be necessary to protect public health or safety or as authorized by the Permit, and any modifications thereof; there shall be no planting or introduction of non-native or exotic species of trees or vegetation.

4. **Waste Disposal.** There shall be no disposal or storage of liquid or solid waste or other unsightly, hazardous, toxic or offensive material on the Protected Property.

5. **Uses**. No agricultural, animal husbandry, industrial, residential development, mining, logging, or commercial activity shall be undertaken or allowed on the Protected Property.

6. **Structures**. There shall be no construction, erection, or placement of buildings, billboards, or any other structures, to include fences, parking lots, trailers, mobile homes, camping accommodations, or recreational vehicles, or additions to existing structures, on the Protected Property, except as authorized by the Permit, and any modifications thereof.

7. **New Roads**. There shall be no construction of new roads, trails, or walkways on the Protected Property

without the prior written approval (including approval of the manner of construction) of the Holder and the USACE and NYSDEC

8. **Utilities**. There shall be no construction or placement of utilities or related facilities (including telecommunications towers and antennas) in, over, or under the Protected Property without the prior written approval (including approval of the manner of construction) of the Holder, the USACE and the NYSDEC.

9. **Pest Control**. There shall be no application of pesticides or biological controls, including controls of problem vegetation, on the Protected Property without prior written approval (including approval of the manner of application) of the Holder, the USACE, the NYSDEC or as authorized by the Permit, and any modifications thereof.

10. **Vehicular Use**. There shall be no use of any motorized vehicle or motorized equipment, and no use of any non-motorized bicycle anywhere on the Protected Property, except in the case of emergency, for the purpose of enforcement of applicable laws and regulations, for the purpose of monitoring compliance with the purposes of this Conservation Easement, or as authorized by the Permit, and any modifications thereof.

11. **Subdivision**. There shall be no division or subdivision of the Protected Property.

12. **Marking**. The Grantor shall mark the limits of the Protected Property in a manner approved by the Holder, USACE, and NYSDEC and shall maintain the marking in place so as to notify the public that the Protected Property is an area preserved for conservation purposes.

13. **Other Prohibitions**. Any other use of, or activity on, the Protected Property which is or may become inconsistent with the purposes of the Conservation Easement, the preservation of the Protected Property substantially in its natural condition, or the protection of its environmental systems, is prohibited, except as authorized by the Permit, and any modifications thereof.

## B. RESERVED RIGHTS OF GRANTOR

Grantor reserves the right to engage in all acts or uses not prohibited by the Restrictions, which are not

inconsistent with the Purpose of this Conservation Easement, the preservation of the Protected Property substantially in its natural condition, and the protection of its environmental systems, and which do not interfere with any obligations under the Permit, and any modifications or amendments thereof. Nothing herein shall be deemed to modify or amend any other or additional agreements between or among Grantor, the Holder, and/or the USACE and NYSDEC. In the event any of Grantor's acts or uses on the Protected Property are subject to review under the New York State Environmental Quality Review Act (SEQRA), Grantee and the Holder shall be designated as interested parties and notified of the review process.

## C. GENERAL PROVISIONS

The following General Provisions shall be binding upon the Grantor and the Grantor's heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees and agents, and shall inure to the benefit of the Holder, USACE and NYSDEC, and the heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees and agents of the Holder, USACE and NYSDEC:

1. **Rights of Access and Entry.** The Holder, USACE and NYSDEC shall have the right to enter and go upon the Protected Property for purposes of monitoring and inspection, and to take actions necessary to verify compliance with the Restrictions. The Holder shall also have rights of visual access and view, and the right to enter and go upon the Protected Property for purposes of making scientific or educational observations and studies, and taking samples, in such a manner as will not disturb the quiet enjoyment of the Protected Property by Grantor. No right of access or entry by the general public to any portion of the Protected Property is conveyed by this Conservation Easement.

2. **Enforcement.** Grantor acknowledges and agrees that the Holder's, USACE's and NYSDEC's remedies at law for any violation of this Conservation Easement are inadequate. In the event of a breach of any of the Restrictions set forth above, the Holder, USACE, or NYSDEC will notify the Grantor in writing of the breach. The Grantor shall have thirty (30) days after receipt of such notice to undertake actions that are reasonably calculated to promptly correct the conditions constituting the breach. If the Grantor fails to commence such corrective action within thirty (30) days, or fails to complete the necessary corrective action, the Holder, USACE, or NYSDEC may undertake such actions, including legal proceedings, as are necessary to effect such corrective action. Among other relief, the Holder, USACE, NYSDEC shall be entitled to specific performance of the terms of this Conservation Easement and to a complete restoration of the Protected Property, correcting damage caused by any breach of the Restrictions. Breaches of the General Provisions of this Conservation Easement shall be actionable without notice. The costs of a breach, correction or

restoration, including reasonable Holder expenses, expert or consultant expenses, court costs and attorneys' fees, shall be paid by the Grantor. Enforcement shall be at the discretion of the Holder, USACE, or NYSDEC. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel or waiver. The Holder, USACE, or NYSDEC's enforcement rights are in addition to, and shall not limit, enforcement rights available under other provisions of law or equity, or under any applicable permit or certification. Failure to timely enforce compliance with this Conservation Easement or the use limitations contained herein by any party shall not bar subsequent enforcement by such party and shall not be deemed a waiver of the party's right to take action to enforce any provision of this Conservation Easement.

**Events Beyond Grantor's Control.** Nothing herein shall be construed to authorize the Holder or the USACE to institute any proceedings against Grantor for any changes to the Protected Property caused by acts of God or circumstances beyond the Grantor's control such as earthquake, fire, flood, storm, war, civil disturbance, strike, or similar causes.

3. **Obligations of Ownership.** Grantor is responsible for payment of all real estate taxes, assessments, fees, or other charges levied upon the Protected Property, and Grantor will provide copies of receipts evidencing payment of any such charges upon request of the Holder, USACE, or NYSDEC. Any liens, mortgages or other encumbrances affecting the Protected Property shall be subject to the terms of this Conservation Easement. The Holder, USACE, or NYSDEC shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Protected Property, except as expressly provided herein. Nothing herein shall relieve the Grantor of the obligation to comply with federal, state, or local laws, regulations, and permits that may apply to the exercise of ownership, or rights under this Conservation Easement, by Grantor.

4. **Recording.** The Grantor shall have this Conservation Easement duly recorded and indexed as such in the Office of the County Clerk of Oswego County, New York, as described in ECL Section 49-0305.4. Upon recording, the Grantor shall forward a copy of this Conservation Easement as recorded to the Holder, USACE, and NYSDEC and, as described in ECL Section 49-0305.4, the New York Department of Environmental Conservation.

5. **Extinguishment.** In the event that changed conditions render impossible the continued use of the Protected Property for conservation purposes, this Conservation Easement may only be extinguished, in whole or in part, by judicial proceeding under authority of ECL Section 49-0307. In accordance with 33 C.F.R. 332.7(a)(3), USACE must be provided 60-day advance notification

before any action is taken to amend or terminate this Conservation Easement.

6. **Eminent Domain.** If all or part of the Protected Property is taken in the exercise of eminent domain so as to substantially abrogate the Restrictions imposed by this Conservation Easement, the Grantor and the Holder shall promptly notify the USACE and NYSDEC and shall join in appropriate actions at the time of such taking to recover the full value of the taking, and all incidental and direct damages due to the taking. Each party shall be responsible for its own costs in any such legal proceeding.

7. **Proceeds of Taking.** This Conservation Easement constitutes a real property interest immediately vested in the Holder. In the event that all or a portion of this Protected Property is sold, exchanged, or involuntarily converted following an extinguishment or the exercise of eminent domain, the Holder shall be entitled to the fair market value of this Conservation Easement. The parties stipulate that the fair market value of this Conservation Easement shall be determined by identifying the fair market value of the Protected Property unencumbered by this Conservation Easement (minus any increase in value after the date of this grant attributable to

improvements) and subtracting the value of the Protected Property with the Conservation Easement at the time of this grant. The values at the time of this grant shall be the values used, or which would have been used, to calculate a deduction for federal income tax purposes, pursuant to Section 170(h) of the Internal Revenue Code (whether the grant is eligible or ineligible for such a deduction). The Holder shall use its share of the proceeds in a manner consistent with the purposes of this Conservation Easement.

8. **Notification.** Any notice, request for approval, or other communication required under this Conservation Agreement shall be sent by registered or certified mail, postage prepaid, to the following addresses (or such address as may be hereafter specified by notice pursuant to this paragraph):

To Grantor:

The Wetland Trust, Inc.
4729 State Route 414
Burdett, New York 14818

To Holder:

The Wetlands Conservancy, Inc
P.O. Box 220
Burdett, New York 14818

To the USACE:

U.S. Army Corps of Engineers, New York District ATTN:

Regulatory Branch
Room 1937, 26 Federal Plaza
New York, NY 10278-0090

And

U.S. Army Corps of Engineers, Buffalo District ATTN:

Regulatory Branch
1776 Niagara Street
Buffalo, NY 14207-3199

To the NYSDEC:

?

9. **Assignment.** This Conservation Easement is transferable, but only to a holder qualified under ECL Section 49-0305.3, and approved in writing by the USACE and NYSDEC before transfer. As a condition of such transfer, the transferee shall agree to all of the restrictions, rights, and provisions herein, and to continue to carry out the purposes of this Conservation Easement. Assignments shall be accomplished by amendment of this Conservation Easement in accordance with Section C, Paragraph 14. In accordance with 33 C.F.R. 332.7(a)(3), USACE must be provided 60-day advance notification before any action is taken to assign this Conservation Easement.

10. **Failure of Holder.** If at any time the Holder is unable or fails to enforce this Conservation Easement, or if the Holder ceases to be a holder qualified under ECL Section 49-0305, and if within a reasonable period of time after the occurrence of one of these events the Holder fails to make an assignment pursuant to paragraph 10, then the Holder's interest shall become vested in another holder, as approved by the USACE and NYSDEC, qualified in accordance with an appropriate (e.g., cy pres) proceeding, to be brought by the Grantor in a court of competent jurisdiction, or by Holder, USACE, and NYSDEC finding a replacement entity agreeable to USACE and NYSDEC

11. **Subsequent Transfer.** This Conservation Easement shall be perpetual and run with the land and shall be binding upon all future owners of any interest in the Protected Property. The conveyance of any portion of or any interest in the Protected Property, by sale, exchange, devise or gift, shall be made by an instrument which expressly provides that the interest thereby conveyed is subject to this Conservation Easement, without modification or amendment of the terms of this Easement, and such instrument shall expressly incorporate this Conservation Easement by reference, specifically setting

forth the date, office, liber and page of the recording of this Conservation Easement. The failure of any such instrument to comply with the provisions hereof shall not affect the validity or enforceability of this Conservation Easement, nor shall such failure affect the Holder's or the USACE' rights hereunder. No less than thirty (30) days prior to conveyance of any interest in the Protected Property, Grantor (to include any successor Grantor) shall notify the Holder, USACE, and NYSDEC of such intended conveyance, providing the full names and mailing addresses of all Grantees, and the individual principals thereof, under any such conveyance. In accordance with 33 C.F.R. 332.7(a)(3), USACE must be provided 60-day advance notification before any action is taken to transfer the Protected Property.

12. No **Merger of Interests.** In the event the same person or entity ever simultaneously holds an interest in the Protected Property under this Conservation Easement, and holds the underlying title in fee, the parties intend that the separate interests shall not merge.

13. **Amendment.** This Conservation Easement may be amended in accordance with ECL Section 49-0307, but only in a writing signed by the Grantor and the Holder, or their successors or assigns, and approved in writing by the USACE and NYSDEC, its successors or assigns; provided such amendment does not affect the qualification of this Conservation Easement or the status of the Holder under ECL Section 49-0305 or any other applicable law; and provided such amendment is consistent with the conservation purposes of this grant and its perpetual duration. Any amendment to this Conservation Easement shall be recorded and provided to the Holder, the USACE and the New York State Department of Environmental Conservation, in the manner set forth in paragraph C-5 above. In accordance with 33 C.F.R. 332.7(a)(3), USACE and NYSDEC must be provided 60-day advance notification before any action is taken to amend this Conservation Easement.

14. **Severability.** Should a court of competent jurisdiction find any separate part of this Conservation Easement void or unenforceable le, the remainder shall continue in full force and effect.

15. **Warranties by Grantor.** Grantor warrants that it owns the Protected Property in fee simple, and that Grantor owns all interests in the Protected Property that may be impaired by the granting of this Conservation Easement. Grantor further warrants that there are no outstanding mortgages, tax liens, encumbrances , or other interests in the Protected Property that have not been expressly subordinated to this Conservation Easement. Grantor further warrants that no structures of any kind, to include roads, trails or walkways, and no violations of restrictions of this of this Conservation Easement exist on the Protected Property at the time of execution hereof. Grantor further warrants that the Holder shall have the use of and enjoy all the benefits derived from and arising out of this Conservation Easement.

16. **No Gift or Dedication**. Nothing contained in this Conservation Easement shall be deemed to be a gift for dedication of all or any part of either the Permitted Property or the Protected Property to the public, or for public use.

IN WITNESS WHEREOF, Grantor and Holder have executed this Conservation Easement, as of the date written above.

Execution by Grantor: The Wetland Trust, Inc.

By: _____

Title:

STATE OF NEW YORK) ss.:

COUNTY OF Schuyler)

On the __day of _____in the year 202_ before me, the undersigned, a notary public in and for said state, personally appeared the Grantor _____, _____ of The Wetland Trust, Inc. personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____

Notary Public Date: _____

Approval and Acceptance by Holder: The Wetland Conservancy, Inc.

By: _____

Title: Chair

STATE OF NEW YORK) ss:

COUNTY OF Tompkins)

On the __day of _____in the year 202_ before me, the undersigned, a notary public in and for said state, personally appeared the Holder **Aaron Ristow**, Chair of The Wetland Conservancy, Inc. personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____ _____

Notary Public Date

**Schedule A. Legal description of parcel to be covered by this Conservation Easement.**

Town of Schroeppel, Oswego County, NY, covering a *201.7*-acre portion

of Tax Parcels

274.00-02-15, 274.00-02-04.06 and 274.00-02-04.09

ALL THAT TRACT OR PARCEL OF LAND,

[Left intentionally blank- awaiting boundary survey with descriptions of metes and bounds]

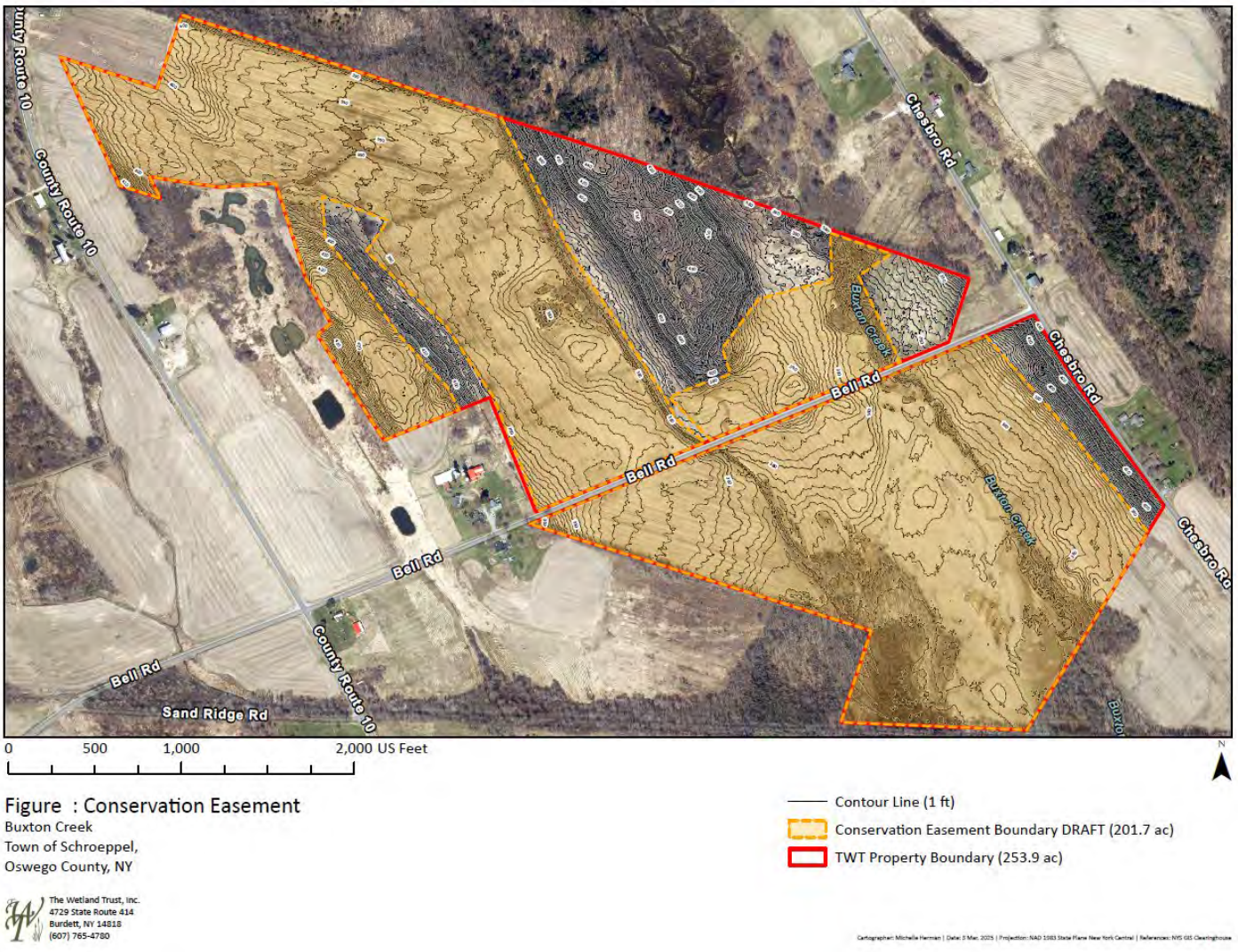



Figure : Conservation Easement
Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

# Appendix B.




# Figure : Imagery (1955)

Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




# Figure : Imagery (1959)

Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




TWT Property Boundary (253.9 ac)

# Figure : Imagery (1994)

Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




Figure : Imagery (2003)
Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

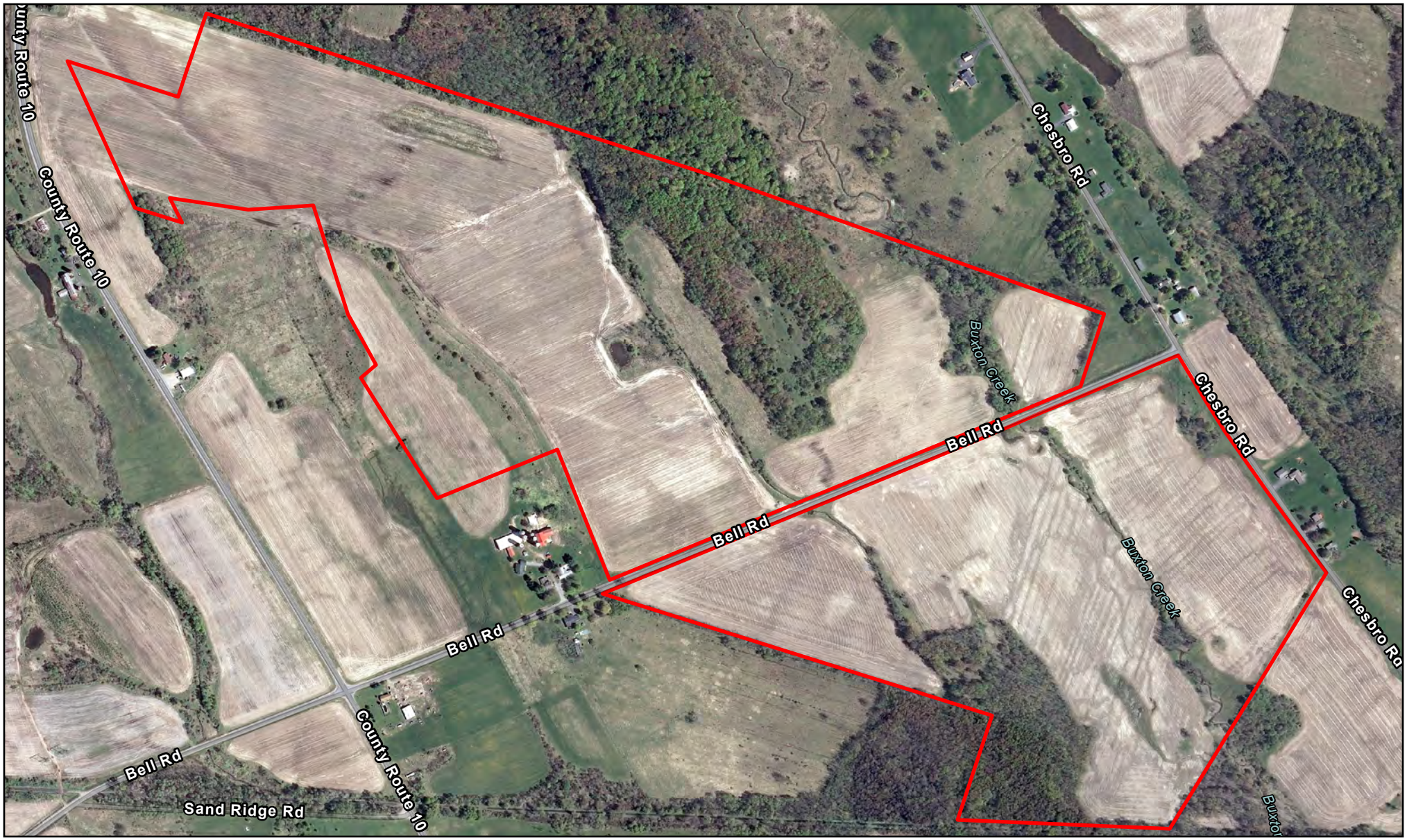



Figure : Imagery (2006)
Buxton Creek
Town of Schroeppel,
Oswego County, NY

TWT Property Boundary (253.9 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




# Figure : Imagery (2011)

Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




# Figure : Imagery (2020)

Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 15 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

# Appendix C.

## Micron- Buxton Creek Mitigation Site

# Wetland Delineation Report

## May 2025

The Wetland Trust, Inc. (TWT) conducted delineations of wetlands, drainages, and streams at the Micron-Buxton Creek Stream and Wetland compensatory mitigation site located in Shroeppel, Oswego County, New York. The Buxton Creek site is bisected by Bell Road and west of Chesbro Road and is approximately 254 acres in size. The purpose of the delineation is to determine the location and extent of wetlands and other water features on the Buxton Creek site to aid in the planning and design of the wetland mitigation plan and obtaining the required regulatory permits.

### Methods

A desktop review was conducted prior to field work which included background data such as aerial photography (current and historical), soil maps, and NY State and Federal wetland maps (see Mitigation Plan). Wetland delineations were conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (Regional Supplement USACE 2012). All delineations were completed consistently with the 1995 NYSDEC Freshwater Wetlands Delineation Manual (NYSDEC 1995). All field data points were recorded with a centimeter-level accuracy GNSS receiver and mapped in ArcGIS Pro. Field visits for delineation concurrence by USACE and NYSDEC were conducted in August 2024.

### Results

A total of 34.6 acres of wetland and aquatic features were delineated on the Buxton Creek mitigation site. The wetland areas are broken down into four general complexes for purposes of this summary.

**Northwest/Northcentral Wetlands (PEM-01 to 05, PFO-01, PFO-05, PSS-01, PSS-02, POW-01)**

These wetlands are heavily influenced by agricultural activities including drainage modifications. A historic tributary to Buxton Creek traversed this site and has been channelized into drainages **D-02** and **D-03** cutting across the center of the northern portion of the property. Most of the wetland areas and active agricultural fields have aquiclude layers of clay and/or a very compacted sand layer that in depression areas lead to stressed agricultural plantings (soybean in 2024, **PEM-1, PEM-2 and PEM-3**). Below the aquiclude layers the soils have very dense clay layers that support another low permeability layer. **POW-1** is a previously excavated pond that is built into this layer, with portions of **PEM-04** 3 to 4 feet higher in elevation established on the upper aquiclude like layer. The other wetland types (PSS, PFO) are associated with constructed/channelized drainages. There are some existing PFO and old stream channel remnants on the north and east side of the channelized tributary (**D-02 and D-03**) that are excellent refence wetlands. An old

stream channel is also present elevated approximately 4 feet above the water level of **D-02** and **D-03**. A very good indication of the extent of agricultural drainage impacts on previous existing wetlands. Drainage feature **D-07** directs water off site.

**PFO-02 Wetland Complex**

This area is the riparian corridor associated with the non-channelized portion of Buxton Creek located in the northeast portion of the property North of Bell Road. Buxton creek flows North to South, crossing under Bell Road through a 4ft diameter steel culvert. The area primarily consists of forested wetlands with scattered shrubs. Dominated by Green Ash (*Fraxinus pennsylvanica*), Red Maple (*Acer rubrum*), Black Willow (*Salix nigra*), and Muscle wood (*Carpinus caroliniana*), this wetland complex is cover-typed as Red-maple Hardwood Swamp (Edinger). Old oxbows and elevated areas along these channels provide small upland inclusions contributing to the overall diversity. Hydrology is driven by Buxton Creek with some seeps entering from the hill along the east side. Additional wetlands exist in this abandoned field area along the east side of **PFO-02.** These wetlands are currently outside of the project/delineation concurrence request area. Active agriculture exists along the west side of **PFO-02** and was planted in soybean in 2024. Elevated banks along the west side of Buxton creek separate the agricultural fields in this area. Sheet flow drainage from these agricultural areas flows to **PFO-02.**

**Wetland complex (PEM-09 to PEM-13, PEM-17, PFO-03, PSS-03)**

Located on the southwestern portion of property South of Bell Road, these wetlands are bordered by active agriculture within the property and extend onto neighboring properties. This wetland complex is part of an existing (pre-2025) DEC mapped wetland (CS-10) (NWI PFO1E). This wetland is comprised mostly of PFO and to a lesser degree PEM along the portions that interface with agricultural activities. Portions delineated such as **PEM-11, PEM-09, PEM-12, PEM-13, PEM-17** and portions of **PEM-10** are still actively managed for agriculture and were planted in soybean in 2024. **PFO-3** makes up most of this wetland complex. **PFO-3** has also been the subject of agricultural activities where approximately half of this area was farmed up till approximately 1970's. Drainage **D-18** is a remnant agricultural drainage feature still present.

Sample point SP-1 and SP-2 (with 2 wetland points and 1 upland point each) provide a good general representation of the soils, hydrology and vegetation. Most of the PEM areas planted to soybean showed signs of plant stress, typically in depression areas, and with shallow heavy clay soils. **PEM-10** was planted and had some vegetated areas with non-natives species dominance including purple loosestrife and reed canary grass. **PFO-3** is dominated by Green Ash and Red Maple with low diversity of other species such as American Elm. General cover-type percent of Green Ash/Red Maple range from 80/20 to 40/60 with less than 5% of other tree species. EAB has affected most of the Green Ashes here.

Most soils are heavy in clay with very low permeability. Areas are seasonally saturated with prolonged ponding in many areas. **PFO-3** is the wettest to the south and is likely influenced by an old railroad grade

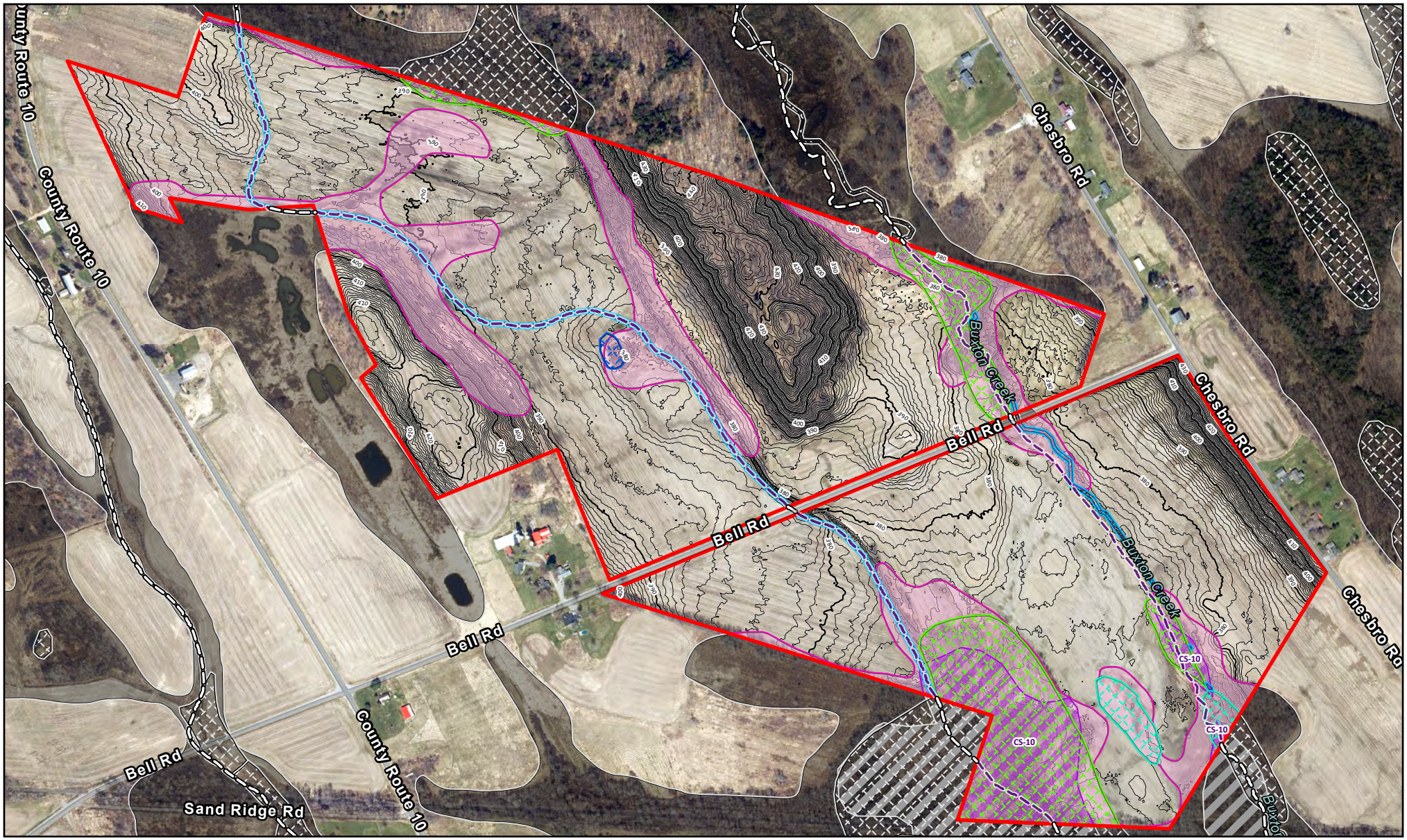
along the south property line. This ROW is currently a recreation trail (Oswego recreational trail). A tributary to Buxton Creek originates on the northside of Bell Road and is shown as **D-17** (typically 2-4 feet wide, 6"-2' deep) on the southside of Bell Road. It traverses portions of **PFO-3** and becomes less pronounced (bed and banks) as it meanders into wetter areas of **PFO-3** along the railroad embankment. **D-17** is mapped to this point. **D-17** eventually outlets under the abandoned railroad embankment through a 4-foot metal culvert. Beaver activity at this culvert is common and will back water up in **PFO-03.** Beaver activity will be considered in long term planning and installation of a beaver deceiver type structure will be considered at the culvert location.

Invasive species include Purple Loosestrife (*Lythrum salicaria*), Reed Canary Grass (*Phalaris arundinacea*), Common Reed (*Phragmites australis*), Cattail (*Typha spp*.), Honeysuckle *(Lonicera spp.*), Multiflora Rose (*Rose multiflora*), Common Buckthorn (*Rhamnus cathartica*), and Moneywort (*Lysimachia nummularia*). Common Reed is introduced into internal areas of **PFO-3** by past logging activities (skidder/tractor ruts in access roads).

**Wetland complex (PEM-07, PEM-08, PEM-14 to PEM-16, PFO-04, PSS-04)**

Located on the southeastern portion of property South of Bell Road, this connects to a larger wetland complex off-property that the **PFO-03** complex is also part of. Buxton Creek traverses this wetland complex with portions channelized through areas with agriculture on both sides. This channelized portion is primarily PSS (**PSS-04**). When the stream enters **PFO-04** it starts to regain a more natural character meandering through the wetland. **PSS-04** and **PFO-04** are primarily linked hydrologically with Buxton Creek and subject to periodic flooding. Portions of **PEM-15** observed flooding in the fall of 2024. The PEM areas are all within agricultural fields planted with soybeans in 2024. Slope and depressions along with heavy clay soils within 10" of the surface, stressed soybeans, hydrology factors contributed to areas delineated as wetlands and verified in the field with the Agencies. **PFO-04** is dominated by Red Maple, Green Ash, Reed Canary Grass, and Silky Dogwood, cover-typed as Red-maple Hardwood Swamp (Edinger). **PSS-04** is dominated by Reed Canary Grass, Purple Loosestrife and Silky Dogwood.

Attachments: 1. State and Federal Mapped Wetlands
2. Buxton Creek Delineation Map
2. Buxton Creek Delineation Summary Table
3. Buxton Creek Data Sheets




# Figure: State and Federal Mapped Wetlands and Streams

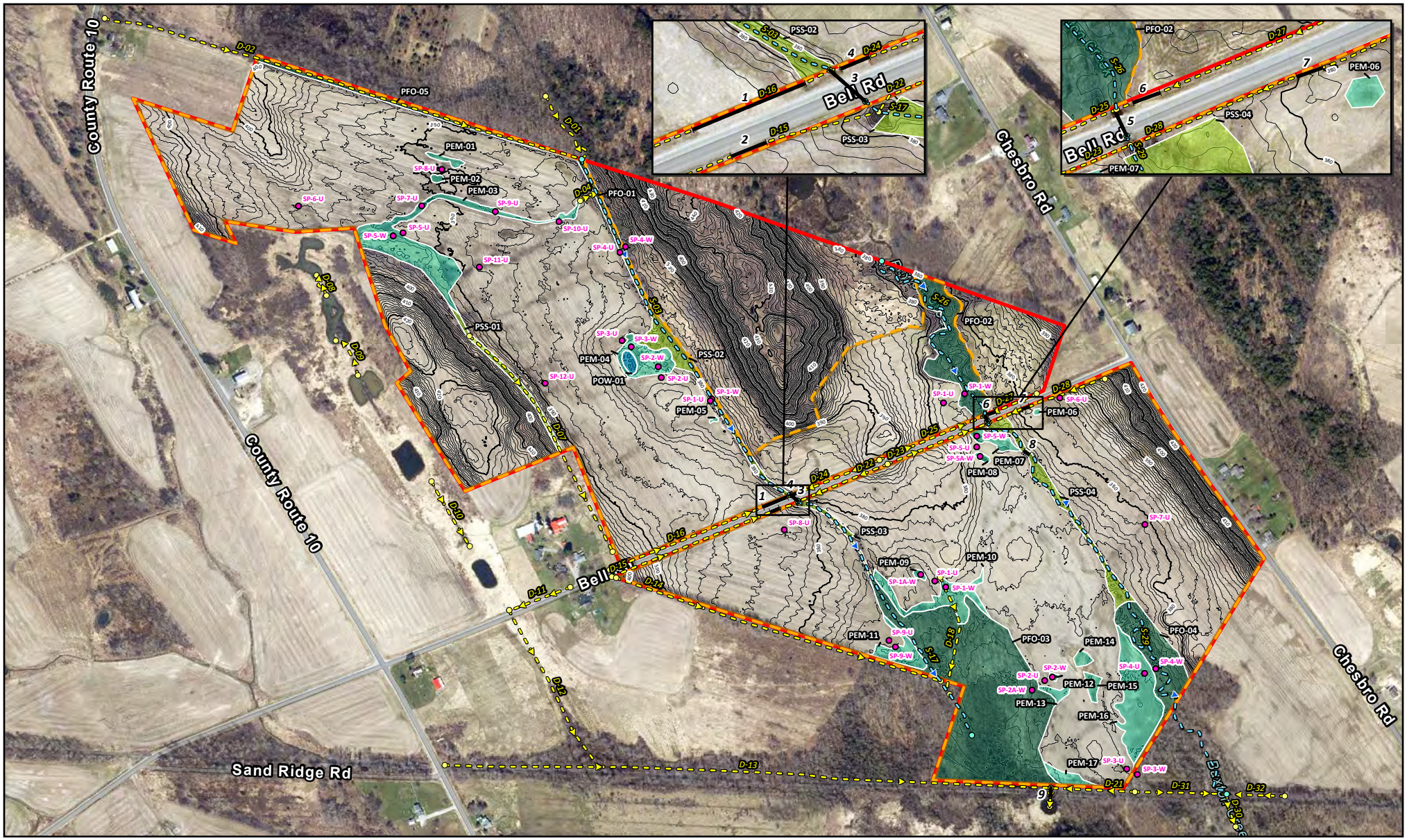
Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

NYSDEC Classified Rivers / Streams
- ID 899-13, Class C, Standard C (9,209 ft)
- Adjacent NYSDEC Classified Rivers / Streams
- NYSDEC Informational Freshwater Wetland Mapping (59.1 ac)
- Adjacent NYSDEC Informational Freshwater Wetland Mapping
- NYSDEC Previously Mapped Freshwater Wetlands (11.2 ac)
- Adjacent NYSDEC Previously Mapped Freshwater Wetlands

NWI Wetlands (26.9 ac total)
- Freshwater Emergent Wetland (2.4 ac)
- Freshwater Forested/Shrub Wetland (19.9 ac)
- Freshwater Pond (0.4 ac)
- Riverine (4.2 ac)
- Adjacent NWI Wetlands
- Contour Line (1 ft)
- TWT Property Boundary (253.9 ac)

Cartographer: Michelle Herman | Date: 27 Jan. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




0 500 1,000 2,000 US Feet

N

# Delineated Wetlands and Drainage Features

Buxton Creek
Town of Schroeppel,
Oswego County, NY

- Wetland Delineation Sample Points (n = 37)
- Culverts (n =9)

Drainage Features
- Ditch
- Stream

Delineated Wetlands (34.9 ac Total)
- Open Water - Pond (0.2 ac)
- PEM (10.5 ac)
- PSS (3.9 ac)
- PFO (20.3 ac)

- Contour Line (1 ft)
- Delineation Concurrence Request Boundary (214.8 ac)
- TWT Property Boundary (253.9 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 8 May 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

## Buxton Creek Wetland Delineation Summary Table

| ID | Wetland Type | Cover Type (Edinger) | Acres | Linear Feet | Notes | Flow Regime |
|---|---|---|---|---|---|---|
| 1 | Culvert | - | - | 130.3146475 | 12 in diameter metal. Parallel to Bell Rd, farm equipment field entrance over roadside ditch. | - |
| 2 | Culvert | - | - | 38.20269462 | Parallel to Bell Rd, farm equipment field entrance over roadside ditch. | - |
| 3 | Culvert | - | - | 51.72682185 | 4 ft diameter plastic. Conveys flow from D-03 under Bell Rd to D-17. Culvert has perched outlet. | - |
| 4 | Culvert | - | - | 30.52043225 | Parallel to Bell Rd, farm equipment field entrance over roadside ditch. | - |
| 5 | Culvert | - | - | 28.58133785 | Concrete box culvert for Bell Rd Buxton Creek crossing (connects D-26 to D-29). | - |
| 6 | Culvert | - | - | 30.98152304 | Parallel to Bell Rd, farm equipment field entrance over roadside ditch. | - |
| 7 | Culvert | - | - | 28.92057877 | Parallel to Bell Rd, farm equipment field entrance over roadside ditch. | - |
| 8 | Culvert | - | - | 22.83912032 | Farm equipment field crossing over Buxton Creek. | - |
| 9 | Culvert | - | - | 42.41565826 | Under former railroad grade. Conveys drainage from field ditches and PFO to the North to old off-site farm pond. Periodically blocked due to beaver activity. | Intermittent |
| D-01 | Ditch | Ditch / artificial intermittent stream | - | 465.4188821 | Off-site channel supplying water to D-03. | Intermittent |
| D-02 | Ditch | Ditch / artificial intermittent stream | - | 2818.27042 | Major drainage channel flowing East from County Route 10 to D-03. Borders North edge of actively farmed Northwest field. | Perennial |
| S-03 | Stream | Ditch / artificial intermittent stream | - | 2322.765529 | Major drainage channel flowing South along East edge of actively farmed Northwest field, from north property boundary to Bell Rd culvert (#3). | Perennial |
| D-04 | Ditch | Ditch / artificial intermittent stream | - | 106.2683978 | Headcut ditch in northeastern corner of Northwest field due to agricultural practices and sandy sediment. Flows to D-03. | Intermittent |
| D-07 | Ditch | Ditch / artificial intermittent stream | - | 1480.074583 | Deep ditch built for agricultural use at base of shrubby hillside. Flows South. | Intermittent |
| D-08 | Ditch | Ditch / artificial intermittent stream | - | 136.9611619 | Off-site flow between constructed NRCS ponds. Flows North. | Intermittent |
| D-09 | Ditch | Ditch / artificial intermittent stream | - | 247.9030752 | Off-site flow between constructed NRCS ponds. Flows North. | Intermittent |
| D-10 | Ditch | Ditch / artificial intermittent stream | - | 425.8679941 | Off-site flow between constructed NRCS ponds. Flows South. | Intermittent |
| D-11 | Ditch | Ditch / artificial intermittent stream | - | 369.1696225 | Off-site roadside ditch along Bell Rd. | Intermittent |

| ID | Wetland Type | Cover Type (Edinger) | Acres | Linear Feet | Notes | Flow Regime |
|---|---|---|---|---|---|---|
| D-12 | Ditch | Ditch / artificial intermittent stream | - | 1025.078934 | Off-site ditch that conveys drainage from the southern constructed NRCS ponds and Bell Rd to ditch along former railroad grade. | Intermittent |
| D-13 | Ditch | Ditch / artificial intermittent stream | - | 3431.284044 | Drainage along North side of former railroad grade, flows East to Culvert 9. | Intermittent |
| D-14 | Ditch | Ditch / artificial intermittent stream | - | 1,925.9 | Shallow dentation in hedgerow along southern edge of active agricultural field, flows southeast to D-17. | Intermittent |
| D-15 | Ditch | Ditch / artificial intermittent stream | - | 1145.335903 | Roadside ditch along Bell Rd., flows to D-17. | Intermittent |
| D-16 | Ditch | Ditch / artificial intermittent stream | - | 1108.480496 | Roadside ditch along Bell Rd., flows to D-03. | Intermittent |
| S-17 | Stream | Ditch / artificial intermittent stream | - | 1703.795425 | Continuation of flow from D-03 south of Culvert 3. Surrounded by active agriculture along northern half, then enters large PFO area (PFO-03) that extends off-site. | Perennial |
| D-18 | Ditch | Ditch / artificial intermittent stream | - | 695.2261329 | Drains PEM-10, flowing to D-17. | Intermittent |
| D-20 | Ditch | Ditch / artificial intermittent stream | - | 105.0470232 | Outflow from Culvert 9 to an old off-site farm pond now situated within a large wetland complex. | Intermittent |
| D-21 | Ditch | Ditch / artificial intermittent stream | - | 474.5929586 | Drainage along north side of former railroad grade, flows West to Culvert 9 and off-site pond. | Intermittent |
| D-22 | Ditch | Ditch / artificial intermittent stream | - | 544.3595709 | Roadside ditch along Bell Rd., flows to D-17. | Intermittent |
| D-23 | Ditch | Ditch / artificial intermittent stream | - | 613.937876 | Roadside ditch along Bell Rd., flows to D-29. | Intermittent |
| D-24 | Ditch | Ditch / artificial intermittent stream | - | 539.3671454 | Roadside ditch along Bell Rd., flows to D-03. | Intermittent |
| D-25 | Ditch | Ditch / artificial intermittent stream | - | 648.6342469 | Roadside ditch along Bell Rd., flows to D-26. | Intermittent |
| S-26 | Stream | Ditch / artificial intermittent stream | - | 1,432.1 | Channelized portion of Buxton Creek North of Bell Rd., flows South. | Intermittent |

| ID | Wetland Type | Cover Type (Edinger) | Acres | Linear Feet | Notes | Flow Regime |
|---|---|---|---|---|---|---|
| D-27 | Ditch | Ditch / artificial intermittent stream | - | 316.3703625 | Roadside ditch along Bell Rd., flows to D-26. | Intermittent |
| D-28 | Ditch | Ditch / artificial intermittent stream | - | 707.1833683 | Roadside ditch along Bell Rd., flows to D-29. | Intermittent |
| S-29 | Stream | Ditch / artificial intermittent stream | - | 3004.257341 | Channelized portion of Buxton Creek between Bell Rd. culvert and former railroad grade bridge. Flows South. | Perennial |
| D-30 | Ditch | Ditch / artificial intermittent stream | - | 192.1854023 | Buxton Creek outlet from site (former railroad grade bridge). | Intermittent |
| D-31 | Ditch | Ditch / artificial intermittent stream | - | 519.4386891 | Drainage along north side of former railroad grade, flows East to Buxton Creek. | Intermittent |
| D-32 | Ditch | Ditch / artificial intermittent stream | - | 328.6165993 | Drainage along north side of former railroad grade, flows West to Buxton Creek. | Intermittent |
| PEM-01 | PEM | Shallow emergent | 0.155486332741 | - | Isolated wet spot, actively farmed. High clay content and yellowing crops. | Ephemeral |
| PEM-02 | PEM | Shallow emergent | 0.0635736434211 | - | Isolated wet spot, actively farmed. High clay content and yellowing crops. | Ephemeral |
| PEM-03 | PEM | Shallow emergent | 3.00539096901 | - | Active agricultural field and NRCS WRE area. Includes surface flow pathway to D-04/ D-03. | Intermittent |
| PEM-04 | PEM | Shallow emergent | 0.99669563645 | - | Wet meadow that was cleared and farmed as recently as 1986. Now heavily invaded by Phalaris arundinacea, Typha and Phragmites australis. Surrounds a farm pond (POW-01). | Intermittent |
| PEM-05 | PEM | Shallow emergent | 0.0263957190393 | - | Isolated wet spot, actively farmed. High clay content and yellowing crops. | Ephemeral |
| PEM-06 | PEM | Shallow emergent | 0.0299217996161 | - | Isolated wet spot, actively farmed. High clay content, yellowing crops and algal mats. | Ephemeral |
| PEM-07 | PEM | Shallow emergent | 0.360849858037 | - | Possibly an old oxbow of Buxton Creek, long since reverted to wet meadow heavily influenced by agricultural activities. Invaded by Phalaris arundinacea, Typha and Phragmites australis. | Ephemeral |
| PEM-08 | PEM | Shallow emergent | 0.0730453577079 | - | Isolated wet spot, actively farmed. High clay content, yellowing crops and tractor ruts. | Ephemeral |
| PEM-09 | PEM | Shallow emergent | 0.0679971791052 | - | Isolated wet spot, actively farmed. High clay content, yellowing crops and tractor ruts. Aquatic plants present. | Ephemeral |
| PEM-10 | PEM | Shallow emergent | 1.29821296281 | - | Wet meadow along north edge of PFO-03. Puddles and high clay content. | Intermittent |
| PEM-11 | PEM | Shallow emergent | 0.696948 | - | Actively farmed. High clay content, deep tractor ruts and water pooling on surface. | Intermittent |
| PEM-12 | PEM | Shallow emergent | 0.0429482215485 | - | Isolated wet spot, actively farmed. High clay content, yellowing crops and algal mats. | Intermittent |

| ID | Wetland Type | Cover Type (Edinger) | Acres | Linear Feet | Notes | Flow Regime |
|---|---|---|---|---|---|---|
| PEM-13 | PEM | Shallow emergent | 0.188871062009 | - | Wet finger off of PFO-03, actively farmed. | Ephemeral |
| PEM-14 | PEM | Shallow emergent | 0.157935194428 | - | Isolated wet spot, actively farmed. High clay content, yellowing crops and algal mats. | Ephemeral |
| PEM-15 | PEM | Shallow emergent | 0.23138196283 | - | Isolated wet spot, actively farmed. High clay content, yellowing crops and algal mats. | Ephemeral |
| PEM-16 | PEM | Shallow emergent | 2.67885861756 | - | Actively farmed portion of Buxton Creek floodplain. Relatively flat surface where water spreads out in a sheet-like pattern. | Intermittent |
| PEM-17 | PEM | Shallow emergent | 0.378167352028 | - | South edge of active agricultural field. Relatively flat surface where water spreads out in a sheet-like pattern. | Intermittent |
| PFO-01 | PFO | Red maple-hardwood swamp | 0.380492255958 | - | Surrounds D-03 channel at North end of property. | Intermittent |
| PFO-02 | PFO | Red maple-hardwood swamp | 3.05841701401 | - | Buxton Creek riparian corridor North of Bell Rd. | Intermittent |
| PFO-03 | PFO | Red maple-hardwood swamp | 13.0903586863 | - | Part of a larger wetland that extends off-site. Influenced by agricultural activities. 80% canopy coverage. | Intermittent |
| PFO-04 | PFO | Red maple-hardwood swamp | 2.61446896281 | - | Riparian corridor of Buxton Creek at South end of property. Influenced by agricultural activities. | Intermittent |
| PFO-05 | PFO | Red maple-hardwood swamp | 1.15866367666 | - | Surrounds D-02. | Intermittent |
| POW-01 | Open Water - Pond | Farm pond / artificial pond | 0.18525305258 | - | Farm pond dug prior to 1955. Invaded with Typha and Phragmites australis. | Perennial |
| PSS-01 | PSS | Scrub shrub | 0.599608325373 | - | Surrounds D-07, at the base of a steep hill. | Intermittent |
| PSS-02 | PSS | Scrub shrub | 1.6145384779 | - | Surrounds D-03 and includes area next to PEM-04 that was cleared and farmed as recently as 1986. | Intermittent |
| PSS-03 | PSS | Scrub shrub | 0.293035802016 | - | Surrounds D-17. | Intermittent |
| PSS-04 | PSS | Scrub shrub | 1.38297701026 | - | Scattered shrubs along Buxton Creek. | Intermittent |

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell rd (Reed) City/County: Oswego Sampling Date: 7/2/2024

Applicant/Owner: State: NY Sampling Point: SP1U

Investigator(s): EHF,HEF Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2865205035 Long: -76.2272201610 Datum: WGS 84

Soil Map Unit Name Mandalin silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features,

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ____ | No x | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes ____ | No x | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample location taken within wetland,adjacent high bank creek (Buxton creek)

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches): ____

Water Table Present? Yes ____ No ____ Depth (inches): ____

Saturation Present? Yes ____ No ____ Depth (inches): ____
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetlands hydrology or drainages

**VEGETATION** – Use scientific names of plants. Sampling Point: SP1U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 30 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 30 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 30 | x 5 = | 150 |
| Column Totals | 30 (A) | | 150 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide support data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Note: soy bean is growing very well, no sign of stress to the plants

**SOIL** Sampling Point: SP1U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 5/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 7.5yr 5/3 | 60 | 7.5yr 6/6 | 40 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ? Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell rd (Reed) City/County: Oswego Sampling Date: 7/2/2024

Applicant/Owner: State: NY Sampling Point: SP1W

Investigator(s): EHF,HEF Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2866609518 Long: -76.2267705594 Datum: WGS 84

Soil Map Unit Name Mandalin silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features,

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample location taken within wetland,adjacent high bank creek (Buxton creek)

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- x FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ____ No ____ Depth (inches): ____

Water Table Present? Yes ____ No ____ Depth (inches): ____

Saturation Present? Yes ____ No ____ Depth (inches): ____

(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No H20 in the hole down 14 inches

**VEGETATION** – Use scientific names of plants. Sampling Point: SP1W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 30 | Yes | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 30 | =Total Cover | |

| Sapling/Shrub Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Viburnum lentago* | 45 | Yes | FAC |
| 2. *Cornus racemosa* | 15 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 60 | =Total Cover | |

| Herb Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Onoclea sensibilis* | 5 | No | FACW |
| 2. *Eutrochium purpureum* | 40 | Yes | FAC |
| 3. *Impatiens capensis* | 40 | Yes | FACW |
| 4. *Viburnum dentatum* | 5 | No | FAC |
| 5. *Lysimachia nummularia* | 10 | No | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | 55 | x 2 = | 110 |
| FAC species | 105 | x 3 = | 315 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals | 190 (A) | | 455 (B) |

Prevalence Index = B/A = 2.39

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide support data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL** Sampling Point: SP1W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 5/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 7.5yr 5/2 | 70 | 7.5yr 5/6 | 30 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ? Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/11/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP1U

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28654 Long: -76.23215 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
15 ft wide vegetated area adjacent to drainage ditch from agricultural field (manufactured 10-15 ft ditch). Modified survey protocol due to topology and size of ditch, oval shaped vegetation sample area to not include plants from the ditch. Survey area sloped

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No X | Depth (inches): | |
| Water Table Present? | Yes X No ____ | Depth (inches): | 24 |
| Saturation Present? (includes capillary fringe) | Yes X No ____ | Depth (inches): | 20 |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology was observed at a depth of 24 inch. Natural hydrology of the area has been modified by the agricultural ditch and likely drainage tile.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP1U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer negundo* | 5 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 5 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Rosa multiflora* | 15 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 3 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 18 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Vitis riparia* | 2 | No | FAC |
| 2. *Solidago canadensis* | 20 | Yes | FACU |
| 3. *Thalictrum dioicum* | 3 | No | FACU |
| 4. *Phalaris arundinacea* | 30 | Yes | FACW |
| 5. *Glechoma hederacea* | 1 | No | FACU |
| 6. *Alliaria petiolata* | 10 | No | FACU |
| 7. *Impatiens capensis* | 5 | No | FACW |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 71 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 38 | x 2 = | 76 |
| FAC species | 7 | x 3 = | 21 |
| FACU species | 49 | x 4 = | 196 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 94 (A) | | 293 (B) |

Prevalence Index = B/A = 3.12

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Modified sampling protocol to not include vegetation in agricultural ditch. Survey area was in 15 foot vegetated area between the agricultural field growing soybeans and the agricultural drainage ditch. Tree cover was approximately 5%, shrub cover was approximately 20%, herbaceous cover was approximately 70%. Salix nigra which originated from the ditch was not included due to modified survey protocol.

## SOIL

Sampling Point: SP1U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5YR 3/2 | 100 | | | | | | Clay loam |
| 10-18 | 7.5YR 3/1 | 95 | 7.5YR 4/4 | 5 | | | | Clay loam |
| 18-22 | 7.5YR 6/1 | 80 | 7.5YR 6/4 | 20 | | | | Clay loam |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/11/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP1W

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): ditch Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28654 Long: -76.23215 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: ____ |

Remarks: (Explain alternative procedures here or in a separate report.)
Drainage ditch from agricultural field, manufactured 10-15 ft ditch. Steep to moderately steep banks, 3ft deep. Modified survey protocol due to topology and size of ditch, oval shaped vegetation spample area, soils not examined.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes X | No ____ | Depth (inches): ____ |
| Water Table Present? | Yes X | No ____ | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water present in ditch at time of survey. 2 in of water with slight flow.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP1W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer negundo* | 35 | Yes | FAC |
| 2. *Salix nigra* | 60 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 95 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Cornus racemosa* | 20 | Yes | FAC |
| 2. *Fraxinus pennsylvanica* | 2 | No | FACW |
| 3. *Lonicera tatarica* | 1 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 23 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Persicaria hydropiper* | 60 | Yes | OBL |
| 2. *Impatiens capensis* | 10 | No | FACW |
| 3. *Symphyotrichum lanceolatum* | 5 | No | FACW |
| 4. *Equisetum pratense* | 1 | No | FACW |
| 5. *Eutrochium purpureum* | 5 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 81 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 120 | x 1 = | 120 |
| FACW species | 18 | x 2 = | 36 |
| FAC species | 60 | x 3 = | 180 |
| FACU species | 1 | x 4 = | 4 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 199 (A) | | 340 (B) |

Prevalence Index = B/A = 1.71

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Modified survey protocol due to topology and size of ditch, oval shaped vegetation spample area.

## SOIL

Sampling Point: SP1W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soil sample was not taken in this manufactured ditch due to modified survey protocol.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/11/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2U

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28694 Long: -76.23318 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in agricultural field plowed and growing soybeans.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ No X | Depth (inches): ____ | |
| Water Table Present? | Yes ____ No X | Depth (inches): ____ | |
| Saturation Present? (includes capillary fringe) | Yes ____ No X | Depth (inches): ____ | **Wetland Hydrology Present?** **Yes** ____ **No** X |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology was observed, area is a drained agricultural field. Drainage ditchs are present on two sides of the field and drainage tile is highly likely.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 5 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 5 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 5 (A) | | 25 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing soybeans. At time of observation plants were 1-3 inch tall.

## SOIL

Sampling Point: SP2U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5YR 3/2 | 100 | | | | | | Clay loam |
| 10-16 | 7.5YR 4/1 | 95 | 7.5YR 4/4 | 5 | | | | Clay loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

The soils were plowed prior to planting of soybeans.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/11/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2W

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2871 Long: -76.23327 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is 40 ft from plowed and planted agricultural soybean field. Sample point is in thick Phalaris arundinacea. Manmade pond is 100ft to the west.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes X | No ____ | Depth (inches): 4 in |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 2 in |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturation is present and the water table is high. Presence of reduced iron was also observed.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Phalaris arundinacea* | 100 | Yes | FACW |
| 2. *Iris versicolor* | 2 | No | OBL |
| 3. *Persicaria maculosa* | 1 | No | FAC |
| 4. *Impatiens capensis* | 1 | No | FACW |
| 5. *Scirpus cyperinus* | 3 | No | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 107 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 5 | x 1 = | 5 |
| FACW species | 101 | x 2 = | 202 |
| FAC species | 1 | x 3 = | 3 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 107 (A) | | 210 (B) |

Prevalence Index = B/A = 1.96

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in thick Phalaris arundinacea

**SOIL**

Sampling Point: SP2W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-3 | 7.5YR 3/2 | 100 | | | | | | Clay loam |
| 3-14 | 7.5YR 2.5/1 | 85 | 7.5YR 5/3 | 5 | | | | Clay loam |
| | 7.5YR 4/6 | 10 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/10/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP3U

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28753 Long: -76.23401 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** **No X** |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in agricultural field plowed and growing soybeans. Historic natural stream which was diverted likely flowed near sample point.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
There is an unusual sand layer in soil sample testing.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP3U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Glycine max* | 5 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 5 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 5 (A) | | 25 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing soybeans. At time of observation plants were 1-3 inch tall.

## SOIL

Sampling Point: SP3U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5YR 3/2 | 95 | 7.5YR 4/2 | 5 | | | | |
| 8-12 | 7.5YR 6/4 | 90 | 7.5YR 7/6 | 10 | | | | sandy loam |
| 12-16 | 7.5YR 4/1 | 70 | 5YR 4/6 | 30 | | | | clay loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Presence of 4 inch of a sandy loam was observed. Sand was reddish in color. The soils were plowed prior to planting of soybeans.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/102024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP3W

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.28743 Long: -76.23396 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is 15 ft from plowed and planted agricultural soybean field and 25 ft. from pond. Drainage towards ditch to the east of sample point.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes X | No ____ | Depth (inches): 16 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 16 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Water Table Present at 16 in after 10 minutes. Likely wetter earlier in growing season

**VEGETATION** – Use scientific names of plants. Sampling Point: SP3W

| Tree Stratum (Plot size: 15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15) | | | |
| 1. *Lonicera tatarica* | 5 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 5 | =Total Cover | |
| **Herb Stratum** (Plot size: 6) | | | |
| 1. *Solidago gigantea* | 20 | No | FACW |
| 2. *Phalaris arundinacea* | 90 | Yes | FACW |
| 3. *Boehmeria cylindrica* | 7 | No | OBL |
| 4. *Impatiens capensis* | 1 | No | FACW |
| 5. *Asclepias syriaca* | 3 | No | UPL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 121 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 7 | x 1 = | 7 |
| FACW species | 111 | x 2 = | 222 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 3 | x 5 = | 15 |
| Column Totals: | 126 (A) | | 264 (B) |

Prevalence Index = B/A = 2.10

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in thick Phalaris arundinacea, with some scattered patches of Solidago gigantea. Herbaceous layer has 100% areal coverage. 5% coverage in the shrub stratum. No trees or vines were present within survey area.

**SOIL**

Sampling Point: SP3W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 7.5YR 3/2 | 100 | | | | | | organic roots, clay loam |
| 6-9 | 2.5YR 5/1 | 95 | 7.5YR 4/6 | 5 | | | | oxidized root channels, clay loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- X Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/10/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP4U

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28694 Long: -76.23318 Datum: WGS84

Soil Map Unit Name: Lamson Very Fine Sandy Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is 15 feet from agricultural field growing soybeans to the southwest, 20 ft from agricultural drainage ditch to the northeast.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Adjacent to drainage ditch 4 ft below sample site

**VEGETATION** – Use scientific names of plants. Sampling Point: SP4U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Salix nigra* | 10 | Yes | OBL |
| 2. *Pinus sylvestris* | 10 | Yes | UPL |
| 3. *Prunus serotina* | 10 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 30 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Lonicera tatarica* | 20 | Yes | FACU |
| 2. *Cornus racemosa* | 15 | Yes | FAC |
| 3. *Salix nigra* | 10 | No | OBL |
| 4. *Prunus serotina* | 5 | No | FACU |
| 5. *Carya ovata* | 3 | No | FACU |
| 6. *Filipendula ulmaria* | 3 | No | FAC |
| 7. | | | |
| | 56 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Rubus pubescens* | 3 | No | FACW |
| 2. *Solidago altissima* | 45 | Yes | FACU |
| 3. *Solidago rugosa* | 2 | No | FAC |
| 4. *Galium aparine* | 20 | Yes | FACU |
| 5. *Toxicodendron radicans* | 10 | No | FAC |
| 6. *Vitis riparia* | 3 | No | FAC |
| 7. *Onoclea sensibilis* | 1 | No | FACW |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 84 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 20 | x 1 = | 20 |
| FACW species | 4 | x 2 = | 8 |
| FAC species | 33 | x 3 = | 99 |
| FACU species | 103 | x 4 = | 412 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 170 (A) | | 589 (B) |

Prevalence Index = B/A = 3.46

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Approximately 80% herbaceous areal coverage, 50% shrub/sapling areal coverage, 25% tree areal coverage. Sample point is in area between agricultural soybean field and agricultural ditch.

## SOIL

Sampling Point: SP4U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 4/2 | 100 | | | | | | Sandy Loam |
| 10-14 | 10YR 4/2 | 85 | 10YR 3/3 | 10 | | | | Sandy Loam, Occasional stone |
| | 7.5YR 5/6 | 5 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

The soils were plowed prior to planting of soybeans.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/10/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP4W

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): _____ Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28898 Long: -76.23394 Datum: WGS84

Soil Map Unit Name: Lamson Very Fine Sandy Loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No _____ | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No _____ | **within a Wetland?** | **Yes** X **No** _____ |
| Wetland Hydrology Present? | Yes X | No _____ | If yes, optional Wetland Site ID: | _____ |

Remarks: (Explain alternative procedures here or in a separate report.)
Wetland between ditch and upland forest sloping up. Upland inclusions. Very wet inclusions. Sample point is generally representative of the area. Site is historic natural streambed which existed prior to digging of agricultural ditch for farm fields.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes _____ | No X | Depth (inches): _____ |
| Water Table Present? | Yes X | No _____ | Depth (inches): 14 in |
| Saturation Present? (includes capillary fringe) | Yes X | No _____ | Depth (inches): 12 in |

**Wetland Hydrology Present?** **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water in other areas of wetland but not at sample point. Water table was measured 5 mins after soil sample was taken.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP4W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 40 | Yes | FACW |
| 2. *Acer rubrum* | 25 | Yes | FAC |
| 3. *Pinus sylvestris* | 5 | No | UPL |
| 4. *Ulmus americana* | 3 | No | FACW |
| 5. *Populus tremuloides* | 3 | No | FACU |
| 6. | | | |
| 7. | | | |
| | 76 | =Total Cover | |

| Sapling/Shrub Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Carya ovata* | 8 | Yes | FACU |
| 2. *Ulmus americana* | 4 | Yes | FACW |
| 3. *Rhamnus cathartica* | 2 | No | FAC |
| 4. *Crataegus monogyna* | 2 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 16 | =Total Cover | |

| Herb Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Toxicodendron radicans* | 60 | Yes | FAC |
| 2. *Veratrum viride* | 5 | No | FACW |
| 3. *Polygonum pensylvanicum* | 25 | Yes | FACW |
| 4. *Peltandra virginica* | 2 | No | OBL |
| 5. *Rhamnus cathartica* | 2 | No | FAC |
| 6. *Dryopteris intermedia* | 1 | No | FAC |
| 7. *Onoclea sensibilis* | 5 | No | FACW |
| 8. *Rubus idaeus* | 1 | No | FACU |
| 9. *Rubus pubescens* | 1 | No | FACW |
| 10. *Impatiens capensis* | 1 | No | FACW |
| 11. *Fragaria vesca* | 1 | No | UPL |
| 12. | | | |
| | 104 | =Total Cover | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 2 | x 1 = | 2 |
| FACW species | 84 | x 2 = | 168 |
| FAC species | 90 | x 3 = | 270 |
| FACU species | 14 | x 4 = | 56 |
| UPL species | 6 | x 5 = | 30 |
| Column Totals: | 196 (A) | | 526 (B) |

Prevalence Index = B/A = 2.68

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Ash all appeared to be dead due to EAB. Sample location was 80% areal tree coverage, 60% shrub, 100% herbaceous.

## SOIL

Sampling Point: SP4W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 5YR 2.5/1 | 100 | | | | | | Clay loam/oxidized root channels |
| 9-14 | 7.5YR 6/1 | 98 | 7.5YR 6/4 | 2 | | | | Reduced/depleted matrix |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/11/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP5U

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28922 Long: -76.23875 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in agricultural field planted with soybeans. Edge of field was 25 ft away to the south/southeast and is dominated by grasses.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology was observed, area is a drained agricultural field. Drainage ditches are present on two sides of the field and drainage tile is highly likely.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 5 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 5 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 5 | (A) | 25 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing soybeans. At time of observation plants were 1-3 inch tall.

## SOIL

Sampling Point: SP5U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 7.5YR 3/2 | 100 | | | | | | Sandy Loam |
| 9-14 | 7.5YR 5/4 | 70 | 7.5YR 4/6 | 30 | | | | Sandy Loam |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Agricultural field was plowed prior to planting of soybeans.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 6/10/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP5W

Investigator(s): EHF, DJJ, KH, HF Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.28914 Long: -76.23888 Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Drainage area, 2% slope from aspen grove in agricultural ditch 100 ft to the southeast.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
At the time of the survey hydrology was not present, given soils and hydrophytic vegetation it appears likely that hydrology was present earlier in the season.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Salix discolor* | 10 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 10 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Phalaris arundinacea* | 70 | Yes | FACW |
| 2. *Juncus effusus* | 10 | No | OBL |
| 3. *Eupatorium perfoliatum* | 3 | No | FACW |
| 4. *Solidago rugosa* | 3 | No | FAC |
| 5. *Solidago gigantea* | 10 | No | FACW |
| 6. *Onoclea sensibilis* | 1 | No | FACW |
| 7. *Rumex crispus* | 2 | No | FAC |
| 8. *Erigeron strigosus* | 2 | No | FACU |
| 9. *Equisetum arvense* | 1 | No | FAC |
| 10. *Galium palustre* | 3 | No | OBL |
| 11. | | | |
| 12. | | | |
| | 105 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 13 | x 1 = | 13 |
| FACW species | 94 | x 2 = | 188 |
| FAC species | 6 | x 3 = | 18 |
| FACU species | 2 | x 4 = | 8 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 115 (A) | | 227 (B) |

Prevalence Index = B/A = 1.97

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% herbacious coverage, 10% shrug coverage, 0% tree

## SOIL

Sampling Point: SP5W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5YR 3/2 | 100 | | | | | | Sandy Loam |
| 10-14 | 7.5YR 5/2 | 60 | 7.5YR 5/4 | 40 | | | | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
At 14 inches dense sand.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-6-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.289615°N Long: -76.240900°W Datum: WGS84

Soil Map Unit Name: Lamson Very Fine Sandy Loam NWI classification: R5UBH Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with seed drilled soybeans, site is 50 meters from adjacent manmade wetland. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No ____ | Depth (inches): | 0.5 |
| Water Table Present? | Yes X | No ____ | Depth (inches): | 0.5 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Water was pooling in 30% of the sample area at 0.5 inches above the ground.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-6-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing seed drilled soybeans. At time of observation plants were approximately 39 inch tall with 100% herbaceous cover. Soybean plants were green and lush.

## SOIL

Sampling Point: SP-6-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-11 | 10YR 3/2 | 95 | 5YR 4/4 | 5 | | | Loamy/Clayey | Silt Loam |
| 11-20 | 7.5YR 4/6 | 100 | | | | | Sandy | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event and standing water. No hydric soil indicators were observed. Sand was reddish in color and was not reduced.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-7-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.289612°N Long: -76.238230°W Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: ____ |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is finger of unplanted land in an agricultural field surrounded by soybeans. The finger connects to the adjacent wetland. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes X | No ____ | Depth (inches): 1 inch |
| Water Table Present? | Yes X | No ____ | Depth (inches): 1 inch |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 0 inch |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Water was pooling at a depth of 1 inches above the ground.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-7-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Cyperus esculentusCyperus esculentus* | 75 | Yes | |
| 2. *Ludwigia alternifolia* | 15 | No | OBL |
| 3. *Echinochloa crus-galli* | 2 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 92 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 15 | x 1 = | 15 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 2 | x 3 = | 6 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 17 (A) | | 21 (B) |

Prevalence Index = B/A = 1.24

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is finger of unplanted land in an agricultural field surrounded by soybeans. The finger connects to the adjacent wetland. Herbaceous cover is 90%.

## SOIL

Sampling Point: SP-7-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-12 | 10YR 3/2 | 100 | | | | | Loamy/Clayey | Silt Loam |
| 12-20 | 10YR 5/3 | 100 | | | | | Sandy | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event and standing water. The sand layer that is present on this site is reduced relative to other samplepoints, but not reduced to a chroma of 2. Sample

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-8-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.289615°N Long: -76.240900°W Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with seed drilled soybeans. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| X Surface Water (A1) | ____ Water-Stained Leaves (B9) | ____ Aquatic Fauna (B13) |
| X High Water Table (A2) | ____ Marl Deposits (B15) | ____ Hydrogen Sulfide Odor (C1) |
| X Saturation (A3) | ____ Oxidized Rhizospheres on Living Roots (C3) | ____ Presence of Reduced Iron (C4) |
| ____ Water Marks (B1) | ____ Recent Iron Reduction in Tilled Soils (C6) | ____ Thin Muck Surface (C7) |
| ____ Sediment Deposits (B2) | ____ Other (Explain in Remarks) | |
| ____ Drift Deposits (B3) | | |
| ____ Algal Mat or Crust (B4) | | |
| ____ Iron Deposits (B5) | | |
| ____ Inundation Visible on Aerial Imagery (B7) | | |
| ____ Sparsely Vegetated Concave Surface (B8) | | |

Secondary Indicators (minimum of two required)

| |
|---|
| ____ Surface Soil Cracks (B6) |
| ____ Drainage Patterns (B10) |
| ____ Moss Trim Lines (B16) |
| ____ Dry-Season Water Table (C2) |
| ____ Crayfish Burrows (C8) |
| ____ Saturation Visible on Aerial Imagery (C9) |
| ____ Stunted or Stressed Plants (D1) |
| ____ Geomorphic Position (D2) |
| ____ Shallow Aquitard (D3) |
| ____ Microtopographic Relief (D4) |
| ____ FAC-Neutral Test (D5) |

**Field Observations:**

Surface Water Present? Yes X No ____ Depth (inches): 0.25 inch

Water Table Present? Yes X No ____ Depth (inches): 0.25 inch

Saturation Present? Yes X No ____ Depth (inches): 0 inch

(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-8-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 | (A) | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing seed drilled soybeans. At time of observation plants were approximately 44 inch tall with 100% herbaceous cover. Soybean plants were green and lush.

## SOIL

Sampling Point: SP-8-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 3/1 | 100 | | | | | Loamy/Clayey | Silt Loam |
| 10-20 | 10YR 5/3 | 100 | | | | | Sandy | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event. No hydric soil indicators were observed.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-9-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.289518°N Long: -76.236720°W Datum: WGS84

Soil Map Unit Name: Lamson Very Fine Sandy Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with seed drilled soybeans. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No ____ | Depth (inches): | 2 |
| Water Table Present? | Yes X | No ____ | Depth (inches): | 2 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Water was pooling in the sample area at 2 inches above the ground. Water is slowly flowing from the general direction of SP-7-U

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-9-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Glycine max* | 80 | Yes | UPL |
| 2. *Cyperus esculentus* | 30 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 110 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 30 | x 2 = | 60 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 80 | x 5 = | 400 |
| Column Totals: | 110 (A) | | 460 (B) |

Prevalence Index = B/A = 4.18

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing seed drilled soybeans. At time of observation soybean plants were approximately 34 inch tall. 100% herbaceous cover was present. Soybean plants were lighter in color and smaller than adjacent areas in the field.

## SOIL

Sampling Point: SP-9-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-11 | 10YR 3/2 | 100 | | | | | Loamy/Clayey | Silt loam |
| 11-20 | 10YR 4/4 | 80 | 10YR 3/2 | 10 | | | | Silt/sand |
| | 10YR 5/8 | 10 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event and standing water. No hydric soil indicators were observed.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-10-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.289358°N Long: -76.235370°W Datum: WGS84

Soil Map Unit Name: Lamson Very Fine Sandy Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with seed drilled soybeans. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No ____ | Depth (inches): | 0.5 | |
| Water Table Present? | Yes X | No ____ | Depth (inches): | 0.5 | |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): | 0 | **Wetland Hydrology Present?** **Yes** X **No** ____ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Water was pooling in 90% of the sample area at .5 inches above the ground. Water is slowly flowing toward headcuts to the east

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-10-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Glycine max* | 75 | Yes | UPL |
| 2. *Cyperus esculentus* | 25 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 75 | x 5 = | 375 |
| Column Totals: | 100 (A) | | 425 (B) |

Prevalence Index = B/A = 4.25

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing seed drilled soybeans. At time of observation soybean plants were approximately 39 inch tall. 100% herbaceous cover was present. Soybean plants were lighter in color and smaller than adjacent areas in the field and a sporadic growth pattern was observed. Patches with no soybeas and stunted growth.

## SOIL

Sampling Point: SP-10-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 3/2 | 100 | | | | | Sandy | Sandy Loam |
| 10-20 | 10YR 5/3 | 70 | 10YR 4/2 | 30 | | | Sandy | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event and standing water. No hydric soil indicators were observed.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-11-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.288657°N Long: -76.237064°W Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with seed drilled soybeans. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Sample point is adjacent to forest area 250 ft to the west. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No ____ | Depth (inches): | 1.5 |
| Water Table Present? | Yes X | No ____ | Depth (inches): | 1.5 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Standing water from rain is present at the sample location at a depth of .5 to 1.5 in above the ground.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-11-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing seed drilled soybeans. At time of observation plants were approximately 41 inch tall with 100% herbaceous cover. Soybean plants were green and lush.

**SOIL**

Sampling Point: SP-11-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 4/2 | 90 | 7.5YR 4/6 | 10 | | | Loamy/Clayey | Silt Loam |
| 10-20 | 7.5YR 4/4 | 100 | | | | | Sandy | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event and standing water. No hydric soil indicators were observed

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bell Rd City/County: Oswego Sampling Date: 8/13/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-12-U

Investigator(s): DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.286851°N Long: -76.235677°W Datum: WGS84

Soil Map Unit Name: Canandaigua Silt Loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with seed drilled soybeans. Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Sample point is adjacent to shrub area 100 ft to the west. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes X | No ____ | Depth (inches): 18 |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): 0 |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Rain from Hurricane Debby resulted in unusually wet hydrological conditions at the time of sampling. Wetland hydrology was not present prior to those rain events. Water filled test hole at a depth of 18 in 5 minutes.

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-12-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point is in agricultural field plowed and growing seed drilled soybeans. At time of observation plants were approximately 43 inch tall with 100% herbaceous cover. Soybean plants were green and lush.

## SOIL

Sampling Point: SP-12-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-11 | 10YR 3/4 | 95 | 10YR 4/6 | 5 | | | Loamy/Clayey | Silt loam |
| 11-20 | 5YR 5/3 | 60 | 2.5Y 5/6 | 40 | | | Sandy | Sand |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Soils were highly saturated due to rain event. No hydric soil indicators were observed

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP1w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.283663 Long: -76.227188 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Projection of land extending out of a wetland into an agriculture field. Soy fields are surrounded on three sides, persume drains south towards forested wetland area

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): | <1 | |
| Water Table Present? | Yes | No X | Depth (inches): | | |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): | 1 | **Wetland Hydrology Present?** **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Ground is saturated with water in test hole up to the surface (12 inches deep). No signs of drainage or channel

**VEGETATION** – Use scientific names of plants. Sampling Point: SP1w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Cornus amomum* | 2 | No | FACW |
| 2. *Fraxinus pennsylvanica* | 1 | No | FACW |
| 3. *Salix discolor* | 1 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 4 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Phalaris arundinacea* | 75 | Yes | FACW |
| 2. *Typha latifolia* | 10 | No | OBL |
| 3. *Solidago gigantea* | 20 | No | FACW |
| 4. *Symphyotrichum puniceum* | 1 | No | OBL |
| 5. *Eutrochium purpureum* | 7 | No | FAC |
| 6. *Lythrum salicaria* | 2 | No | OBL |
| 7. *Equisetum arvense* | 1 | No | FAC |
| 8. *Onoclea sensibilis* | 1 | No | FACW |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 117 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 13 | x 1 = | 13 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 8 | x 3 = | 24 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 121 (A) | | 237 (B) |

Prevalence Index = B/A = 1.96

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% herbaceous cover. One large dead ash on the outer perimeter. Floor littered with dead cattail

## SOIL

Sampling Point: SP1w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-5 | 7.5yr 2.5/2 | 95 | 7.5yr 5/6 | 5 | | | Loamy/Clayey | |
| 5-12 | 7.5yr 6/2 | 80 | 7.5yr 6/6 | 20 | | | Loamy/Clayey | Silt/ Clay/ Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
Oxidized root channels in top layer

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP1u

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Non Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.283757 Long: -76.227421 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Agriculture field, Soy beans are tall and thriving. No understory of growth. Approximently 25ft from wetland. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation and soil.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of hydrology, no drainage pattern, no saturated soils

**VEGETATION** – Use scientific names of plants. Sampling Point: SP1u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Soy is tall and thriving. No additional veg growing

## SOIL

Sampling Point: SP1u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 7.5yr 3/2 | 100 | | | | | Loamy/Clayey | |
| 9-15 | 7.5yr 5/4 | 55 | 7.5yr 5/2 | 40 | | | Loamy/Clayey | |
| | | | 7.5yr 3/2 | 5 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

non-hydric soils, soils are very close to being hydric but are more upland

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP1Aw

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.283858 Long: -76.22772 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Isolated wet patch surrounded by a agriculture field planted with Soy Beans. Adjacent forested wetland on three sides of patch. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation and soil.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): | 4 |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): | 1 |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water approximently 4inches deep. Saturation occuring on top of clay layer

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP1Aw

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Echinochloa crus-galli* | 90 | Yes | FAC |
| 2. *Glycine max* | 5 | No | UPL |
| 3. *Ranunculus sceleratus* | 5 | No | OBL |
| 4. *Eleocharis ssp.* | 1 | No | OBL |
| 5. *Ludwigia palustris* | 3 | No | OBL |
| 6. *Cyperus esculentus* | 1 | No | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 105 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 9 | x 1 = | 9 |
| FACW species | 1 | x 2 = | 2 |
| FAC species | 90 | x 3 = | 270 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 105 (A) | | 306 (B) |

Prevalence Index = B/A = 2.91

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No soy in sample point but surrounded by soy 10 more ft out.

**SOIL**

Sampling Point: SP1Aw

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 5yr 4/1 | 90 | 5yr 4/6 | 10 | | | Loamy/Clayey | Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Top soil missing. B horizon is clay

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282259 Long: -76.224934 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Isolated wet area surrounded by soy beans, adjacent to a forested wetland.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): 4 | | |
| Water Table Present? | Yes | No X | Depth (inches): | | |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): 0 | **Wetland Hydrology Present?** | **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturated soils with approximently 4 inches of standing water. Hydrology is restricted to surface with no water in the hole

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Echinochloa crus-galli* | 100 | Yes | FAC |
| 2. *Ranunculus sceleratus* | 2 | No | OBL |
| 3. *Eleocharis ssp.* | 1 | No | OBL |
| 4. *Ludwigia palustris* | 1 | No | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 104 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 4 | x 1 = | 4 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 100 | x 3 = | 300 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 104 (A) | | 304 (B) |

Prevalence Index = B/A = 2.92

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No Soy present in isolated wet area.

## SOIL

Sampling Point: SP2w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 4/1 | 95 | 7.5yr 5/6 | 5 | | | Loamy/Clayey | Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Missing top soil. Hydric clay layer at surface

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2u

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282205 Long: -76.225096 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Agriculture field planted with Soybeans

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of hydrology, no drainage pattern

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
100% soy bean cover. No vegetative understory

## SOIL

Sampling Point: SP2u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 4/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 7.5yr 5/6 | 60 | 7.5yr 5/3 | 40 | | | Loamy/Clayey | Silt loam texture |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:
No oxidized root channels

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2Aw

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282058 Long: -76.225366 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: PFO1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Forested wetland system with 1-foot-deep skitter/ tractor roots approximately seven feet away from test hole. Approximately 40 ft from soy bean field

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): | <1 |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water in tractor ruts, 20 inches down. No water in test hole

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2Aw

| Tree Stratum (Plot size: 15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. *Acer saccharinum* | 40 | Yes | FACW |
| 3. *Acer rubrum* | 45 | Yes | FAC |
| 4. *Quercus macrocarpa* | 8 | No | FACU |
| 5. *Carya ovata* | 3 | No | FACU |
| 6. | | | |
| 7. | | | |
| | 96 | =Total Cover | |

| Sapling/Shrub Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |

| Herb Stratum (Plot size: 6) | | | |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 30 | Yes | FACW |
| 2. *Impatiens capensis* | 15 | No | FACW |
| 3. *Symphyotrichum lanceolatum* | 25 | Yes | FACW |
| 4. *Carex intumescens* | 15 | No | FACW |
| 5. *Lysimachia nummularia* | 20 | No | FACW |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 105 | =Total Cover | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 145 | x 2 = | 290 |
| FAC species | 45 | x 3 = | 135 |
| FACU species | 11 | x 4 = | 44 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 201 (A) | | 469 (B) |

Prevalence Index = B/A = 2.33

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Dead ash DBH ranges from 12-16 and some approximately 24 inches. Canopy coverage ranges from 70-100%. Ground littered with leaves.

## SOIL

Sampling Point: SP2Aw

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 4/1 | 100 | | | | | | |
| 8-16 | 7.5yr 4/1 | 70 | 7.5yr 5/6 | 20 | | | | |
| | | | 7.5yr 2.5/1 | 10 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
Oxidized root Channels

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP3w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.280742 Long: -76.223139 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: PEM5E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Forested wetland with open emergent in center. Soy bean field to the southwest and a disabled railroad track 125ft to the southeast

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): 0 | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | **Wetland Hydrology Present?** **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water at surface or in shallow depressions in the forested wetland. No drainage pattern

**VEGETATION** – Use scientific names of plants. Sampling Point: SP3w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 75 | Yes | FAC |
| 2. *Ulmus americana* | 10 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 85 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 2. *Cornus amomum* | 5 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 10 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Symphyotrichum lanceolatum* | 50 | Yes | FACW |
| 2. *Eutrochium purpureum* | 5 | No | FAC |
| 3. *Eupatorium perfoliatum* | 5 | No | FACW |
| 4. *Lysimachia nummularia* | 60 | Yes | FACW |
| 5. *Ulmus americana* | 5 | No | FACW |
| 6. *Penthorum sedoides* | 1 | No | OBL |
| 7. *Carex intumescens* | 1 | No | FACW |
| 8. *Juncus effusus* | 2 | No | OBL |
| 9. *Lycopus americanus* | 3 | No | OBL |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 132 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 6 | x 1 = | 6 |
| FACW species | 141 | x 2 = | 282 |
| FAC species | 80 | x 3 = | 240 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 227 (A) | | 528 (B) |

Prevalence Index = B/A = 2.33

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Large dead ash trees with DBH ranging from 8-12 inches. Mostly shaded with 90% canopy coverage

## SOIL

Sampling Point: SP3w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 2.5/1 | 100 | | | | | | |
| 8-14 | 7.5yr 5/1 | 80 | 7.5yr 5/6 | 20 | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

No water in hole, no drainage pattern. Oxidized root channels presant

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP3u

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.280829 Long: -76.223363 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Agricultural field planted with Soybeans. Forested wetland adjacent to sample point. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation and soil.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology, no drainage patterns

**VEGETATION** – Use scientific names of plants. Sampling Point: SP3u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Soy beans tall and thriving

## SOIL

Sampling Point: SP3u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 4/2 | 100 | | | | | | |
| 8-14 | 7.5yr 5/6 | 60 | 7.5yr 5/1 | 40 | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:
No hydrolic indicators

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP4w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): non Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282382 Long: -76.222737 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: PEM5E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
There is a slow meandering stream channel 15ft from test hole. The channel is 4-6ft wide and varying depth up to two. Adjacent on the other side is a soy bean field

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes X | No | Depth (inches): 6 |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): 0 |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturated soils starting at 6inches deep. Water in test hold 10 inches high

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP4w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Cornus amomum* | | | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Phalaris arundinacea* | 100 | Yes | FACW |
| 2. *Lythrum salicaria* | 3 | No | OBL |
| 3. *Xanthium strumarium* | 3 | No | FAC |
| 4. *Persicaria virginiana* | 3 | No | FAC |
| 5. *Echinochloa crus-galli* | 1 | No | FAC |
| 6. *Glyceria striata* | 1 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 111 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 4 | x 1 = | 4 |
| FACW species | 100 | x 2 = | 200 |
| FAC species | 7 | x 3 = | 21 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 111 (A) | | 225 (B) |

Prevalence Index = B/A = 2.03

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Herbaceous dominated. Reed canary littered the ground. Large dead ash on outskirts of plot

## SOIL

Sampling Point: SP4w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 2.5/1 | 100 | | | | | Loamy/Clayey | |
| 10-16 | 7.5yr 4/1 | 85 | 7.5yr 4/4 | 15 | | | Sandy | Sandy loam |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
Oxidized root channels presant.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP4u

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282311 Long: -76.222974 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Agricultural field planted with Soybeans. Wetland with stream channel adjacent to sample point. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation and soil.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology, no drainage patterns

**VEGETATION** – Use scientific names of plants. Sampling Point: SP4u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Soy beans tall and thriving

## SOIL

Sampling Point: SP4u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 7.5yr 4/2 | 100 | | | | | | |
| 9-14 | 7.5yr 5/6 | 60 | 7.5yr 5/1 | 40 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:
No hydrolic indicators

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/24/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP5w

Investigator(s): K. Hastings, D. Johnston Jordan Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Convex Slope (%):

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.286002 Long: -76.226516 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Wet area between a road to the north, soybean field to the south and a drainage ditch to the east.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): | <1 | |
| Water Table Present? | Yes | No X | Depth (inches): | | |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): | 1 | **Wetland Hydrology Present?** **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water less than 1 inch. Oxidized root channels present

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. Peach-Leaf Willow | 1 | No | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 1 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Typha angustifolia* | 75 | Yes | OBL |
| 2. *Phragmites australis* | 8 | No | FACW |
| 3. *Lythrum salicaria* | 1 | No | OBL |
| 4. *Lysimachia nummularia* | 30 | Yes | FACW |
| 5. *Leersia oryzoides* | 15 | No | OBL |
| 6. *Iris versicolor* | 3 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 132 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 94 | x 1 = | 94 |
| FACW species | 38 | x 2 = | 76 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 132 (A) | | 170 (B) |

Prevalence Index = B/A = 1.29

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Dead typha littering the ground. 100% herbaceous

## SOIL

Sampling Point: SP5w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 5/1 | 90 | 10yr 4/4 | 10 | | | Loamy/Clayey | |
| 8-14 | 10yr 5/1 | 85 | 10yr 4/4 | 10 | | | Loamy/Clayey | |
| | | | 10yr 7/8 | 5 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/24/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP5u

Investigator(s): K. Hastings, D. Johnston Jordan Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Convex Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.285834 Long: -76.226519 Datum: WSG84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Agricultural field that was recently harvest. Previously had tall, thriving soybeans. Sample point is between two possible wetlands (SP5w & SP5Aw). Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation and soil. Only criteria met is hydric soil.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology present, no signs of drainage

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Soy was harvested leaving just 2inch stalks from the ground

**SOIL**

Sampling Point: SP5u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 5/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 10yr 5/2 | 70 | 10yr 5/2 | 30 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/24/2024

Applicant/Owner: Thr Wetland Trust State: NY Sampling Point: SP5Aw

Investigator(s): K. Hastings, D. Johnston Jordan Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.285687 Long: -76.226448 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Isolated wet area surrounded by Soybeans in an agriculture field. Recently harvested with deep tractor ruts approximently 6 inches deep surrounding wet area.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): 5 | | |
| Water Table Present? | Yes | No X | Depth (inches): | | |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): 0 | **Wetland Hydrology Present?** | **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water approximently 5 inches from ground. Saturation is present. Small amount of algal mats no bigger than an inch each. No oxidized roots

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5Aw

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Echinochloa crus-galli* | 100 | Yes | FAC |
| 2. *Cyperus esculentus* | 1 | No | FACW |
| 3. *Eleocharis ssp.* | 2 | No | OBL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 103 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 2 | x 1 = | 2 |
| FACW species | 1 | x 2 = | 2 |
| FAC species | 100 | x 3 = | 300 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 103 (A) | | 304 (B) |

Prevalence Index = B/A = 2.95

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No soy in plot

## SOIL

Sampling Point: SP5Aw

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10yr 5/1 | 100 | | | | | Loamy/Clayey | |
| 10-16 | 10yr 6/1 | 95 | 10yr 6/6 | 5 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Top soil appears to be missing in plot.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/24/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP6u

Investigator(s): K. Hastings, D. Johnston Jordan Section, Township, Range:

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.286590 Long: -76.224749 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Plowed grass area on the edge of a Soybean field bordering the road.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology, no drainage pattern

**VEGETATION** – Use scientific names of plants. Sampling Point: SP6u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Poa annua* | 100 | Yes | FACU |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 100 | x 4 = | 400 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 100 (A) | | 400 (B) |

Prevalence Index = B/A = 4.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No soy planted. Grass approximately two inches from ground. Grass species is not 100% verified

**SOIL**

Sampling Point: SP6u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-11 | 10yr 3/2 | | | | | | Loamy/Clayey | silt loam |
| 11-20 | 10yr 5/2 | 50 | 10yr 5/3 | 50 | | | Loamy/Clayey | silt loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:
Soils are 50/50 hydric/ upland

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/24/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP7w?

Investigator(s): K. Hastings, D. Johnston Jordan Section, Township, Range:

Landform (hillside, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.284620 Long: -76.222953 Datum: WGS84

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ? | No | **within a Wetland?** **Yes** **No** ? |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Wet area at the beginning of a drainage system that heads towards the hedgerow to the west. In an agricultural field planted with soy that was recently harvested.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes X No Depth (inches): <1

Water Table Present? Yes No X Depth (inches):

Saturation Present? Yes X No Depth (inches): 6
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Drainage pattern, saturation, surface water and few small algal mats are present.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP7w?

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. *Ranunculus sceleratus* | 1 | No | OBL |
| 3. *Echinochloa crus-galli* | 10 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 111 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 111 (A) | | 531 (B) |

Prevalence Index = B/A = 4.78

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Soy was harvested leaving just 2inch stalks from the ground.

## SOIL

Sampling Point: SP7w?

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 5/2 | 95 | 10yr 4/6 | 5 | | | Loamy/Clayey | |
| 8-16 | 10yr 5/3 | 60 | 10yr 4/6 | 40 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ? Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ? **No** ___

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: South Bell Road City/County: Schroeppel/ Oswego Sampling Date: 10/24/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP8u

Investigator(s): K. Hastings, D. Johnston Jordan Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.284563 Long: -76.230611 Datum: WGS84

Soil Map Unit Name: Rhinebeck silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point in the middle of a large agricultural field that was recently harvest. Previously had tall, thriving soybeans. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation and soil.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology, no signs of drainage

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP8u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Soy was harvested leaving just 2inch stalks from the ground and soy remains littering the ground

## SOIL

Sampling Point: SP8u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 10yr 3/2 | 100 | | | | | Loamy/Clayey | |
| 9-20 | 7.5yr 4/6 | 90 | 10r 4/6 | 5 | | | Loamy/Clayey | Sandy loam |
| | | | 10r 3/1 | 5 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** ___

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Buxton Creek City/County: Schroeppel/ Oswego Sampling Date: 4/24/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-9-U

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282838 Long: 43.282838 Datum: WSG81

Soil Map Unit Name: Madalin Silt Loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes No N

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Agriculture field, Soy beans were tall and thriving. No understory of growth. Adjacent to a farn ditch to the NE. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation, soil and hydrology. Area was reviewed in fall of 2024 and 4/24/2025

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns, on multiple sight visits

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-9-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 100 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation, small sprouts of green grass 0n 4/24/2025. Note area was thriving with soybean in 2024. vegetation was not stressed in this area. The percentage was based on previous sight visits.

## SOIL

Sampling Point: SP-9-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-12 | 10yr 3/2 | 80 | 10yr 5/8 | 20 | | | Loamy/Clayey | |
| 12-26 | 10yr 7/1 | 80 | 10yr 5/8 | 10 | | | Loamy/Clayey | |
| | | | 10yr 5/2 | 10 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soils become more clay with a noticable change at 12inches

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Buxton Creek City/County: Oswego/ Schroeppel Sampling Date: 4/24/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-9-W

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.282738 Long: -43.282738 Datum: WSG81

Soil Map Unit Name: Madalin silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No ___ (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No ___

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ___ | **within a Wetland?** | **Yes** X **No** ___ |
| Wetland Hydrology Present? | Yes X | No ___ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Edge of agriculture field. Adjacent to a farn ditch to the NE. Agriculture field gets harvested and plowed annually for the past 70+ years resulting in disturbed vegetation, soil and hydrology. Tractor left deep ruts from fall 2024 harvest. Assuming hydrophytic vegetation would be present in absent agriculture.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No ___ | Depth (inches): | half inch |
| Water Table Present? | Yes X | No ___ | Depth (inches): | 34in |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Water pooling in tractor ruts, up to 1/2 an inch. Water table was at 34 inches, agriculture compaction is likely causing surface inhidation in low areas, but the water table seems to be separate from this condition.

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-9-W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Glycine max* | 40 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 40 =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Ranunculus sceleratus* | 1 | No | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 1 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 40 | x 5 = | 200 |
| Column Totals: | 41 (A) | | 201 (B) |
| Prevalence Index = B/A = | | | 4.90 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Limited vegetation, small sprouts of green grass on 4/24/2025. In fall of 2024 soy bean was growing but stressed

## SOIL

Sampling Point: SP-9-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10yr 3/2 | 70 | 10yr 4/6 | 30 | | | Loamy/Clayey | |
| 10-14 | 10yr 6/1 | 80 | 10yr 5/8 | 20 | | | Loamy/Clayey | Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

# Appendix D.

| Common Name | Scientific Name | Conservation Status | Indicator Status | Native | Buxton Creek | Lower Caughdenoy Creek | Oneida River | Fish Creek | Upper Caughdenoy Creek | Sixmile Creek |
|---|---|---|---|---|---|---|---|---|---|---|
| **Amphibian** | | | | | | | | | | |
| American toad | *Anaxyrus americanus* | S5 G5: secure in NYS and globally | - | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | |
| gray treefrog | *Dryophytes versicolor* | S5 G5: secure in NYS and globally | - | Yes | ✓ | ✓ | ✓ | | ✓ | |
| northern green frog | *Lithobates clamitans melanota* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | ✓ | |
| northern leopard frog | *Lithobates pipiens* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | ✓ | ✓ | |
| wood frog | *Lithobates sylvaticus* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| **Reptile** | | | | | | | | | | |
| painted turtle | *Chrysemys picta* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| eastern garter snake | *Thamnophis sirtalis sirtalis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | | ✓ | |
| **Bird** | | | | | | | | | | |
| red-winged blackbird | *Agelaius phoeniceus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| wood duck | *Aix sponsa* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| mallard | *Anas platyrhynchos* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | ✓ |
| American pipit | *Anthus rubescens* | Least concern | - | Yes | | | ✓ | | ✓ | ✓ |
| sandhill crane | *Antigone canadensis* | S1B G5: critically imperiled (breeding) in NYS and secure globally | - | Yes | | | ✓ | | | |
| great blue heron | *Ardea herodias* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| tufted titmouse | *Baeolophus bicolor* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | ✓ | |
| Canada goose | *Branta canadensis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | | ✓ | ✓ |
| red-tailed hawk | *Buteo jamaicensis* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | ✓ |
| green heron | *Butorides virescens* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| northern cardinal | *Cardinalis cardinalis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| turkey vulture | *Cathartes aura* | S4B G5: apparently secure (breeding) in NYS and secure globally | - | Yes | | | ✓ | | | ✓ |
| killdeer | *Charadrius vociferus* | S5 G5: secure in NYS and globally | - | Yes | ✓ | ✓ | ✓ | | ✓ | |
| northern harrier | *Circus hudsonius* | (NYS Threatened Species) S3B, S3N G5: vulnerable (breeding/non-breeding) in NYS and secure globally | - | Yes | | | | ✓ | | ✓ |
| northern flicker | *Colaptes auratus* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| American crow | *Corvus brachyrhynchos* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| blue jay | *Cyanocitta cristata* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | | | |
| pileated woodpecker | *Dryocopus pileatus* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| gray catbird | *Dumetella carolinensis* | S5B G5: secure (breeding) in NYS and globally | - | Yes | ✓ | ✓ | ✓ | | | |
| willow flycatcher | *Empidonax traillii* | S5B G5: secure (breeding) in NYS and globally | - | Yes | ✓ | | | | | |
| rusty blackbird | *Euphagus carolinus* | (NYS High Priority Species of Greatest Conservation Need) S2B G4: imperiled (breeding) in NYS and apparently secure globally | - | Yes | | | ✓ | | | |
| common yellowthroat | *Geothlypis trichas* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| bald eagle | *Haliaeetus leucocephalus* | (NYS Threatened Species) S2S3B, S2N G5: imperiled/vulnerable (breeding) and imperiled (non-breeding) in NYS, secure globally | - | Yes | | | ✓ | | ✓ | ✓ |
| barn swallow | *Hirundo rustica* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |
| wood thrush | *Hylocichla mustelina* | S5B G4: secure (breeding) in NYS and apparently secure globally | - | Yes | | | ✓ | ✓ | | |
| Baltimore oriole | *Icterus galbula* | S5B G5: secure (breeding) in NYS and globally | - | Yes | ✓ | | ✓ | | | |
| belted kingfisher | *Megaceryle alcyon* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| red-bellied woodpecker | *Melanerpes carolinus* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| wild turkey | *Meleagris gallopavo* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| song sparrow | *Melospiza melodia* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| great crested flycatcher | *Myiarchus crinitus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| osprey | *Pandion haliaetus* | (NYS Species of Special Concern) S4B G5: apparently secure (breeding) in NYS and secure globally | - | Yes | | | ✓ | | | |
| rose-breasted grosbeak | *Pheucticus ludovicianus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| eastern towhee | *Pipilo erythrophthalmus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | | | | |
| American woodcock | *Scolopax minor* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |
| yellow warbler | *Setophaga petechia* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| eastern bluebird | *Sialia sialis* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| American goldfinch | *Spinus tristis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| European starling | *Sturnus vulgaris* | SNA G5: not applicable in NYS and secure globally | - | No | | | | ✓ | | |
| solitary sandpiper | *Tringa solitaria* | Least concern | - | Yes | | | ✓ | | | |
| American robin | *Turdus migratorius* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| eastern kingbird | *Tyrannus tyrannus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |
| warbling vireo | *Vireo gilvus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| mourning dove | *Zenaida macroura* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| **Fish** | | | | | | | | | | |
| brown bullhead | *Ameiurus nebulosus* | Least concern | - | Yes | | ✓ | | | | |
| **Fungi** | | | | | | | | | | |
| morel | *Morchella esculenta* | - | - | Yes | | ✓ | | | | |
| **Mammal** | | | | | | | | | | |
| coyote | *Canis latrans* | Least concern | - | Yes | | ✓ | | ✓ | | |
| North American beaver | *Castor canadensis* | Least concern | - | Yes | | ✓ | | | | |
| North American porcupine | *Erethizon dorsatum* | Least concern | - | Yes | | | | | | ✓ |
| white-tailed deer | *Odocoileus virginianus* | Least concern | - | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| raccoon | *Procyon lotor* | Least concern | - | Yes | | ✓ | | ✓ | ✓ | |
| eastern cottontail | *Sylvilagus floridanus* | Least concern | - | Yes | | | ✓ | ✓ | | |
| **Plant** | | | | | | | | | | |
| box elder | *Acer negundo* | S5, G5, Native, CoC: 1 | FAC | Yes | | | | | | ✓ |
| red maple | *Acer rubrum* | Least Concern, S5, G5, Native, CoC: 4 | FAC | Yes | | ✓ | ✓ | ✓ | ✓ | ✓ |
| silver maple | *Acer saccharinum* | Least Concern, S5, G5, Native, CoC: 6 | FACW | Yes | | ✓ | ✓ | | | |
| sugar maple | *Acer saccharum* | Least Concern, S5, G5, Native, CoC: 7 | FACU | Yes | | | | ✓ | | |
| common yarrow | *Achillea millefolium* | Least Concern, SNR, G5, Native, CoC: 0 | FACU | Yes | | ✓ | | | | |
| sweet flag | *Acorus calamus* | Least Concern, SNR, G4 | OBL | No | | ✓ | ✓ | | | |
| common agrimony | *Agrimonia gryposepala* | S5, Native, CoC: 4 | FACU | Yes | | | ✓ | | ✓ | |
| Rhode Island bentgrass | *Agrostis capillaris* | SNA, GNR, Not native, Naturalized | FAC | No | | | | | ✓ | |
| redtop | *Agrostis gigantea* | SNA, G4G5, Not native, Naturalized | FACW | No | ✓ | ✓ | | | ✓ | ✓ |
| creeping bent | *Agrostis stolonifera* | SNA, Not native, Naturalized | FACW | No | ✓ | | | | ✓ | |
| American water plantain | *Alisma subcordatum* | S5, G5, Native, CoC: 4 | OBL | Yes | | ✓ | | | | |
| speckled alder | *Alnus incana* | S5, G5, Native, CoC: 5 | FACW | Yes | | | ✓ | | | |
| New York fern | *Amauropelta noveboracensis* | S5, G5, Native, CoC: 4 | FAC | Yes | | | ✓ | | | |
| common ragweed | *Ambrosia artemisiifolia* | S5, G5, Native, CoC: 0 | FACU | Yes | | | ✓ | | ✓ | |
| downy serviceberry | *Amelanchier arborea* | S5, G5, Native, CoC: 4 | FACU | Yes | | ✓ | | | | |
| hog peanut | *Amphicarpaea bracteata* | S5, Native, CoC: 5 | FAC | Yes | | ✓ | | | | |
| Canada anemone | *Anemone canadensis* | S5, G5, Native, CoC: 5 | FACW | Yes | | ✓ | | | | |
| sweet vernal grass | *Anthoxanthum odoratum* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | ✓ | ✓ | | ✓ | |
| Indian hemp | *Apocynum cannabinum* | S5, G5, Native, CoC: 2 | FAC | Yes | | | ✓ | | ✓ | |
| swamp milkweed | *Asclepias incarnata* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| common milkweed | *Asclepias syriaca* | S5, G5, Native, CoC: 0 | UPL | Yes | | ✓ | ✓ | | | ✓ |
| yellow birch | *Betula alleghaniensis* | S5, G5, Native, CoC: 7 | FAC | Yes | | | | ✓ | | |
| gray birch | *Betula populifolia* | S5, G5, Native, CoC: 4 | FAC | Yes | | | | | ✓ | |
| nodding beggar ticks | *Bidens cernua* | S5, G5, Native, CoC: 4 | OBL | Yes | | | | | ✓ | |
| devil's beggar ticks | *Bidens frondosa* | S5, Native, CoC: 2 | FACW | Yes | | | ✓ | | ✓ | |
| hairy brome | *Bromus commutatus* | SNA, GNR, Not native, Naturalized | - | No | | | ✓ | | | |
| smooth brome | *Bromus inermis* | SNA, G5, Not native, Naturalized | - | No | | ✓ | ✓ | | | |
| common woodland sedge | *Carex blanda* | S5, G5, Native, CoC: 4 | FAC | Yes | | ✓ | | | | |
| bristly sedge | *Carex comosa* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| fringed sedge | *Carex crinita* | S5, G5, Native, CoC: 3 | OBL | Yes | | ✓ | ✓ | | | |
| large yellow sedge | *Carex flava* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| graceful sedge | *Carex gracillima* | S5, G5, Native, CoC: 3 | FACU | Yes | | | ✓ | | | |
| lake sedge | *Carex lacustris* | S5, G5, Native, CoC: 5 | OBL | Yes | | | | | | ✓ |
| bladder sedge | *Carex intumescens* | S5, G5, Native, CoC: 7 | FACW | Yes | | ✓ | ✓ | | ✓ | |
| hop sedge | *Carex lupulina* | S5, G5, Native, CoC: 7 | OBL | Yes | | ✓ | ✓ | | | |
| sallow sedge | *Carex lurida* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| troublesome sedge | *Carex molesta* | S4, G4, Threatened, Native, CoC: 3 | FAC | Yes | | | ✓ | | | |
| cyperus-like sedge | *Carex pseudocyperus* | S5, G5, Native, CoC: 6 | OBL | Yes | | | | | ✓ | |
| broom sedge | *Carex scoparia* | S5, Native, CoC: 1 | FACW | Yes | | ✓ | ✓ | | | ✓ |
| awl-fruited sedge | *Carex stipata* | S5, G5, Native, CoC: 5 | OBL | Yes | | | ✓ | | ✓ | |
| tussock sedge | *Carex stricta* | S5, G5, Native, CoC: 4 | OBL | Yes | | | | ✓ | ✓ | ✓ |
| fox sedge | *Carex vulpinoidea* | S5, G5, Native, CoC: 2 | OBL | Yes | | ✓ | ✓ | | ✓ | ✓ |
| ironwood | *Carpinus caroliniana* | S5, G5, Native, CoC: 6 | FAC | Yes | | | | ✓ | ✓ | |
| bitternut hickory | *Carya cordiformis* | S5, G5, Native, CoC: 7 | FAC | Yes | | ✓ | | | ✓ | |
| shagbark hickory | *Carya ovata* | S5, Native, CoC: 7 | FACU | Yes | | ✓ | ✓ | ✓ | ✓ | |
| buttonbush | *Cephalanthus occidentalis* | S5, G5, Native, CoC: 7 | OBL | Yes | | ✓ | | | | |
| white turtle head | *Chelone glabra* | S5, G5, Native, CoC: 6 | OBL | Yes | | | ✓ | | ✓ | |
| lamb's quarters | *Chenopodium album* | SNA, G5, Not native, Naturalized | FACU | No | | | | | ✓ | |
| enchanter's nightshade | *Circaea canadensis* | S5, G5, Native,CoC: 5 | FACU | Yes | | ✓ | ✓ | | | |
| bull thistle | *Cirsium vulgare* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| silky dogwood | *Cornus amomum* | S5, G5, Native, CoC: 6 | FACW | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| gray dogwood | *Cornus racemosa* | S5, G5, Native, CoC: 2 | FAC | Yes | | ✓ | ✓ | ✓ | | ✓ |
| red-osier dogwood | *Cornus sericea* | S5, G5, Native, CoC: 6 | FACW | Yes | | | | | | ✓ |
| hawthorn | *Crataegus sp.* | - | - | - | | ✓ | | | | ✓ |
| common yellow nut sedge | *Cyperus esculentus* | SNR, Native, CoC: 1 | FACW | Yes | | | ✓ | | ✓ | |
| false yellow nut sedge | *Cyperus strigosus* | S5, G5, Native, CoC: 3 | FACW | Yes | | | ✓ | | ✓ | |
| orchard grass | *Dactylis glomerata* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | | | | ✓ | |
| wild carrot | *Daucus carota* | SNA, GNR, Not native, Naturalized | UPL | No | | ✓ | | | | |
| water willow | *Decodon verticillatus* | S5, G5, Native, CoC: 7 | OBL | Yes | | | ✓ | | | ✓ |
| tufted hair grass | *Deschampsia cespitosa* | SNR, Native | - | Yes | | | | | ✓ | |
| digit grass | *Digitaria eriantha* | SNA, GNR, Not native, Naturalized | - | No | | ✓ | | | | |
| smooth crab grass | *Digitaria ischaemum* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| tall flat-topped white aster | *Doellingeria umbellata* | S5, G5, Native, CoC: 4 | FACW | Yes | | | | | ✓ | |
| common wood fern | *Dryopteris intermedia* | S5, G5, Native, CoC: 5 | FAC | Yes | | ✓ | | | | ✓ |
| autumn olive | *Elaeagnus umbellata* | SNA, GNR, Not native, Naturalized | - | No | | ✓ | | | | |
| blunt spike rush | *Eleocharis obtusa* | S5, Native, CoC: 2 | OBL | Yes | | ✓ | | | ✓ | ✓ |
| fringed wilowherb | *Epilobium ciliatum* | S5, G5, Native, CoC: 3 | FACW | Yes | | | | | ✓ | |
| purpleleaf willowherb | *Epilobium coloratum* | S5, G5, Native, CoC: 2 | OBL | Yes | | ✓ | ✓ | | ✓ | |
| field horsestail | *Equisetum arvense* | S5, Native, CoC: 2 | FAC | Yes | | | | ✓ | ✓ | ✓ |
| scouringrush horsetail | *Equisetum hyemale* | S5, G5, Native, CoC: 2 | FAC | Yes | ✓ | | | ✓ | | |
| annual daisy fleabane | *Erigeron annuus* | S5, G5, Native, CoC: 0 | FACU | Yes | | | ✓ | | | |
| small daisy fleabane | *Erigeron strigosus* | S5, Native, CoC: 0 | FACU | Yes | | | ✓ | | | |
| yellow trout lily | *Erythronium americanum* | S5, G5, Native, CoC: 5 | - | Yes | | ✓ | | ✓ | | |
| boneset | *Eupatorium perfoliatum* | S5, G5, Native, CoC: 3 | FACW | Yes | | | ✓ | | ✓ | ✓ |
| common flat-topped goldenrod | *Euthamia graminifolia* | S5, G5, Native, CoC: 1 | FAC | Yes | | | | | ✓ | |
| spotted Joe Pye weed | *Eutrochium maculatum* | S5, Native, CoC: 4 | OBL | Yes | ✓ | | | | | |
| American beech | *Fagus grandifolia* | S5, G5, Native, CoC: 8 | FACU | Yes | | | | ✓ | ✓ | |
| common wild strawberry | *Fragaria virginiana* | S5, G5, Native, CoC: 0 | FACU | Yes | | ✓ | | | ✓ | ✓ |
| glossy buckthorn | *Frangula alnus* | SNA, GNR, Not native, Naturalized | FAC | No | | ✓ | | | | |
| white ash | *Fraxinus americana* | S5, G5, Native, CoC: 3 | FACU | Yes | | ✓ | | | | ✓ |
| green ash | *Fraxinus pennsylvanica* | S5, G5, Native, CoC: 4 | FACW | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| hedge bedstraw | *Galium album* | SNA, GNR, Not native, Naturalized | FACU | Yes | ✓ | | ✓ | | ✓ | |
| common marsh bedstraw | *Galium palustre* | S5, G5, Native, CoC: 3 | OBL | Yes | | ✓ | | | ✓ | |
| yellow avens | *Geum aleppicum* | S5, G5, Native, CoC: 3 | FAC | Yes | | ✓ | ✓ | | | |
| white avens | *Geum canadense* | S5, G5, Native, CoC: 5 | FAC | Yes | | | ✓ | | | ✓ |
| town avens | *Geum urbanum* | SNA, G5, Not native, Naturalized | - | No | | ✓ | ✓ | | | |
| American manna grass | *Glyceria maxima* | S5, G5, Native, CoC: 4 | OBL | No | | | ✓ | | ✓ | |
| fowl manna grass | *Glyceria striata* | S5, G5, Native, CoC: 6 | OBL | Yes | | ✓ | ✓ | | ✓ | |
| soybean | *Glycine max* | SNA, GNR, Not native, Naturalized | - | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| marsh cubweed | *Gnaphalium uliginosum* | SNA, G5, Not native, Naturalized | FAC | No | | | ✓ | | | |
| dame's rocket | *Hesperis matronalis* | SNA, Not native, Naturalized | FACU | No | ✓ | | | | | |
| common frogbit | *Hydrocharis morsus-ranae* | SNA, GNR, Not native, Naturalized | OBL | No | | | ✓ | | | |
| Eurasian live forever | *Hylotelephium telephium* | SNA, GNR, Not native, Naturalized | - | No | | | | ✓ | | |
| St. John's wort | *Hypericum sp.* | S5, Native | - | - | | | | | | ✓ |
| spotted jewelweed | *Impatiens capensis* | S5, Native, CoC: 3 | FACW | Yes | ✓ | ✓ | ✓ | | ✓ | |
| blue flag | *Iris versicolor* | S5, G5, Native, CoC: 4 | OBL | Yes | | ✓ | | | | |
| soft rush | *Juncus effusus* | S5, G5, Native, CoC: 2 | OBL | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| path rush | *Juncus tenuis* | S5, G5, Native, CoC: 0 | FAC | Yes | | | ✓ | | | ✓ |
| rice cut grass | Leersia oryzoides | S5, G5, Native, CoC: 4 | OBL | Yes | | | | | ✓ | ✓ |
| spicebush | *Lindera benzoin* | S5, Native, CoC: 6 | FACW | Yes | | ✓ | ✓ | | | |
| tulip poplar | *Liriodendron tulipifera* | S5, G5, Native, CoC: 6 | FACU | Yes | ✓ | | | | ✓ | |
| Indian tobacco | *Lobelia inflata* | S5, G5, Native, CoC: 1 | FACU | Yes | | | ✓ | | | |
| great blue lobelia | *Lobelia siphilitica* | S5, G5, Native, CoC: 5 | FACW | Yes | | | | | | ✓ |
| tall rye grass | *Lolium arundinace* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| Japanese honeysuckle | *Lonicera japonica* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | | |
| honeysuckle | *Lonicera spp.* | - | - | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tatarian honeysuckle | *Lonicera tatarica* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | ✓ | | | ✓ |
| water purslane | *Ludwigia palustris* | S5, G5, Native, CoC: 4 | OBL | Yes | ✓ | | ✓ | | ✓ | |
| water horehound | *Lycopus americanus* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | ✓ | |
| moneywort | *Lysimachia nummularia* | SNA, GNR, Not native, Naturalized | FACW | No | ✓ | ✓ | | ✓ | ✓ | |
| purple loosestrife | *Lythrum salicaria* | SNA, Non native, Naturalized | OBL | No | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Canada mayflower | *Maianthemum canadense* | S5, G5, Native, CoC: 5 | FACU | Yes | | | | ✓ | | |
| ostrich fern | *Matteuccia struthiopteris* | S4, G5, Native, CoC: 5 | FAC | Yes | | | ✓ | | | |
| white sweet clover | *Melilotus albus* | SNA, G5, Not native, Naturalized | FACU | No | | | | | | ✓ |
| Allegheny monkey flower | *Mimulus ringens* | S5, G5, Native, CoC: 6 | OBL | Yes | | | | | ✓ | |
| blackgum | *Nyssa sylvatica* | S5, G5, Native, CoC: 7 | FAC | Yes | | | ✓ | | | |
| sensitive fern | *Onoclea sensibilis* | S5, G5, Native, CoC: 2 | FACW | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| royal fern | *Osmunda regalis* | S5, G5, Native, CoC: 6 | OBL | Yes | | | ✓ | | | |
| cinnamon fern | *Osmundastrum cinnamomeum* | S5, G5, Native, CoC: 6 | FACW | Yes | | | ✓ | | | |
| yellow wood sorrel | *Oxalis dillenii* | S5, Native, CoC: 0 | FACU | Yes | | ✓ | | | ✓ | |
| fall panic grass | *Panicum dichotomiflorum* | S5, G5, Native, CoC: 1 | FACW | Yes | | | | | | ✓ |
| Virginia creeper | *Parthenocissus quinquefolia* | S5, G5, Native, CoC: 4 | FACU | Yes | | ✓ | ✓ | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| green arrow arum | *Peltandra virginica* | S5, G5, Native, CoC: 6 | OBL | Yes | | ✓ | | | | |
| water pepper | *Persicaria hydropiper* | SNA, G5, Not native, Naturalized | OBL | No | | | | | ✓ | |
| lady's thumb | *Persicaria maculosa* | SNA, G5, Not native, Naturalized | FAC | No | | | ✓ | | | |
| arrow-leaved tearthumb | *Persicaria sagittata* | S5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| jumpseed | *Persicaria virginiana* | S5, Native, CoC: 5 | FAC | Yes | | ✓ | ✓ | | ✓ | |
| reed canary grass | *Phalaris arundinacea* | SNR, G5, Native, CoC: 0 | FACW | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| common Timothy | *Phleum pratense* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | ✓ | |
| common reed | *Phragmites australis* | SNA, G5, Not native, Naturalized | FACW | No | ✓ | ✓ | ✓ | | | |
| pokeweed | *Phytolacca americana* | S5, G5, Native, CoC: 0 | FACU | Yes | | | ✓ | | | |
| Norway spruce | *Picea abies* | SNA, G5, Not native, Naturalized | - | No | | ✓ | ✓ | ✓ | | |
| red spruce | *Picea rubens* | S5, G5, Native, CoC: 6 | FACU | Yes | | ✓ | | | | |
| white pine | *Pinus strobus* | S5, G5, Native, CoC: 3 | FACU | Yes | | ✓ | | ✓ | | |
| English plantain | *Plantago lanceolata* | SNA, Not native, Naturalized | FACU | No | ✓ | ✓ | | ✓ | ✓ | |
| common plantain | *Plantago major* | SNA, G5, Not native, Naturalized | FACU | No | ✓ | | | ✓ | ✓ | ✓ |
| northern tubercled orchid | *Platanthera flava* | S4, G4, Native, CoC: 3 | FACW | Yes | | | ✓ | | | |
| annual blue grass | *Poa annua* | SNA, Non native, Naturalized | FACU | No | | | | ✓ | | |
| wood bluegrass | *Poa nemoralias* | | FACU | No | | | ✓ | | | |
| common Kentucky blue grass | *Poa pratensis* | SNA, G5, Not native, Naturalized | FACU | No | | ✓ | | | ✓ | ✓ |
| mayapple | *Podophyllum peltatum* | S5, Native, CoC: 5 | FACU | Yes | | | ✓ | ✓ | | |
| eastern cottonwood | *Populus deltoides* | S5, G5, Native, CoC: 2 | FAC | Yes | | ✓ | | ✓ | | |
| quaking aspen | *Populus tremuloides* | S5, G5, Native, CoC: 3 | FACU | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| oldfield cinquefoil | *Potentilla simplex* | S5, G5, Native, CoC: 0 | FACU | Yes | | ✓ | | | | |
| Eurasian selfheal | *Prunella vulgaris* | SNA, G5, Not native, Naturalized | FAC | No | | | | | ✓ | |
| pin cherry | *Prunus pensylvanica* | S5, Native, CoC: 4 | FACU | Yes | | ✓ | | | | |
| black cherry | *Prunus serotina* | S5, G5, Native, CoC: 4 | FACU | Yes | | ✓ | ✓ | ✓ | ✓ | |
| bracken fern | *Pteridium aquilinum* | S5, G5, Native, CoC: 3 | FACU | Yes | | | ✓ | | | |
| white oak | *Quercus alba* | S5, Native, CoC: 7 | FACU | Yes | | ✓ | | | | |
| red oak | *Quercus rubra* | S5, Native, CoC: 7 | FACU | Yes | | ✓ | ✓ | | | |
| tall buttercup | *Ranunculus acris* | SNA, G5, Not native, Naturalized | FAC | No | ✓ | ✓ | | | ✓ | |
| creeping buttercup | *Ranunculus repens* | SNA, GNR, Not native, Naturalized | FAC | No | | | | | ✓ | |
| cursed crowfoot | *Ranunculus sceleratus* | SNR, Native, CoC: 3 | OBL | Yes | ✓ | | | ✓ | | |
| Japanese knotweed | *Reynoutria japonica* | SNA, Not native, Naturalized | FACU | No | | | | ✓ | | |
| alder buckthorn | *Rhamnus alnifolia* | S4, G5, Native, CoC: 9 | OBL | Yes | | ✓ | | | | |
| buckthorn | *Rhamnus cathartica* | SNA, GNR, Not native, Naturalized | FAC | No | | ✓ | ✓ | | ✓ | ✓ |
| staghorn sumac | *Rhus typhina* | S5, G5, Native, CoC: 1 | - | Yes | | ✓ | | | | |
| multiflora rose | *Rosa multiflora* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| swamp rose | *Rosa palustris* | S5, G5, Native, CoC: 9 | OBL | Yes | | | | ✓ | | ✓ |
| common blackberry | *Rubus allegheniensis* | S5, G5, Native, CoC: 3 | FACU | Yes | | ✓ | ✓ | | | |
| swamp dewberry | *Rubus hispidus* | S5, G5, Native, CoC: 7 | FACW | Yes | | | ✓ | | | |
| red raspberry | *Rubus ideaus* | SNA, G5, Not native, Naturalized | FACU | No | | ✓ | ✓ | | | |
| dwarf raspberry | *Rubus pubescens* | S5, Native, CoC: 8 | FACW | Yes | | | ✓ | | | |
| sheep sorrel | *Rumex acetosella* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| curly dock | *Rumex crispus* | SNA, GNR, Not native, Naturalized | FAC | No | ✓ | ✓ | ✓ | | ✓ | ✓ |
| broad-leaved dock | *Rumex obtusifolius* | SNA, Not native, Naturalized | FAC | No | | ✓ | | | ✓ | |
| swamp dock | *Rumex verticillatus* | S5, G5, Native, CoC: 6 | OBL | Yes | | | ✓ | | | |
| Bebb's willow | *Salix bebbiana* | S5, G5, Native, CoC: 3 | FACW | Yes | | | ✓ | | | |
| pussy willow | *Salix discolor* | S5, G5, Native, CoC: 3 | FACW | Yes | | ✓ | ✓ | ✓ | | |
| black willlow | *Salix nigra* | S5, G5, Native, CoC: 5 | OBL | Yes | | ✓ | | | | |
| basket willow | *Salix purpurea* | SNA, G5, Not native, Naturalized | FACW | No | | | ✓ | | | |
| common elderberry | *Sambucus nigra* | S5, G5, Native, CoC: 4 | FACW | Yes | | | | ✓ | | |
| lizard's tail | *Saururus cernuus* | S5, G5, Native, CoC: 6 | OBL | Yes | | ✓ | | | | |
| soft-stemmed bulrush | *Schoenoplectus tabernaemontani* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| dark-green bulrush | *Scirpus atrovirens* | S5, G5, Native, CoC: 2 | OBL | Yes | | ✓ | ✓ | | | |
| woolgrass | *Scirpus cyperinus* | S5, G5, Native, CoC: 4 | OBL | Yes | | ✓ | | ✓ | ✓ | ✓ |
| mad dog skullcap | *Scutellaria lateriflora* | S5, G5, Native, CoC: 7 | OBL | Yes | | | ✓ | | | |
| horse nettle | *Solanum carolinense* | S5, Native, CoC: 0 | FACU | Yes | | | | | ✓ | |
| bitter-sweet nightshade | *Solanum dulcamara* | SNA, Not native, Naturalized | FAC | No | | ✓ | ✓ | | | |
| tall goldenrod | *Solidago altissima* | S5, Native, CoC: 1 | FACU | Yes | | ✓ | | | | ✓ |
| Canada goldenrod | *Solidago canadensis* | S5, G5, Native, CoC: 0 | FACU | Yes | ✓ | | ✓ | | ✓ | |
| swamp goldenrod | *Solidago gigantea* | S5, G5, Native, CoC: 3 | FACW | Yes | | ✓ | | | ✓ | ✓ |
| common wrinkle-leaved goldenr | *Solidago rugosa* | S5, G5, Native, CoC: 1 | FAC | Yes | ✓ | ✓ | ✓ | | ✓ | ✓ |
| spiny-leaved sow thistle | *Sonchus asper* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | ✓ | | |
| green-fruited bur-reed | *Sparganium chlorocarpum* | S5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| grass-leaved stitchwort | *Stellaria graminea* | SNA, GNR, Not native, Naturalized | UPL | No | | | | | ✓ | |
| white panicle aster | *Symphyotrichum lanceolatum* | S5, G5, Native, CoC: 1 | FACW | Yes | | | ✓ | | ✓ | ✓ |
| calico aster | *Symphyotrichum lateriflorum* | S5, G5, Native, CoC: 0 | FAC | Yes | | ✓ | | | ✓ | |
| new england aster | *Symphyotrichum novae-angliae* | S5, Native, CoC: 1 | FACW | Yes | | | | | | ✓ |
| purple-stemmed aster | *Symphyotrichum puniceum* | S5, G5, Native, CoC: 4 | OBL | Yes | ✓ | | ✓ | | ✓ | ✓ |
| skunk cabbage | *Symplocarpus foetidus* | S5, G5, Native, CoC: 5 | OBL | Yes | | | | ✓ | | |
| common dandelion | *Taraxacum officinale* | SNA, G5, Not native, Naturalized | FACU | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| marsh fern | *Thelypteris palustris* | S5, G5, Native, CoC: 4 | FACW | Yes | | ✓ | | | | |
| American basswood | *Tilia americana* | S5, G5, Native, CoC: 7 | FACU | Yes | | | ✓ | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| poison ivy | *Toxicodendron radicans* | S5, Native, CoC: 3 | FAC | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| red clover | *Trifolium pratense* | SNA, Not native, Naturalized | FACU | No | ✓ | | | ✓ | ✓ | ✓ |
| white clover | *Trifolium repens* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | ✓ | | | ✓ | ✓ |
| red trillium | *Trillium erectum* | S5, G5, Native, CoC: 7 | FACU | Yes | | | | ✓ | | |
| white trillium | *Trillium grandiflorum* | S5, G5, Native, CoC: 7 | - | Yes | | | | ✓ | | |
| eastern hemlock | *Tsuga canadensis* | S5, G5, Native, CoC: 7 | FACU | Yes | | | | ✓ | ✓ | |
| tower mustard | *Turritis glabra* | S5, Native, CoC: 2 | UPL | No | | | ✓ | | | |
| coltsfoot | *Tussilago farfara* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | | |
| narrowleaf cattail | *Typha angustifolia* | S5, G5, Native, CoC: 1 | OBL | No | | | ✓ | | | ✓ |
| hybrid cattail | *Typha glauca* | SNR, GNR, Native | OBL | No | ✓ | ✓ | ✓ | | | |
| wide-leaved cattail | *Typha latifolia* | S5, G5, Native, CoC: 1 | OBL | Yes | | ✓ | ✓ | | | |
| cattail | *Typha sp.* | - | OBL | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| American elm | *Ulmus americana* | S5, G5, Native, CoC: 4 | FACW | Yes | | ✓ | ✓ | ✓ | | ✓ |
| false hellebore | *Veratrum viride* | S5, G5, Native, CoC: 4 | FACW | Yes | | | | ✓ | | |
| moth mullein | *Verbascum blattaria* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| blue vervain | *Verbena hastata* | S5, Native, CoC: 3 | FACW | Yes | ✓ | ✓ | | | ✓ | |
| smooth arrowwood | *Viburnum dentatum* | S5, Native, CoC: 3 | FAC | Yes | ✓ | ✓ | ✓ | | ✓ | ✓ |
| nannyberry | *Viburnum lentago* | S5, G5, Native, CoC: 4 | FAC | Yes | | ✓ | ✓ | | ✓ | ✓ |
| tufted vetch | *Vicia cracca* | SNA, G5, Not native, Naturalized | - | No | | | ✓ | | | ✓ |
| common blue violet | *Viola sororia* | S5, Native, CoC: 3 | FAC | Yes | | ✓ | | | | |
| riverbank grape | *Vitis riparia* | S5, G5, Native, CoC: 3 | FAC | Yes | | ✓ | ✓ | | | ✓ |

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 04/11/2025 15:07:39 UTC
Project Code: 2025-0082147
Project Name: Micron Stream and Wetland Mitigation

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

# PROJECT SUMMARY

Project Code: 2025-0082147
Project Name: Micron Stream and Wetland Mitigation
Project Type: Restoration / Enhancement - Wetland
Project Description: This is a stream and wetland mitigation project in which restoration will occur across six sites. On average, one site will be constructed per year, making the construction period a total of six years approximately. All six sites are located in Hastings or Schroeppel in Oswego County, NY. Two of the sites will undergo stream restoration, one for a degraded portion of Buxton Creek, the other for a degraded portion of Fish Creek. Here, the stream restoration will be integrated with wetland restoration to create a functioning stream/wetland complex. The remaining four sites will be for wetland restoration only.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.29530445,-76.2730783955508,14z




Counties: Oswego County, New York

# ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

| NAME | STATUS |
|---|---|
| Indiana Bat *Myotis sodalis*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *Myotis septentrionalis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Endangered |
| Tricolored Bat *Perimyotis subflavus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/10515 | Proposed Endangered |

## INSECTS

| NAME | STATUS |
|---|---|
| Bog Buck Moth *Hemileuca maia menyanthevora (=H. iroquois)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8023 | Endangered |
| Monarch Butterfly *Danaus plexippus*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Proposed Threatened |

# CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# IPAC USER CONTACT INFORMATION

Agency: The Wetland Trust, Inc.
Name: Kirsten Gerhardt
Address: 4729 State Route 414
City: Burdett
State: NY
Zip: 14818
Email kirsten.gerhardt@gmail.com
Phone: 3028242336

# Appendix E.

# Buxton Creek
# Invasive Species Management Plan (ISMP)

Oswego County, New York

**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**

July 2025

# 1. Introduction

The Wetland Trust, Inc. (TWT), as part of the Permittee Responsible Mitigation (PRM) package on behalf of Micron NY Semiconductor Manufacturing, LLC, is proposing to develop stream and wetland mitigation acres/credits at their Buxton Creek Site in the Town of Schroeppel, Oswego County, New York. The Mitigation Plan (Plan) at Buxton Creek will contribute toward the fulfillment of required stream and wetland mitigation for impacts associated with the Micron Semiconductor Fabrication Campus project (Proposed Development) in the town of Clay, Onondaga County, New York. This Plan will incorporate wetland Re-establishment, Rehabilitation, Enhancement, Preservation, and stream restoration which involves disturbance to soil during grading activities. As part of the Performance Standards for this Mitigation Plan, invasive species-specific standards must be met. The following is the Invasive Species Management Plan (ISMP) for this Site. It contains the practices and procedures TWT proposes to implement to control the presence and spread of invasive species.

This ISMP will improve ecological outcomes by using a combination of mechanical, biological, cultural, and chemical controls to manage invasive species while minimizing environmental disturbance. By prioritizing early detection, habitat restoration, and targeted interventions, this ISMP is designed to reduce reliance on herbicides, lower the risk of non-target impacts, and promote the long-term success of native vegetation. This adaptive approach enhances wetland resilience, supports biodiversity, and ensures compliance with mitigation performance standards in a sustainable and cost-effective manner.

## 1.1 Purpose and Goal

- **Adaptive Management Framework:** This plan operates under an adaptive management strategy, ensuring that invasive species control efforts are adjusted based on monitoring results, site conditions, and evolving regulatory guidance. Preventing the establishment or spread of invasive species at this Site relies upon:
    - Thorough baseline information data collection,
    - Avoiding and/or treating existing invasive species populations,
    - Incorporating construction techniques into the Plan that minimize conditions that are favorable for invasive species colonization, and
    - Implementing thorough monitoring and maintenance practices throughout the life of the Project and beyond.
- **Long-Term Ecological Success:** The presence of invasive plant species can degrade wetland function by outcompeting native vegetation, altering soil and water chemistry, and reducing habitat quality for wildlife. This ISMP aims to restore and sustain native plant communities using minimal environmental disturbance construction techniques per the Mitigation Plan.
- The goal of this ISMP is to minimize presence and prevent expansion of invasive species within the Mitigation Site not only during the monitoring period, but in perpetuity, as TWT is the long-term owner and steward. Invasive species control will be considered successful only if invasive species are kept at or below the threshold outlined in Section 6 of the Mitigation Plan for the work areas and 0% net increase in invasive species found elsewhere at the Site is realized. Annual monitoring will help determine whether goals are being met. If it is determined the Site is not on track with its goals, TWT will submit

a revised Management Plan and implement Adaptive Management strategies that are approved by USACE and NYSDEC.

### 1.2 Regulatory Compliance

This ISMP seeks to meet specific performance standards set by the USACE and NYSDEC as a condition of permit approval. These include thresholds for native plant diversity, invasive species control, and hydrological function.

Invasive species targeted by this ISMP are based on those regulated by NYS Regulation 6 NYCRR Part 575 List of Prohibited and Regulated Invasive Plants, developed by the New York Invasive Species Council and New York Department of Environmental Conservation (NYSDEC) and those with a New York State Natural Heritage Invasiveness ranking of high or very high. Any others identified by NYSDEC or USACE shall be incorporated into this ISMP.

## 2. Identification

Four key invasive plant species regulated by NYCRR Part 575 were identified at the Site during baseline data collection. Key invasive plants include purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), and cattail (*Typha* spp.). These species are highly competitive, forming dense monocultures that outcompete native vegetation, diminish biodiversity, and disrupt wetland functionality. These species are found in most wetland areas on-site and adjacent on wetlands, affecting over 7 acres at the Buxton Creek Site at the time of data collection. These species, their common characteristics and their typical locations are provided in Table 2-1 below. Additional invasive plant species have the potential of occurring at the site, particularly in the post-construction and long-term monitoring phase of this plan. These additional species may require treatment if they meet action thresholds outlined in **Section 6-1**, in which case they will be included in future versions of this plan and treated.

**Table 2-1. Invasive Species at the Buxton Creek Site 2024**

| Species | Common Characteristics | Photo ID | Typical Location |
|---|---|---|---|
| Common Reed (Phragmites australis) | A perennial grass that can grow over 15 feet tall, forming dense stands with hollow stems and blue-green leaves up to 20 inches long. It spreads through seeds, rhizomes, and stolons, often outcompeting native vegetation in wetlands. |  | Tidal and non-tidal marshes, lakes, swales, and backwater areas of rivers, and streams |

| | | | |
|---|---|---|---|
| Reed Canary Grass (Phalaris arundinacea) | A tall, perennial grass that grows 2 to 6 feet high, with rough, flat leaves and dense flower clusters that turn beige as they mature. It thrives in wetlands and spreads aggressively through seeds and rhizomes, forming dense stands that outcompete native vegetation. |  | Wet habitats such as wetlands, moist meadows, and riparian areas |
| Cattail (Typha spp.) | Tall, perennial wetland plants characterized by their long, narrow, sword-like leaves and distinctive brown, cylindrical flower spikes. They thrive in shallow waters of marshes, ponds, and lakes, spreading through both wind-dispersed seeds and extensive rhizome networks, often forming dense stands that can outcompete other vegetation. |  | Wetland habitats, including marshes, river and stream banks, pond edges, lakes, ditches, and reservoirs |
| Purple Loosestrife (Lythrum salicaria) | An erect, branching perennial native to Europe, Asia, and northern Africa, characterized by dense, woody rootstocks that can produce multiple stems, lance-shaped leaves arranged oppositely or alternately, and showy purple flowers with 5-7 petals clustered on tall spikes. This invasive species thrives in wetlands and moist soils, rapidly displacing native vegetation and disrupting local ecosystems. |  | Wetland habitats, including marshes, pond and lakeshores, stream and riverbanks, and ditches. Also spreads in upland soils, allowing it to spread into meadows and pastures. |

# 3. Pre-Construction Phase

## 3.1 Baseline Data Collection

Baseline data collection will identify existing invasive species communities within the mitigation site. This process will involve field surveys using GIS mapping, orthoimagery using drones, and photographic documentation to establish the extent and density of invasive species populations. Baseline surveys will include mapping of invasive species distribution with percentage cover estimates. The data collected will be used to inform the site preparation and treatment strategies outlined in later sections of this ISMP. See **Figures 8-1 through 8-4** in **Section 8** for baseline invasive species maps.

### 3.2 Site Preparation & Prevention Measures

Prior to construction, invasive species control measures will be implemented to prevent the spread and establishment of problematic species. These measures will include:

- **Pre-Treatment of Invasives**: Identified invasive species populations will be treated before ground disturbance begins. This may include manual removal, herbicide application, or smothering techniques depending on the species and infestation severity.
- **Equipment Cleaning Protocols:** Any construction equipment arriving on-site or leaving off-site will be inspected and cleaned to remove soil, plant material, or seeds that may introduce invasive species.

## 4. Construction Phase

To minimize the introduction and spread of invasive species during construction activities, the following best practices will be implemented:

- **Minimize Disturbance**: Clearing and grading activities will be restricted to designated project areas, reducing soil disturbance that can facilitate invasive species establishment.
- **Erosion and Sediment Control**: Use of weed-free erosion control materials, such as straw mulch, biodegradable mats, and hydroseeding with native plant mixes, will prevent soil erosion while avoiding the introduction of invasive species.
- **Construction Site Hygiene**: To effectively prevent the introduction or spread of invasive species without disrupting construction activities, the following cleaning protocols will be implemented:
    - **Incoming Equipment:** All equipment entering the site will be visually inspected by onsite construction monitors. If soil, plant material, or debris is observed, equipment will be cleaned prior to entering sensitive work areas using appropriate methods such as manual removal or pressure washing.
    - **Active Monitoring During Construction:** Construction monitors will observe operations and identify equipment that has entered areas with known or suspected invasive species presence, particularly during wet conditions or where vegetative debris is likely to accumulate.
    - **Equipment Exit Procedures:** Any equipment identified as having operated in areas with potential for invasive seed or propagule exposure will be cleaned using onsite pressure washing stations before leaving the site or transitioning between sensitive areas. This will help prevent the transfer of invasive material both within and beyond the project boundaries.
    - **Seasonal Considerations:** Construction monitors may increase cleaning vigilance during key seed dispersal periods or when conditions increase the likelihood of soil and plant matter transport.
    - **Compliance and Documentation:** Construction monitors will document cleaning efforts as part of routine field oversight.

- **Hydrology Management**: The project aims to restore natural hydrological conditions where feasible, as proper hydrology can prevent the establishment of invasive wetland species.
- **Native Plant Seeding**: Following ground disturbance, native plants will be seeded and planted in treated areas to prevent re-colonization by invasive species.

# 5. Post-Construction Phase

## 5.1 Monitoring for Early Detection

To ensure invasive species control measures remain effective, post-construction monitoring will be conducted. Monitoring efforts will include:

- **GPS Mapping and Photo Documentation**: Recording any changes in invasive species distribution.
- **Upstream and Adjacent Area Inspections**: Identifying potential new sources of invasive species propagules.
- **Disturbance Event Tracking**: Observing site conditions after events like flooding or drought, which may encourage invasive species spread.

## 5.2 Long-Term Monitoring & Adaptive Management

- Yearly Assessments: Evaluate treatment effectiveness and native vegetation recovery.
- Implement additional treatment as needed.
- Adjust Control Strategies: Based on monitoring results, refine methods to reduce reliance on chemical treatments (i.e. integrated pest management principles).

# 6. Treatment Thresholds and Control Strategies

## 6.1 Treatment Thresholds

Control measures will be implemented when specific action thresholds are met, ensuring timely intervention to prevent invasive species from undermining mitigation success. The following triggers initiate management actions:

1. **Invasive Species Coverage Threshold**

| **Table 6-1. Invasive Species Coverage Targets** | **Year 1** | **Year 3** | **Year 5** | **Year 7** | **Year 10** |
|---|---|---|---|---|---|
| Non-*Typha* Invasive Species (e.g., purple loosestrife, common reed, reed canarygrass) | ≤ 15% | ≤ 15% | ≤ 12.5% | ≤ 10% | < 5% cover |
| All Invasive Species including *Typha* spp. | ≤ 20% | ≤ 18.5% | ≤ 15% | ≤ 12.5% | < 10% cover |

   - If invasive species exceed **10% of total vegetative relative cover** within mitigation areas, management efforts (e.g., mechanical, chemical, or biological control) are required.

- Annual monitoring data, including vegetation surveys and aerial imagery, will be used to determine exceedance.

2. **Failure to Meet Native Vegetation Performance Standards**
    - If native plant cover falls below required thresholds (**90% native cover** standard set in the mitigation plan), corrective action is necessary.
    - This includes replanting, selective herbicide application, or modifying site conditions to support native species.
3. **Encroachment of Invasives into Priority Habitat Areas**
    - If invasive species are detected in areas designated for high-value habitat (e.g., scrub-shrub wetlands, emergent wetlands, etc) treatment measures will be implemented to prevent establishment.
4. **New Invasive Species Detection**
    - Any newly introduced invasive species not previously recorded on-site will trigger an immediate assessment and control response to prevent spread.
5. **Regulatory Non-Compliance or Agency Notification**
    - If annual monitoring reports indicate performance standards are not being met or if USACE/NYSDEC identifies deficiencies, corrective action is required to maintain compliance.

By adhering to these action thresholds, this ISMP ensures that invasive species are proactively managed, wetland functions are maintained, and regulatory compliance is achieved.

## 6.2 Summary of Treatment Timing & Methods

A combination of mechanical, cultural, biological, and chemical control methods will be used depending on species, infestation size, and site conditions.

**Table 6-2. Treatment Timing & Methods Summary Table**

| Species | Best Treatment Time | Mechanical | Chemical | Biological | Cultural |
|---|---|---|---|---|---|
| Phragmites | Late summer - fall | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | None approved for use in the US | Planting Natives for Competition |
| Reed Canary Grass | Spring & Fall | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | None available | Planting Natives for Competition, Prescribed burn |
| Cattails | Mid-late summer | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | Muskrat/waterfowl | Planting Natives for Competition |
| Purple Loosestrife | Mid-late summer | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | Loosestrife beetles | Planting Natives for Competition |

### 6.2.1 *Phragmites australis* (Common Reed)

Control Approach:

*Best Time for Treatment:* Late summer to early fall (when carbohydrates are translocating to rhizomes).

1. Mechanical Control:
    - Cutting & Flooding: Cutting stems at water level during late summer combined with water level manipulation can drown rhizomes.
    - Smothering: Small patches can be covered with black plastic or heavy mulch to prevent regrowth.
2. Chemical Control:
    - Glyphosate-based and/or Imazapyr-Based application (spot treatment):
        - Apply to standing Phragmites in late summer/early fall using backpack sprayers, drones or wicking methods to minimize non-target impacts.
    - Follow-up with mechanical removal of dead stalks in the winter.
3. Cultural & Biological Control:
    - Promote competition by seeding native sedges, rushes, and forbs.
    - Biological control species may be utilized for targeted control.

### 6.2.2 *Phalaris arundinacea* (Reed Canary Grass)

Control Approach:

*Best Time for Treatment:* Early spring (before seed set) and late fall (targeting rhizomes).

1. Mechanical Control:
    - Mowing in early spring and late summer to deplete energy reserves.
    - Hand-pulling small infestations before seed set.
    - Covering with tarps or thick mulch to shade out new shoots.
2. Chemical Control: *(Selective use in dense monocultures if needed)*
    - Glyphosate application in fall when nutrients are moving into rhizomes.
    - Use wiping techniques instead of spraying to reduce non-target impact.
3. Cultural & Biological Control:
    - Planting native sedges & rushes to outcompete Phalaris.
    - Prescribed fire in late spring can reduce seed production.

### 6.2.3 *Typha spp.* (Cattails)

Control Approach:

*Best Time for Treatment:* Mid-to-late summer when plants are transporting nutrients downward.

1. Mechanical Control:
    - Cut stems below water level to drown rhizomes.
    - Excavation in high-density areas, followed by native planting.
2. Chemical Control: *(For monocultures in restoration sites if needed)*
    - Glyphosate-based pesticide applied to standing plants in late summer.
    - Follow-up by removing dead biomass to prevent thick mats from suppressing native growth.
3. Cultural & Biological Control:
    - Encourage muskrat or waterfowl activity in natural systems to suppress regrowth.

### 6.2.4 *Lythrum salicaria* (Purple Loosestrife)

Control Approach:

*Best Time for Treatment:* Mid-to-late summer before seed dispersal.

1. Mechanical Control (Preferred Method):
    - Hand-pull small infestations, removing all roots.
    - Cut flower heads before seed drop to prevent spread.
2. Biological Control(Unlikely to be implemented due to abundance of beetles throughout the great lakes region):
    - Galerucella beetles (Loosestrife Leaf Beetles) are effective at suppressing populations.
    - Any releases would be monitored over multiple years to assess impact.
3. Chemical Control:

Spot treat with glyphosate-based pesticide in late summer.

---

## 6.3 Pesticide Selection and Application Guidelines

When chemical control is necessary, pesticides will be carefully selected to minimize environmental impact while effectively managing invasive species. The selection and application methods will be determined based on site-specific conditions, regulatory requirements, and best management practices to ensure effective control while reducing unintended ecological impacts.

- **Target-Specific Formulations:** Only herbicides approved for use in wetland environments will be used, with preference given to herbicides that have minimal impact on non-target species.
- **Reduced Persistence and Toxicity:** Herbicides with low residual activity and rapid breakdown in soil and water will be favored to prevent long-term contamination.
- **Application Methods Based on Site Conditions:** Techniques such as cut-stump treatments, wick application, and spot spraying will be prioritized over broadcast spraying, depending on the infestation size, proximity to sensitive habitats, and hydrological conditions.

All pesticides will be applied in accordance with the label and all applicable federal, state, and local regulations to ensure compliance and environmental protection.

All pesticide applications will be conducted by New York State Certified Pesticide Applicators or individuals working under the direct supervision of a certified applicator, in compliance with New York Environmental Conservation Law (ECL) Article 33 and 6 NYCRR Part 325. This ensures that all chemical treatments are applied safely, legally, and in accordance with state regulations governing pesticide use in wetland environments.

# 7.0 Reporting

The Wetland Trust, Inc. will provide an annual wetland restoration monitoring report which details the status of invasive plant species and all control measures. This report will be submitted by December 31st each year to USACE and NYSDEC.

# 8. Maps and Figures

**Figure 8-1.** Baseline Purple Loosestrife Percent Cover (2024)

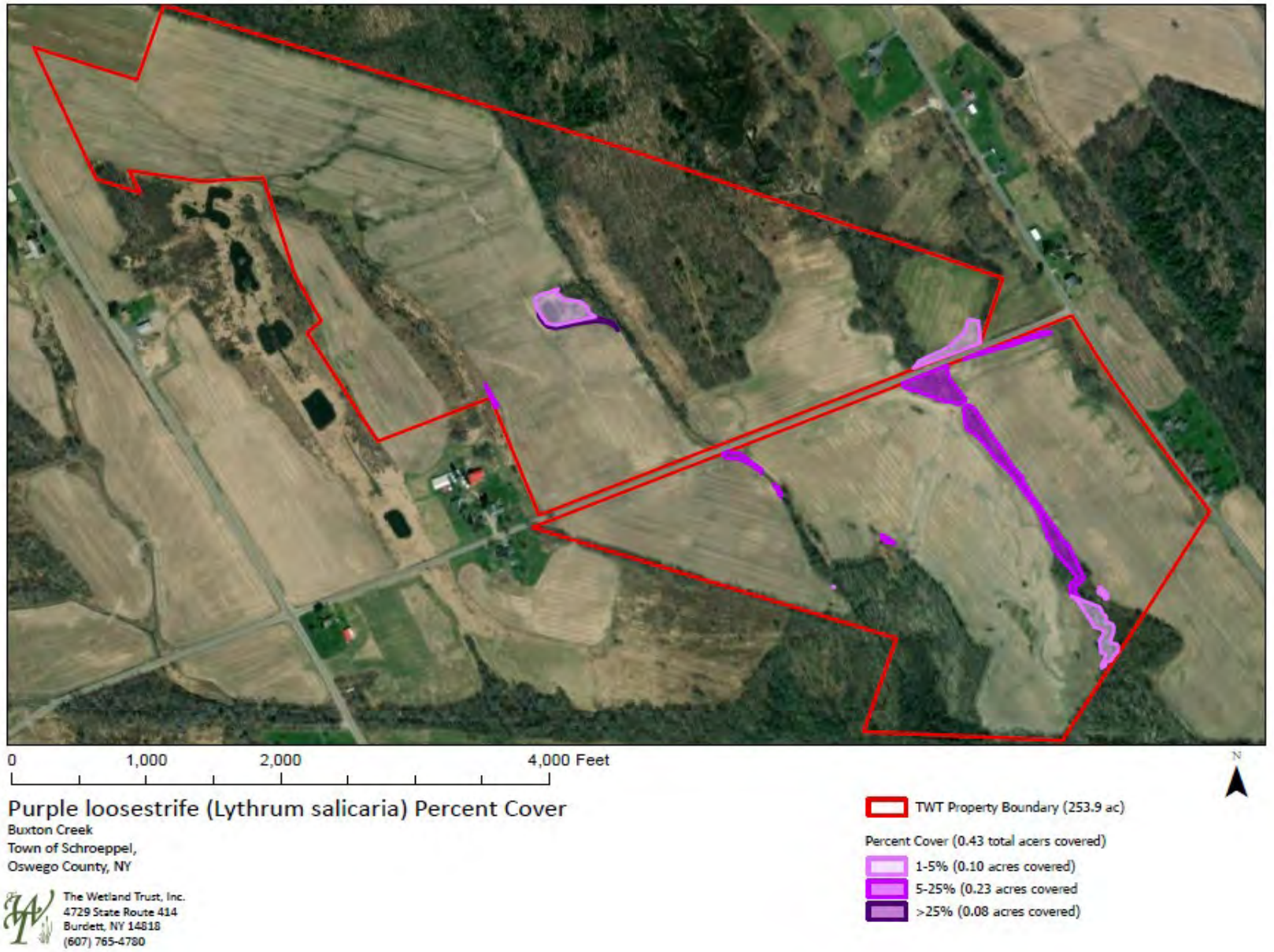


**Figure 8-2** Baseline Reed Canary Grass Percent Cover (2024)

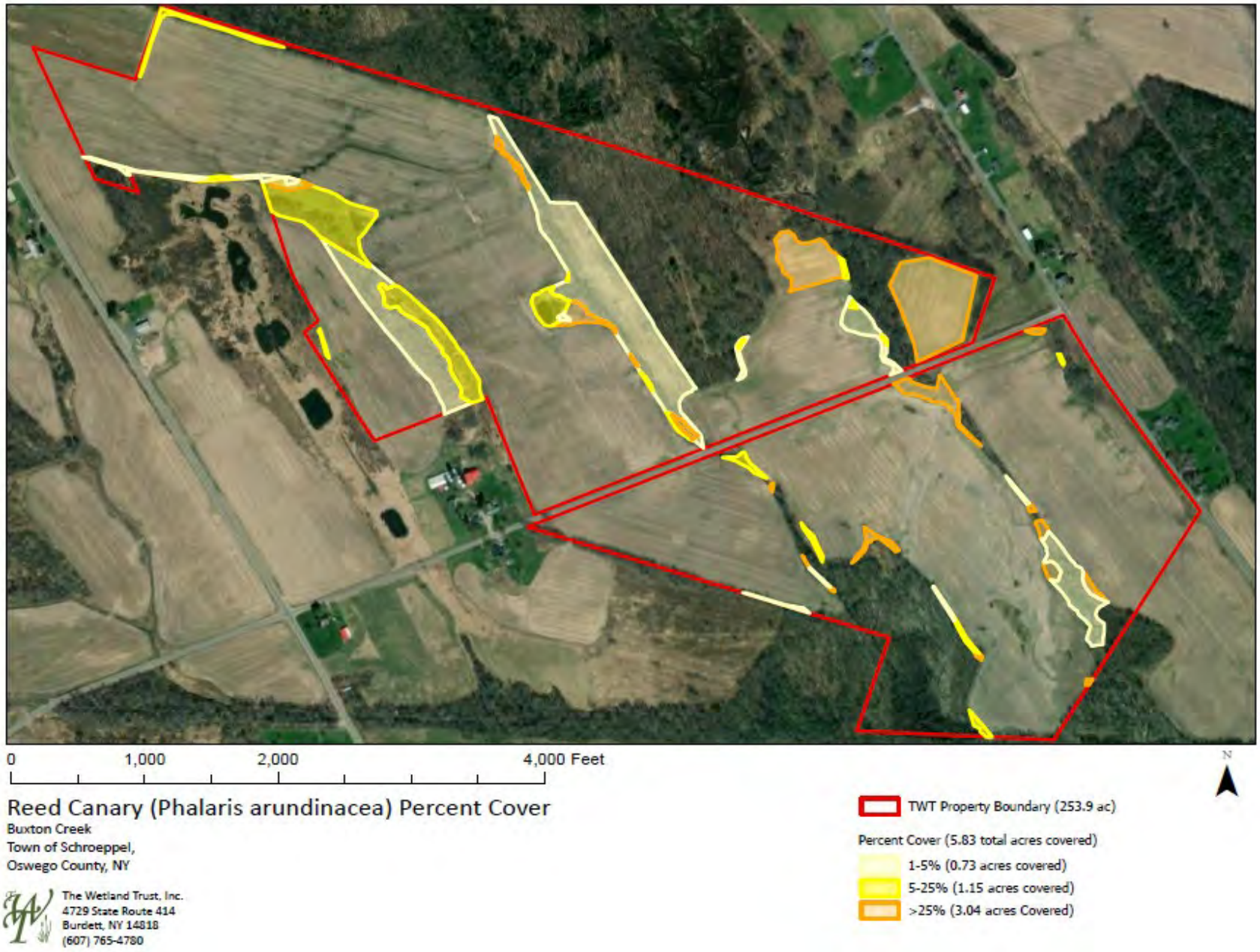


**Figure 8-3** Baseline Phragmites Percent Cover (2024)



**Figure 8-4** Baseline Cattail Percent Cover (2024)



| **Table 8-1: Invasive Species at Buxton Creek** | | | | |
|---|---|---|---|---|
| **Invasive Species** | **1-5% Cover (Affected Acres)** | **5-25% Cover (Affected Acres)** | **>25% Cover (Affected Acres)** | **Total Area (Affected Acres)** |
| Common Reed (*Phragmites australis*) | 0.25 | 0.15 | 0.04 | 0.44 |
| Reed Canary Grass (*Phalaris arundinacea*) | 14.79 | 6.69 | 8.36 | 29.84 |
| Purple Loosestrife (*Lythrum salicaria*) | 2.01 | 2.60 | 0.19 | 4.87 |
| Cattail (Typha sp.) | 0.80 | 0.18 | 0.19 | 1.17 |

# Appendix F.

EDR

a better environment







# PHASE IA ARCHAEOLOGICAL SURVEY AND PHASE IB WORK PLAN


*Prepared by:*

**EDR**
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
www.edrdpc.com


## Upper Caughdenoy Creek, Buxton Creek, and Fish Creek Wetland Restoration Project

Town of Hastings, Oswego County, New York

*Prepared for:*

**The Wetland Trust, Inc.**
PO Box 4206
Ithaca, New York 14852
**Contact:** Kirsten Gerhardt
kirsten@thewetlandtrust.org

June 2025

# Phase IA Archaeological Survey

## Upper Caughdenoy Creek, Buxton Creek, and Fish Creek Wetland Restoration Project

## Town of Hastings, Oswego County, New York

Prepared for:

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
Contact: Kirsten Gerhardt
kirsten@thewetlandtrust.org

Prepared by:

Environmental Design & Research, D.P.C.
217 Montgomery Street, Suite 1100
Syracuse, New York 13202
www.edrdpc.com

**June 2025**

## MANAGEMENT SUMMARY

| | |
|---|---|
| NYSHPO Project Review Number: | 25PR01429 |
| Involved State and Federal Agencies: | U.S. Army Corps of Engineers (Section 106 of the National Historic Preservation Act); New York State Office of Parks, Recreation and Historic Preservation (Section 14.09). |
| Phase of Survey: | Phase IA Archaeological Survey |
| Location Information: | Town of Hastings, Oswego County, New York |
| USGS 7.5-Minute Quadrangle: | *Central Square, NY* |
| Survey Area: | |
| Project Description: | A proposed wetland restoration project. |
| Project Area: | The general area of land across three sites (Upper Caughdenoy Creek, Buxton Creek, and Fish Creek) within which construction will take place. The Project Area encompasses approximately 673 acres. |
| Limits of Disturbance | The Limits of Disturbance includes the wetland work areas that will experience ground disturbance, totaling approximately 244 acres across the Project Area: approximately 106 acres at Upper Caughdenoy Creek, approximately 114 acres at Buxton Creek, and approximately 24 acres at Fish Creek, all located within agricultural lands. |
| Archaeological Resources Overview: | There are no previously recorded archaeological sites within the Project Area; four previously recorded archaeological sites are located within 1 mile of the Project Area. |
| Report Authors: | Moira Magni; Janna Napoli, RPA, MAA; Joseph Kwiatek |
| Date of Report: | June 2025 |

## TABLE OF CONTENTS


1.0 INTRODUCTION ..... 1
1.1 Purpose of the Investigation ..... 1
1.2 Project Location and Description ..... 3
1.3 Agency and Nations Consultation ..... 5
2.0 Phase IA BACKGROUND AND SITE HISTORY ..... 6
2.1 Geology and Soils ..... 6
2.2 Existing Conditions ..... 9
2.3 Previous Archaeological Surveys ..... 9
2.4 Previously Identified Archaeological Sites ..... 10
2.5 Cemeteries ..... 11
2.6 History of the Project Area ..... 11
3.0 SUMMARY AND CONCLUSION ..... 19
3.1 Conclusion and Recommendation ..... 19
4.0 REFERENCES ..... 20


## LIST OF TABLES


Table 1. Surficial Geology in LOD (NYSM, 1999) ..... 6
Table 2. Common Soils Mapped within the LOD ..... 6
Table 3. Previous Archaeological Surveys within 1 mile of the Project Area ..... 10
Table 4. Previously Recorded Archaeological Sites within 1 mile of the Project Area ..... 10


## LIST OF FIGURES


Figure 1-1. Regional Project Location ..... 2
Figure 1-2. Project Area ..... 4
Figure 2-1. Topography and Surficial Geology within the LOD ..... 8
Figure 2-3. Project Area in 1854 ..... 16
Figure 2-4. Project Area in 1900 and 1905 ..... 17
Figure 2-5. Project Area in 1956 ..... 18


## LIST OF ATTACHMENTS


Attachment A. Agency and Nations Correspondence

## ABSTRACT

Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) conducted a Phase IA Archaeological Survey for the Upper Caughdenoy Creek, Buxton Creek, and Fish Creek Wetland Restoration Project (the Project) on behalf of The Wetland Trust, Inc. (The Wetland Trust). The Project is a wetland restoration project located within the Town of Hastings, Oswego County, New York. The Project Area consists of three sites (Upper Caughdenoy Creek, Buxton Creek, and Fish Creek) totaling approximately 673 acres and is the general area of land within which construction will take place. Construction of the proposed Project will include ground disturbing activities within Limits of Disturbance defined by wetland work areas. The Limits of Disturbance totals 244 acres across the Project Area: approximately 106 acres at Upper Caughdenoy Creek, approximately 114 acres at Buxton Creek, and approximately 24 acres at Fish Creek, all located within agricultural lands. As a result of initial consultation conducted by The Wetland Trust, the New York State Office of Parks, Recreation and Historic Preservation (NYSHPO) rendered opinions that no historic properties, including archaeological and/or historic resources, would be effected by the Project. As such, no additional archaeological survey is recommended.

# 1.0 INTRODUCTION

On behalf of The Wetland Trust, Inc. (The Wetland Trust), Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) conducted a Phase IA Archaeological Survey for the proposed Upper Caughdenoy Creek, Buxton Creek, and Fish Creek Wetland Restoration Project (the Project), located in the Town of Hastings in Oswego County, New York (Figure 1-1). The information and recommendations included in this report are intended to assist the Onondaga Nation, the New York State Office of Parks, Recreation and Historic Preservation (NYSHPO), the U.S. Army Corps of Engineers (USACE), and other New York State and/or federal agencies in their review of the Project under Section 14.09 of the New York State Parks, Recreation, and Historic Preservation Law, and/or Section 106 of the National Historic Preservation Act, as applicable. As a result of initial consultation conducted by The Wetland Trust, the NYSHPO rendered opinions that no historic properties, including archaeological and/or historic resources, would be effected by the Project (Section 1.3; Attachment A). The Onondaga Nation, via Section 106 consultation with the USACE, has requested a Phase IA Archaeological Survey report for the Project.

## 1.1 Purpose of the Investigation

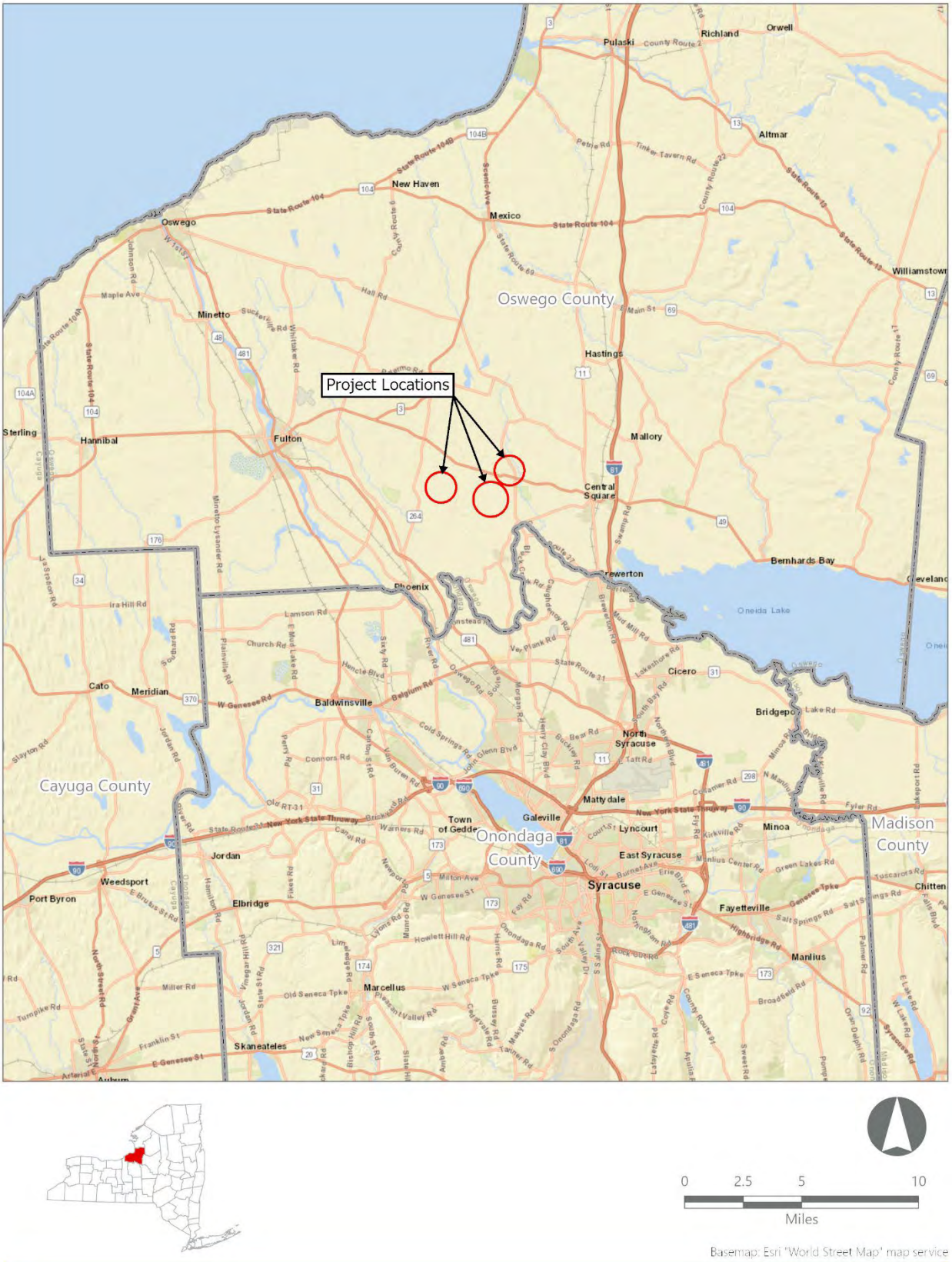
The purposes of the Phase IA Archaeological Survey are as follows:

- Describe previously identified archaeological resources and/or sites of cultural or religious significance that are located within the Project Area.

- Propose a methodology to identify archaeological resources within the Project Area, evaluate their eligibility for the State/National Register of Historic Places (S/NRHP), and assess the potential effects of the Project on those resources.

All cultural resources studies undertaken by EDR are conducted under the supervision of professionals who satisfy the qualifications criteria per the Secretary of the Interior's Standards for archaeology and historic preservation (36 Code of Federal Regulations 61), as appropriate. This Phase IA report was prepared in accordance with applicable portions of the NYSHPO's *Phase I Archaeological Report Format Requirements* (NYSHPO, 2005).

**Figure 1-1. Regional Project Location**



## 1.2 Project Location and Description

The Project is a proposed wetland restoration located within the Town of Hastings, Oswego County, New York. The Project will include compensatory wetland mitigation consisting of the restoration and rehabilitation of wetlands and streams across three sites[1] to compensate for unavoidable impacts to aquatic resources resulting from the construction of the Micron Semiconductor facility campus in the Town of Clay, New York. These mitigation efforts are designed to replace lost wetland functions and values, ensuring compliance with regulatory requirements. Construction involves disabling existing drainage structures in cultivated fields, restoring wetland basins, installing low earthen berms, and restoring hummock and hollow microtopography for vegetative biodiversity.

The following terms are used throughout this document to describe the proposed Project:

| | |
|---|---|
| **Project** | Collectively refers to all components of the proposed wetland restoration. |
| **Project Area** | The general area of land across three sites (Upper Caughdenoy Creek, Buxton Creek, and Fish Creek) within which construction will take place. The Project Area totals approximately 673 acres. |
| **Limits of Disturbance** | The Limits of Disturbance includes the wetland work areas that will experience ground disturbance. The LOD totals 244 acres across the Project Area: approximately 106 acres at Upper Caughdenoy Creek, approximately 114 acres at Buxton Creek, and approximately 24 acres at Fish Creek, all located within agricultural lands. |

The lands being evaluated to host the Project are typical for a rural, agricultural area in central New York and consist of cultivated crop fields, hay fields, pastures, fallow fields in various stages of secondary succession, shrubland, wetlands, and small patches of undeveloped, second-growth forest (Figure 1-2).

[1] Note that Phase IA Archaeological Survey of an additional three compensatory wetland mitigation sites (Lower Caughdenoy Creek, Oneida River, and Sixmile Creek) associated with the Micron Semiconductor facility was previously conducted by EDR under separate cover (EDR, 2025).

**Figure 1-2. Project Area**



## 1.3 Agency and Nations Consultation

The initial consultation for the Project was undertaken by The Wetland Trust and NYSHPO, while subsequent Section 106 and Nations consultation is being undertaken by the USACE. Note that throughout the consultation process the names of the three sites comprising the Project Area and their corresponding NYSHPO project review numbers have been changed and/or consolidated.[2] Consultation for the Project is now being conducted under the consolidated NYSHPO project review number 25PR01429.

Agency and Nations consultation involving The Wetland Trust for the Project is included in Appendix A and consists of the following:

- **August 9, 2024 –** The NYSHPO issued a project review letter for Upper Caughdenoy Creek (Route 33), with the opinion that no historic properties, including archaeological and/or historic resources, would be affected by the Project (NYSHPO, 2024a).

- **August 13, 2024 –** The NYSHPO issued project review letters for Buxton Creek (Bell Road) and Fish Creek (Perry Road), with the opinion that no historic properties, including archaeological and/or historic resources, would be affected by the Project (NYSHPO, 2024b and 2024c).

- **September 9, 2024 –** The NYSHPO issued a project review letter for Upper Caughdenoy Creek (Booth, LaPointe, Wisner East), with the opinion that no historic properties, including archaeological and/or historic resources, would be affected by the Project (NYSHPO, 2024d and 2024e and 2024f).

- **October 16, 2024 –** The NYSHPO issued a project review letter for Buxton Creek (Bell Road South), with the opinion that no historic properties, including archaeological and/or historic resources, would be affected by the Project (NYSHPO, 2024g).

- **January 8, 2025** – The Wetland Trust provided a letter to the USACE and the New York State Department of Environmental Control (NYSDEC) explaining the three sites comprising the Project Area (and other wetland mitigation sites being consulted on under 25PR01429) and the corresponding name changes/consolidation (TWT, 2025).

- **February 27, 2025 –** The NYSHPO informed The Wetland Trust via email that all NYSHPO review of the Project was being consolidated under 25PR01429 (NYSHPO, 2025).

- **March 5, 2025 –** The USACE informed The Wetland Trust via email that the Onondaga Nation had requested a Phase IA archaeological survey report of all proposed wetland mitigation sites (USACE, 2025).

[2] At the time of initial submittal to NYSHPO the Upper Caughdenoy Creek site was formerly Booth (24PR08086), LaPointe (24PR08085), Route 33 (24PR07284), and Wisner East (24PR08091); the Buxton Creek site was formerly Bell Road and Bell Road South (24PR07316 and 24PR09240); and the Fish Creek Site was formerly Perry Road (24PR07315).

## 2.0 PHASE IA BACKGROUND AND SITE HISTORY

The following subsections provide environmental and historic contexts for the Project Area, as well as information about cultural resources surveys that have been previously conducted in the vicinity.

### 2.1 Geology and Soils

The Project Area is located within the Erie-Ontario Lowlands physiographic province, which borders the Great Lakes and generally contains areas of low topographic relief. Topography within the Project Area varies from relatively level to gently sloping terrain, and elevations within the Project Area range approximately 378 and 454 feet above mean sea level. The Project Area is approximately 5.3 miles northwest of Oneida Lake where it feeds into the Oneida River, which flows westward from Oneida Lake to the Seneca River and joins the Oswego River before emptying into Lake Ontario.

The surficial geology of the LOD is summarized in Table 1 and depicted on Figure 2-1. As soils within the LOD predominantly consist of lacustrine soils and are therefore unlikely to contain deeply buried cultural horizons, any proposed archaeological testing in these soils should extend a minimum of 10 centimeters into sterile subsoil.

**Table 1. Surficial Geology in LOD (NYSM, 1999)**

| Surficial Geology | Acres in LOD | Percent of LOD | Composition[1] |
|---|---|---|---|
| Lacustrine Silt and Clay (LSC) | 227 | 93 | Generally laminated silt and clay, deposited in proglacial lakes, generally calcareous, low permeability, potential land instability, thickness variable (up to 50 meters). |
| Till (T) | 17 | 7 | Variable texture (boulders to silt), usually poorly sorted sand-rich diamict, deposition beneath glacier ice, permeability varies with compaction, thickness variable (1-50 meters) |

[1] Composition information is derived from material explanation used by New York State Museum (NYSM, 2025).

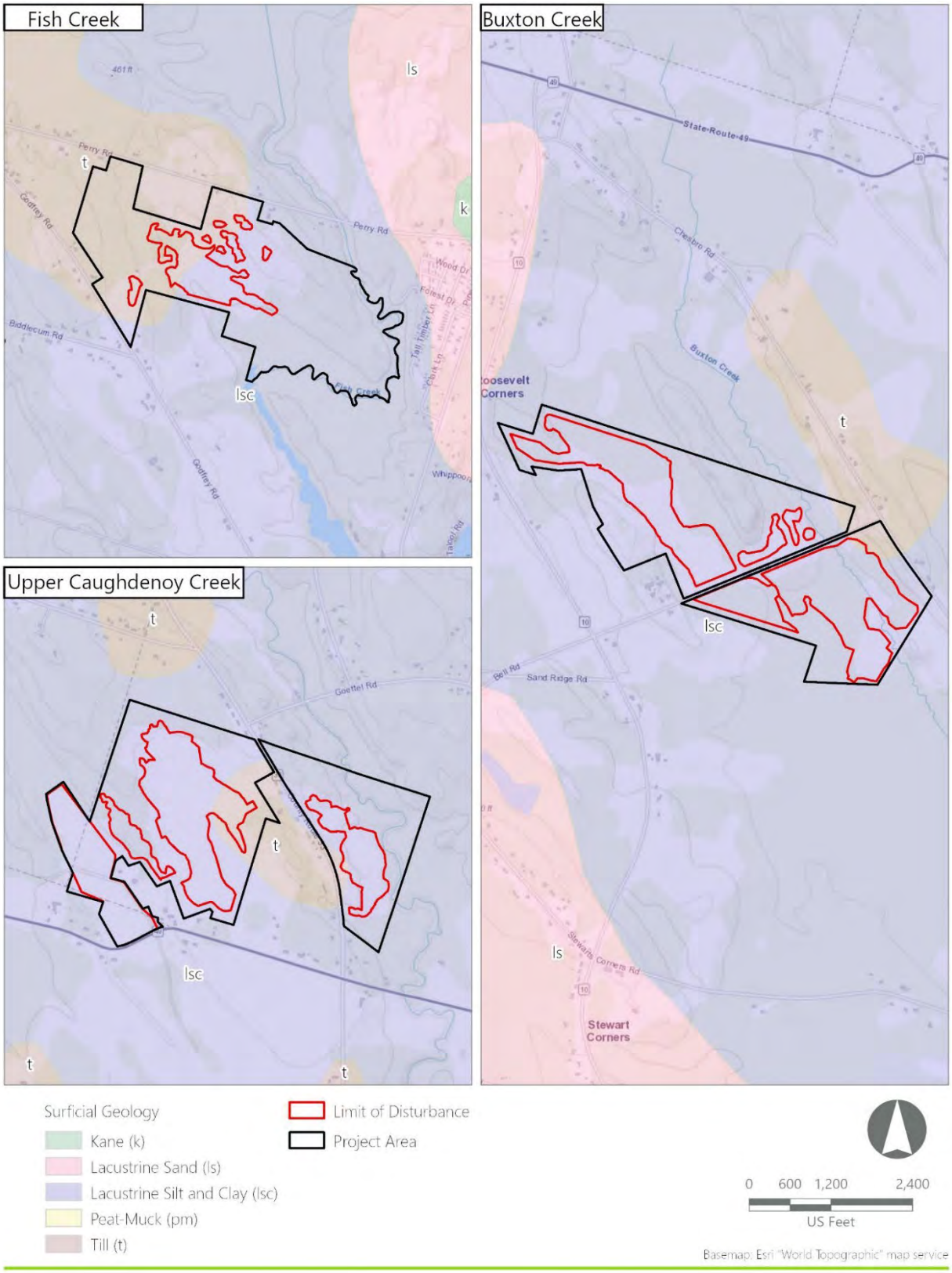
EDR reviewed online data from the Natural Resources Conservation Service (NRCS, 2025) for LOD soils data. In total, 20 individual soil units encompass the entirety of the LOD. However, ten soil units account for less than 2% of the LOD. Ten soil units constitute approximately 92% of the LOD and are summarized in Table 2.

**Table 2. Common Soils Mapped within the LOD**

| Soil Series Name | Percent of LOD | Soil Horizon & Depth (in) | Description | Slope, Drainage, & Landform |
|---|---|---|---|---|
| Madalin silt loam (Ma) | 24 | Ap: 0 to 8<br>Btg1: 8 to 16<br>Btg2: 16 to 25<br>Btg3" 25-33<br>C: 33-79 | Silt loam<br>Silty clay loam<br>Silty clay<br>Silty clay<br>Stratified silt to clay | 0-3% slopes. Moderately deep, poorly drained soils on depressions. Formed in glaciolacustrine deposits derived from calcareous shale. |

| Soil Series Name | Percent of LOD | Soil Horizon & Depth (in) | Description | Slope, Drainage, & Landform |
|---|---|---|---|---|
| Rhinebeck silt loam (RhB) | 17 | H1: 0 to 8<br>H2: 8 to 16<br>H3: 16 to 39<br>H4: 39 to 53 | Silt loam<br>Silty clay loam<br>Silty clay<br>Silty clay | 0-2% slopes. Moderately deep, poorly drained soils in lake plains. Formed in clayey and silty glaciolacustrine deposits. |
| Canandaigua silt loam (Cd) | 16 | H1: 0 to 7<br>H2: 7 to 33<br>H3: 33 to 50 | Silt loam<br>Silt loam<br>Stratified silt to very fine sand | 0-3% slopes. Moderately deep poorly drained soils on depressions. Formed in silty and clayey glaciolacustrine deposits. |
| Rhinebeck silt loam (RhA) | 11 | H1: 0 to 8<br>H2: 8 to 16<br>H3: 16 to 39<br>H4: 39 to 53 | Silt loam<br>Silty clay loam<br>Silty clay<br>Silty clay | 0-2% slopes. Moderately deep, poorly drained soils in lake plains. Formed in clayey and silty glaciolacustrine deposits. |
| Palms Muck (Pa) | 7 | H1: 0 to 26<br>H2: 26 to 55 | Muck<br>Fine sandy loam | 0-2% slopes. Very poorly drained soils in marshes or swamps. Formed in organic material over loamy glacial drift. |
| Lamson very fine sandy loam (Lf) | 5 | H1: 0 to 9<br>H2: 9 to 50<br>H3: 50 to 60 | Very fine sandy loam<br>Very fine sandy loam<br>Stratified fine sand to very fine sand | 0-3% slopes. Moderately deep, poorly drained soils on depressions. Formed in deltaic or glaciolacustrine deposits with a high content of fine and very fine sand. |
| Minoa very fine sandy loam (Mn) | 4 | H1: 0 to 8<br>H2: 8 to 26<br>H3: 26 to 31<br>H4: 31 to 60 | Very fine sandy loam<br>Loamy very fine sand<br>Loamy very fine sand<br>Very fine sandy loam | 0-3% slopes. Moderately deep, somewhat poorly drained soils on deltas or lake plains. Formed in deltaic or glaciolacustrine deposits with a high content of fine and very fine sand. |
| Scriba gravelly fine sandy loam (ScB) | 3 | H1: 0 to 7<br>H2: 7 to 14<br>H3: 14 to 36<br>H4: 36 to 50 | Gravelly fine sandy loam<br>Gravelly fine sandy loam<br>Gravelly fine sandy loam<br>Gravelly fine sandy loam | 0-8% slopes. Somewhat poorly drained soils on till plains or drumlins. Formed in loamy till dominated by sandstone. |
| Carlisle Muck (Ce) | 3 | H1: 0 to 56 | Muck | 0-1% slopes. Very poorly drained soils in marshes or swamps. Formed from deep organic material. |
| Raynham silt loam (RaB) | 2 | H1: 0 to 9<br>H2: 9 to 36<br>H3: 36 to 60 | Silt loam<br>Silt loam<br>Stratified silt to very fine sand to fine sand | 0-6% slopes. Moderately deep, poorly drained soils in lake plains. Formed in glaciolacustrine, eolian, or old alluvial deposits, comprised mainly of silt and very fine sand. |

**Figure 2-1. Topography and Surficial Geology within the LOD**



## 2.2 Existing Conditions

The proposed Project is located in a rural part of Oswego County. Existing conditions within the Project Area were evaluated with aerial imagery, topographic maps, digital elevation model data, and National Land Cover Database data (MRLCC, 2021). Land use within the Project Area is typical for a rural, agricultural area in central New York and consists of cultivated crop fields, hay fields, pastures, fallow fields in various stages of secondary succession, shrubland, wetlands, and patches of undeveloped, second-growth forest. General observations of existing conditions within the Project Area include the following:

- Agricultural fields comprise a large portion of the Project. Approximately 96% of the Project Area is used for pasture, hay fields, and cultivated crops. Many of these fields have been artificially drained with ditches (MRLCC, 2021).
- Woody and emergent herbaceous wetlands account for less than 1% of the Project Area (MRLCC, 2021).
- A small portion of the Project is forested, with deciduous forests accounting for less than 1% of the Project Area (MRLCC, 2021).
- Less than 1% of the Project Area contains developed, open space.
- Disturbances in the Project Area include drainage ditches along roadways, buried utilities, and areas of cut/fill.

Previous ground disturbance within the Project Area is, for the most part, limited to previous or ongoing agricultural activities. However, farming is not considered significant in terms of its potential to affect the integrity of archaeological resources (NYAC, 1994; NYSHPO, 2005).

Some areas immediately adjacent to existing roads within the Project Area include drainage ditches, culverts, buried utilities, and areas of cut and/or fill. With the exception of limited drainage ditches, culverts, buried utilities, and areas of cut and/or fill, the Project Area in general does not appear to have been subjected to significant previous ground disturbance.

## 2.3 Previous Archaeological Surveys

EDR consulted the NYSHPO's online Cultural Resource Information System (CRIS) database, and county maps used by the NYSHPO prior to the implementation of the CRIS database, to determine if previous archaeological surveys have been conducted within or within 1 mile of the Project Area. According to the CRIS database, no previous archaeological surveys overlap with the Project Area. Six previously conducted archaeological surveys are located within 1 mile from the Project Area (Table 3).

**Table 3. Previous Archaeological Surveys within 1 mile of the Project Area**

| NYSHPO Survey Number | Year | Report Name | Sites Identified | Reference |
|---|---|---|---|---|
| 10SR60779 | 2010 | Cultural Resources Reconnaissance Survey Report: PIN 3805.44.121 (3 of 5), New York State Route 264 @ Biddlecum Road, Town of Schroeppel (MCD 07518), Oswego County, New York | No sites identified | NYSM, 2010 |
| 05SR55830 | 2005 | Phase I Cultural Resource Investigation for the Clay Water Project, Towns of Clay, Schroeppel, and Hastings, Onondaga and Oswego Counties, New York | 1 Euro-American site identified | PAF, 2005 |
| 18SR56142 | 2018 | Phase IA Archaeological Background and Literature Review and Phase IB Archaeological Field Reconnaissance Report of the Proposed Ainslee Drive Sanitary Sewer Study Project Area in the Town of Schroeppel, Oswego County, New York | No sites identified | Archaeological Alliance Services, 2018 |
| N/A | 1986 | Stage I Cultural Resources Survey, Proposed Sewer Line Construction, Hamlet of Caughdenoy, Town of Hastings, Oswego County, New York | 1 Euro-American site identified | Oberon & Johnson, 1986 |
| 04SR54584 | 2004 | Phase IB Cultural Resource Survey Fuller Road Water District – Part 1, Town of Hastings, Oswego County, New York | 1 Euro-American site identified | Pratt & Pratt, 2004 |
| N/A | 1977 | Cultural Resource Survey of Baldwinsville-Seneca Knolls Sanitary District in and near the Village of Baldwinsville, Onondaga County, New York | 1 Paleo-Indian Indigenous Site identified | Pratt & Pratt, 1977 |

## 2.4 Previously Identified Archaeological Sites

EDR consulted the NYSHPO's online CRIS database to determine if previously recorded archaeological sites have been identified within or surrounding 1 mile of the Project Area. According to the CRIS database there are no identified archaeological sites within the Project Area. Four previously recorded archaeological sites are located within a 1-mile buffer of the Project Area. These sites are detailed in Table 4.

**Table 4. Previously Recorded Archaeological Sites within 1 mile of the Project Area**

| USN | Site Name | Site Description | S/NRHP Status | Distance from Project |
|---|---|---|---|---|
| 07518.000006 | Potts Site (NYSM Site #1257) | Paleo-Indian Indigenous Lithic Scatter | Undetermined | 0.9 miles |
| 07507.000020 | Blacksmith Shop Site | Euro-American Foundation | Undetermined | 0.9 miles |

| USN | Site Name | Site Description | S/NRHP Status | Distance from Project |
|---|---|---|---|---|
| 07507.000030 | Caughdenoy Historic Site | Euro-American Foundation and Architectural Artifact Scatter | Not Eligible | 0.9 miles |
| 07507.000029 | M. Brockway Historic Site | Euro-American Artifact Scatter | Undetermined | 0.6 miles |

## 2.5 Cemeteries

EDR consulted the NYSHPO's online CRIS database, U.S. Geological Survey (USGS) topographic quadrangles, nineteenth century historic maps, and Find a Grave to determine if previously identified/mapped cemeteries are located within or adjacent (i.e., within 500 feet) to the Project Area. According to these sources, no cemeteries are mapped within or adjacent to the Project Area.

## 2.6 History of the Project Area

Archaeological evidence suggests that initial occupation in what is now Central New York began with Paleoindian groups following the retreating Laurentide Ice Sheet around 13,000 years before present (BP). During the ice sheet's retreat, much of Central New York was inundated by pro-glacial Lake Iroquois (essentially a major expansion of Lake Ontario), which quickly drained out the Mohawk and later St. Lawrence River Valleys as the ice sheet receded to the north (Lothrop et al., 2014). The first human groups to enter this post-glacial landscape specialized in hunting large game (likely caribou; and possibly mammoth and mastodon) in the recently exposed periglacial tundra and spruce forests. These groups also exploited the diverse floral resources, small game, and fish available in the post-glacial ecosystems (Ritchie and Funk, 1973). Although populations during this time were never high, Central New York was densely settled relative to other parts of the continent. Lothrop et al. (2014) note that the earliest sites in Central New York occur within the former footprint of pro-glacial Lake Iroquois. These early groups were highly mobile, but there is also evidence of moderate to large aggregations in certain places during the year (e.g., the Bull Brook sites in Massachusetts) (Curran, 1999).

Post-Glacial conditions stabilized by approximately 10,000 BP, and small groups of hunter-gatherers reduced their mobility to exploit the diverse resources available to them in the newly emerging mixed deciduous/coniferous forests. Although megafauna were now extinct, larger to medium game such as deer, elk, and moose, and perhaps woodland caribou, were still available, as were small game, fish, and wild plants (Funk, 1978). Material culture during this time is characterized by stemmed and corner-notched projectile points as well as the first appearance of notched stone net-sinkers (Funk, 1978). Groundstone plant processing technology, including nutting stones which indicate the first systematic exploitation of mast resources such as acorns, hickory nuts, and chestnuts, was first used after approximately 6,000 BP (Funk, 1978; Ritchie and Funk, 1973:7). Beginning approximately 3,500 BP, regional diversity led to a greater variety of stone tools, including broad, side-notched projectile points, as well as gouges, plummets, and ground slate artifacts (Funk, 1978; Ritchie 1980). Between approximately 4,000 and 3,000 BP, steatite (soapstone)

bowls, ceramic vessels, decorative steatite gorgets, and burial ceremonialism appears in the archaeological record (Whitthoft, 1949; Ritchie and Funk, 1973; Tuck, 1978).

The establishment of agriculture in northeastern North America began approximately 2,500 BP, possibly in response to favorable climatic conditions during the Medieval Climatic Anomaly (Fitting, 1978:44). Central and Western New York at this time were within the northeastern edge of the Hopewell cultural sphere, characterized by mound burials and other earthworks, dentate-stamped and rocker-stamped ceramic vessels, elaborate tobacco pipes, and stemmed, side-notched, and triangular unnotched Levanna projectile points (Engelbrecht, 2014; Ritchie and Funk, 1973). Groups in the northeast during this period also maintained extensive trade networks, as evidenced by the presence of exotic goods like fossil shark teeth and some ceramic motifs (Fitting, 1978; Ritchie 1980; Ritchie and Funk, 1973). Smaller settlements were more common during this period, but larger settlements are not documented in Western and Central New York until approximately 1,000 BP. In the centuries following, the appearance of maize (corn), beans, and squash agriculture led to the growth of more substantial village sites, including some protected with palisades and earthwork defenses (Ritchie and Funk, 1973; Ritchie, 1980). These villages were occupied year-round, although people still traveled far to hunt, fish, harvest plants, and trade (Cowan, 1999).

Archaeological evidence for the development of Iroquoian[3] culture points to a gradual *in situ* development in Central and Western New York, as opposed to the immigration of Iroquoian groups from outside the region (MacNeish, 1952; Tuck, 1971; Snow, 1994; Hart and Brumbach 2003; 2005; 2009; Brumbach, 2011; Hart, 2011). Haudenosaunee oral history also supports a deep history of occupation within Central and Western New York (Wonderley, 2004).

While sources differ on the specific date of the emergence of the Haudenosaunee, many researchers agree that a formalized Confederacy of five nations (also, the Great League of Peace; the Five Nations; or, the Six Nations) took shape during the late fifteenth or early sixteenth century. The initial five nations of the Haudenosaunee included, loosely from west to east, the Seneca, Cayuga, Onondaga, Oneida, and Mohawk. The Tuscarora later became a member nation in 1722. Initially, the Confederacy functioned indirectly as a religious council, calming internal conflicts through ceremonies associated with the Great Law as prescribed by the Peacemaker (Deganawidah) and Hiawatha. As conflicts arose with neighboring nations and European settlers, the Confederacy's role became more political; however, the member nations largely retained their autonomy (Richter, 2005).

European missionaries, explorers, and traders began visiting Central New York by the mid-seventeenth century. While Jesuit missionaries established missions in Central New York, Dutch and English land companies and settlers claimed land farther west into the Mohawk River Valley, thus fueling pre-existing tensions with the Haudenosaunee regarding the competitive fur trade, international wars, and diseases.

[3] The terms Iroquois and Iroquoian are used here to describe indigenous groups with a suite of cultural traits (e.g., ceramic styles and settlement patterns) and linguistic traits. The term Haudenosaunee is used specifically to denote the five (and later) six nation confederacy present from approximately the sixteenth century onward.

Conflicts between the Haudenosaunee and the French continued into the eighteenth century as French forts were established throughout New York (Anderson, 2005; Dixon, 2005).

Following the French and Indian War, the 1768 Treaty of Fort Stanwix established a boundary line to demarcate the Haudenosaunee, Delaware, and Shawnee territories and regulate westward colonial expansion. This boundary, sometimes referred to as the "Line of Property," extended southwest from the Susquehanna River in New York to the mouth of the Tennessee River. In exchange, the Haudenosaunee forfeited their claims to the Ohio River Valley. Although the treaty bound colonists to remain east of the line, many continued to migrate and settle on Native land (Anderson, 2005; Dixon, 2005; Preston, 2005).

During the American Revolutionary War, both the British and the Americans embraced the aid of various Haudenosaunee member nations, despite the Confederacy's official policy of neutrality. The war divided the Haudenosaunee, with the Cayuga, Onondaga, Mohawk, and Seneca aiding the British and the Oneida and Tuscarora providing support to the American colonists. In retaliation, Washington ordered the Sullivan-Clinton campaign of 1779, where Haudenosaunee homes and crops were burned throughout Central and Western New York. The Sullivan-Clinton expedition destroyed many settlements with refugees fleeing to the reservations in Western New York (mainly, the Buffalo Creek Reservation), Sandusky Bay, Ohio, and Ontario, Canada (now the Six Nations of the Grand River Reservation). The Haudenosaunee were forced to cede all land west of New York State and Pennsylvania in the second Treaty of Fort Stanwix in 1784.

Today, the Onondaga Nation is recognized as an independent nation, living on a portion of its ancestral territory and maintaining its own distinct laws, language, customs, and culture. Their territory consists of 7,300 acres south of Syracuse. The Onondaga Nation's territory consists of 7,300 acres just south of Syracuse, in Onondaga County (Onondaga Nation, 2025).

Prior to the formal organization of Oswego County in the nineteenth century, New York State set aside a 1.5-million-acre tract for soldiers of the Revolutionary War, but it was not fully opened to settlers for nearly a decade due to conflicts with the Haudenosaunee. The New Military Tract encouraged migration and settlement by war veterans as well as Euro-American settlers; it encompasses what is now Cayuga, Cortland, Onondaga, Seneca, and Tompkins counties, as well as parts of Oswego, Schuyler, and Wayne counties. The land was divided into 28 townships, each containing 100 lots of 600 acres arranged in a uniform grid pattern. Although the land was set aside for veterans, many of them either neglected to claim their land or sold their land to speculators. As a result, the area was settled primarily by migrants from New England, New Jersey, Pennsylvania, and the Hudson Valley (Anderson, 2005; Schein, 1993, 2005).

Oswego County, located within the Lake Ontario watershed, was formed in 1816 from parts of Oneida and Onondaga counties. The Oswego River system created a strategic trade route between the Mohawk River and Lake Ontario, which British and French forces both utilized during the seventeenth and eighteenth centuries. The British established Fort Oswego at the mouth of the river in 1727 and their presence remained until 1796. By this time, settlement in the areas around the present-day villages of Mexico, Pulaski, and Redfield grew as the plentiful streams and water systems provided ample waterpower for milling. Capitalizing on the abundance of the Oswego River system, commercial development in the county developed around the shipment of local goods such as cordwood and barrels for salt working. Thousands

of barrels of salt were shipped to Oswego port to be transported to the Old Northwest and parts of Upper Canada. Salt tax revenue in turn prompted the construction of three "salt roads" by 1820, underlining the significance of the salt working industry on the wealth of the county and its broader impact on New York State's economy. A little over a decade later, in 1833, the Welland Canal opened and linked Lake Erie and Lake Ontario, allowing the port of Oswego to act as a terminal for Midwestern agricultural products. Along the north shore of Oneida Lake, a robust glassmaking industry sprung up with the ample supply of sand, and transportation of locally produced goods made more efficient by the canal and its waterways. In 1848, the Syracuse and Oswego Railroad was completed, further developing the connection networks across the state (Wellman and Dix, 2005). Within the Project Area, structures appear along established roadways during this time, with the area remaining rural and agricultural (Geil, 1854; Figure 2-3).

Farmers benefited from the improved transportation networks that allowed for responses to competition in the market by shifting to dairy, fruit, and tobacco farming. A period of economic growth driven by these agricultural trends along with textiles, mills, and the availability of natural resources between the early nineteenth century and the early twentieth century saw settlers from Ireland, Canada, and the Alsace-Lorraine region, differing from the earliest settlers to the area who came from New England and eastern New York. This trend brought a rich diversity of immigrants to Oswego County, and with them a labor force that worked on local farms, likely similar to the former J. McKinley farmstead in Caughdenoy Creek and the former C. Plumber farmstead in Center Road, for example, within the Project Area (Figure 2-3). Additionally, Oswego County was a favorable location for abolitionists due to its geography and proximity to Canada. Many towns supported the Underground Railroad, and the county was home to abolitionists and formerly enslaved people who fled north (Johnson, 1877; Wellman and Dix, 2005).

The twentieth century saw the greatest economic changes in the county, as technology and federal aid improved communication and transportation infrastructure throughout Oswego; however, the Project Area remained relatively unchanged from 1854 (USGS, 1898, 1900a, 1900b, 1956a, 1956b, 1957a and 1957b; Figure 2-4 and Figure 2-5). With this came an increase in population and a general trend in the direction of growth and prosperity. World War II created an influx of manufacturing jobs and local Oswego County industries put hundreds of residents to work. By the 1970s, however, the economic benefits from industry and manufacturing began to trend downwards, and other sectors such as energy, education, and tourism were growing. Notably, SUNY Oswego expanded its campus and curriculum in the 1980s and 1990s, and fishing became a popular touristic sport in the county after salmon was reintroduced into local waters (Wellman and Dix, 2005).

The Town of Hastings, formerly Constantia, was established in 1825. The town is approximately 20 miles northwest of Oneida Lake and directly north of the city of Syracuse. The southern branch of the Little Salmon River drains into the northern part of Hastings. Oneida Lake played an important role in the county for eel harvesting, an indigenous practice that continued into the late nineteenth century and was an economic resource for the town (Dix, 2005). In the nineteenth century, lumbering and the manufacturing of barrels for the Syracuse salt market were important economically for Hastings, a trend reflected in the development of villages like Caughdenoy and Central Square that grew considerably between the 1820s and 1890s (Churchill, 1895; Burr, 1829; Figure 2-4). Rural areas such as those surrounding the Project Area were generally populated with farmsteads spread out on open land until the mid-twentieth century when

Interstate 81, built between 1960 and 1962, assisted in promoting land development in the region and made travel to the town of Hastings much easier. Connecting Hastings and other parts of Oswego County with the commuter region of Syracuse, Interstate 81 influenced residential growth in once-rural areas such as Pleasant Lake, just northeast of the Project Area (USGS, 1973; Wellman and Dix, 2005).

**Figure 2-2. Project Area in 1854**

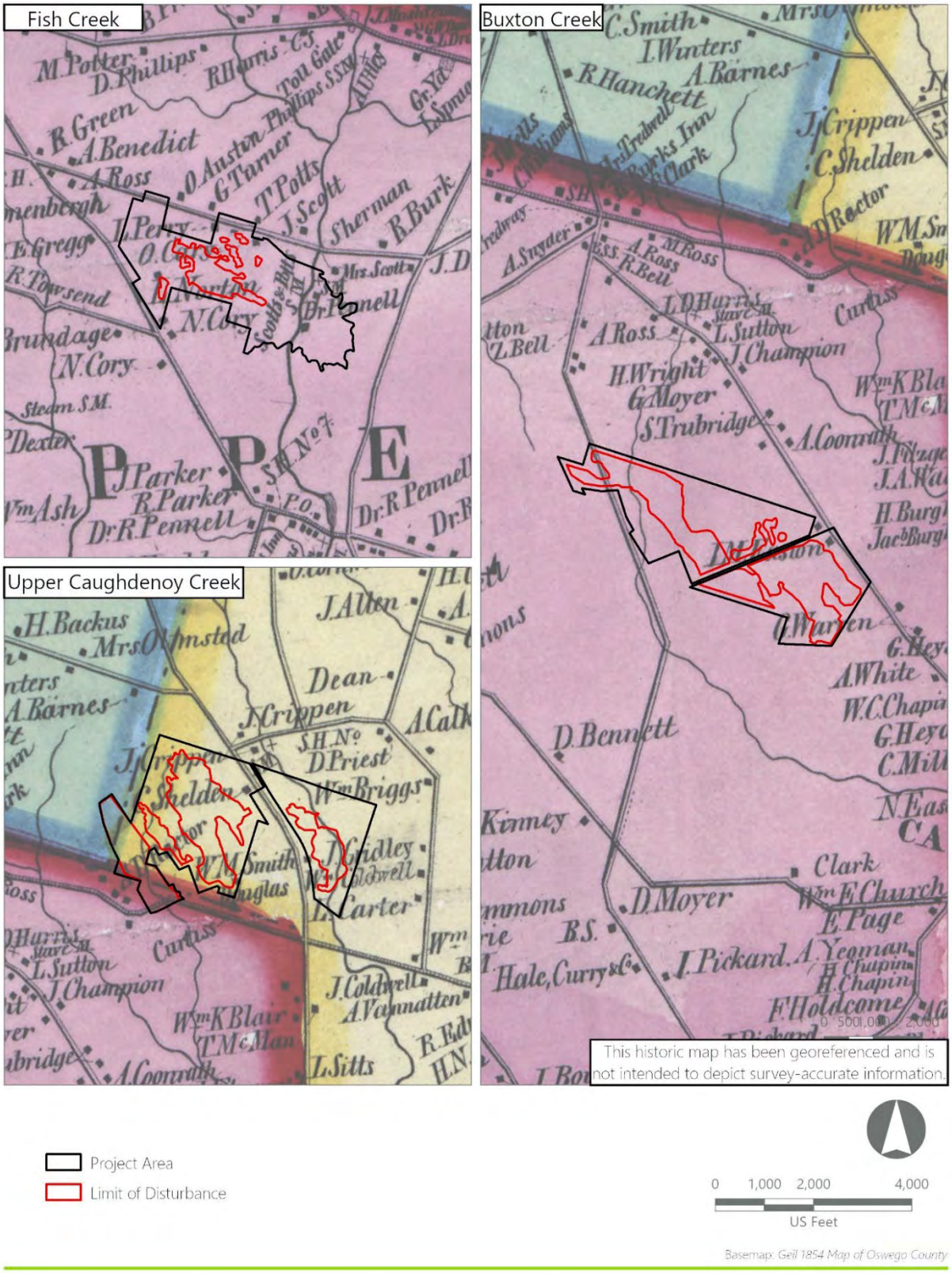


**Figure 2-3. Project Area in 1900 and 1905**

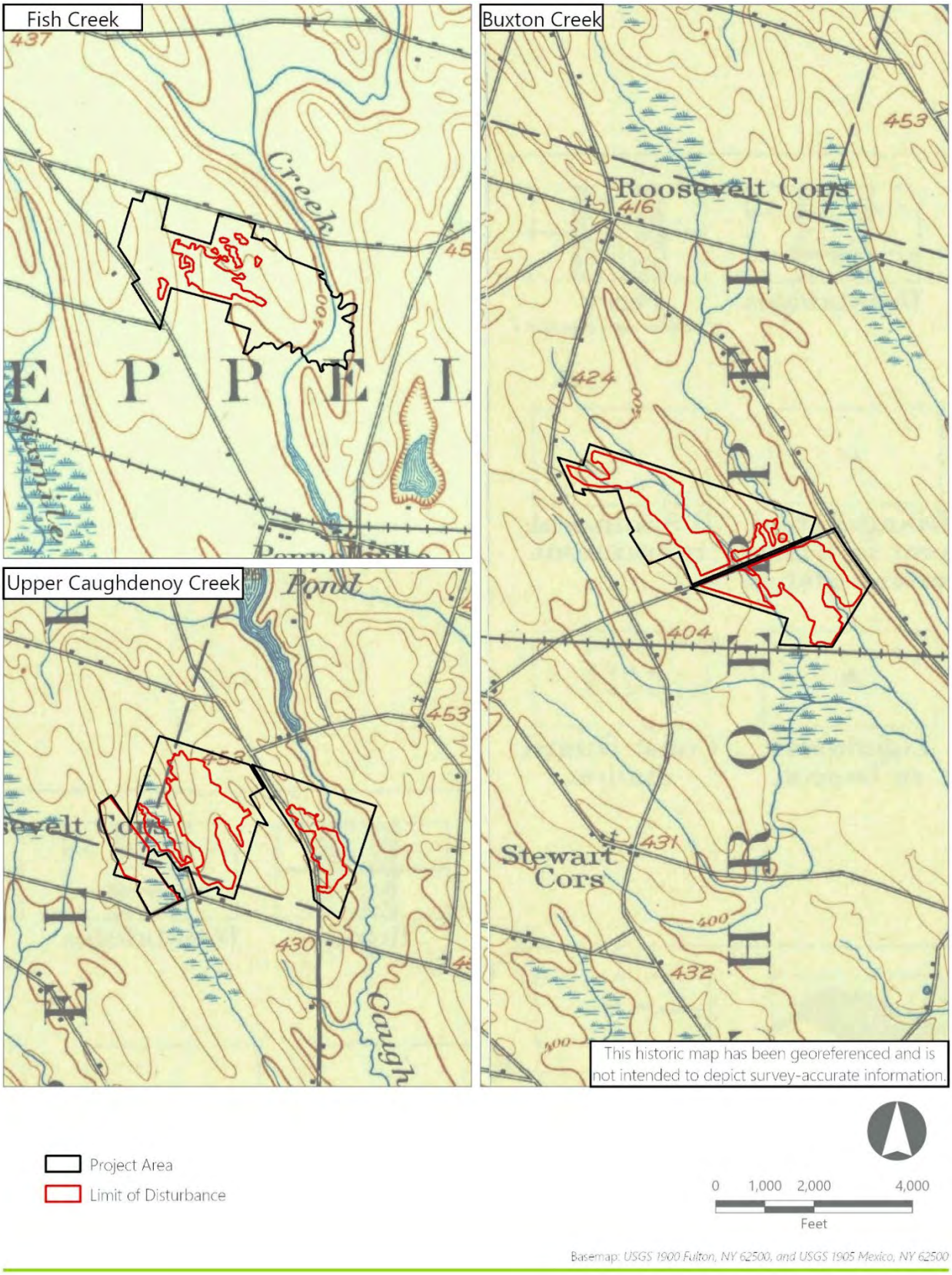
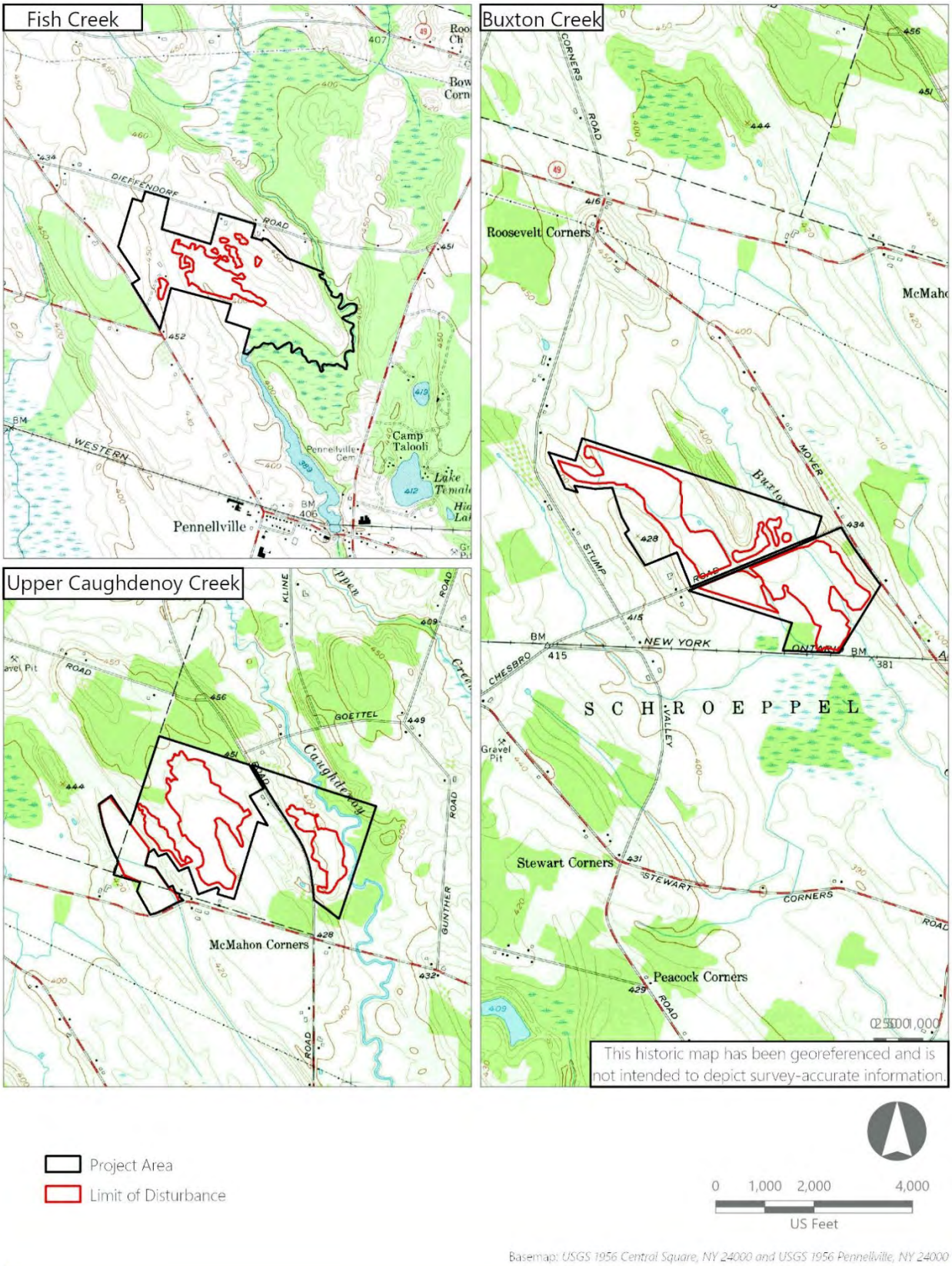


**Figure 2-4. Project Area in 1956**



# 3.0 SUMMARY AND CONCLUSION

The results of the Phase IA archaeological survey for the Project can be summarized as follows:

- No previously recorded archaeological sites are located within the Project Area.
- No previous archaeological surveys overlap with the Project Area.
- Four previously recorded archaeological sites are located within a 1-mile buffer of the Project Area.
- No recorded cemeteries are located within the Project Area.
- Historic maps depict structures located along current and abandoned roadways within the Project Area. Areas located in the immediate vicinity—within approximately 200 feet—of MDS locations are considered to have high potential for the presence of archaeological resources.
- The remaining (non-MDS) portions of the Project Area exhibit minimal likelihood for significant historic-period archaeological sites to be present.

## 3.1 Conclusion and Recommendation

Construction of the proposed Project will include ground disturbing activities within 244 acres of the Project Area. NYSHPO has previously rendered opinions that no historic properties, including archaeological and/or historic resources, would be effected by the Project at all three sites within the Project Area (see Section 1.3 and Attachment A). Based on the results of the Phase IA research, EDR concurs with those opinions and, therefore, no further archaeological investigation of the Project Area is recommended.

## 4.0 REFERENCES


Advisory Council on Historic Preservation (ACHP). 2023. "Policy Statement on Burial Sites, Human Remains, and Funerary Objects". Available at: https://www.achp.gov/sites/default/files/policies/2023-07/PolicyStatementonBurialSitesHumanRemainsandFuneraryObjects30June2023.pdf (Accessed May 2025).

Alliance Archaeological Services. 2018. *Phase IA Archaeological Background and Literature Review and Phase IB Archaeological Field Reconnaissance Report of the Proposed Ainslee Drive Sanitary Sewer Study Project Area in the Town of Schroeppel, Oswego County, New York*. Prepared for the Town of Schroeppel.

Anderson, S.W. 2005. Cayuga County. In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

Brumbach, H.J. 2011. The History of the Collared Rim in the Finger Lakes. In *Current Research in New York Archaeology: A.D. 700-1300*, edited by Christina B. Rieth and John P. Hart, pp. 83-94. New York State Museum, Albany, NY.

Burr, D.H. 1829. *Map of the County of Oswego*. Published by the Surveyor General.

Costello, 1984. *A Cultural Resource Survey of Pin 3750.70.101, Morgan Road Over the Oneida River, Towns of Clay and Schroeppel, Counties of Onondaga and Oswego, New York*. Prepared for the DOT.

Cowan, F.L. 1999. *Making Sense of Flake Scatters: Lithic technology Strategies and Mobility*. American Antiquity 64(4):593-608.

Churchill, J.C., Ed. 1895. *Landmarks of Oswego County, New York*. D. Mason & Company, Syracuse, NY.

Curran, M.L 1999. "Exploration, Colonization, and Settling in: The Bull Brook Phase, Antecedents, and Descendants." In *The Archaeological Northeast*, Mary Ann Levine, Kenneth E. Sassaman, and Michael S. Nassaney eds. Pp. 3-24. Bergin and Garvey, Westport, Connecticut.

Dix, B. 2005. "Hastings." In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

Dixon, H. 2005. Cayuga Nation. In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

Eisenstadt, P., Ed. 2005. *The Encyclopedia of New York State*. Syracuse University Press, Syracuse, NY.

Engelbrecht, W. 2014. *Unnotched Triangular Points on Village Sites*. American Antiquity 79(2):353-367.

Environmental Design and Research, Landscape Architecture, Engineering, and Environmental Services, D.P.C. (EDR). 2025. Phase IA Archaeological Survey and Phase IB Work Plan, Lower Caughdenoy Creek, Oneida River, and Sixmile Creek Wetland Restoration Project, Town of Hastings, Oswego County, New York. Prepared for The Wetland Trust, Inc. by EDR, Syracuse, NY. April 2025

Find a Grave. 2025. Cemeteries. Available at: https://www.findagrave.com/cemetery (Accessed May 2025).

Fitting, James E. 1978. "Regional Cultural Development: 300 B.C. to A.D. 1000." In *Handbook of North American Indians, Vol. 15: Northeast*. Bruce G. Trigger, ed. Pp. 44-57. Smithsonian Institution Press, Washington D.C.

Funk, R.E. 1978. "Post-Pleistocene Adaptations." In *Handbook of North American Indians, Vol. 15: Northeast*. Bruce G. Trigger, ed. Pp. 16-27. Smithsonian Institution Press, Washington D.C.

Geil, Samuel. 1854. *Map of Oswego County, New York: from actual surveys.* Gillett, Matthews & Co.: Philadelphia.

Grand Council of the Haudenosaunee (GCH). 2002. Protocol for Handling Discovery of Human Remains. Grand Council of Haudenosaunee.

GCH. 2009. Haudenosaunee Policy on Human Remains. Grand Council of Haudenosaunee. Available at: http://www.peace4turtleisland.org/pages/humanremains.htm (Accessed May 2025).

GCH. 2014. Haudenosaunee Policy on Human Remains. Grand Council of Haudenosaunee. Available at: https://www.indiantime.net/story/2014/06/26/culture/cultural-corner/14470.html (Accessed May 2025).

Hart, J.P. Death of Owasco – Redux. 2011. In *Current Research in New York Archaeology: A.D. 700-1300*, edited by Christina B. Rieth and John P. Hart, pp. 95-107. New York State Museum, Albany, NY.

Hart, J.P. and Brumbach, H.J. 2003. *The Death of Owasco*. American Antiquity 68:737-752.

Hart, J.P. and Brumbach, H.J. 2005. *Cooking Residues, AMS Dates, and the Middle-to-Late-Woodland Transition in Central New York*. Northeast Anthropology 69:1-34.

Hart, J.P. and Brumbach, H.J. 2009. *On Pottery Change and Northern Iroquoian Origins: An Assessment from the Finger Lakes Region of New York*. Journal of Anthropological Archaeology 28:367-381.

Johnson, C. 1877. *History of Oswego County New York*. L.H. Everts & Co., Philadelphia, PA.

Lothrop, J.C., Bradley, J.W., Winchell-Sweeney, S., and Younge, M.W. 2014. *Paleoindian Occupations in Central New York. In: Glacial Geology of Cayuga County of the Eastern Finger Lakes: Lakes, Lore and Landforms,* edited and compiled by Andrew Kozlowski and Brandon Graham. Guidebook for 77th Annual Reunion of the Northeastern Friends of the Pleistocene Field Conference, June 7-8, 2014, Auburn, New York, pp. 90-101. The New York State Geological Survey, New York State Museum and New York State Education Department, Albany.

MacNeish, R.S. 1952. *Iroquois Pottery Types: A Technique for the Study of Iroquois Prehistory*. National Museum of Canada, Bulletin 124, Ottawa.

Multi-Resolution Land Characteristics Consortium (MRLCC). 2021. NLCD 2021 Land Cover (CONUS). Available at: https://www.mrlc.gov/data/nlcd-2021-land-cover-conus (Accessed May 2025).

Natural Resource Conservation Service (NRCS). 2025. Web Soil Survey. U.S. Department of Agriculture, Washington, DC. Available at: http://websoilsurvey.nrcs.usda.gov/app (Accessed May 2025).

New York Archaeological Council (NYAC). 1994. Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State. New York State Office of Parks, Recreation and Historic Preservation, Waterford, NY.

New York State Historic Preservation Office (NYSHPO). 2005. New York State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements. New York State Office of Parks, Recreation and Historic Preservation, Waterford, NY.

NYSHPO. 2024a. Phase IA/IB Archaeological Survey Recommendation, Project: Upper Caughdenoy Creek Wetland Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, August 9, 2024.

NYSHPO. 2024b. Phase IA/IB Archaeological Survey Recommendation, Project: Bell Road Wetland Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, August 13, 2024.

NYSHPO. 2024c. Phase IA/IB Archaeological Survey Recommendation, Project: Perry Road Wetland Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, August 13, 2024.

NYSHPO. 2024d. Project Review Letter, Project: Booth Wetland Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, September 9, 2024.

NYSHPO. 2024e. Project Review Letter, Project: LaPointe Wetland Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, September 9, 2024.

NYSHPO. 2024f. Project Review Letter, Project: Wisner East Wetland Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, September 9, 2024.

NYSHPO. 2024g. Project Review Letter, Project: Bell Road South Restoration, PR# 25PR01429. Review correspondence from Daniel Mackay. New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. Via CRIS, October 16, 2024.

NYSHPO. 2025a. RE: 25PR01429 Proposed Wetland and Stream Mitigation for the Proposed Micron Semiconductor Fabrication Facility; Department of Army No. LRB-2000-02198. Email correspondence between Jessica Schreyer (NYSHPO) and Kirsten Gerhardt (The Wetland Trust). New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), Waterford, NY. February 27, 2025.

NYSHPO. 2025b. New York State Historic Preservation Office Human Remains Discovery Protocol. New York State Office of Parks, Recreation and Historic Preservation, Waterford, NY.

New York State Museum (NYSM). 1999. Surficial Geology. Available at: http://gis.ny.gov/gisdata/metadata/nysed.nyssurf.html (Accessed May 2025).

New York State Museum (NYSM), 2010. *Cultural Resources Reconnaissance Survey Report: PIN 3805.44.121 (3 of 5), New York State Route 264 @ Biddlecum Road, Town of Schroeppel (MCD 07518), Oswego County, New York*. Prepared for NYSDOT.

New York State Museum (NYSM). 1999. Surficial Geology. Available at: http://gis.ny.gov/gisdata/metadata/nysed.nyssurf.html (Accessed May 2025).

Oberon & Johnson, 1986. *Stage I Archaeological Investigation, Proposed Sewer Line Construction, Hamlet of Caughdenoy, Town of Hastings, Oswego County, New York*. Prepared for the EPA.

Onondaga Nation. 2025. Today. Available at: https://www.onondaganation.org/aboutus/today/ (accessed May 2025).

Pratt & Pratt Archaeological Consultants, Inc. 1977. *Cultural Resource Survey of Baldwinsville-Seneca Knolls Sanitary District in and near the Village of Baldwinsville, Onondaga County, New York*.

Pratt & Pratt Archaeological Consultants, Inc. 2004. *Phase IB Cultural Resource Survey Fuller Road Water District – Part 1, Town of Hastings, Oswego County, New York*

Preston, D.L. 2005. Treaty of Fort Stanwix (1768). In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

Public Archaeology Facility (PAF), 2005. *Phase I Cultural Resource Investigation for the Clay Water Project, Towns of Clay, Schroeppel, and Hastings, Onondaga and Oswego Counties, New York*. Prepared for C&S Engineers, Inc.

Richter, D.K. 2005. Iroquois Confederacy. In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

Ritchie, W.A. 1980. The Archaeology of New York State, Revised Edition. Purple Mountain Press, Fleischmann's, New York, NY.

Ritchie, W.A. and Funk, R.E. 1973. Aboriginal Settlement Patterns in the Northeast. New York State Museum & Science Service Memoir 20. The University of the State of New York, Albany, NY.

Schein, R.H. 1993. *Framing the Frontier: The New Military Tract Survey in Central New York*. New York History 74:5-28.

Schein, R. 2005. New Military Tract. In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

The Wetland Trust (TWT). 2025. Project Correspondence: Upper Caughdenoy Creek, Buxton Creek, and Fish Creek Wetland Restoration Project to the NYSDEC. January 8, 2025.

Tuck, J.A. 1971. *Onondaga Iroquois Prehistory: A Study in Settlement Archaeology*. Syracuse University Press, Syracuse, NY.

Tuck, J.A. 1978. Regional Cultural Development: 3000 to 300 B.C. In *Handbook of North American Indians, Vol. 15: Northeast.* Bruce G. Trigger, ed. Pp. 28-43. Smithsonian Institution Press, Washington D.C.

U.S. Army Corps of Engineers (USACE). 2025. RE: Micron Section 106 Follow Up. Email correspondence between Margaret Crawford (USACE) and Jesse McMahon and Kirsten Gerhardt (The Wetland Trust). USACE, Buffalo District, Auburn Field Office, Buffalo, NY. March 5, 2025.

United States Geological Survey (USGS). 1898. *Syracuse, NY.* 1:62500 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1900a. *Baldwinsville, NY.* 1:62500 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1900b. *Fulton, NY.* 1:62500 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1956a. *Central Square, NY.* 1:24000 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1956b. *Pennellville, NY.* 1:24000 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1957a. *Baldwinsville, NY.* 1:24000 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1957b. *Brewerton, NY.* 1:24000 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, D.C.

USGS. 1973. *Brewerton, NY.* 1:24000 Topographic Quadrangle. United States Department of the Interior, Geological Survey, Washington, DC.

Wellman, J. and B. Dix. 2005. "Oswego County." In *The Encyclopedia of New York State*, edited by P. Eisenstadt. Syracuse University Press, Syracuse, NY.

Whitthoft, J. 1949. *An Outline of Pennsylvania Indian History*. Pennsylvania History 16(3):3-15.

Wonderley, A. 2004. *Oneida Iroquois, Folklore, Myth, and History: New York Oral Narrative from the Notes of H.E. Allen and Others*. Syracuse University Press, Syracuse, NY.

# Attachment A

Agency and Nations Correspondence

The Wetland Trust, Inc.
PO Box 4206
Ithaca, NY 14852
www.thewetlandtrust.org
607-765-4780

8 January 2025

Margaret Crawford
U.S. Army Corps of Engineers, Buffalo District, Auburn Field Office

Jean Foley
New York State Department of Environmental Control, Region 7

**Re: Section 106 Review- TWT Micron Mitigation Work Area Maps and SHPO Letters**

Dear Ms. Crawford and Ms. Foley,

The Wetland Trust, Inc. (TWT) is providing as per your requests a package containing maps of the TWT Micron Mitigation Work Areas and their SHPO correspondence letters. Please note that many sites were submitted to SHPO in partial uploads as TWT obtained them (prior to tax parcel combinations and name changes). To avoid confusion, each Final Site is listed below with the individual sites/corresponding SHPO submission letters that make up each:

- Buxton Creek (formerly Bell Road and Bell Road South)
- Fish Creek (formerly Perry Road)
- Lower Caughdenoy Creek (formerly Caughdenoy Creek)
- Sixmile Creek
- Upper Caughdenoy Creek (formerly Booth, LaPointe, Route 33, and Wisner East)
- Oneida River (formerly Center Road)

An archaeologist has been retained to begin Phase 1A/B investigations at Lower Caughdenoy Creek, Sixmile Creek, and Oneida River beginning the week of January 13, 2025 (weather permitting). Phase 1A/B reports will be forthcoming. Please let us know if you require any further information.

Sincerely,

Kirsten Gerhardt

Kirsten Gerhardt
Restoration Ecologist
kirsten@thewetlandtrust.org

Attachments: TWT Micron Mitigation Work Area Maps and corresponding SHPO Letters



0 0.1 0.2 0.4 Miles

N

# Work Areas - Buxton Creek (Bell Road, Bell Road South)

Buxton Creek (Bell Road, Bell Road South)
Town of Schroeppel,
Oswego County, NY

Tax Parcel Boundary (248.9 ac)
Buxton Creek Wetland Work Areas (114.3 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Kirsten Gerhardt| Date: 7 Jan. 2025| Projection: NAD 1983 State Plane New York East | References: NYS GIS Clearinghouse, NYS DEC

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

August 13, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: USACE
Bell Road Wetland Restoration
24PR07316

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

October 16, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: USACE
Bell Road South Wetland Restoration
24PR09240

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

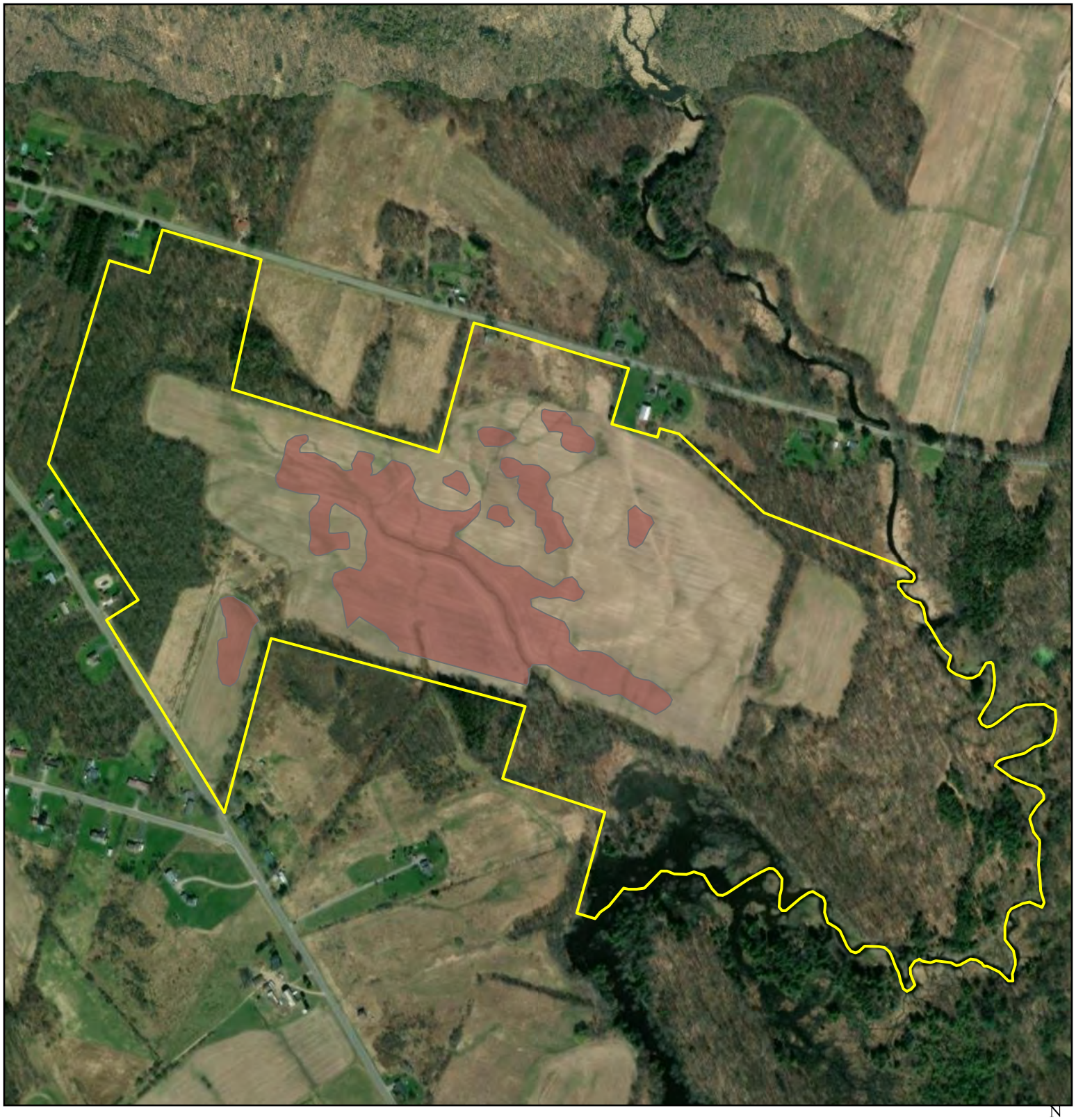
If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation



0 0.07 0.15 0.3 Miles

N

# Work Areas - Fish Creek (Perry Road)

Fish Creek (Perry Road)
Town of Schroeppel,
Oswego County, NY

Tax Parcel Boundary (184.8 ac)
Perry Rd Wetland Work Areas (24.1 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Kirsten Gerhardt| Date: 7 Jan. 2025| Projection: NAD 1983 State Plane New York East | References: NYS GIS Clearinghouse, NYS DEC

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

August 13, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: DEC
Perry Road Wetland Restoration
24PR07315

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation




0 465 930 1,860 US Feet

N

Tax Parcel Boundary (239 ac)

Upper Caughdenoy Creek Work Area (106.3 ac)

# Work Areas- Upper Caughdenoy Creek (LaPointe, Booth, Route 33, Wisner East)

Upper Caughdenoy Creek
Town of Hastings, Palermo, and Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Kirsten Gerhardt | Date: Jan 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

September 09, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: USACE
Booth Wetland Restoration Project
24PR08086

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

September 09, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: USACE
LaPointe Wetland Restoration
24PR08085

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

August 09, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: USACE
Route 33 Wetland Restoration
24PR07284

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner Pro Tempore

September 09, 2024

Kirsten Gerhardt
Restoration Ecologist
The Wetland Trust
4729 NY 414
Burdett, NY 14818

Re: USACE
Wisner East Wetland Restoration Project
24PR08091

Dear Kirsten Gerhardt:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Bradley Russell at the following email address:

Bradley.Russell@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

# Appendix G.

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-1 (Bell Road)** | **Date: 06-20-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Emergent wetland bordered by Shrub-Scrub and Forested Wetland and restore a stream for mitigation.** | **Site Description: An agricultural field that is planted with soybeans. The field is highly visible from the Bell Road.** |
| **Evidence of historic drainage or filling: There is a deep ditch located along the east edge of the field. This ditch is drying the valley because it intercepts a sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Basins have been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 72-inches below the surface.** |
| **Hydric soil present near the surface? Yes** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.284960°N 76.231793°W**<br>**Soil texture: 0-8-inches = silt-loam, 8-inches – 78-inches silt clay loam. 78-126-inches saturated clay.** | |
| **Rock armoring will be needed at the outlet:**<br>**Outlet: 26-feet wide x 70-feet long x 1.0-feet deep = 1,820 feet$^3$/27 feet$^3$/yard$^3$ = 67 yards$^3$ x 1.5 tons/yard$^3$ = 100 tons**<br>**Total = 100 tons/24 tons/dump truck = 4- dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Fill the ditch draining the area and restore wetlands on the floodplain of the stream to be restored. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Build a sinuous stream with a channel from 20-26-feet wide and banks no higher than 6-inches with restored wetlands on either side. Avoid building a dam because the restored stream must flow into and out from the wetland, and not look like an artificial spillway. Excavate a large and shallow basin that is deepest in the center. Most of the soil will be used to build groundwater dams for the other wetlands being built. Spread excess soil in the buffer along the Bell Road and north of the area. Create pits, mounds, and scrapes. Plant trees and shrubs on the mounds. Use rock to armor the outlet to prevent erosion.** | |



W-1



W-1

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-2 (Bell Road)** | **Date: 06-22-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Emergent wetland bordered by Shrub-Scrub and Forested Wetland and restore a stream for mitigation.** | **Site Description: An agricultural field that is planted with soybeans. The field is visible from the Bell Road.** |
| **Evidence of historic drainage or filling: There is a deep ditch located along the east edge of the field. This ditch is drying the valley because it intercepts a sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Basins have been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Lime Green wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 37-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.286505°N 76.232791°W**<br>**Soil texture: 0-36-inches = silt-loam, 36-inches – 52-inches silt-sandy-clay (2-inch-long thin ribbons).** | |
| **Rock armoring will be needed at the outlet:**<br>**Outlet: 26-feet wide x 70-feet long x 1.0-feet deep = 1,820 feet$^3$/27 feet$^3$/yard$^3$ = 67 yards$^3$ x 1.5 tons/yard$^3$ = 100 tons**<br>**Total = 100 tons/24 tons/dump truck = 4- dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Fill the ditch draining the area and restore wetlands on the floodplain of the stream to be restored. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Build a sinuous stream with a channel from 20-26-feet wide and banks no higher than 6-inches with restored wetlands on either side. Avoid building a dam because the restored stream must flow into and out from the wetland, and not look like an artificial spillway. Excavate a large and shallow basin that is deepest in the center. Most of the soil will be used to build groundwater dams for the other wetlands being built. Spread excess soil in the buffer along the west of the area. Create pits, mounds, and scrapes. Plant trees and shrubs on the mounds. Use rock to armor the outlet to prevent erosion.** | |



W-2



W-2

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-3 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust), Kendall Hastings (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans. The field is highly visible from the Bell Road.** |
| **Evidence of historic drainage or filling: There is a deep ditch located along the east edge of the field. This ditch is drying the valley because it intercepts a sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Basins have been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 39-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.284620°N 76.232895°W**<br>**Soil texture: 0-10-inches = silt-loam, 10-25-inches = fine sandy loam, 25-41-inches = silt loam, 41-48-inches = clay loam (2-inch-long thin ribbons). The silt-loam and clay *will be needed to build groundwater dams for wetlands where sand is near the surface.*** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. May need to transport clay from another area to fill the core trench. Spread excess soil in the buffer along the uphill and west edge of the area. Create pits, mounds, and scrapes. Plant trees and shrubs on the mounds.** | |



W-3



W-3 (showing test hole)

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-4 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust), Kendall Hastings (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans. The field is highly visible from the Bell Road.** |
| **Evidence of historic drainage or filling: There is a deep ditch located along the east edge of the field. This ditch is drying the valley because it intercepts a sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Basins have been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 29-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 1.8-feet** |
| **Test Hole location: 43.285844°N 76.233930°W**<br>**Soil texture: 0-10-inches = silt-loam, 10-29-inches = sandy loam, 29-48-inches = clay loam.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench. Spread excess soil in the buffer along the west edge of the area. Create pits, mounds, and scrapes. Plant trees and shrubs on the mounds.** | |



W-4



W-4

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-5 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust), Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 41-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.4-feet** |
| **Test Hole location: 43.265708°N 76.190404°W**<br>**Soil texture: 0-10-inches = topsoil, 10-27-inches = fine sandy loam, 27-48-inches = silt loam, 48-inches + = clay.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Block diversion ditch along the west side of the field. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench. Spread excess soil in the buffer along the Southwest edge of the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-5



W-5

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-6 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust), Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 50-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.287382°N 76.235779°W**<br>**Soil texture: 0-9-inches = topsoil, 9-36-inches = fine sandy loam, 36-50-inches = silt loam, 50-inches + = clay.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Block diversion ditch along the west side of the field. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench. Spread excess soil west of the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-6



W-6

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-7 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Franz (The Wetland Trust), Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 44-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.288405°N 76.235181°W**<br>**Soil texture: 0-10-inches = topsoil, 10-44-inches = fine sandy loam, 44-102-inches = clay.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Block diversion ditch along the west side of the field. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench. Spread excess soil west of the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-7



W-7 (using a 10.5-foot soil auger to dig the test hole

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-8 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges, and along Bell Road. These are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 29-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.288405°N 76.235181°W**<br>**Soil texture: 0-8-inches = topsoil, 8-29-inches = sandy loam, 29-35-inches = sandy clay, 35-65-inches = clay.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench. Spread excess soil downhill and south of the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-8



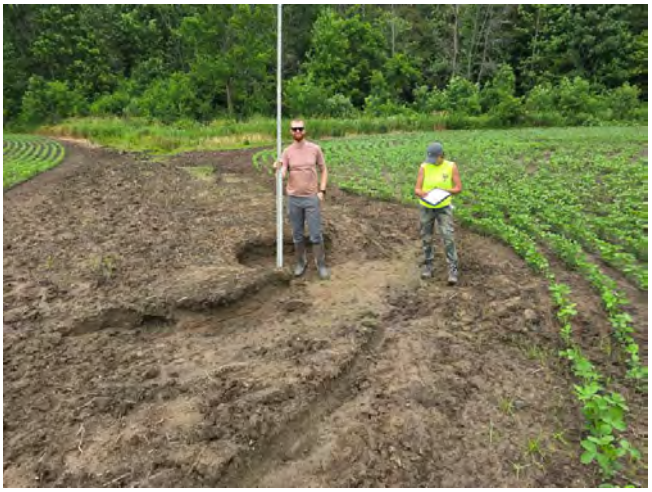
W-8 (showing clay that is present 35-inches below the surface)

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-9 (Bell Road)** | **Date: 06-23-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation. The wetland area will also include a section of a restored stream.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange color wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 30-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 1.6 feet** |
| **Test Hole location: 43.289149°N 76.235754°W**<br>**Soil texture: 0-11-inches = topsoil, 11-48-inches = clay.** | |
| **Rock armoring of the outlet is needed. Head-cuts are located at the lower edge of this planned wetland that must be controlled. Rock armoring at inlet and outlet: Use rock to control the head-cuts where water drains from this area into the ditch along the east edge of the field. One head-cut is 1.6-feet vertical the other 2-foot vertical. Rock needed = 150-feet long x 40-feet wide x 1.5-feet thick = 9,000 feet$^3$/27 feet$^3$/yard$^3$ = 333 yards$^3$ x 1.5-tons/yard$^3$ = 500 tons** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench if needed. Spread excess soil to the south of the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds. Build a naturally appearing stream and floodplain in the area. Fill a section of the ditch along the east side of the field.** | |



W-9



W-9 (Showing one of the head-cuts that would be controlled

**Wetland Design Form**

| | |
|---|---|
| **Site Name: W-10 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Frantz (The Wetland Trust) Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 39-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.289179°N 76.237289°W**<br>**Soil texture: 0-9-inches = topsoil, 9-39-inches = sandy loam, 39-48-inches = clay.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam that is removed with clay. Spread excess soil southwest of the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-10



W-10

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-11 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Ed Frantz (The Wetland Trust) Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 38-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 1.5-feet** |
| **Test Hole location: 43.2900439°N 76.236657°W**<br>**Soil texture: 0-9-inches = topsoil, 9-29-inches = sandy loam, 29-38-inches = silt loam, 38-48-inches = clay.** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam that is removed with clay. Spread excess soil north into the buffer. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-11



W-11 (Showing soil test hole)

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-12 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust) Ed Frantz (The Wetland Trust) Harrison Frantz (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Lime wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 48-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.290387°N 76.238154°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = sandy loam, 48-inches + = clay** | |
| **Rock armoring at inlet and outlet: Not needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam that is removed with clay. Spread excess soil north into the buffer. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-12



W-12

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-13 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust) Ed Frantz (The Wetland Trust) Harrison Frantz (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: An eroding ditch bisects the area. There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 38-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.289772°N 76.238582°W**<br>**Soil texture: 0-12-inches = topsoil, 12-57 = clay** | |
| **Rock armoring at inlet and outlet: Yes. Needed to control erosion.**<br>**Inlet: 12-feet wide x 50-feet long x 1.5-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Outlet: 12-feet wide x 50-feet long x 1.5-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 100 tons** | |
| **Head-cuts located uphill or downhill of the planned wetland. Yes** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil south uphill into the buffer. Armor with rock the inlet and outlet. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-13



W-13

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-14 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 40-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.289755°N 76.239767°W**<br>**Soil texture: 0-8-inches = topsoil, 8-40-inches = sandy loam, 40-52-inches silt loam, 52-inches += clay** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil south into the buffer. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-14



W-14

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-15 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 20-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 1.2-feet** |
| **Test Hole location: 43.290784°N 76.239625°W**<br>**Soil texture: 0-9-inches = topsoil, 8-28-inches = sandy silt loam, 44-inches + = clay loam** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil north into the buffer. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-15



W-15

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-16 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: There is a deep diversion ditch located along the west edge of the field, and a deep ditch bordering the east edge of the field. These ditches are drying the valley because they intercept the sand layer near the surface of the fields. The east ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Lime wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 34-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 1.5-feet** |
| **Test Hole location: 43.290871°N 76.240629°W**<br>**Soil texture: 0-10-inches = topsoil, 10-67-inches = sandy loam, 67-inches + = clay loam** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil north into the buffer. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-16



W-16

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-17 (Bell Road)** | **Date: 06-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: A deep ditch borders the east edge of the field. This ditch is drying the valley because it intercepts the sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 35-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.289757°N 76.241339°W**<br>**Soil texture: 0-11-inches = topsoil, 11-55-inches = sandy loam, 55-inches + = clay** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil south. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-17



W-17

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-18 (Bell Road)** | **Date: 6-24-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: A deep ditch borders the east edge of the field. This ditch is drying the valley because it intercepts the sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 37-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.289984°N 76.242115°W**<br>**Soil texture: 0-10-inches = topsoil, 10-38-inches = sandy loam, 38-57-inches = silt loam, 57-inches + = clay** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Save and use all silt loam to place in the core trench. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil south or west. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-18



W-18

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-19 (Bell Road)** | **Date: 6-25-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust), Kendall Hastings (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: A deep ditch borders the east edge of the field. This ditch is drying the valley because it intercepts the sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? Not found.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 3.0-feet** |
| **Test Hole location: 43.291337°N 76.241478°W**<br>**Soil texture: 0-16-inches = topsoil- silt loam, 16-22-inches = silt loam, 22-inches – 48-inches + = clay.** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| ***This wetland may be a primary source of silt loam and clay for building the groundwater dams for wetlands sites that have a thick layer of sand on the surface. Dig all the silt loam and clay soil possible from this area, including within the buffer, and replace with sand if needed.*** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil north or west. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-19



W-19

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-20 (Bell Road)** | **Date: 6-25-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust), Kendall Hastings (The Wetland Trust)** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: A deep ditch borders the east edge of the field. This ditch is drying the valley because it intercepts the sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 42-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.6-feet** |
| **Test Hole location: 43.290371°N 76.242612°W**<br>**Soil texture: 0-11 inches = topsoil, 11-74-inches = sandy loam, 74-inches + = clay** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil north. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



W-20



W-20

# Wetland Design Form

| | |
|---|---|
| **Site Name: W-21 (Bell Road)** | **Date: 6-25-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **Individuals assisting with the design: Kirsten Gerhardt (The Wetland Trust), Kendall Hastings (The Wetland Trust), Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing Forested and Shrub-Scrub for mitigation.** | **Site Description: An agricultural field that is planted with soybeans.** |
| **Evidence of historic drainage or filling: A deep ditch borders the east edge of the field. This ditch is drying the valley because it intercepts the sand layer near the surface of the fields. The ditch is deep enough to serve as a main outlet for buried drainage structures. Additional ditches are located around the field edges that are diverting runoff, removing surface water, and lowering the elevation of groundwater. Historic basins have also been filled and the surface of fields sloped for drainage.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa (nut sedge)** | **Groundwater elevation in test hole? 38-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change: 2.0-feet** |
| **Test Hole location: 43.2905881°N 76.243586°W**<br>**Soil texture: 0-10 inches = topsoil, 10-48-inches = sandy loam, clay may be 70-inches deep.** | |
| **Rock armoring at inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. No** | |
| **Woody debris source: Not available on site. Would need to be transported to the site.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Excavate a large and shallow basin that is deepest in the center. Transport clay from another area to fill the core trench, replacing the sandy loam with clay. Spread excess soil north or west. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |

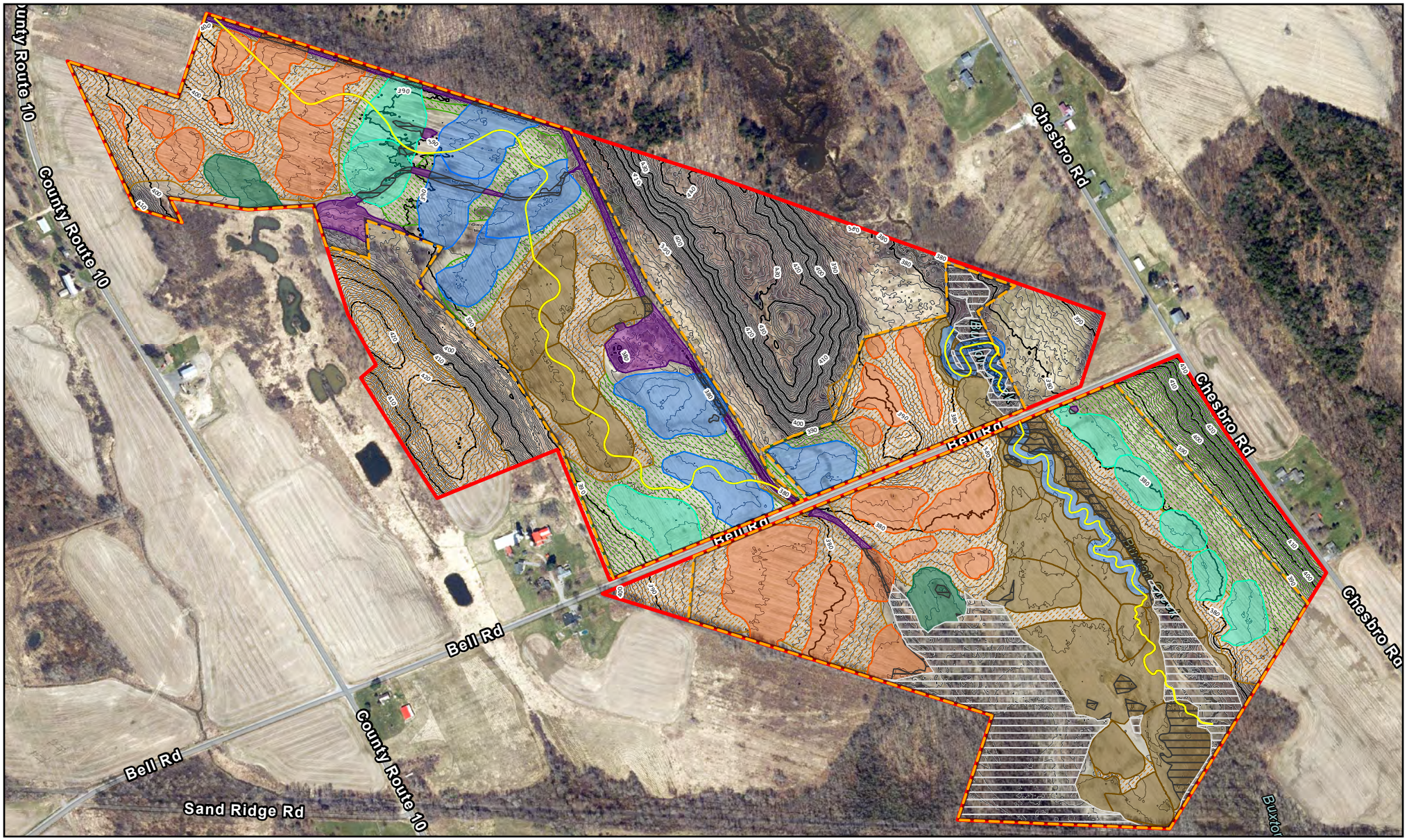


W-21



W-21

# Appendix H.




# Sheet 1. Site Plan

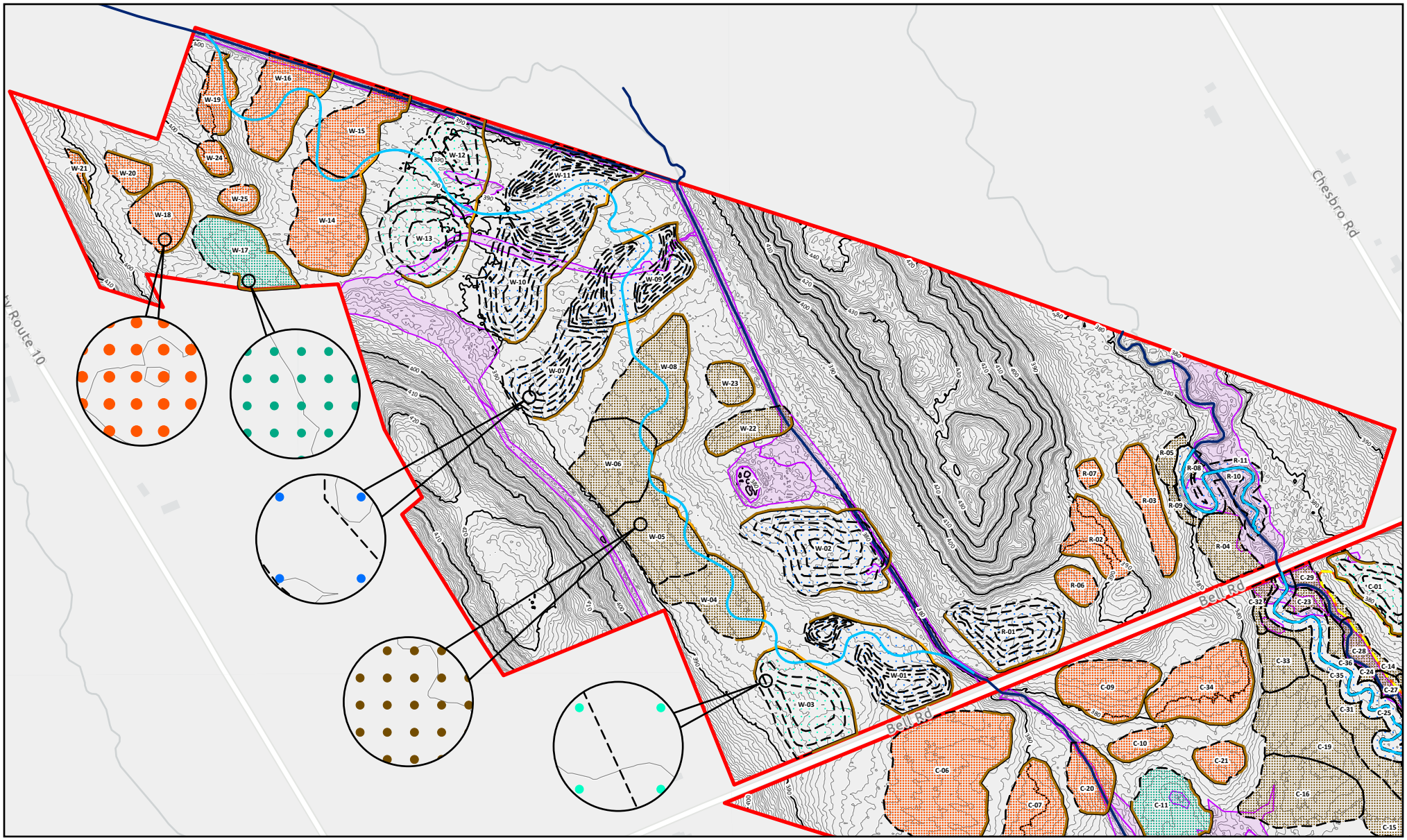
Buxton Creek Town of Schroeppel, Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

- Existing Wetland Preservation (5.1 ac)
- Existing Wetland Rehabilitation (27.5 ac Total)
  - Incidental (6.5 ac)
  - Additional: PFO - Floodplain Forest (21 ac)
- Mitigation Wetlands (95.4 ac Total / 88.9 ac Reestablishment / 6.5 ac Incidental Rehabilitation)
  - PEM - Shallow Emergent Marsh (11.7 ac Total / 11.2 ac Reest. / 0.5 ac Incidental Rehab)
  - PEM - Deep Emergent Marsh (20.5 ac Total / 18.7 ac Reest. / 1.8 ac Incidental Rehab)
  - PFO - Floodplain Forest (35.3 ac Total / 31.7 ac Reest. / 3.6 ac Incidental Rehab)
  - PFO - Red Maple Hardwood Swamp (24.9 ac Total / 24.4 ac Reest. / 0.5 ac Incidental Rehab)
  - PFO - Hemlock Hardwood Swamp (3 ac Total / 2.9 ac Reest. / 0.1 ac Incidental Rehab)
- Mitigation Stream Reaches (8,617 ft)
- Upland Buffer (75.7 ac Total)
  - Herbaceous (26.7 ac)
  - Shrub / Forest (49 ac)
- Contour Line (1 ft)
- Conservation Easement Boundary DRAFT (187.7 ac)
- TWT Property Boundary (253.9 ac)

N

Cartographer: Michelle Herman | Date: 2 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




0 300 600 1,200 US Feet

N

# Sheet 2a. Wetland Grading Plan - North

Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

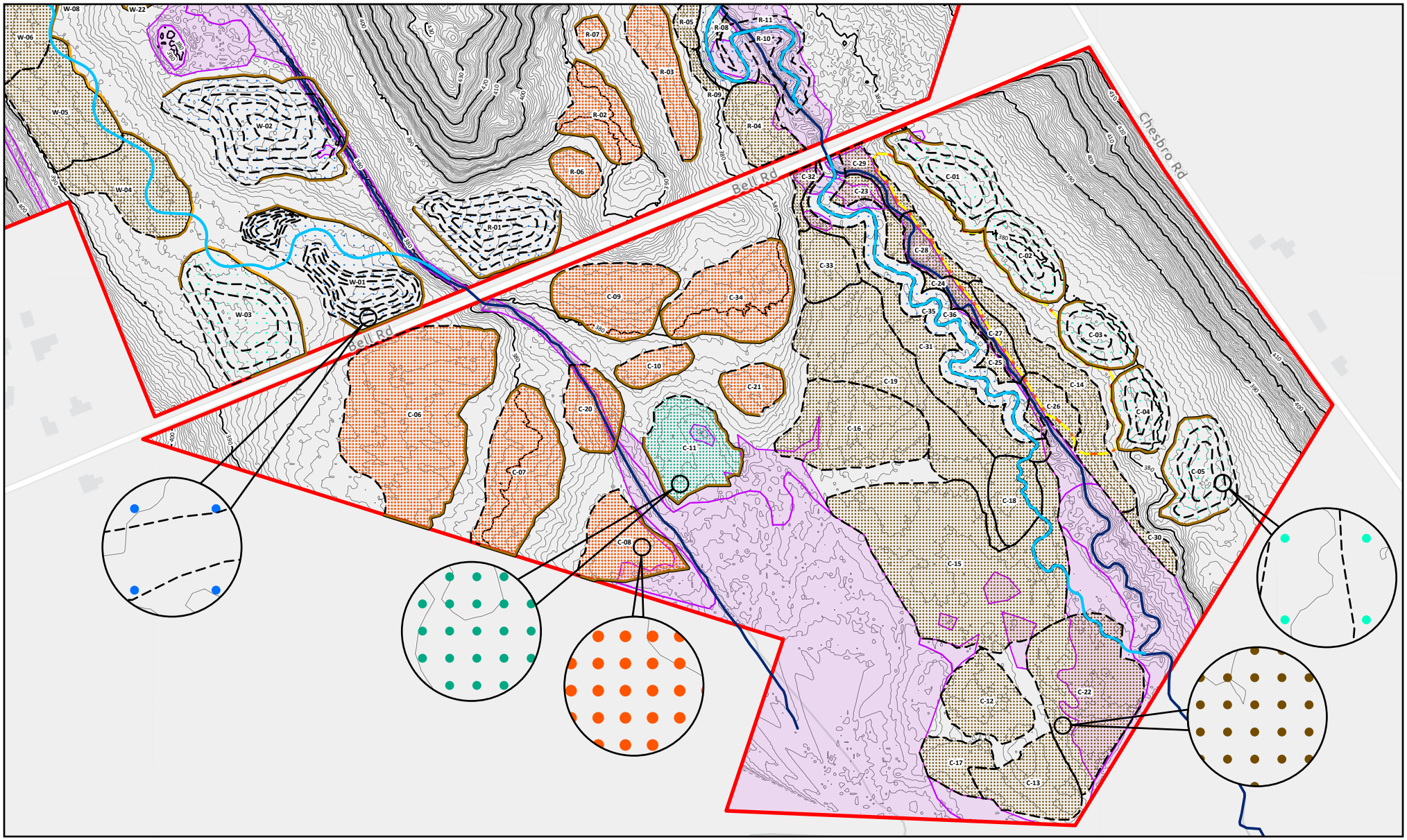
- Mitigation Wetland Berms / Groundwater Dams (Not to Scale; will not Exceed 3 ft H)
- Mitigation Wetland Riffle Crests (Not to Scale)

Mitigation Wetland Pit and Mound Specifications (Average)

- PEM Shallow Emergent Marsh: 24 in H x 36 in Dia, 30 ft Spacing
- PEM Deep Emergent Marsh: 30 in H x 36 in Dia, 30 ft Spacing
- PFO Floodplain Forest: 12 in H x 36 in Dia, 10 ft Spacing
- PFO Red Maple Hardwood Swamp: 6 in H x 48 in Dia, 10 ft Spacing
- PFO Hemlock Hardwood Swamp: 12 in H x 36 in Dia, 10 ft Spacing

- Existing Wetlands (34.9 ac)
- Mitigation Stream Reaches (9,097 ft)
- Existing Stream Reaches
- Temporary Topsoil Storage Area (4 ac)
- Mitigation Wetland Contours (0.5 ft)
- Existing Contours (0.5 ft)
- TWT Property Boundary (253.9 ac)

Cartographer: Michelle Herman | Date: 12 May 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




Mitigation Wetland Berms / Groundwater Dams (Not to Scale; will not Exceed 3 ft H)

Mitigation Wetland Riffle Crests (Not to Scale)

Mitigation Wetland Pit and Mound Specifications (Average)

- PEM Shallow Emergent Marsh: 24 in H x 36 in Dia, 30 ft Spacing
- PEM Deep Emergent Marsh: 30 in H x 36 in Dia, 30 ft Spacing
- PFO Floodplain Forest: 12 in H x 36 in Dia, 10 ft Spacing
- PFO Red Maple Hardwood Swamp: 6 in H x 48 in Dia, 10 ft Spacing
- PFO Hemlock Hardwood Swamp: 12 in H x 36 in Dia, 10 ft Spacing

Existing Wetlands (34.9 ac)

Mitigation Stream Reaches (9,097 ft)

Existing Stream Reaches

Temporary Topsoil Storage Area (4 ac)

Mitigation Wetland Contours (0.5 ft)

Existing Contours (0.5 ft)

TWT Property Boundary (253.9 ac)

# Sheet 2b. Wetland Grading Plan - South

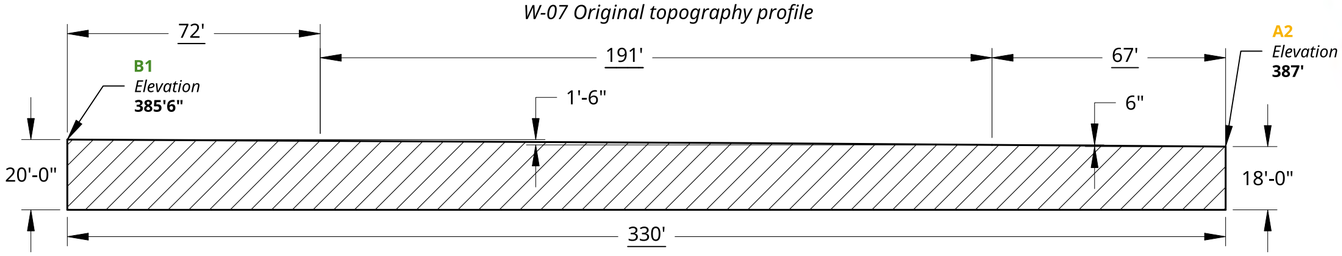
Buxton Creek
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

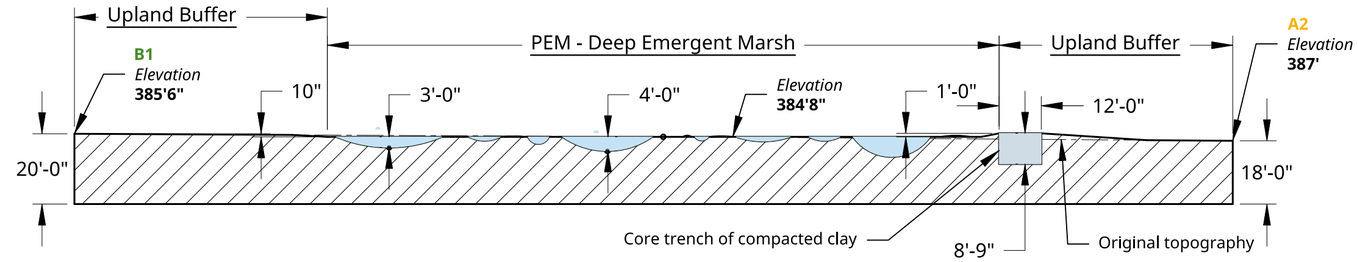
Cartographer: Michelle Herman | Date: 12 May 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse

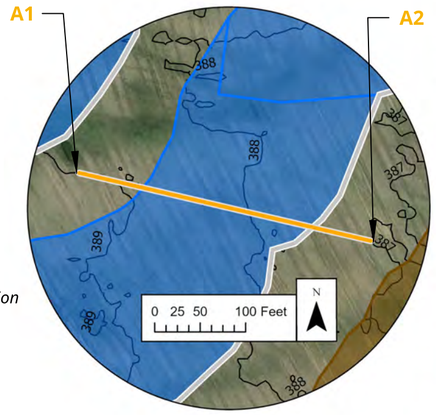
# Buxton Creek Wetland Cross Sections: PEM - Deep Emergent Marsh and PFO - Floodplain Forest

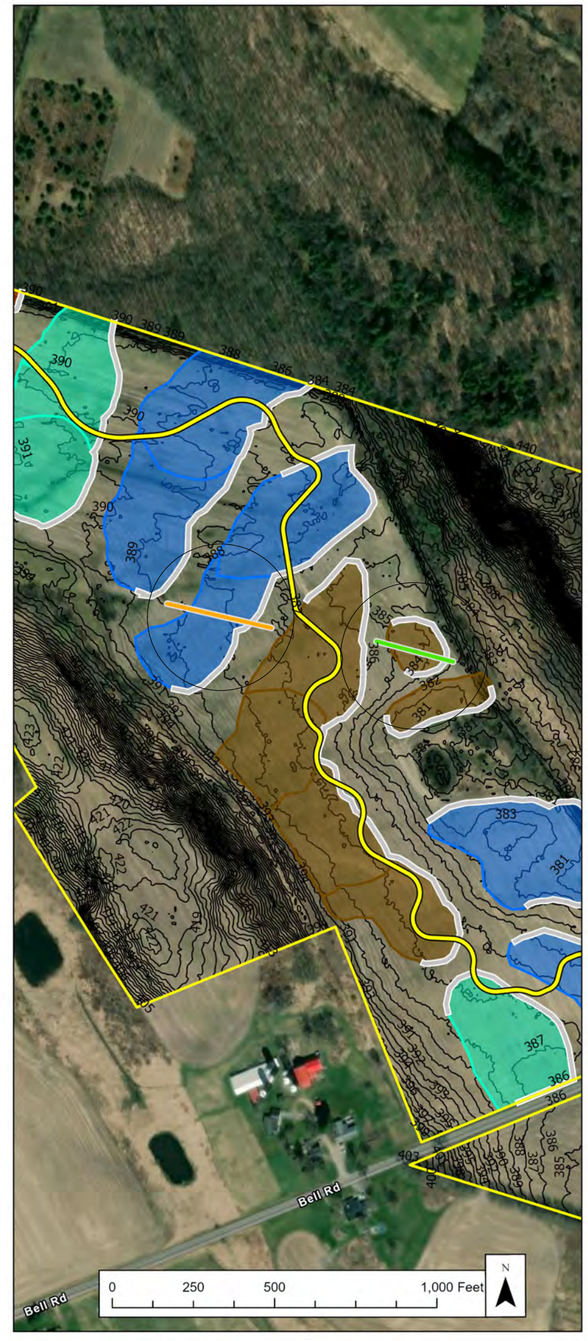
*W-07 Original topography profile*



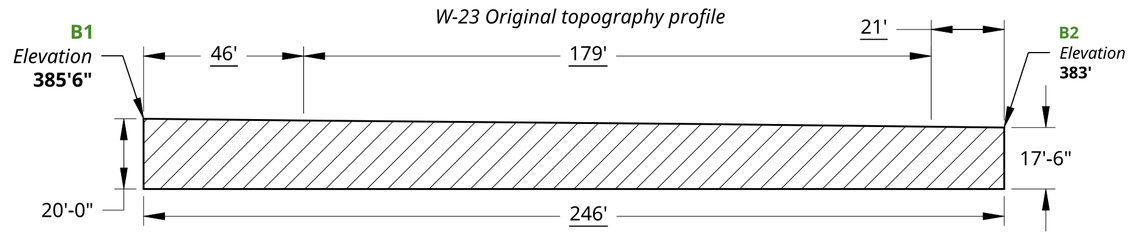

*W-07 Proposed as-built profile*



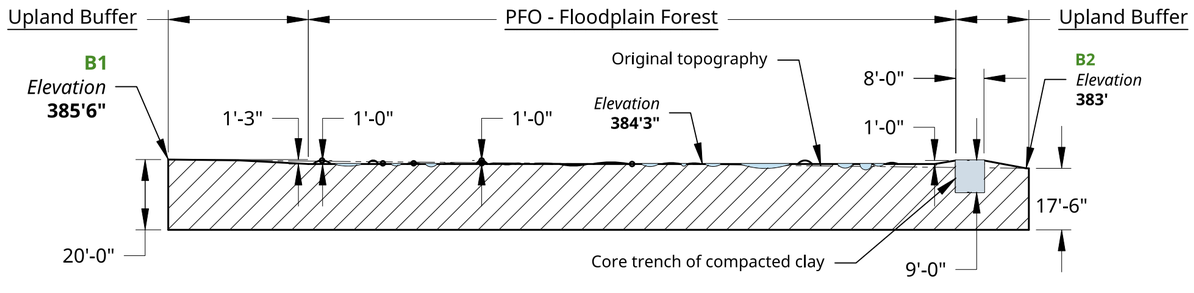



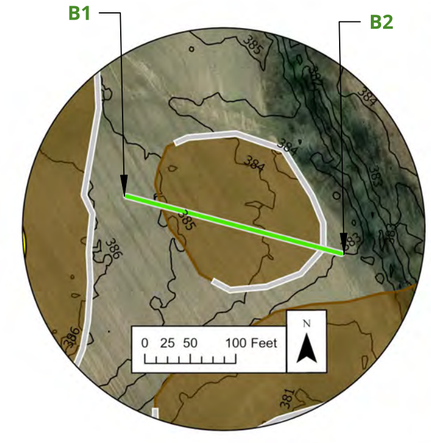




*W-23 Original topography profile*




*W-23 Proposed as-built profile*




TWT Property Boundaries
Contour Line (1 ft)
BUXTON_CREEK_PROP_STREAMS
Buxton Creek Berms/Core Trenches
Type
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Floodplain Forest
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
Buxton Creek Designed Wetlands Final
Type
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Floodplain Forest
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp

| | | | |
|---|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET. Maps and drawings are at different scales. Berm/Core Trenches in maps are not to scale | | NAME | DATE |
| | DRAWN | DYLAN JOHNSTON-JORDAN | 06/10/2025 |
| | CHECKED | | |
| | APPROVED | | |
| | MATERIAL | FINISH | |

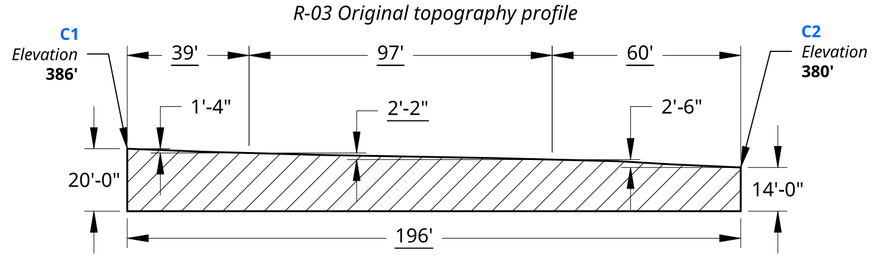
TITLE: **Buxton Creek Wetland Cross Sections: Deep Emergent Marsh and Floodplain Forest**

The Wetland Trust

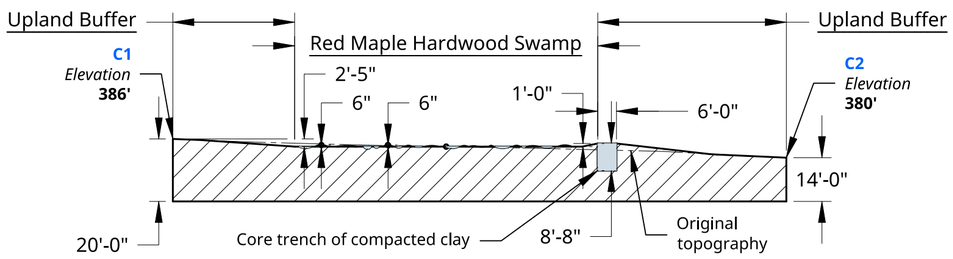
| SIZE | DWG NO. | REV. |
|---|---|---|
| C | Sheet 3 | |
| SCALE 1:400 | WEIGHT | SHEET 1 of 1 |

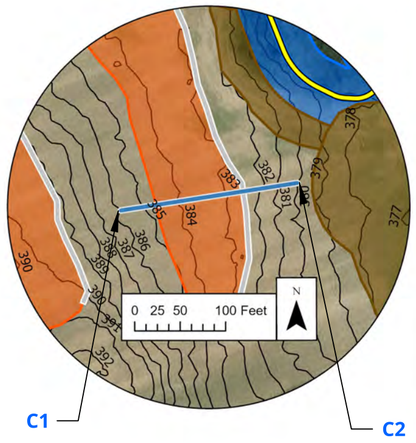
# Buxton Creek Wetland Cross Sections: PEM - Deep Emergent Marsh and PFO - Floodplain Forest

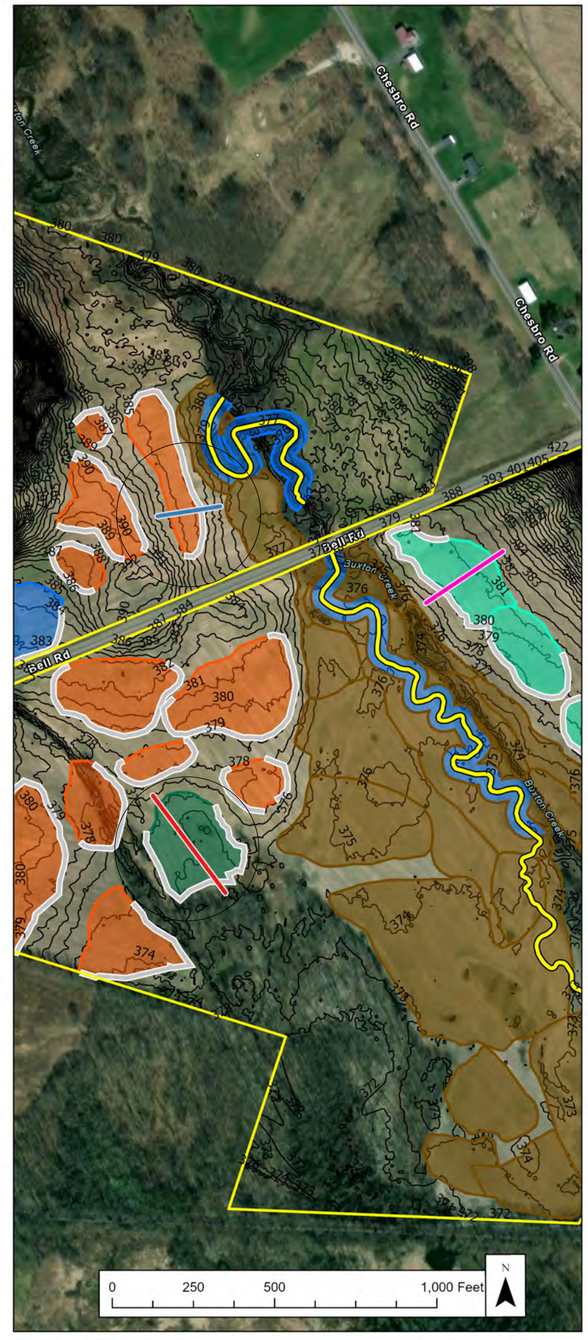
*R-03 Original topography profile*



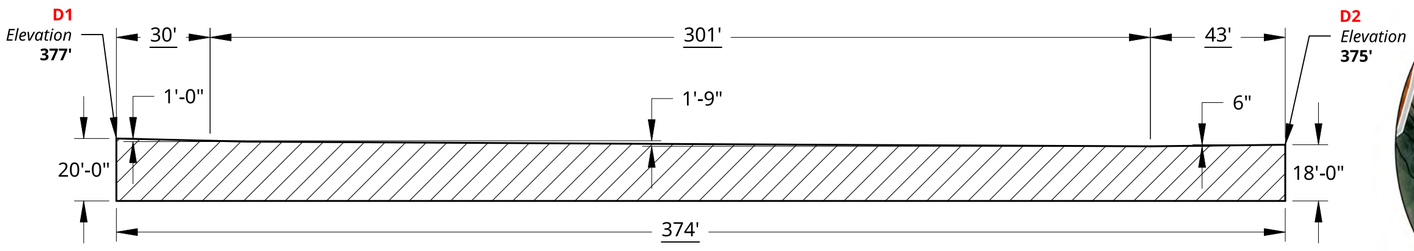

*R-03 Proposed as-built profile*



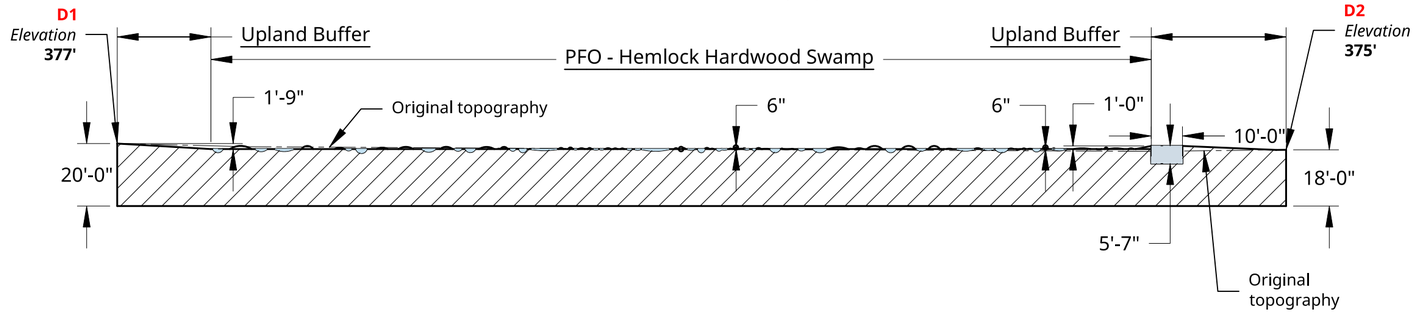



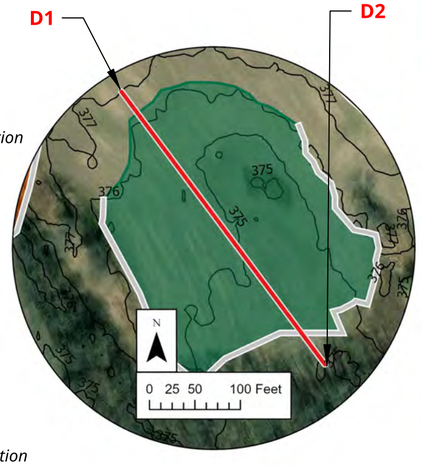




*C-11 Original topography profile*




*C-11 Proposed as-built profile*




- TWT Property Boundaries
- Contour Line (1 ft)
- BUXTON_CREEK_PROP_STREAMS
- Buxton Creek Berms/Core Trenches

Type
- PEM - Deep Emergent Marsh
- PEM - Shallow Emergent Marsh
- PFO - Floodplain Forest
- PFO - Hemlock Hardwood Swamp
- PFO - Red Maple Hardwood Swamp

Buxton Creek Designed Wetlands Final Type
- PEM - Deep Emergent Marsh
- PEM - Shallow Emergent Marsh
- PFO - Floodplain Forest
- PFO - Hemlock Hardwood Swamp
- PFO - Red Maple Hardwood Swamp

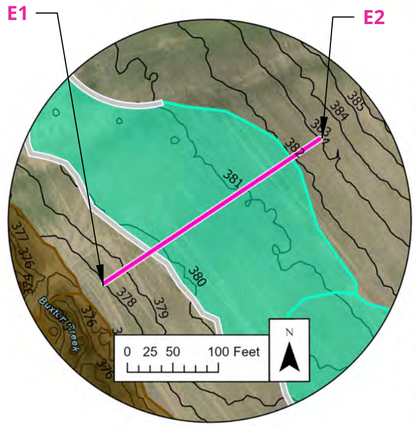
| | | | |
|---|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET. Maps and drawings are at different scales. Berm/Core Trenches in maps are not to scale | | NAME | DATE |
| | DRAWN | DYLAN JOHNSTON-JORDAN | 06/10/2025 |
| | CHECKED | | |
| | APPROVED | | |
| | MATERIAL | FINISH | |

TITLE: **Buxton Creek Wetland Cross Sections: Red Maple Hardwood Swamp and Hemlock Hardwood Swamp**

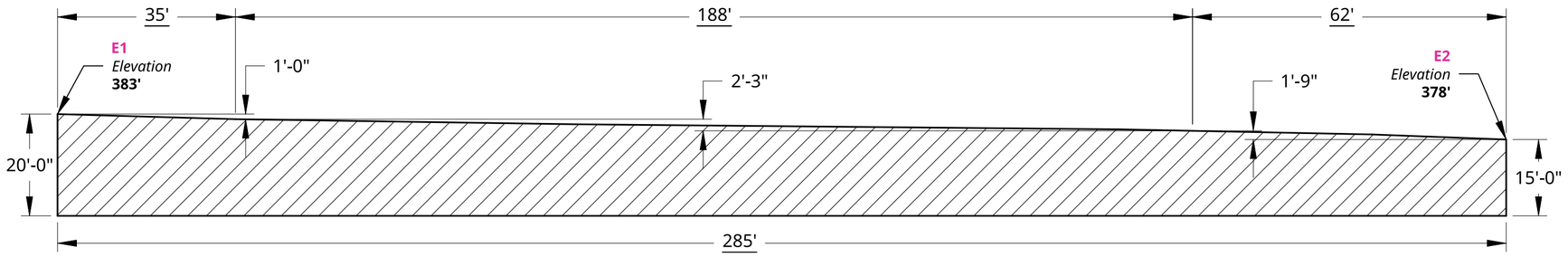
The Wetland Trust

| SIZE | DWG NO. | REV. |
|---|---|---|
| C | Sheet 4 | |
| SCALE 1:450 | WEIGHT | SHEET 1 of 1 |

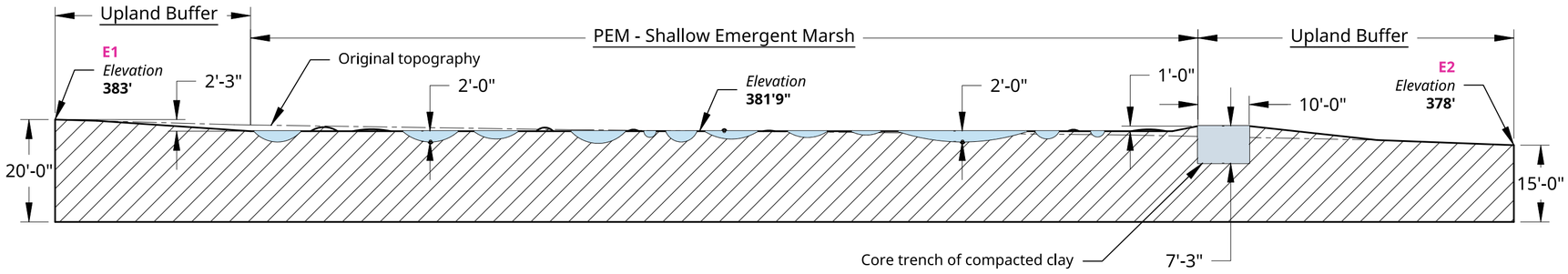
# Buxton Creek Wetland Cross Sections: PEM - Shallow Emergent Marsh

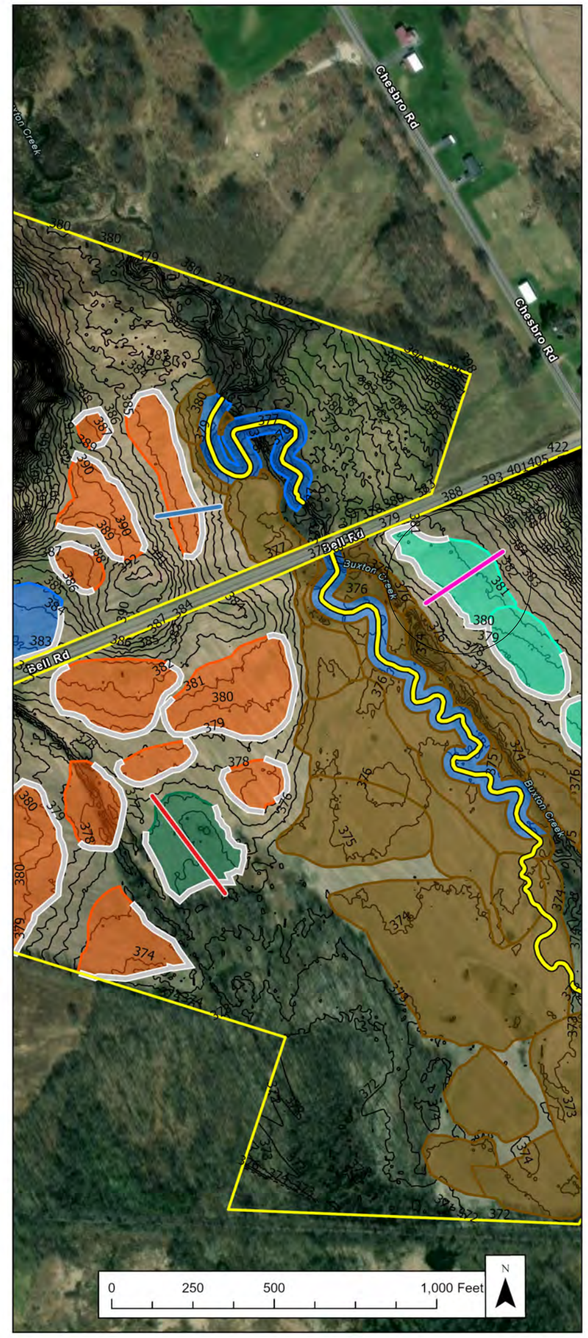



*C-01 Original topography profile*




*C-01 Proposed as-built profile*




TWT Property Boundaries
Contour Line (1 ft)
BUXTON_CREEK_PROP_STREAMS
Buxton Creek Berms/Core Trenches

Type
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Floodplain Forest
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp

Buxton Creek Designed Wetlands Final
Type
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Floodplain Forest
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp

| | | | |
|---|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET. Maps and drawings are at different scales. Berm/Core Trenches in maps are not to scale | | NAME | DATE |
| | DRAWN | DYLAN JOHNSTON-JORDAN | 06/10/2025 |
| | CHECKED | | |
| | APPROVED | | |
| | MATERIAL | FINISH | |

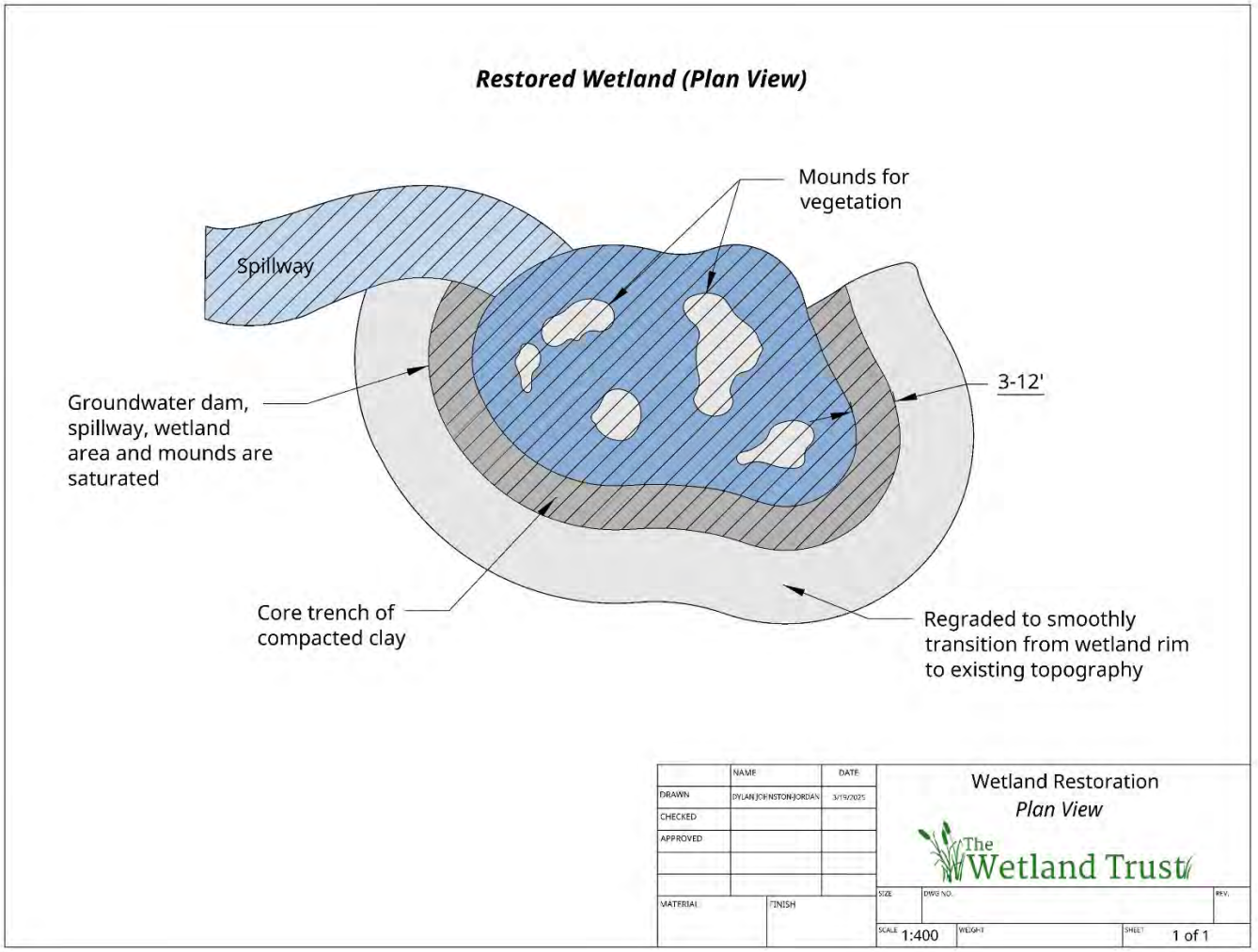
TITLE: **Buxton Creek Wetland Cross Sections: Shallow Emergent Marsh**

The Wetland Trust

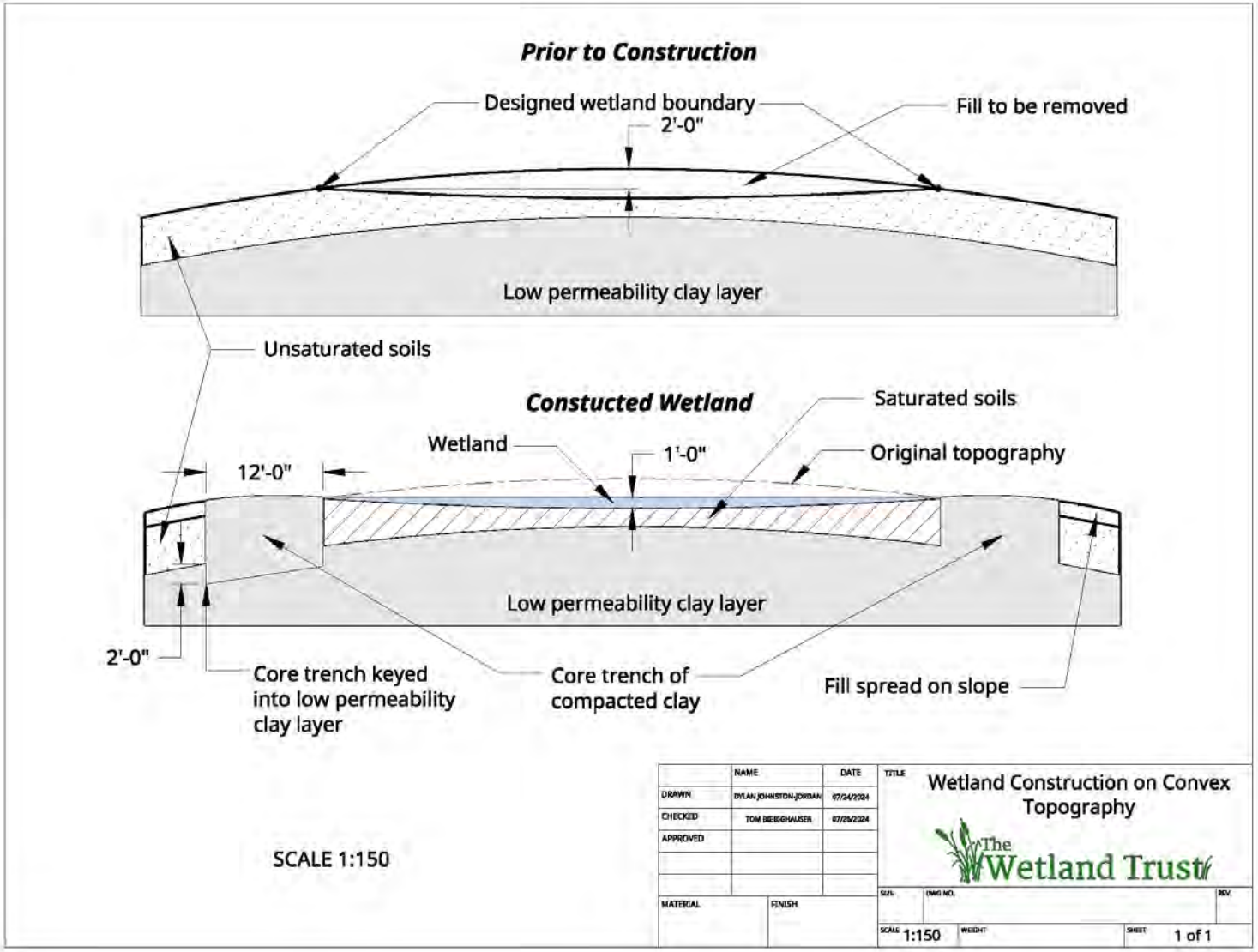
| SIZE | DWG NO. | REV. |
|---|---|---|
| C | Sheet 5 | |
| SCALE 1:250 | WEIGHT | SHEET 1 of 1 |

## Construction Typical Drawings

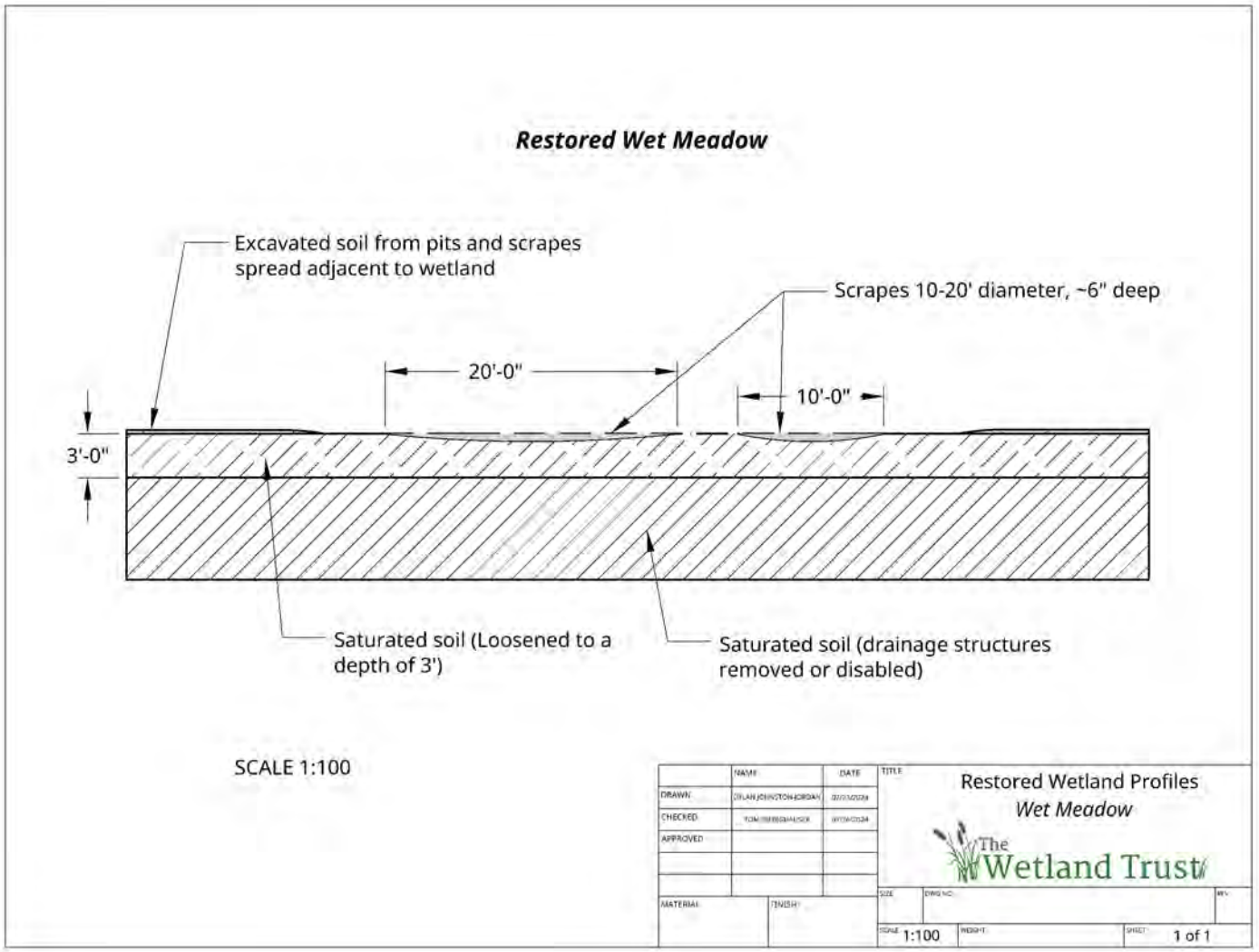
**A.** Typical Restored Wetland (Plan View)



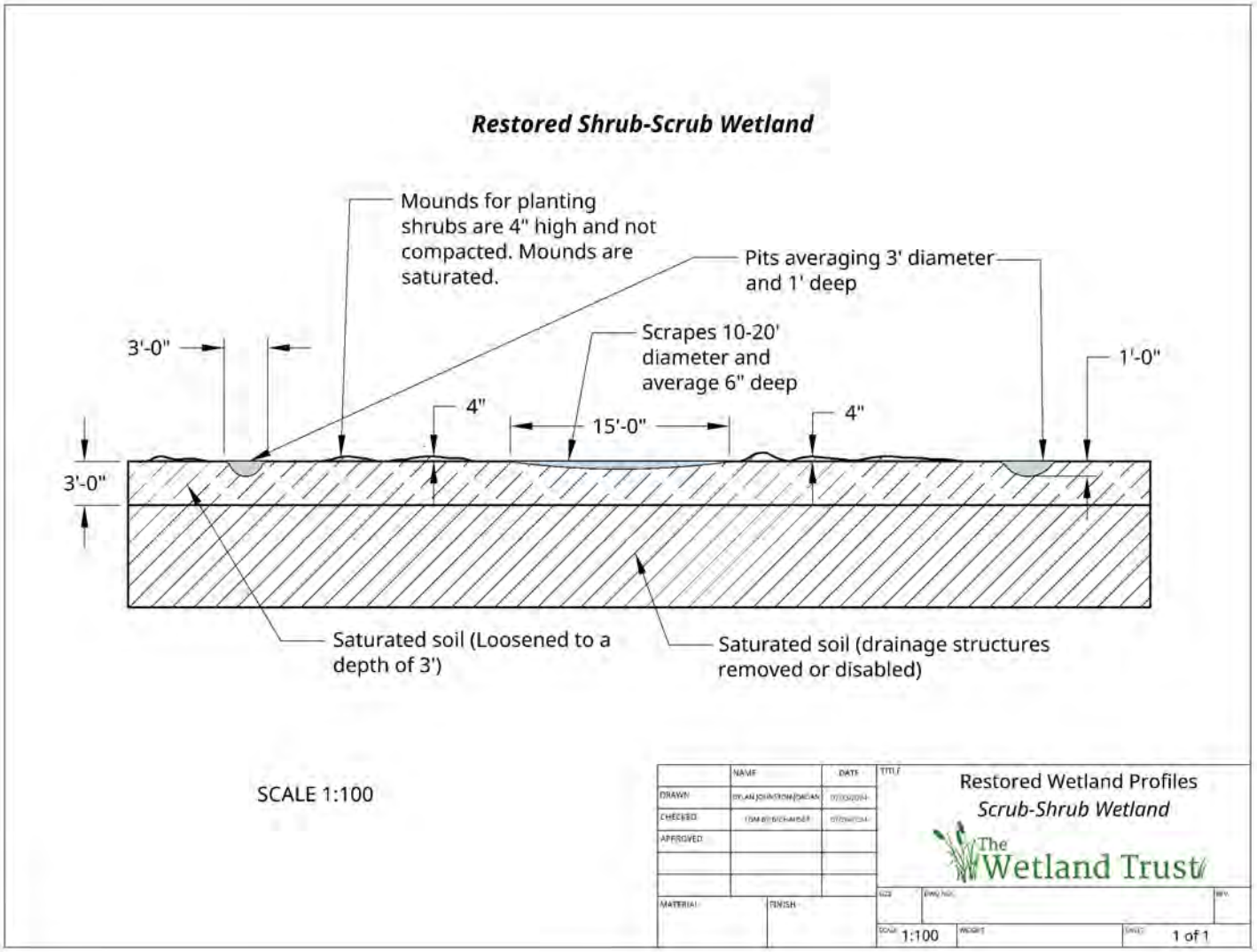
**B.** Wetland Construction on Convex Topography



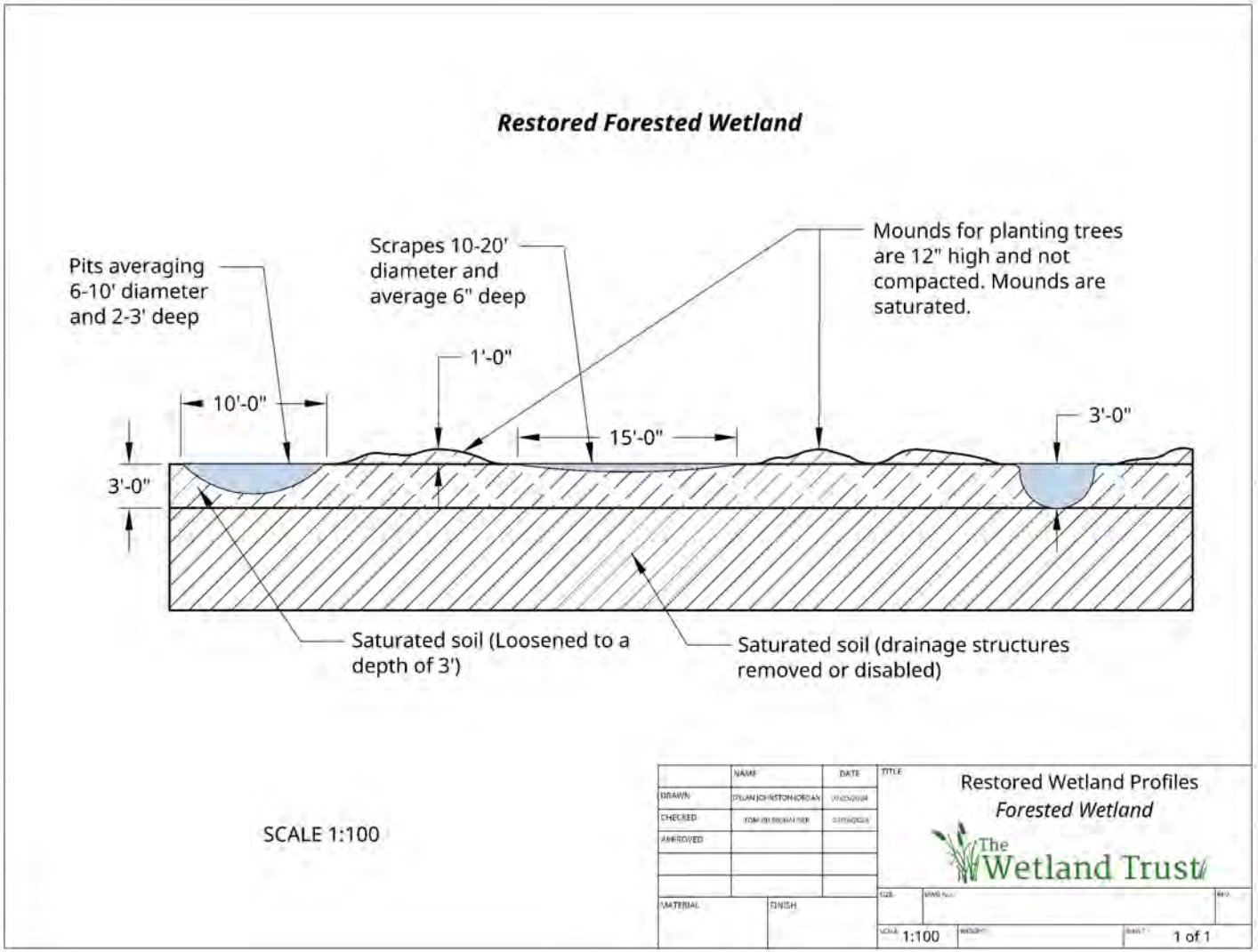
**C.** Restored Wet Meadow



**D.** Restored Scrub-Shrub Wetland

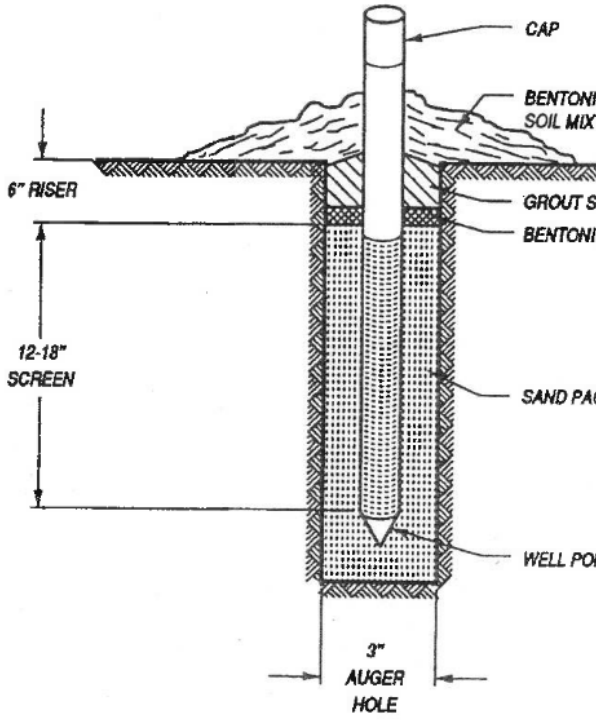


**E.** Restored Forested Wetland

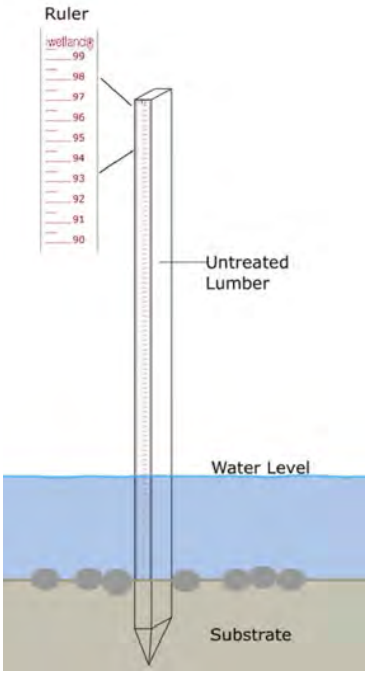


# Hydrology Monitoring Structure Typicals

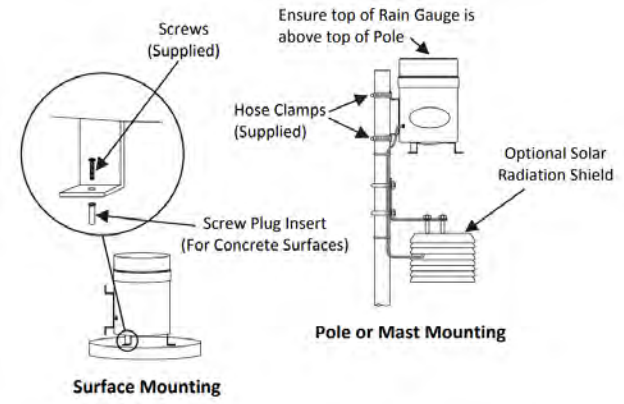
## F. Groundwater Monitoring Well




## G. Staff Gauge




## H. HOBO Rain Gauge Typical



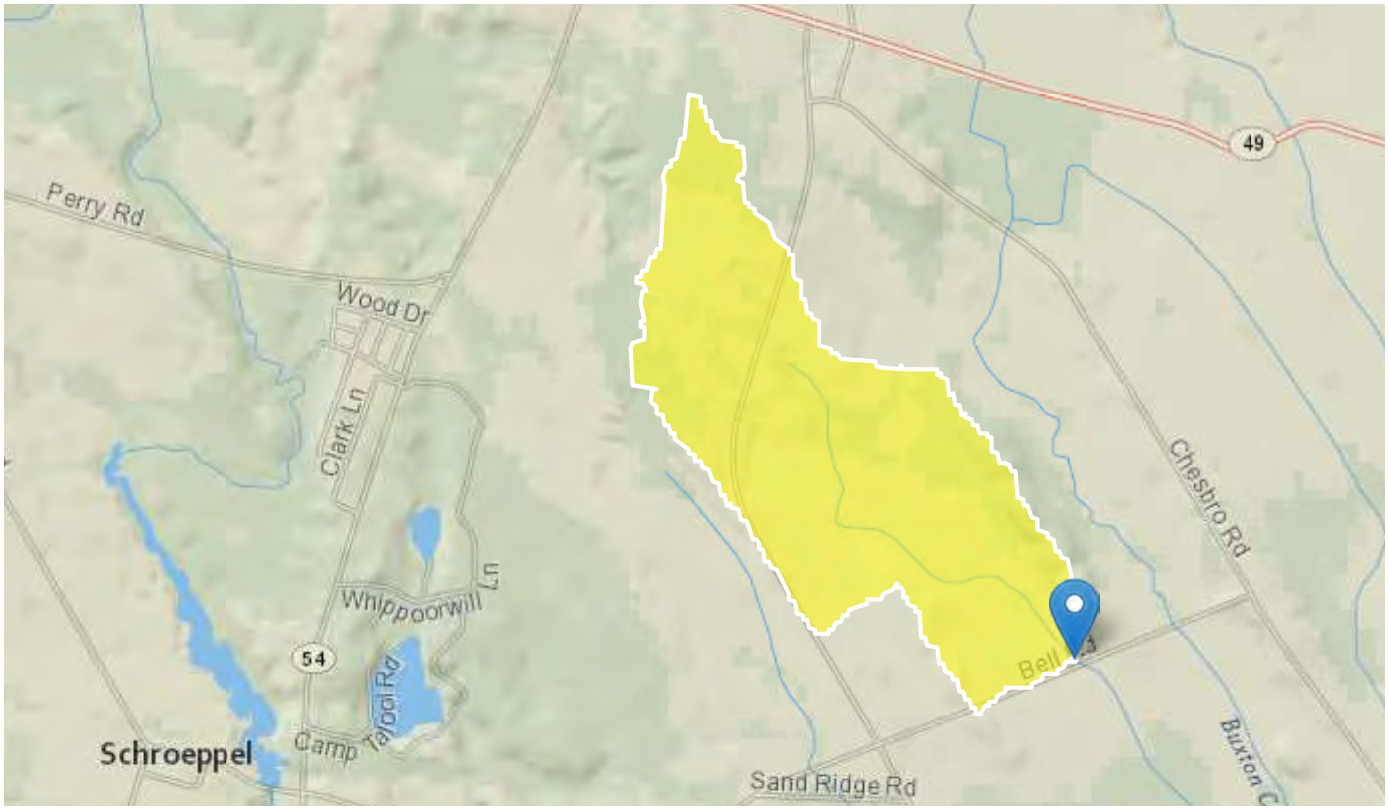
# Appendix I.

(left intentionally blank)

# Appendix J.

# StreamStats Report - Bell Road South End

**Region ID:** NY
**Workspace ID:** NY20240930122427747000
**Clicked Point (Latitude, Longitude):** 43.28511, -76.23074
**Time:** 2024-09-30 08:24:49 -0400




Collapse All

## Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 399345.7 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 4793965.2 | meters |
| CSL1085LO | 10-85 slope of lower half of main channel in feet per mile. | 20.4 | feet per mi |
| DRNAREA | Area that drains to a point on a stream | 0.53 | square miles |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| EL1200 | Percentage of basin at or above 1200 ft elevation | 0 | percent |
| FOREST | Percentage of area covered by forest | 20 | percent |
| JULAVPRE | Mean July Precipitation | 3.56 | inches |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches |
| JUNMAXTMP | Maximum June Temperature, in degrees F | 76.6 | degrees F |
| LAGFACTOR | Lag Factor as defined in SIR 2006-5112 | 0.0421 | dimensionless |
| LENGTH | Length along the main channel from the measuring location extended to the basin divide | 1.76 | miles |
| MAR | Mean annual runoff for the period of record in inches | 23.1 | inches |
| MAYAVPRE | Mean May Precipitation | 3.5 | inches |
| PRECIP | Mean Annual Precipitation | 42.6 | inches |
| PRJUNAUG00 | Basin average mean precip for June to August from PRISM 1971-2000 | 11.1 | inches |
| SSURGOA | Percentage of area of Hydrologic Soil Type A from SSURGO | 0 | percent |
| SSURGOB | Percentage of area of Hydrologic Soil Type B from SSURGO | 15.1 | percent |
| STORAGE | Percentage of area of storage (lakes ponds reservoirs wetlands) | 0 | percent |

## Peak-Flow Statistics

### Peak-Flow Statistics Parameters [2006 Full Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 0.54 | 4500 |
| LAGFACTOR | Lag Factor | 0.0421 | dimensionless | 0.004 | 15.229 |
| STORAGE | Percent Storage | 0 | percent | 0 | 28.92 |
| FOREST | Percent Forest | 20 | percent | 23.83 | 99.61 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| PRECIP | Mean Annual Precipitation | 42.6 | inches | 29.49 | 56.1 |

### Peak-Flow Statistics Disclaimers [2006 Full Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Peak-Flow Statistics Flow Report [2006 Full Region 1]

| Statistic | Value | Unit |
|---|---|---|
| 80-percent AEP flood | 36.8 | ft^3/s |
| 66.7-percent AEP flood | 44.1 | ft^3/s |
| 50-percent AEP flood | 54 | ft^3/s |
| 20-percent AEP flood | 81.6 | ft^3/s |
| 10-percent AEP flood | 103 | ft^3/s |
| 4-percent AEP flood | 133 | ft^3/s |
| 2-percent AEP flood | 157 | ft^3/s |
| 1-percent AEP flood | 184 | ft^3/s |
| 0.5-percent AEP flood | 210 | ft^3/s |
| 0.2-percent AEP flood | 251 | ft^3/s |

*Peak-Flow Statistics Citations*

**Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)**

## Flow-Duration Statistics

### Flow-Duration Statistics Parameters [Statewide duration flows excl LongIsl 2014 5220]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 3.14 | 4780 |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches | 3.59 | 5.33 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| CENTROIDX | CENTROIDX | 399345.7 | meters | 166000 | 658000 |
| CENTROIDY | CENTROIDY | 4793965.2 | meters | 4560000 | 4920000 |
| CSL1085LO | 10-85 slope of lower half of main channel | 20.4 | feet per mi | 1.56 | 152 |
| LENGTH | Main Channel Length | 1.76 | miles | 0.88 | 305 |
| MAR | Mean Annual Runoff in inches | 23.1 | inches | 11.6 | 37.4 |
| SSURGOB | SSURGO Percent Hydrologic Soil Type B | 15.1 | percent | 1.14 | 65.7 |
| JULAVPRE | Mean July Precipitation | 3.56 | inches | 3.2 | 5.26 |
| MAYAVPRE | Mean May Precipitation | 3.5 | inches | 3.15 | 5.68 |
| PRJUNAUG00 | Basin average mean precip for June to August | 11.1 | inches | 10.5 | 15.5 |
| JUNMAXTMP | Maximum June Temperature | 76.6 | degrees F | 68.8 | 78.8 |
| SSURGOA | SSURGO Percent Hydrologic Soil Type A | 0 | percent | 0.62 | 51.2 |
| EL1200 | Percentage of Basin Above 1200 ft | 0 | percent | 0 | 100 |

## Flow-Duration Statistics Disclaimers [Statewide duration flows excl LongIsl 2014 5220]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Flow-Duration Statistics Flow Report [Statewide duration flows excl LongIsl 2014 5220]

| Statistic | Value | Unit |
|---|---|---|
| 0.01 Percent Duration | 19.6 | ft^3/s |
| 1 Percent Duration | 9.25 | ft^3/s |
| 5 Percent Duration | 3.2 | ft^3/s |
| 10 Percent Duration | 1.89 | ft^3/s |
| 15 Percent Duration | 1.42 | ft^3/s |
| 20 Percent Duration | 1.11 | ft^3/s |
| 25 Percent Duration | 0.934 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| 35 Percent Duration | 0.667 | ft^3/s |
| 50 Percent Duration | 0.403 | ft^3/s |
| 65 Percent Duration | 0.184 | ft^3/s |
| 75 Percent Duration | 0 | ft^3/s |
| 80 Percent Duration | 0 | ft^3/s |
| 85 Percent Duration | 0 | ft^3/s |
| 90 Percent Duration | 0 | ft^3/s |
| 95 Percent Duration | 0 | ft^3/s |
| 99 Percent Duration | 0 | ft^3/s |
| 99.99 Percent Duration | 0 | ft^3/s |

*Flow-Duration Statistics Citations*

**Gazoorian, C.L.,2015, Estimation of unaltered daily mean streamflow at ungaged streams of New York, excluding Long Island, water years 1961–2010: U.S. Geological Survey Scientific Investigations Report 2014–5220, 29 p. (https://pubs.usgs.gov/sir/2014/5220/)**

## Bankfull Statistics

### Bankfull Statistics Parameters [Bankfull Regions 1 and 2 SIR2009 5144]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 0.52 | 396 |

### Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 0.19305 | 59927.7393 |

### Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 0.200772 | 59927.66594 |

## Bankfull Statistics Parameters [USA Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 0.07722 | 59927.7393 |

## Bankfull Statistics Flow Report [Bankfull Regions 1 and 2 SIR2009 5144]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

| Statistic | Value | Unit | PIL | PIU |
|---|---|---|---|---|
| Bankfull Area | 14.4 | ft^2 | 4.5 | 46 |
| Bankfull Depth | 0.86 | ft | 0.269 | 2.75 |
| Bankfull Streamflow | 28.9 | ft^3/s | 2.81 | 297 |
| Bankfull Width | 17.1 | ft | 5.22 | 56 |

## Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_D_channel_width | 9.39 | ft |
| Bieger_D_channel_depth | 1.32 | ft |
| Bieger_D_channel_cross_sectional_area | 16 | ft^2 |

## Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_width | 10.9 | ft |
| Bieger_P_channel_depth | 1.66 | ft |
| Bieger_P_channel_cross_sectional_area | 15.6 | ft^2 |

## Bankfull Statistics Flow Report [USA Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_width | 9.9 | ft |
| Bieger_USA_channel_depth | 1.05 | ft |
| Bieger_USA_channel_cross_sectional_area | 12.1 | ft^2 |

## Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

| Statistic | Value | Unit | PIL | PIU |
|---|---|---|---|---|
| Bankfull Area | 14.4 | ft^2 | 4.5 | 46 |
| Bankfull Depth | 0.86 | ft | 0.269 | 2.75 |
| Bankfull Streamflow | 28.9 | ft^3/s | 2.81 | 297 |
| Bankfull Width | 17.1 | ft | 5.22 | 56 |
| Bieger_D_channel_width | 9.39 | ft | | |
| Bieger_D_channel_depth | 1.32 | ft | | |
| Bieger_D_channel_cross_sectional_area | 16 | ft^2 | | |
| Bieger_P_channel_width | 10.9 | ft | | |
| Bieger_P_channel_depth | 1.66 | ft | | |
| Bieger_P_channel_cross_sectional_area | 15.6 | ft^2 | | |
| Bieger_USA_channel_width | 9.9 | ft | | |
| Bieger_USA_channel_depth | 1.05 | ft | | |
| Bieger_USA_channel_cross_sectional_area | 12.1 | ft^2 | | |

*Bankfull Statistics Citations*

**Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)**

**Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam**

## Maximum Probable Flood Statistics

### Maximum Probable Flood Statistics Parameters [Crippen Bue Region 6]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.53 | square miles | 0.1 | 10000 |

## Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 6]

| Statistic | Value | Unit |
|---|---|---|
| Maximum Flood Crippen Bue Regional | 4040 | ft^3/s |

*Maximum Probable Flood Statistics Citations*

**Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

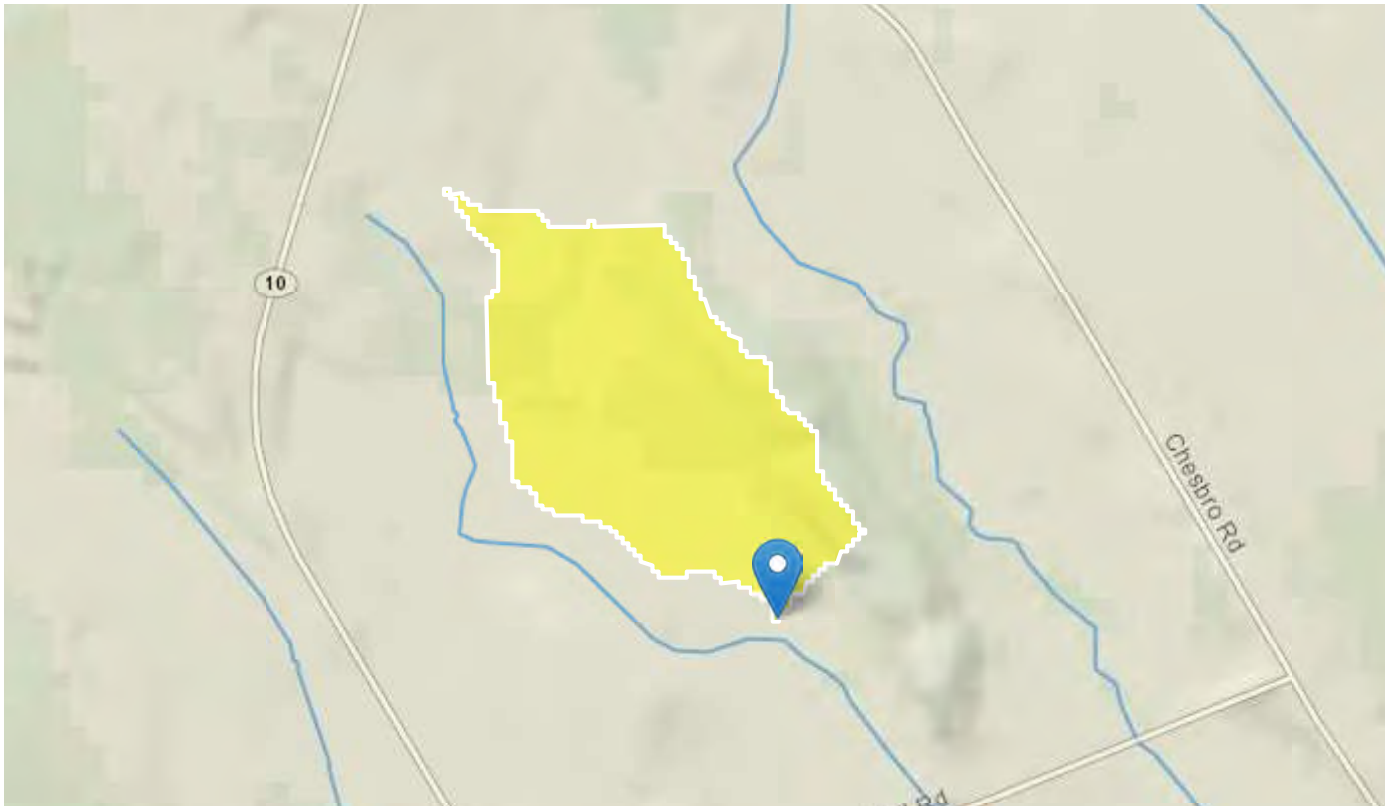
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

# StreamStats Report - Bell Road Northeast Branch

**Region ID:** NY
**Workspace ID:** NY20240930175446270000
**Clicked Point (Latitude, Longitude):** 43.28807, -76.23420
**Time:** 2024-09-30 13:55:11 -0400




Collapse All

## Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 399660.7 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 4793912.7 | meters |
| CSL1085LO | 10-85 slope of lower half of main channel in feet per mile. | 25.5 | feet per mi |
| DRNAREA | Area that drains to a point on a stream | 0.11 | square miles |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| EL1200 | Percentage of basin at or above 1200 ft elevation | 0 | percent |
| FOREST | Percentage of area covered by forest | 57.4 | percent |
| JULAVPRE | Mean July Precipitation | 3.56 | inches |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches |
| JUNMAXTMP | Maximum June Temperature, in degrees F | 76.7 | degrees F |
| LAGFACTOR | Lag Factor as defined in SIR 2006-5112 | 0.0189 | dimensionless |
| LENGTH | Length along the main channel from the measuring location extended to the basin divide | 0.72 | miles |
| MAR | Mean annual runoff for the period of record in inches | 23.1 | inches |
| MAYAVPRE | Mean May Precipitation | 3.5 | inches |
| PRECIP | Mean Annual Precipitation | 42.6 | inches |
| PRJUNAUG00 | Basin average mean precip for June to August from PRISM 1971-2000 | 11.1 | inches |
| SSURGOA | Percentage of area of Hydrologic Soil Type A from SSURGO | 0 | percent |
| SSURGOB | Percentage of area of Hydrologic Soil Type B from SSURGO | 9.44 | percent |
| STORAGE | Percentage of area of storage (lakes ponds reservoirs wetlands) | 0 | percent |

## Peak-Flow Statistics

### Peak-Flow Statistics Parameters [2006 Full Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 0.54 | 4500 |
| LAGFACTOR | Lag Factor | 0.0189 | dimensionless | 0.004 | 15.229 |
| STORAGE | Percent Storage | 0 | percent | 0 | 28.92 |
| FOREST | Percent Forest | 57.4 | percent | 23.83 | 99.61 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| PRECIP | Mean Annual Precipitation | 42.6 | inches | 29.49 | 56.1 |

### Peak-Flow Statistics Disclaimers [2006 Full Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Peak-Flow Statistics Flow Report [2006 Full Region 1]

| Statistic | Value | Unit |
|---|---|---|
| 80-percent AEP flood | 4.97 | ft^3/s |
| 66.7-percent AEP flood | 5.95 | ft^3/s |
| 50-percent AEP flood | 7.3 | ft^3/s |
| 20-percent AEP flood | 11 | ft^3/s |
| 10-percent AEP flood | 13.9 | ft^3/s |
| 4-percent AEP flood | 17.8 | ft^3/s |
| 2-percent AEP flood | 20.9 | ft^3/s |
| 1-percent AEP flood | 24.4 | ft^3/s |
| 0.5-percent AEP flood | 27.7 | ft^3/s |
| 0.2-percent AEP flood | 32.7 | ft^3/s |

*Peak-Flow Statistics Citations*

**Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)**

## Flow-Duration Statistics

### Flow-Duration Statistics Parameters [Statewide duration flows excl LongIsl 2014 5220]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 3.14 | 4780 |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches | 3.59 | 5.33 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| CENTROIDX | CENTROIDX | 399660.7 | meters | 166000 | 658000 |
| CENTROIDY | CENTROIDY | 4793912.7 | meters | 4560000 | 4920000 |
| CSL1085LO | 10-85 slope of lower half of main channel | 25.5 | feet per mi | 1.56 | 152 |
| LENGTH | Main Channel Length | 0.72 | miles | 0.88 | 305 |
| MAR | Mean Annual Runoff in inches | 23.1 | inches | 11.6 | 37.4 |
| SSURGOB | SSURGO Percent Hydrologic Soil Type B | 9.44 | percent | 1.14 | 65.7 |
| JULAVPRE | Mean July Precipitation | 3.56 | inches | 3.2 | 5.26 |
| MAYAVPRE | Mean May Precipitation | 3.5 | inches | 3.15 | 5.68 |
| PRJUNAUG00 | Basin average mean precip for June to August | 11.1 | inches | 10.5 | 15.5 |
| JUNMAXTMP | Maximum June Temperature | 76.7 | degrees F | 68.8 | 78.8 |
| SSURGOA | SSURGO Percent Hydrologic Soil Type A | 0 | percent | 0.62 | 51.2 |
| EL1200 | Percentage of Basin Above 1200 ft | 0 | percent | 0 | 100 |

## Flow-Duration Statistics Disclaimers [Statewide duration flows excl LongIsl 2014 5220]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Flow-Duration Statistics Flow Report [Statewide duration flows excl LongIsl 2014 5220]

| Statistic | Value | Unit |
|---|---|---|
| 0.01 Percent Duration | 4.26 | ft^3/s |
| 1 Percent Duration | 2.1 | ft^3/s |
| 5 Percent Duration | 0.67 | ft^3/s |
| 10 Percent Duration | 0.388 | ft^3/s |
| 15 Percent Duration | 0.287 | ft^3/s |
| 20 Percent Duration | 0.224 | ft^3/s |
| 25 Percent Duration | 0.187 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| 35 Percent Duration | 0.133 | ft^3/s |
| 50 Percent Duration | 0.0795 | ft^3/s |
| 65 Percent Duration | 0.0343 | ft^3/s |
| 75 Percent Duration | 0 | ft^3/s |
| 80 Percent Duration | 0 | ft^3/s |
| 85 Percent Duration | 0 | ft^3/s |
| 90 Percent Duration | 0 | ft^3/s |
| 95 Percent Duration | 0 | ft^3/s |
| 99 Percent Duration | 0 | ft^3/s |
| 99.99 Percent Duration | 0 | ft^3/s |

*Flow-Duration Statistics Citations*

**Gazoorian, C.L.,2015, Estimation of unaltered daily mean streamflow at ungaged streams of New York, excluding Long Island, water years 1961–2010: U.S. Geological Survey Scientific Investigations Report 2014–5220, 29 p. (https://pubs.usgs.gov/sir/2014/5220/)**

## Bankfull Statistics

### Bankfull Statistics Parameters [Bankfull Regions 1 and 2 SIR2009 5144]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 0.52 | 396 |

### Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 0.19305 | 59927.7393 |

### Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 0.200772 | 59927.66594 |

## Bankfull Statistics Parameters [USA Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 0.07722 | 59927.7393 |

## Bankfull Statistics Disclaimers [Bankfull Regions 1 and 2 SIR2009 5144]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Bankfull Statistics Flow Report [Bankfull Regions 1 and 2 SIR2009 5144]

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Area | 4.82 | ft^2 |
| Bankfull Depth | 0.513 | ft |
| Bankfull Streamflow | 7.61 | ft^3/s |
| Bankfull Width | 9.67 | ft |

## Bankfull Statistics Disclaimers [Interior Plains D Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_D_channel_width | 5.41 | ft |
| Bieger_D_channel_depth | 0.981 | ft |
| Bieger_D_channel_cross_sectional_area | 7.61 | ft^2 |

## Bankfull Statistics Disclaimers [Central Lowland P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_width | 6.38 | ft |

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_depth | 1.27 | ft |
| Bieger_P_channel_cross_sectional_area | 7.55 | ft^2 |

## Bankfull Statistics Flow Report [USA Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_width | 5.69 | ft |
| Bieger_USA_channel_depth | 0.753 | ft |
| Bieger_USA_channel_cross_sectional_area | 5.19 | ft^2 |

## Bankfull Statistics Flow Report [Area-Averaged]

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Area | 4.82 | ft^2 |
| Bankfull Depth | 0.513 | ft |
| Bankfull Streamflow | 7.61 | ft^3/s |
| Bankfull Width | 9.67 | ft |
| Bieger_D_channel_width | 5.41 | ft |
| Bieger_D_channel_depth | 0.981 | ft |
| Bieger_D_channel_cross_sectional_area | 7.61 | ft^2 |
| Bieger_P_channel_width | 6.38 | ft |
| Bieger_P_channel_depth | 1.27 | ft |
| Bieger_P_channel_cross_sectional_area | 7.55 | ft^2 |
| Bieger_USA_channel_width | 5.69 | ft |
| Bieger_USA_channel_depth | 0.753 | ft |
| Bieger_USA_channel_cross_sectional_area | 5.19 | ft^2 |

*Bankfull Statistics Citations*

**Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)**

**Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty,**

**17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam**

## Maximum Probable Flood Statistics

### Maximum Probable Flood Statistics Parameters [Crippen Bue Region 6]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.11 | square miles | 0.1 | 10000 |

### Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 6]

| Statistic | Value | Unit |
|---|---|---|
| Maximum Flood Crippen Bue Regional | 1020 | ft^3/s |

*Maximum Probable Flood Statistics Citations*

**Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

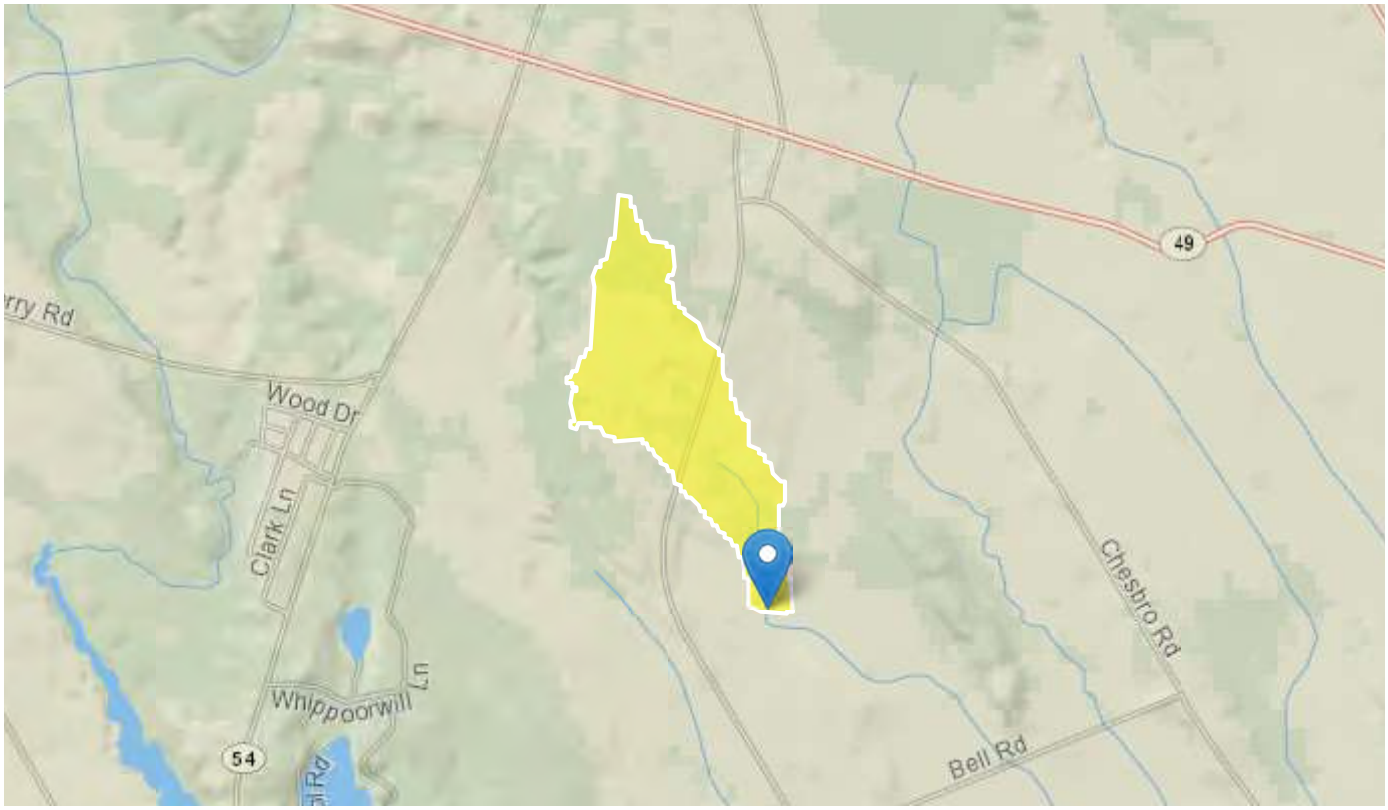
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

# StreamStats Report - Bell Road Northeast Reach

**Region ID:** NY
**Workspace ID:** NY20241107151235111000
**Clicked Point (Latitude, Longitude):** 43.28976, -76.24087
**Time:** 2024-11-07 10:12:58 -0500




Collapse All

## Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLOPCM | Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area | 175 | feet per mi |
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 399036.1 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 4794461.8 | meters |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| CONTOUR | Total length of all elevation contours in drainage area in miles | 0.3 | miles |
| CSL1085LO | 10-85 slope of lower half of main channel in feet per mile. | 48.6 | feet per mi |
| CSL1085UP | 10-85 slope of upper half of main channel in feet per mile. | 65 | feet per mi |
| CSL10_85 | Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known | 66.3 | feet per mi |
| DRNAREA | Area that drains to a point on a stream | 0.17 | square miles |
| EL1200 | Percentage of basin at or above 1200 ft elevation | 0 | percent |
| FOREST | Percentage of area covered by forest | 14.6 | percent |
| JULAVPRE | Mean July Precipitation | 3.56 | inches |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches |
| JUNMAXTMP | Maximum June Temperature, in degrees F | 76.6 | degrees F |
| LAGFACTOR | Lag Factor as defined in SIR 2006-5112 | 0.0186 | dimensionless |
| LC11DEV | Percentage of developed (urban) land from NLCD 2011 classes 21-24 | 2.63 | percent |
| LC11IMP | Average percentage of impervious area determined from NLCD 2011 impervious dataset | 0.1 | percent |
| LENGTH | Length along the main channel from the measuring location extended to the basin divide | 1.06 | miles |
| MAR | Mean annual runoff for the period of record in inches | 23.2 | inches |
| MAYAVPRE | Mean May Precipitation | 3.49 | inches |
| MXSNO | 50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993 | 21.7 | inches |
| OUTLETX | Basin outlet horizontal (x) location in state plane coordinates | 399335 | feet |
| OUTLETY | Basin outlet vertical (y) location in state plane coordinates | 4793745 | feet |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| PRECIP | Mean Annual Precipitation | 42.6 | inches |
| PRJUNAUG00 | Basin average mean precip for June to August from PRISM 1971-2000 | 11.1 | inches |
| SLOPERATIO | Ratio of main channel slope to basin slope as defined in SIR 2006-5112 | 0.38 | dimensionless |
| SSURGOA | Percentage of area of Hydrologic Soil Type A from SSURGO | 0 | percent |
| SSURGOB | Percentage of area of Hydrologic Soil Type B from SSURGO | 15.2 | percent |
| STORAGE | Percentage of area of storage (lakes ponds reservoirs wetlands) | 0 | percent |

## Peak-Flow Statistics

### Peak-Flow Statistics Parameters [2006 Full Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 0.54 | 4500 |
| LAGFACTOR | Lag Factor | 0.0186 | dimensionless | 0.004 | 15.229 |
| STORAGE | Percent Storage | 0 | percent | 0 | 28.92 |
| FOREST | Percent Forest | 14.6 | percent | 23.83 | 99.61 |
| PRECIP | Mean Annual Precipitation | 42.6 | inches | 29.49 | 56.1 |

### Peak-Flow Statistics Disclaimers [2006 Full Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Peak-Flow Statistics Flow Report [2006 Full Region 1]

| Statistic | Value | Unit |
|---|---|---|
| 80-percent AEP flood | 13.4 | ft^3/s |
| 66.7-percent AEP flood | 16 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| 50-percent AEP flood | 19.6 | ft^3/s |
| 20-percent AEP flood | 29.8 | ft^3/s |
| 10-percent AEP flood | 37.7 | ft^3/s |
| 4-percent AEP flood | 49 | ft^3/s |
| 2-percent AEP flood | 58 | ft^3/s |
| 1-percent AEP flood | 68.2 | ft^3/s |
| 0.5-percent AEP flood | 78.4 | ft^3/s |
| 0.2-percent AEP flood | 93.7 | ft^3/s |

*Peak-Flow Statistics Citations*

**Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)**

## Flow-Duration Statistics

### Flow-Duration Statistics Parameters [Statewide duration flows excl LongIsl 2014 5220]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 3.14 | 4780 |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches | 3.59 | 5.33 |
| CENTROIDX | CENTROIDX | 399036.1 | meters | 166000 | 658000 |
| CENTROIDY | CENTROIDY | 4794461.8 | meters | 4560000 | 4920000 |
| CSL1085LO | 10-85 slope of lower half of main channel | 48.6 | feet per mi | 1.56 | 152 |
| LENGTH | Main Channel Length | 1.06 | miles | 0.88 | 305 |
| MAR | Mean Annual Runoff in inches | 23.2 | inches | 11.6 | 37.4 |
| SSURGOB | SSURGO Percent Hydrologic Soil Type B | 15.2 | percent | 1.14 | 65.7 |
| JULAVPRE | Mean July Precipitation | 3.56 | inches | 3.2 | 5.26 |
| MAYAVPRE | Mean May Precipitation | 3.49 | inches | 3.15 | 5.68 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| PRJUNAUG00 | Basin average mean precip for June to August | 11.1 | inches | 10.5 | 15.5 |
| JUNMAXTMP | Maximum June Temperature | 76.6 | degrees F | 68.8 | 78.8 |
| SSURGOA | SSURGO Percent Hydrologic Soil Type A | 0 | percent | 0.62 | 51.2 |
| EL1200 | Percentage of Basin Above 1200 ft | 0 | percent | 0 | 100 |

## Flow-Duration Statistics Disclaimers [Statewide duration flows excl LongIsl 2014 5220]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Flow-Duration Statistics Flow Report [Statewide duration flows excl LongIsl 2014 5220]

| Statistic | Value | Unit |
|---|---|---|
| 0.01 Percent Duration | 7.04 | ft^3/s |
| 1 Percent Duration | 3.12 | ft^3/s |
| 5 Percent Duration | 1.03 | ft^3/s |
| 10 Percent Duration | 0.6 | ft^3/s |
| 15 Percent Duration | 0.449 | ft^3/s |
| 20 Percent Duration | 0.35 | ft^3/s |
| 25 Percent Duration | 0.295 | ft^3/s |
| 35 Percent Duration | 0.211 | ft^3/s |
| 50 Percent Duration | 0.127 | ft^3/s |
| 65 Percent Duration | 0.0572 | ft^3/s |
| 75 Percent Duration | 0 | ft^3/s |
| 80 Percent Duration | 0 | ft^3/s |
| 85 Percent Duration | 0 | ft^3/s |
| 90 Percent Duration | 0 | ft^3/s |
| 95 Percent Duration | 0 | ft^3/s |
| 99 Percent Duration | 0 | ft^3/s |
| 99.99 Percent Duration | 0 | ft^3/s |

*Flow-Duration Statistics Citations*

**Gazoorian, C.L.,2015, Estimation of unaltered daily mean streamflow at ungaged streams of New York, excluding Long Island, water years 1961–2010: U.S. Geological Survey Scientific Investigations Report 2014–5220, 29 p. (https://pubs.usgs.gov/sir/2014/5220/)**

## Bankfull Statistics

### Bankfull Statistics Parameters [Bankfull Regions 1 and 2 SIR2009 5144]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 0.52 | 396 |

### Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 0.19305 | 59927.7393 |

### Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 0.200772 | 59927.66594 |

### Bankfull Statistics Parameters [USA Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 0.07722 | 59927.7393 |

### Bankfull Statistics Disclaimers [Bankfull Regions 1 and 2 SIR2009 5144]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Bankfull Statistics Flow Report [Bankfull Regions 1 and 2 SIR2009 5144]

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Area | 6.52 | ft^2 |
| Bankfull Depth | 0.592 | ft |
| Bankfull Streamflow | 11 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Width | 11.3 | ft |

## Bankfull Statistics Disclaimers [Interior Plains D Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_D_channel_width | 6.3 | ft |
| Bieger_D_channel_depth | 1.07 | ft |
| Bieger_D_channel_cross_sectional_area | 9.35 | ft^2 |

## Bankfull Statistics Disclaimers [Central Lowland P Bieger 2015]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_width | 7.4 | ft |
| Bieger_P_channel_depth | 1.37 | ft |
| Bieger_P_channel_cross_sectional_area | 9.22 | ft^2 |

## Bankfull Statistics Flow Report [USA Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_width | 6.64 | ft |
| Bieger_USA_channel_depth | 0.827 | ft |
| Bieger_USA_channel_cross_sectional_area | 6.56 | ft^2 |

## Bankfull Statistics Flow Report [Area-Averaged]

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Area | 6.52 | ft^2 |

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Depth | 0.592 | ft |
| Bankfull Streamflow | 11 | ft^3/s |
| Bankfull Width | 11.3 | ft |
| Bieger_D_channel_width | 6.3 | ft |
| Bieger_D_channel_depth | 1.07 | ft |
| Bieger_D_channel_cross_sectional_area | 9.35 | ft^2 |
| Bieger_P_channel_width | 7.4 | ft |
| Bieger_P_channel_depth | 1.37 | ft |
| Bieger_P_channel_cross_sectional_area | 9.22 | ft^2 |
| Bieger_USA_channel_width | 6.64 | ft |
| Bieger_USA_channel_depth | 0.827 | ft |
| Bieger_USA_channel_cross_sectional_area | 6.56 | ft^2 |

*Bankfull Statistics Citations*

**Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)**
**Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam**

## Maximum Probable Flood Statistics

### Maximum Probable Flood Statistics Parameters [Crippen Bue Region 6]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.17 | square miles | 0.1 | 10000 |

### Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 6]

| Statistic | Value | Unit |
|---|---|---|
| Maximum Flood Crippen Bue Regional | 1500 | ft^3/s |

*Maximum Probable Flood Statistics Citations*

**Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

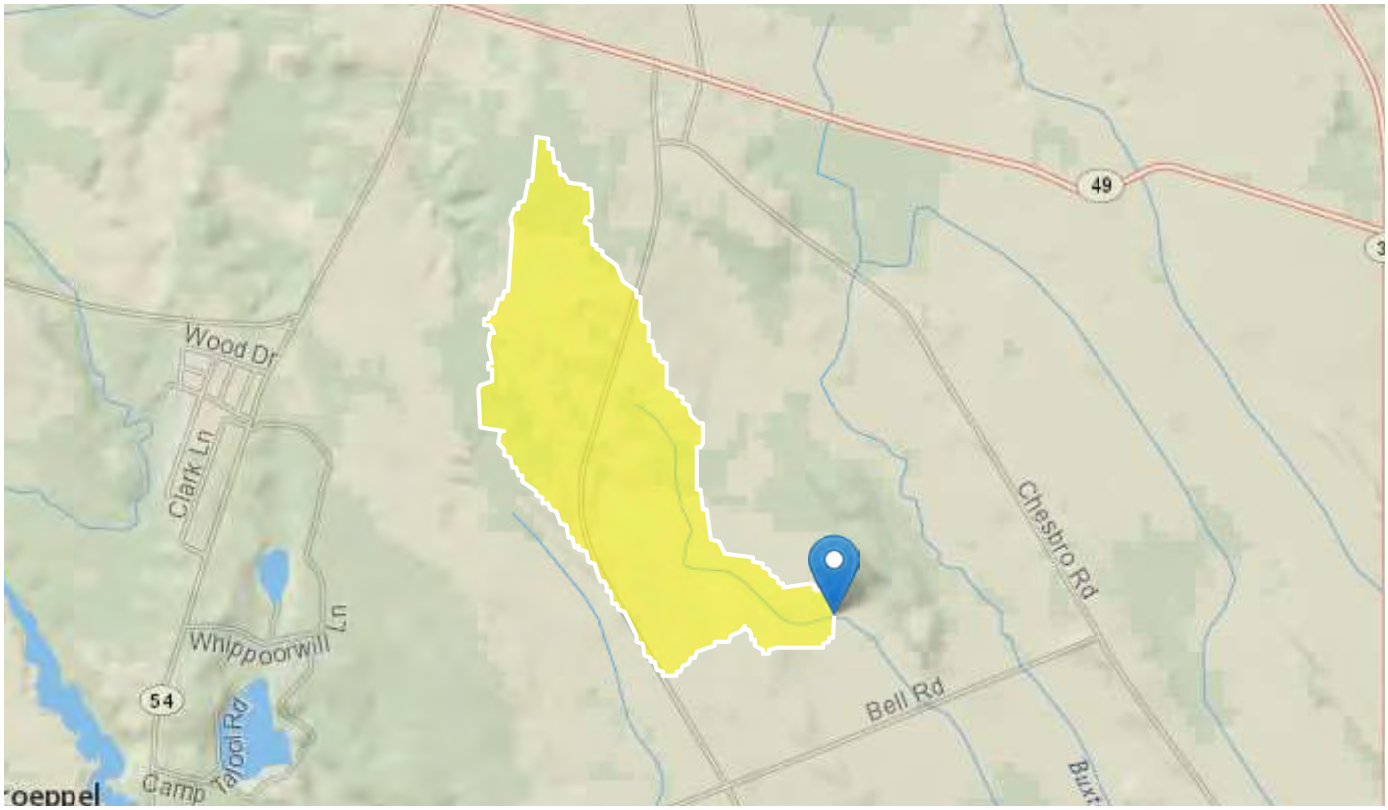
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

# StreamStats Report - Bell Road Northwest Branch

**Region ID:** NY
**Workspace ID:** NY20240930180110437000
**Clicked Point (Latitude, Longitude):** 43.28780, -76.23453
**Time:** 2024-09-30 14:01:37 -0400




Collapse All

## Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 399111.8 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 4794127.5 | meters |
| CSL1085LO | 10-85 slope of lower half of main channel in feet per mile. | 17.5 | feet per mi |
| DRNAREA | Area that drains to a point on a stream | 0.34 | square miles |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| EL1200 | Percentage of basin at or above 1200 ft elevation | 0 | percent |
| FOREST | Percentage of area covered by forest | 9.72 | percent |
| JULAVPRE | Mean July Precipitation | 3.56 | inches |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches |
| JUNMAXTMP | Maximum June Temperature, in degrees F | 76.6 | degrees F |
| LAGFACTOR | Lag Factor as defined in SIR 2006-5112 | 0.0392 | dimensionless |
| LENGTH | Length along the main channel from the measuring location extended to the basin divide | 1.48 | miles |
| MAR | Mean annual runoff for the period of record in inches | 23.1 | inches |
| MAYAVPRE | Mean May Precipitation | 3.49 | inches |
| PRECIP | Mean Annual Precipitation | 42.6 | inches |
| PRJUNAUG00 | Basin average mean precip for June to August from PRISM 1971-2000 | 11.1 | inches |
| SSURGOA | Percentage of area of Hydrologic Soil Type A from SSURGO | 0 | percent |
| SSURGOB | Percentage of area of Hydrologic Soil Type B from SSURGO | 17.9 | percent |
| STORAGE | Percentage of area of storage (lakes ponds reservoirs wetlands) | 0 | percent |

## Peak-Flow Statistics

### Peak-Flow Statistics Parameters [2006 Full Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 0.54 | 4500 |
| LAGFACTOR | Lag Factor | 0.0392 | dimensionless | 0.004 | 15.229 |
| STORAGE | Percent Storage | 0 | percent | 0 | 28.92 |
| FOREST | Percent Forest | 9.72 | percent | 23.83 | 99.61 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| PRECIP | Mean Annual Precipitation | 42.6 | inches | 29.49 | 56.1 |

### Peak-Flow Statistics Disclaimers [2006 Full Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Peak-Flow Statistics Flow Report [2006 Full Region 1]

| Statistic | Value | Unit |
|---|---|---|
| 80-percent AEP flood | 28.2 | ft^3/s |
| 66.7-percent AEP flood | 33.8 | ft^3/s |
| 50-percent AEP flood | 41.4 | ft^3/s |
| 20-percent AEP flood | 62.7 | ft^3/s |
| 10-percent AEP flood | 79.3 | ft^3/s |
| 4-percent AEP flood | 103 | ft^3/s |
| 2-percent AEP flood | 122 | ft^3/s |
| 1-percent AEP flood | 143 | ft^3/s |
| 0.5-percent AEP flood | 165 | ft^3/s |
| 0.2-percent AEP flood | 197 | ft^3/s |

*Peak-Flow Statistics Citations*

**Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)**

## Flow-Duration Statistics

### Flow-Duration Statistics Parameters [Statewide duration flows excl LongIsl 2014 5220]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 3.14 | 4780 |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches | 3.59 | 5.33 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| CENTROIDX | CENTROIDX | 399111.8 | meters | 166000 | 658000 |
| CENTROIDY | CENTROIDY | 4794127.5 | meters | 4560000 | 4920000 |
| CSL1085LO | 10-85 slope of lower half of main channel | 17.5 | feet per mi | 1.56 | 152 |
| LENGTH | Main Channel Length | 1.48 | miles | 0.88 | 305 |
| MAR | Mean Annual Runoff in inches | 23.1 | inches | 11.6 | 37.4 |
| SSURGOB | SSURGO Percent Hydrologic Soil Type B | 17.9 | percent | 1.14 | 65.7 |
| JULAVPRE | Mean July Precipitation | 3.56 | inches | 3.2 | 5.26 |
| MAYAVPRE | Mean May Precipitation | 3.49 | inches | 3.15 | 5.68 |
| PRJUNAUG00 | Basin average mean precip for June to August | 11.1 | inches | 10.5 | 15.5 |
| JUNMAXTMP | Maximum June Temperature | 76.6 | degrees F | 68.8 | 78.8 |
| SSURGOA | SSURGO Percent Hydrologic Soil Type A | 0 | percent | 0.62 | 51.2 |
| EL1200 | Percentage of Basin Above 1200 ft | 0 | percent | 0 | 100 |

## Flow-Duration Statistics Disclaimers [Statewide duration flows excl LongIsl 2014 5220]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Flow-Duration Statistics Flow Report [Statewide duration flows excl LongIsl 2014 5220]

| Statistic | Value | Unit |
|---|---|---|
| 0.01 Percent Duration | 12.4 | ft^3/s |
| 1 Percent Duration | 5.98 | ft^3/s |
| 5 Percent Duration | 2.04 | ft^3/s |
| 10 Percent Duration | 1.2 | ft^3/s |
| 15 Percent Duration | 0.904 | ft^3/s |
| 20 Percent Duration | 0.707 | ft^3/s |
| 25 Percent Duration | 0.596 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| 35 Percent Duration | 0.427 | ft^3/s |
| 50 Percent Duration | 0.259 | ft^3/s |
| 65 Percent Duration | 0.119 | ft^3/s |
| 75 Percent Duration | 0 | ft^3/s |
| 80 Percent Duration | 0 | ft^3/s |
| 85 Percent Duration | 0 | ft^3/s |
| 90 Percent Duration | 0 | ft^3/s |
| 95 Percent Duration | 0 | ft^3/s |
| 99 Percent Duration | 0 | ft^3/s |
| 99.99 Percent Duration | 0 | ft^3/s |

*Flow-Duration Statistics Citations*

**Gazoorian, C.L.,2015, Estimation of unaltered daily mean streamflow at ungaged streams of New York, excluding Long Island, water years 1961–2010: U.S. Geological Survey Scientific Investigations Report 2014–5220, 29 p. (https://pubs.usgs.gov/sir/2014/5220/)**

## Bankfull Statistics

### Bankfull Statistics Parameters [Bankfull Regions 1 and 2 SIR2009 5144]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 0.52 | 396 |

### Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 0.19305 | 59927.7393 |

### Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 0.200772 | 59927.66594 |

## Bankfull Statistics Parameters [USA Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 0.07722 | 59927.7393 |

## Bankfull Statistics Disclaimers [Bankfull Regions 1 and 2 SIR2009 5144]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Bankfull Statistics Flow Report [Bankfull Regions 1 and 2 SIR2009 5144]

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Area | 10.5 | ft^2 |
| Bankfull Depth | 0.743 | ft |
| Bankfull Streamflow | 19.8 | ft^3/s |
| Bankfull Width | 14.5 | ft |

## Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_D_channel_width | 8.03 | ft |
| Bieger_D_channel_depth | 1.22 | ft |
| Bieger_D_channel_cross_sectional_area | 13 | ft^2 |

## Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_width | 9.36 | ft |
| Bieger_P_channel_depth | 1.54 | ft |
| Bieger_P_channel_cross_sectional_area | 12.7 | ft^2 |

## Bankfull Statistics Flow Report [USA Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_width | 8.47 | ft |
| Bieger_USA_channel_depth | 0.958 | ft |

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_cross_sectional_area | 9.54 | ft^2 |

### Bankfull Statistics Flow Report [Area-Averaged]

| Statistic | Value | Unit |
|---|---|---|
| Bankfull Area | 10.5 | ft^2 |
| Bankfull Depth | 0.743 | ft |
| Bankfull Streamflow | 19.8 | ft^3/s |
| Bankfull Width | 14.5 | ft |
| Bieger_D_channel_width | 8.03 | ft |
| Bieger_D_channel_depth | 1.22 | ft |
| Bieger_D_channel_cross_sectional_area | 13 | ft^2 |
| Bieger_P_channel_width | 9.36 | ft |
| Bieger_P_channel_depth | 1.54 | ft |
| Bieger_P_channel_cross_sectional_area | 12.7 | ft^2 |
| Bieger_USA_channel_width | 8.47 | ft |
| Bieger_USA_channel_depth | 0.958 | ft |
| Bieger_USA_channel_cross_sectional_area | 9.54 | ft^2 |

*Bankfull Statistics Citations*

**Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)**

**Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam**

## Maximum Probable Flood Statistics

### Maximum Probable Flood Statistics Parameters [Crippen Bue Region 6]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.34 | square miles | 0.1 | 10000 |

## Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 6]

| Statistic | Value | Unit |
|---|---|---|
| Maximum Flood Crippen Bue Regional | 2760 | ft^3/s |

*Maximum Probable Flood Statistics Citations*

**Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

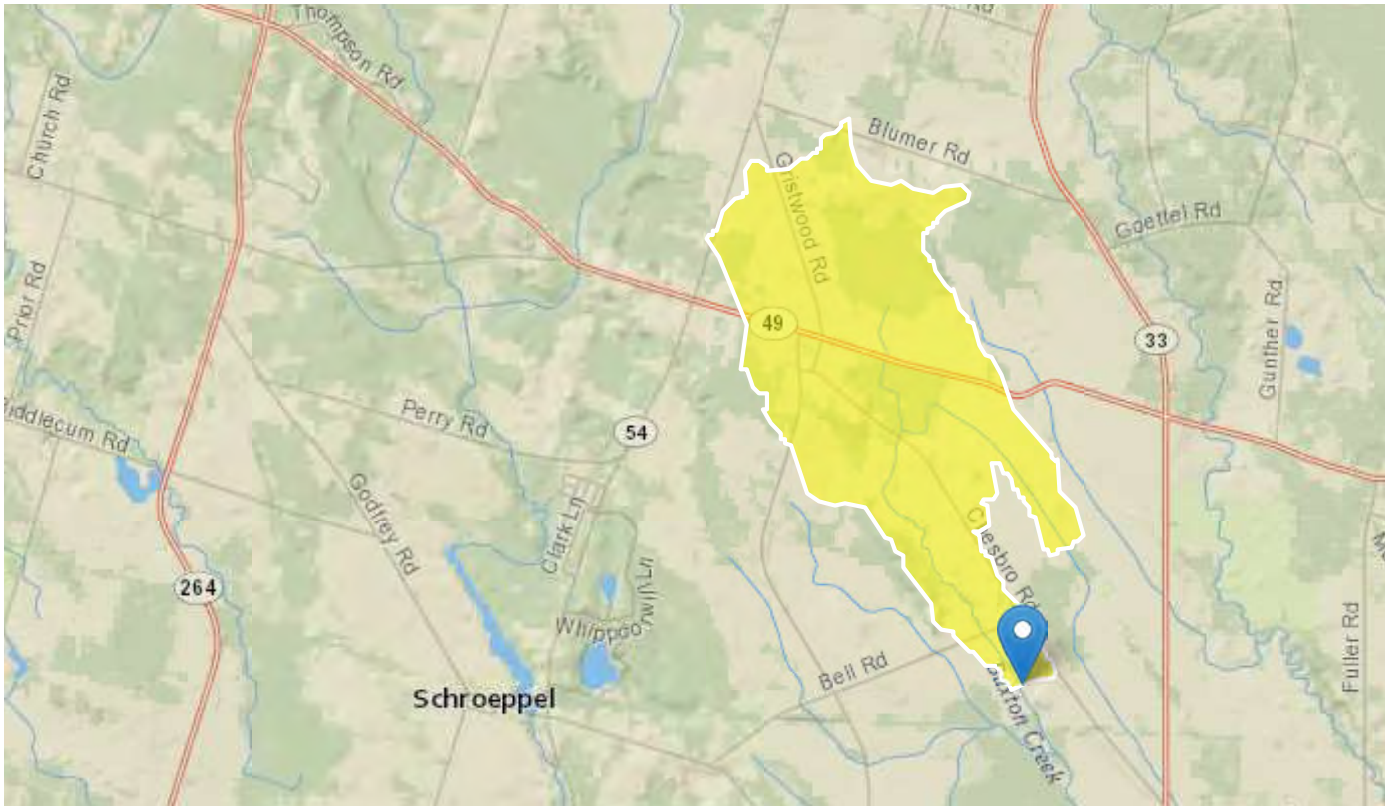
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

# StreamStats Report - Buxton Creek

**Region ID:** NY
**Workspace ID:** NY20241010113619358000
**Clicked Point (Latitude, Longitude):** 43.28299, -76.22320
**Time:** 2024-10-10 07:36:41 -0400




Collapse All

## Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLOPCM | Mean basin slope determined by summing lengths of all contours in basin mulitplying by contour interval and dividing product by drainage area | 290 | feet per mi |
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 399867.7 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 4795067.1 | meters |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| CONTOUR | Total length of all elevation contours in drainage area in miles | 5.16 | miles |
| CSL1085LO | 10-85 slope of lower half of main channel in feet per mile. | 10.4 | feet per mi |
| CSL1085UP | 10-85 slope of upper half of main channel in feet per mile. | 26.4 | feet per mi |
| CSL10_85 | Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known | 14.8 | feet per mi |
| DRNAREA | Area that drains to a point on a stream | 1.78 | square miles |
| EL1200 | Percentage of basin at or above 1200 ft elevation | 0 | percent |
| FOREST | Percentage of area covered by forest | 20.1 | percent |
| JULAVPRE | Mean July Precipitation | 3.56 | inches |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches |
| JUNMAXTMP | Maximum June Temperature, in degrees F | 76.6 | degrees F |
| LAGFACTOR | Lag Factor as defined in SIR 2006-5112 | 0.2 | dimensionless |
| LC11DEV | Percentage of developed (urban) land from NLCD 2011 classes 21-24 | 5.21 | percent |
| LC11IMP | Average percentage of impervious area determined from NLCD 2011 impervious dataset | 0.34 | percent |
| LENGTH | Length along the main channel from the measuring location extended to the basin divide | 3.53 | miles |
| MAR | Mean annual runoff for the period of record in inches | 23.3 | inches |
| MAYAVPRE | Mean May Precipitation | 3.49 | inches |
| MXSNO | 50th percentile of seasonal maximum snow depth from Northeast Regional Climate Center atlas by Cember and Wilks, 1993 | 21.9 | inches |
| OUTLETX | Basin outlet horizontal (x) location in state plane coordinates | 400755 | feet |
| OUTLETY | Basin outlet vertical (y) location in state plane coordinates | 4792965 | feet |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| PRECIP | Mean Annual Precipitation | 42.7 | inches |
| PRJUNAUG00 | Basin average mean precip for June to August from PRISM 1971-2000 | 11.1 | inches |
| SLOPERATIO | Ratio of main channel slope to basin slope as defined in SIR 2006-5112 | 0.0511 | dimensionless |
| SSURGOA | Percentage of area of Hydrologic Soil Type A from SSURGO | 6.71 | percent |
| SSURGOB | Percentage of area of Hydrologic Soil Type B from SSURGO | 2.28 | percent |
| STORAGE | Percentage of area of storage (lakes ponds reservoirs wetlands) | 3.45 | percent |

## Bankfull Statistics

### Bankfull Statistics Parameters [Bankfull Regions 1 and 2 SIR2009 5144]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 0.52 | 396 |

### Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 0.19305 | 59927.7393 |

### Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 0.200772 | 59927.66594 |

### Bankfull Statistics Parameters [USA Bieger 2015]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 0.07722 | 59927.7393 |

## Bankfull Statistics Flow Report [Bankfull Regions 1 and 2 SIR2009 5144]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

| Statistic | Value | Unit | PIL | PIU |
|---|---|---|---|---|
| Bankfull Area | 33.3 | ft^2 | 13.1 | 84.5 |
| Bankfull Depth | 1.28 | ft | 0.504 | 3.25 |
| Bankfull Streamflow | 80.9 | ft^3/s | 12.6 | 521 |
| Bankfull Width | 26.5 | ft | 10.1 | 69.2 |

## Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_D_channel_width | 14.4 | ft |
| Bieger_D_channel_depth | 1.67 | ft |
| Bieger_D_channel_cross_sectional_area | 28.3 | ft^2 |

## Bankfull Statistics Flow Report [Central Lowland P Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_P_channel_width | 16.4 | ft |
| Bieger_P_channel_depth | 2.04 | ft |
| Bieger_P_channel_cross_sectional_area | 27.2 | ft^2 |

## Bankfull Statistics Flow Report [USA Bieger 2015]

| Statistic | Value | Unit |
|---|---|---|
| Bieger_USA_channel_width | 15.2 | ft |
| Bieger_USA_channel_depth | 1.36 | ft |
| Bieger_USA_channel_cross_sectional_area | 23.3 | ft^2 |

## Bankfull Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

| Statistic | Value | Unit | PIL | PIU |
|---|---|---|---|---|
| Bankfull Area | 33.3 | ft^2 | 13.1 | 84.5 |
| Bankfull Depth | 1.28 | ft | 0.504 | 3.25 |
| Bankfull Streamflow | 80.9 | ft^3/s | 12.6 | 521 |
| Bankfull Width | 26.5 | ft | 10.1 | 69.2 |
| Bieger_D_channel_width | 14.4 | ft | | |
| Bieger_D_channel_depth | 1.67 | ft | | |
| Bieger_D_channel_cross_sectional_area | 28.3 | ft^2 | | |
| Bieger_P_channel_width | 16.4 | ft | | |
| Bieger_P_channel_depth | 2.04 | ft | | |
| Bieger_P_channel_cross_sectional_area | 27.2 | ft^2 | | |
| Bieger_USA_channel_width | 15.2 | ft | | |
| Bieger_USA_channel_depth | 1.36 | ft | | |
| Bieger_USA_channel_cross_sectional_area | 23.3 | ft^2 | | |

*Bankfull Statistics Citations*

**Mulvihill, C.I., Baldigo, B.P., Miller, S.J. , and DeKoskie, Douglas,2009, Bankfull Discharge and Channel Characteristics of Streams in New York State: U.S. Geological Survey Scientific Investigations Report 2009-5144, 51 p. (http://pubs.usgs.gov/sir/2009/5144/)**
**Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_cam**

## Flow-Duration Statistics

### Flow-Duration Statistics Parameters [Statewide duration flows excl LongIsl 2014 5220]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 3.14 | 4780 |
| JUNAVPRE | Mean June Precipitation | 3.72 | inches | 3.59 | 5.33 |
| CENTROIDX | CENTROIDX | 399867.7 | meters | 166000 | 658000 |
| CENTROIDY | CENTROIDY | 4795067.1 | meters | 4560000 | 4920000 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| CSL1085LO | 10-85 slope of lower half of main channel | 10.4 | feet per mi | 1.56 | 152 |
| LENGTH | Main Channel Length | 3.53 | miles | 0.88 | 305 |
| MAR | Mean Annual Runoff in inches | 23.3 | inches | 11.6 | 37.4 |
| SSURGOB | SSURGO Percent Hydrologic Soil Type B | 2.28 | percent | 1.14 | 65.7 |
| JULAVPRE | Mean July Precipitation | 3.56 | inches | 3.2 | 5.26 |
| MAYAVPRE | Mean May Precipitation | 3.49 | inches | 3.15 | 5.68 |
| PRJUNAUG00 | Basin average mean precip for June to August | 11.1 | inches | 10.5 | 15.5 |
| JUNMAXTMP | Maximum June Temperature | 76.6 | degrees F | 68.8 | 78.8 |
| SSURGOA | SSURGO Percent Hydrologic Soil Type A | 6.71 | percent | 0.62 | 51.2 |
| EL1200 | Percentage of Basin Above 1200 ft | 0 | percent | 0 | 100 |

## Flow-Duration Statistics Disclaimers [Statewide duration flows excl LongIsl 2014 5220]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

## Flow-Duration Statistics Flow Report [Statewide duration flows excl LongIsl 2014 5220]

| Statistic | Value | Unit |
|---|---|---|
| 0.01 Percent Duration | 59.6 | ft^3/s |
| 1 Percent Duration | 33.5 | ft^3/s |
| 5 Percent Duration | 11.5 | ft^3/s |
| 10 Percent Duration | 6.67 | ft^3/s |
| 15 Percent Duration | 4.89 | ft^3/s |
| 20 Percent Duration | 3.84 | ft^3/s |
| 25 Percent Duration | 3.1 | ft^3/s |
| 35 Percent Duration | 2.14 | ft^3/s |
| 50 Percent Duration | 1.26 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| 65 Percent Duration | 0.522 | ft^3/s |
| 75 Percent Duration | 0.215 | ft^3/s |
| 80 Percent Duration | 0.154 | ft^3/s |
| 85 Percent Duration | 0.109 | ft^3/s |
| 90 Percent Duration | 0.079 | ft^3/s |
| 95 Percent Duration | 0.0495 | ft^3/s |
| 99 Percent Duration | 0.0239 | ft^3/s |
| 99.99 Percent Duration | 0 | ft^3/s |

*Flow-Duration Statistics Citations*

**Gazoorian, C.L.,2015, Estimation of unaltered daily mean streamflow at ungaged streams of New York, excluding Long Island, water years 1961–2010: U.S. Geological Survey Scientific Investigations Report 2014–5220, 29 p. (https://pubs.usgs.gov/sir/2014/5220/)**

## Peak-Flow Statistics

### Peak-Flow Statistics Parameters [2006 Full Region 1]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 0.54 | 4500 |
| LAGFACTOR | Lag Factor | 0.2 | dimensionless | 0.004 | 15.229 |
| STORAGE | Percent Storage | 3.45 | percent | 0 | 28.92 |
| FOREST | Percent Forest | 20.1 | percent | 23.83 | 99.61 |
| PRECIP | Mean Annual Precipitation | 42.7 | inches | 29.49 | 56.1 |

### Peak-Flow Statistics Disclaimers [2006 Full Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

### Peak-Flow Statistics Flow Report [2006 Full Region 1]

| Statistic | Value | Unit |
|---|---|---|
| 80-percent AEP flood | 89.7 | ft^3/s |

| Statistic | Value | Unit |
|---|---|---|
| 66.7-percent AEP flood | 107 | ft^3/s |
| 50-percent AEP flood | 129 | ft^3/s |
| 20-percent AEP flood | 190 | ft^3/s |
| 10-percent AEP flood | 236 | ft^3/s |
| 4-percent AEP flood | 300 | ft^3/s |
| 2-percent AEP flood | 349 | ft^3/s |
| 1-percent AEP flood | 406 | ft^3/s |
| 0.5-percent AEP flood | 460 | ft^3/s |
| 0.2-percent AEP flood | 543 | ft^3/s |

*Peak-Flow Statistics Citations*

**Lumia, Richard, Freehafer, D.A., and Smith, M.J.,2006, Magnitude and Frequency of Floods in New York: U.S. Geological Survey Scientific Investigations Report 2006–5112, 152 p. (http://pubs.usgs.gov/sir/2006/5112/)**

## Maximum Probable Flood Statistics

### Maximum Probable Flood Statistics Parameters [Crippen Bue Region 6]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.78 | square miles | 0.1 | 10000 |

### Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 6]

| Statistic | Value | Unit |
|---|---|---|
| Maximum Flood Crippen Bue Regional | 11000 | ft^3/s |

*Maximum Probable Flood Statistics Citations*

**Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)**

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey

(USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

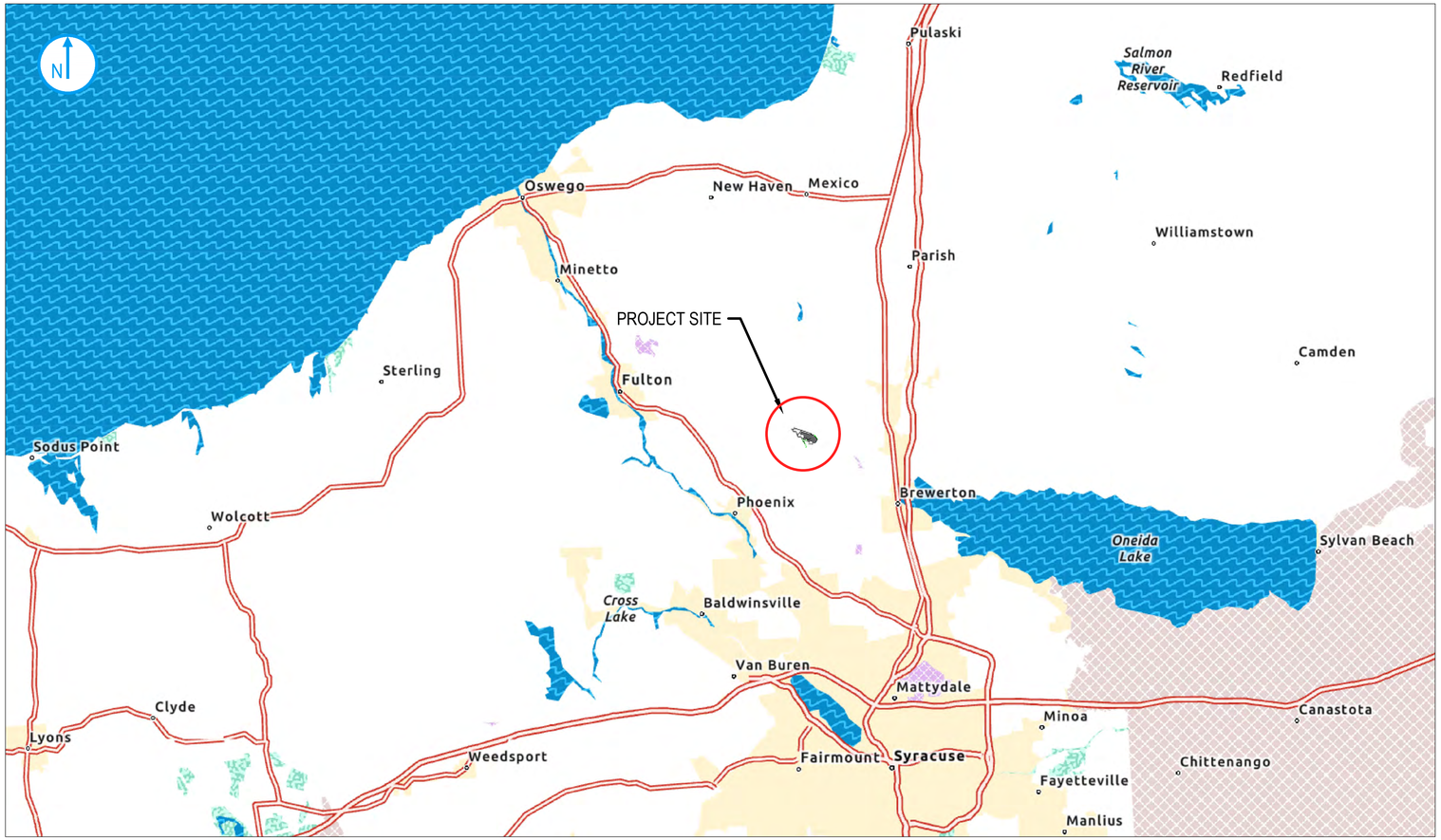
USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.24.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

# Appendix K.

SAVED: 3/6/25 2:06 PM




SITE LOCATION MAP

26400 0 26400

SCALE: 1"= 5 MILES

# THE WETLAND TRUST
# STREAM MITIGATION PROJECT
# BUXTON CREEK SITE
# BELL RD, PENNELLVILLE, NY 13132

ALL SITE PLANS IMPLEMENT THE FOLLOWING HORIZONTAL COORDINATES:
NAD83 NEW YORK STATE PLANES, CENTRAL ZONE, US FOOT
VERTICAL COORDINATE SYSTEM IS: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD99)

## INDEX TO DRAWINGS


| SHEET NO. | SHEET NAME |
|---|---|
| C-001 | COVER AND TITLE SHEET |
| C-002 | EXISTING CONDITIONS SITE PLAN |
| C-003 | KEY PLAN FOR EXISTING CONDITIONS |
| C-104 | PROPOSED CONDITINS SITE PLAN |
| C-005 | KEY PLAN FOR EXISTING CONDITIONS |
| C-101 | EXISTING PLAN & PROFILE NE-ES-1 |
| C-102 | EXISTING PLAN & PROFILE SE-ES-1 |
| C-103 | EXISTING PLAN & PROFILE SE-ES-1 |
| C-104 | EXISTING PLAN & PROFILE SE-ES-1 |
| C-105 | EXISTING PLAN & PROFILE NW - ES - 1 |
| C-106 | EXISTING PLAN & PROFILE NW - ES - 1 |
| C-107 | EXISTING PLAN & PROFILE NW - ES - 1 |
| C-108 | EXISTING PLAN & PROFILE NW - ES - 1 |
| C-109 | EXISTING PLAN & PROFILE NW - ES - 1 |
| C-110 | PROPOSED PLAN & PROFILE NE-DS - 1 |
| C-111 | PROPOSED PLAN & PROFILE SE-DS - 1 |
| C-112 | PROPOSED PLAN & PROFILE SE-DS - 1 |
| C-113 | PROPOSED PLAN & PROFILE SE-DS - 1 |
| C-114 | PROPOSED PLAN & PROFILE NW-DS - 1 |
| C-115 | PROPOSED PLAN & PROFILE NW-DS - 1 |
| C-116 | PROPOSED PLAN & PROFILE NW-DS - 1 |
| C-117 | PROPOSED PLAN & PROFILE NW-DS - 1 |
| C-118 | PROPOSED PLAN & PROFILE NW-DS - 1 |
| C-119 | PROPOSED PLAN & PROFILE NW-DS - 1 |
| C-301 | PROPOSED SECTION VIEWS NE - DS - 1 |
| C-302 | PROPOSED SECTION VIEWS SE - DS - 1 |
| C-303 | PROPOSED SECTION VIEWS SE - DS - 1 |
| C-304 | PROPOSED SECTION VIEWS NW - DS - 1 |
| C-305 | PROPOSED SECTION VIEWS NW - DS - 1 |
| C-306 | PROPOSED SECTION VIEWS NW - DS - 1 |
| C-501 | MISCELLANEOUS DETAILS |
| C-502 | MISCELLANEOUS DETAILS |


ABBREVIATIONS:

| | | | |
|---|---|---|---|
| EG | EXISTING GROUND | STA | STATION |
| FG | FINISH GROUND | ELEV | ELEVATION |
| ES | EXISTING STREAM | SQ | SQUARE FEET |
| DS | DESIGN STREAM | CFPS | CUBIC FEET PER SECOND |
| NE | NORTHEAST | MAX | MAXIMUM |
| SE | SOUTHEAST | MIN | MINIMUM |
| NW | NORTHWEST | DS | DOWNSTREAM |
| SW | SOUTHWEST | US | UPSTREAM |
| AVG | AVERAGE | TYP | TYPICAL |
| FT | FEET | APPR. | APPROXIMATE |

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 2/24/2025

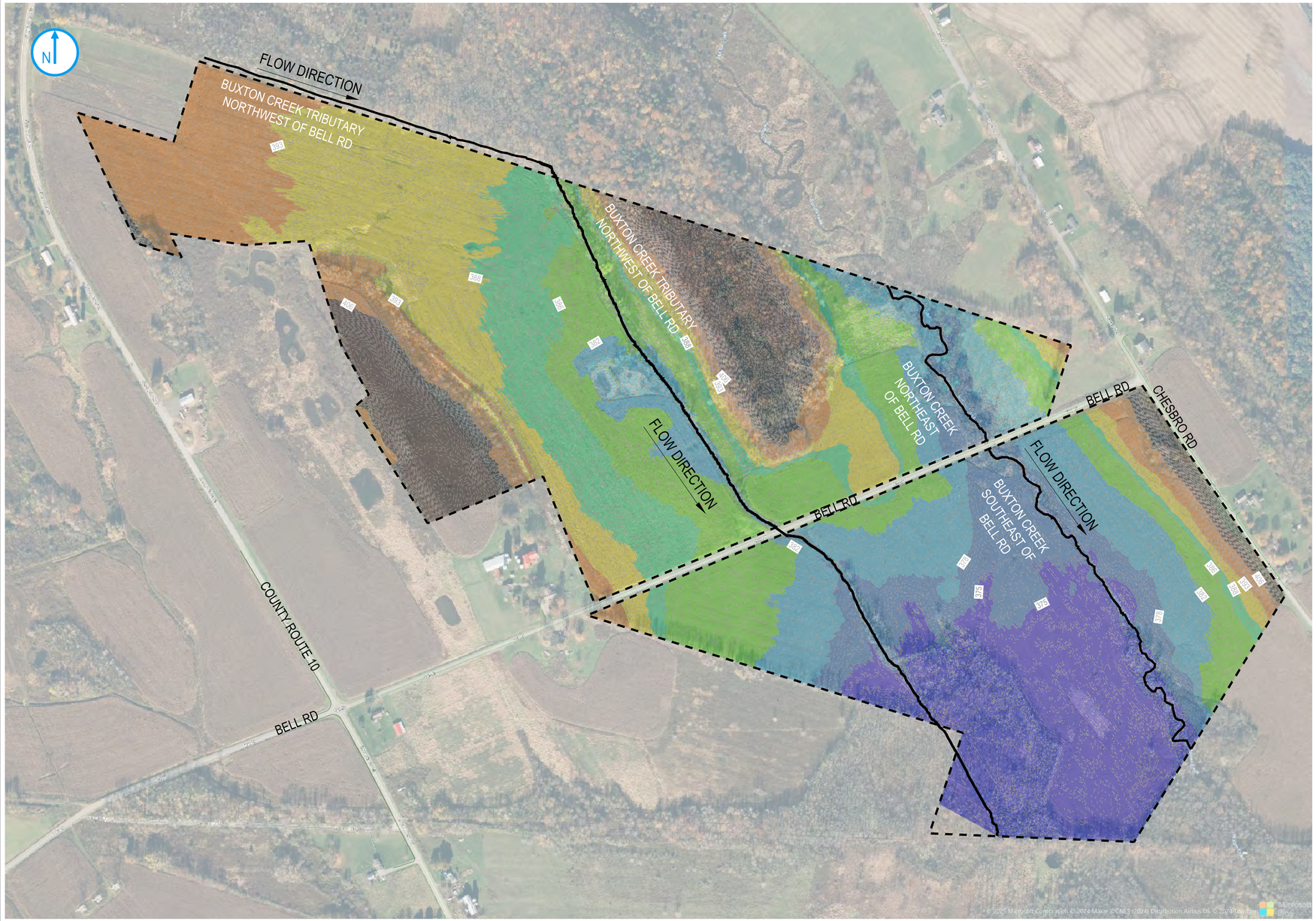
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST** STREAM MITIGATION Bell Rd, Pennellville, NY 13132 | Drawing Title: **COVER AND TITLE SHEET** | | | | ### |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-001** | | | Scale NTS | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\COVER AND TITLE.DWG

SAVED: 3/6/25 2:03 PM




# EXISTING CONDITIONS SITE PLAN

300 0 300

SCALE: 1"=300'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

## Elevations Table

| Number | Minimum Elevation (ft) | Maximum Elevation (ft) | Area (ft^2) | Color |
|---|---|---|---|---|
| 1 | 370.26 | 375.00 | 1646207.13 | |
| 2 | 375.00 | 378.00 | 963560.53 | |
| 3 | 378.00 | 382.00 | 1411435.86 | |
| 4 | 382.00 | 386.00 | 1707556.76 | |
| 5 | 386.00 | 388.00 | 997745.08 | |
| 6 | 388.00 | 393.00 | 1652487.26 | |
| 7 | 393.00 | 406.00 | 1307573.23 | |
| 8 | 406.00 | 442.31 | 1184922.99 | |

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/24/2025

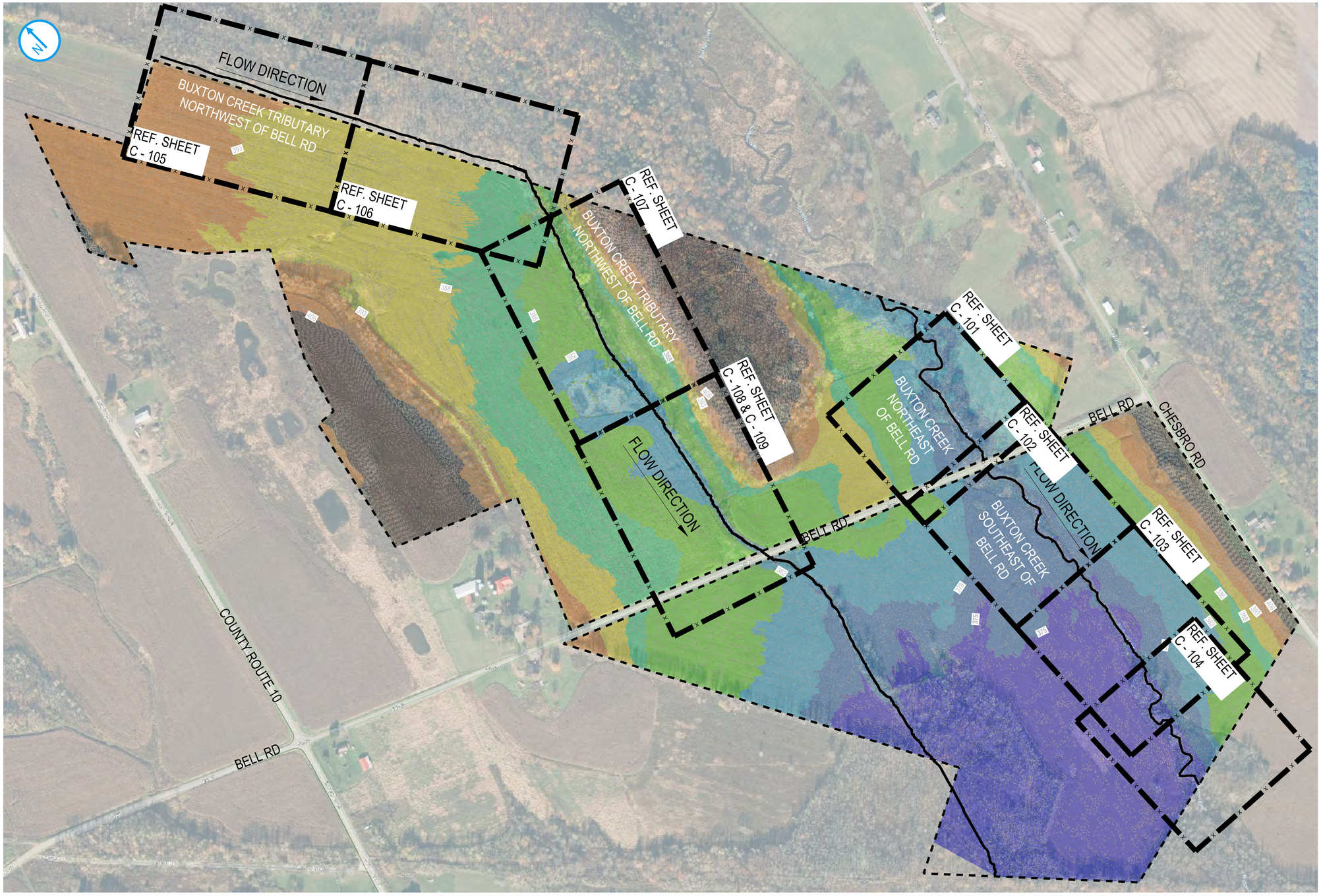
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **EXISTING CONDITIONS SITE PLAN** | | | | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number **C-002** | | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRONI\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING SITE AND KEY PLAN.DWG

SAVED: 3/6/25 2:03 PM




## Elevations Table

| Number | Minimum Elevation (ft) | Maximum Elevation (ft) | Area (ft^2) | Color |
|---|---|---|---|---|
| 1 | 370.26 | 375.00 | 1646207.13 | |
| 2 | 375.00 | 378.00 | 963560.53 | |
| 3 | 378.00 | 382.00 | 1411435.86 | |
| 4 | 382.00 | 386.00 | 1707556.76 | |
| 5 | 386.00 | 388.00 | 997745.08 | |
| 6 | 388.00 | 393.00 | 1652487.26 | |
| 7 | 393.00 | 406.00 | 1307573.23 | |
| 8 | 406.00 | 442.31 | 1184922.99 | |

## LEGEND

PROPERTY BOUNDARY LINE

EXISTING STREAM ALIGNMENT

# KEY PLAN FOR EXISTING CONDITIONS

250 0 250

SCALE: 1"=250'

PRELIMINARY NOT FOR CONSTRUCTION

DATE: 2/24/2025

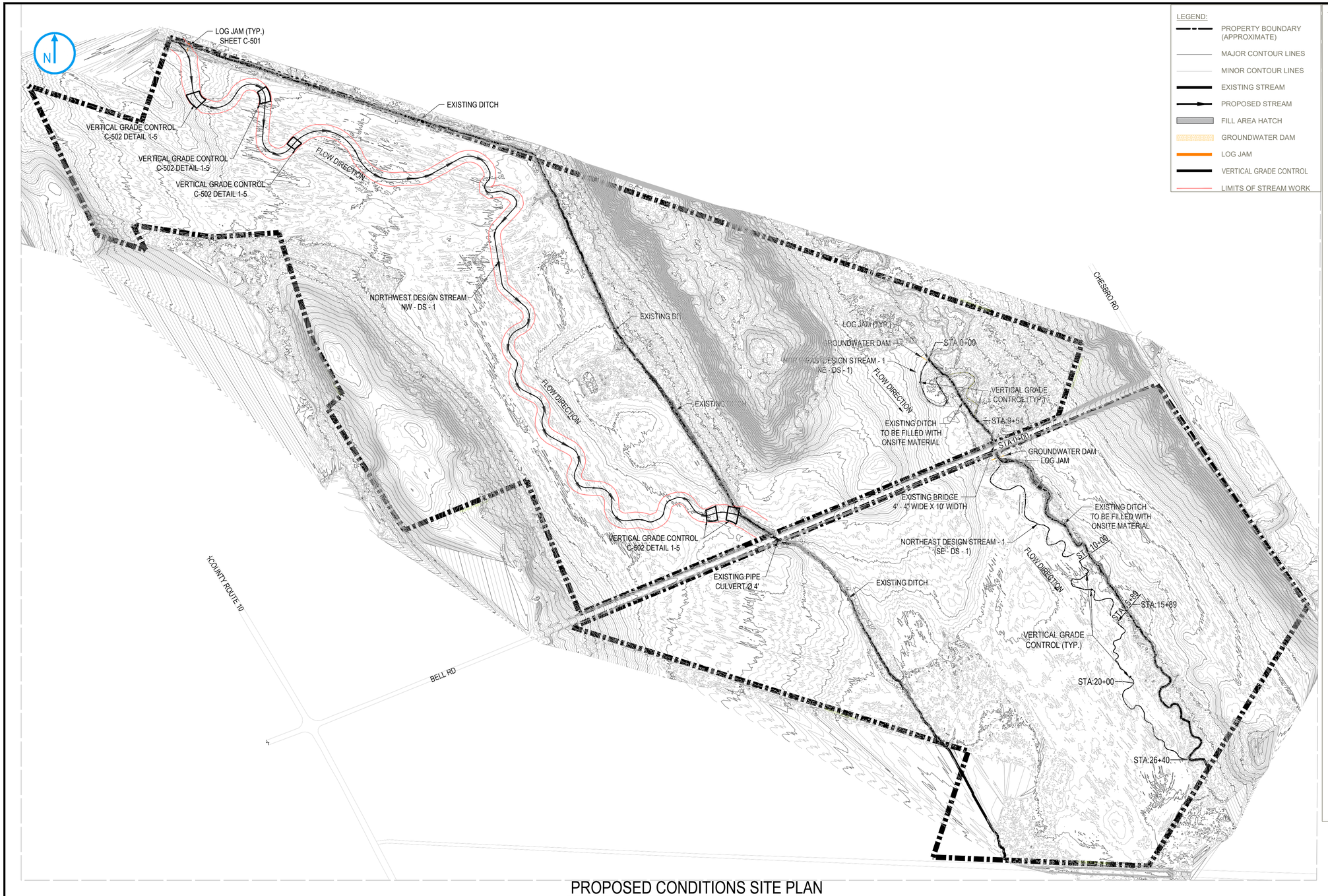
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTNG UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **KEY PLAN FOR EXISTING CONDITIONS** | | | ###<br>###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-003** | | | Scale AS NOTED | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD INVE\EXISTING SITE AND KEY PLAN.DWG

SAVED: 3/6/25 7:44 PM




## PROPOSED CONDITIONS SITE PLAN

250 0 250

SCALE: 1"=250'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

NOTES:

1. EXISTING TOPOGRAPHY BASED ON LiDAR DATA COLLECTED BY RAMBOLL ON 11/26/2024. BANKFULL DIMENSIONS BASED ON STREAMSTATS DATA AND FIELD OBSERVATIONS FROM 2024.
2. IMPROVEMENT AND RESTORATION ACTIVITIES WITHIN THE FEDERAL WETLANDS AND WATERCOURSE WILL BE PERFORMED IN ACCORDANCE WITH SECTIONS 401 AND 404 OF THE CLEAN WATER ACT AND OTHER PERMIT CONDITIONS OF THE USACE AND NYSDEC.
3. THE CONTRACTOR SHALL MAINTAIN STREAM FLOW RATES DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL NOT PERFORM CONSTRUCTION ACTIVITIES DURING PERIODS OF PROLONGED PRECIPITATION OR WHEN PROLONGED PRECIPITATION IS FORECASTED. THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION OPERATIONS AS REQUIRED TO LIMIT THE MIGRATION OF SILTATION/SEDIMENT DOWNSTREAM OF THE CONSTRUCTION ZONE. SPECIFIC CRITERIA TO BE ADHERED TO INCLUDE THE FOLLOWING:
   - 4.1. TURBIDITY: NO INCREASE IN TURBIDITY 400 FEET DOWNSTREAM OF THE CONSTRUCTION ZONE WHICH WILL CAUSE A SUBSTANTIAL VISIBLE CONTRAST TO NATURAL CONDITIONS.
   - 4.2. SETTLEABLE SOLIDS: NO SETTLEABLE SOLIDS 100 FEET DOWNSTREAM OF THE CONSTRUCTION ZONE WHICH WILL CAUSE DEPOSITION OR IMPAIR THE WATERS FOR THEIR BEST USAGES.
5. IN-STREAM/WETLAND CONSTRUCTION WILL BE PERFORMED ONLY DURING DAYLIGHT HOURS. THE CONTRACTOR SHALL MAINTAIN BY-PASS PUMPING OPERATIONS DURING THE PERFORMANCE OF CONSTRUCTION ACTIVITIES WITHIN THE STREAM/WETLAND. IF CONSTRUCTION OPERATIONS ARE TEMPORARILY SUSPENDED DUE TO NIGHTFALL, BY-PASS PUMPING SHALL BE MAINTAINED, IF REQUIRED. TO MINIMIZE THE DOWNSTREAM TRANSPORT OF SETTLEABLE SOLIDS AND IMPACTS TO STREAM/WETLAND TURBIDITY IN ACCORDANCE WITH NOTE 4.
6. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO COMPLETE CONSTRUCTION OPERATIONS AS EXPEDITIOUSLY AS PRACTICAL SO AS TO MINIMIZE THE DURATION OF DISTURBANCE WITHIN THE STREAM/WETLAND.
7. ALL CONSTRUCTION EQUIPMENT SHALL BE REMOVED FROM THE STREAM/WETLAND UPON COMPLETION OF CONSTRUCTION.
8. ESC FACILITIES (I.E., SILT FENCING, STABILIZED CONSTRUCTION ENTRANCES) SHALL BE MAINTAINED WITHIN THE WORK AREA (I.E., STREAM BANK) EXCEPT AS REQUIRED TO ALLOW EQUIPMENT ACCESS FOR CONSTRUCTION ACTIVITIES AND SHALL BE MAINTAINED UNTIL REVEGETATION IS COMPLETE.
9. THE CONTRACTOR SHALL NOT STORE CHEMICALS, FUELS, OR LUBRICATING OILS WITHIN 100 FEET OF STREAM/WETLAND. WITH THE EXCEPTION OF DEWATERING PUMPS, EQUIPMENT SHALL NOT BE REFUELED WITHIN 100 FEET OF STREAM/WETLAND.
10. EQUIPMENT AND/OR MACHINERY SHALL NOT BE WASHED IN THE STREAM/WETLAND NOR SHALL THE CONTRACTOR PERMIT WATER FROM SUCH ACTIVITIES TO ENTER THE STREAM/WETLAND.
11. THE CONTRACTOR'S STAGING AREA SHALL BE LOCATED A MINIMUM OF 50 FEET AWAY FROM THE STREAM/WETLAND BANK.
12. ALL NECESSARY PRECAUTIONS WILL BE TAKEN TO PRECLUDE CONTAMINATION OF ANY WATERWAYS BY SUSPENDED SOLIDS, SEDIMENTS, FUELS, SOLVENTS, LUBRICANTS, EPOXY COATINGS, PAINTS, CONCRETE, LEACHATE, OR ANY OTHER ENVIRONMENTALLY DELETERIOUS MATERIALS ASSOCIATED WITH THE PROJECT WORK.
13. THE STREAM BED SHALL BE RESTORED AS SOON AS PRACTICABLE AND STREAM SECTIONS (BED AND BANK) SHALL BE STABILIZED PRIOR TO RESTORING FLOW.
14. CUT OR PRUNE EXISTING STREAM BANK/WETLAND VEGETATION UTILIZING APPROPRIATE PRUNING METHODS.
15. COLLECT AND STOCKPILE EXISTING DOWNED TREES AND COARSE WOODY DEBRIS WITH ROOTWADS INTACT IF POSSIBLE. A MINIMUM OF 15-FT OF TRUNK SHALL BE MAINTAINED ABOVE THE ROOT WAD FOR USE IN CONSTRUCTING THE PROPOSED ENGINEERED LOG JAM AND TO FILL IN THE NEW SECONDARY CHANNEL (SEE C-501).
16. INSTALL THE ENGINEERED LOGJAM TO PERMANENTLY DIRECT FLOW INTO THE HISTORIC CHANNEL AND AWAY FROM THE NEW SECONDARY CHANNEL.
17. FILL THE NEW SECONDARY CHANNEL WITH BEDLOAD AND COARSE WOODY DEBRIS TO TOP OF BANK.
18. STREAM/WETLAND DISTURBANCE CONSTRUCTION SEQUENCE GUIDELINES SHALL BE AS FOLLOWS:
   - 18.1. INSTALL SILT FENCE OR EQUIVALENT AT EDGE OF STREAM/WETLAND TO CONTROL SEDIMENT LADEN RUNOFF TO STREAM/WETLAND.
   - 18.2. COMPLETE STREAM CHANNEL GRADING PER CONSTRUCTION DRAWINGS, GENERALLY WORKING FROM THE DOWNSTREAM END TO UPSTREAM END. FLOW SHALL NOT BE DIRECTED INTO THE PROPOSED CHANNEL UNTIL THE PROPOSED CHANNEL IS STABILIZED.
   - 18.3. INSTALL BY-PASS PUMPING AND SILTATION CONTROL MEASURES AS NECESSARY IN STREAM/WETLAND.
   - 18.4. REMOVE AND DISPOSE OF ANY ACCUMULATED SEDIMENT IN DESIGNATED AREAS OUTSIDE OF WETLANDS ONLY.
   - 18.5. PLANT WOODY VEGETATION AND SEED AND MULCH DISTURBED AREAS.
19. CAREFULLY REMOVE TEMPORARY SILTATION CONTROL MEASURES FROM THE LIMITS OF THE STREAM/WETLAND FLOW AREA.
20. THE CONTRACTOR SHALL SELECT THE NUMBER AND CAPACITY OF BY-PASS PUMPS REQUIRED TO DIVERT STREAM FLOW AROUND THE CONSTRUCTION ZONE.
21. THE CONTRACTOR SHALL OPERATE CONSTRUCTION EQUIPMENT WITHIN THE STREAM BED/WETLAND AS REQUIRED TO COMPLETE WORK. CONSTRUCTION MATS SHALL BE USED AS REQUIRED TO DEVELOP A STABLE BASE FOR THE MOVEMENT OF EQUIPMENT.
22. SANDBAGS SHALL BE FILLED WITH WELL GRADED COARSE SAND HAVING NO MORE THAN 10% (BY WEIGHT) PASSING THE NO. 100 SIEVE.

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **PROPOSED CONDITONS SITE PLAN** | | | ###<br>###<br>### | |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-004** | | | Scale AS NOTED | Sc: x / Rev.: x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED SITE AND KEY PLAN.DWG

SAVED: 3/6/25 7:44 PM




# PROPOSED CONDITIONS KEY PLAN

250 0 250

SCALE: 1"=250'

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details<br>**THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title<br>**PROPOSED CONDITIONS KEY PLAN** | | | | ###<br>### | |
| Location:<br>NEW YORK | Designer / Professional Engineer Responsible:<br>#### | | | | ### | |
| Project Number **1940111895** | Designed by<br>S.M. Ahmadi | Drawn by<br>S.M. Ahmadi | Checked by<br>K. Buelow | Approved by<br>P. Domaszczynski | Date<br>#### | |
| Project Status #### | Drawing Number **C-005** | | | Scale<br>AS NOTED | Sc<br>x | Rev.<br>x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED SITE AND KEY PLAN.DWG

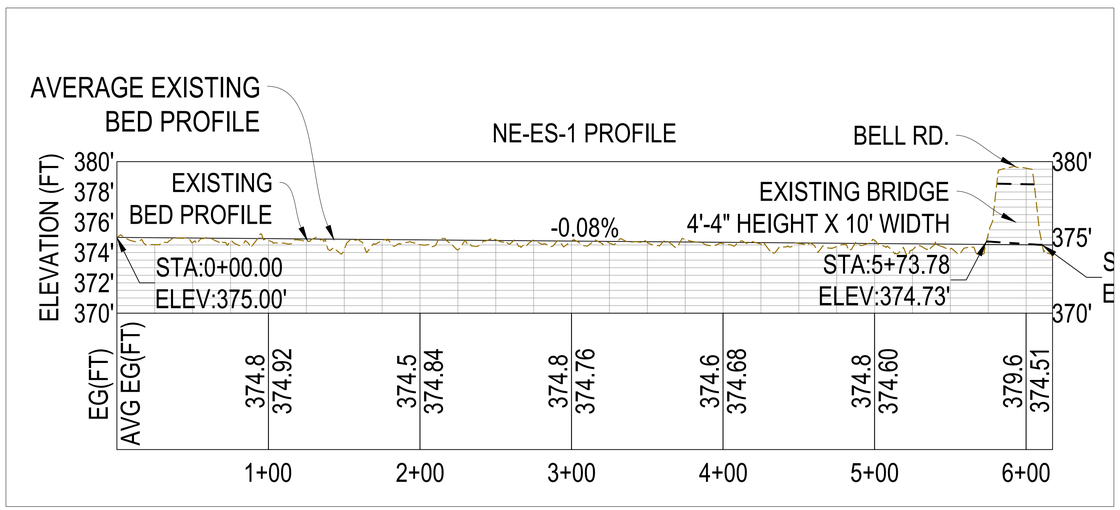
SAVED: 3/6/25 2:06 PM




EXISTING PLAN & PROFILE NE-ES-1

50 0 50

SCALE: 1"=50'




PROFILE STATION 0+00 TO 5+65

50 0 50 — SCALE HORZ. 1" = 50'

5' 0 5' — SCALE: VERT. 1"= 5'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

**Point Table**

| Point # | Elevation (FT) | Northing | Easting | Description |
|---|---|---|---|---|
| 1 | 373.65 | 1197435.98 | 915479.83 | SECTION 1-1 |
| 2 | 374.65 | 1197402.68 | 915537.78 | SECTION 1-2 |
| 3 | 374.58 | 1196380.77 | 916083.78 | SECTION 2-1 |
| 4 | 374.89 | 1197976.36 | 915040.04 | SECTION 3-1 |

**TABLE C-101-1 BUXTON CREEK (NORTH OF BELL RD)**

MEASUREMENT LOCATION: SECTION 3-1

BASEFLOW CONDITIONS

MEASURED FLOW DATA

| DISTANCE * (FT) | DISTANCE (FT) | DEPTH (FT) | DEPTH (FT) | 60% OF MAX** | SEGMENT DISTANCE (FT) | AREA (SQ FT) | FLOW (CFPS) |
|---|---|---|---|---|---|---|---|
| 0.00 | 1.13 | 0.00 | 0.20 | 0.00 | 1.13 | -- | -- |
| 2.25 | 3.38 | 0.40 | 0.61 | 0.03 | 2.25 | 1.37 | 0.04 |
| 4.50 | 5.63 | 0.83 | 0.88 | 0.10 | 2.25 | 1.68 | 0.16 |
| 6.75 | 7.92 | 0.92 | 0.46 | 0.16 | 2.29 | 1.53 | 0.25 |
| 9.08 | 9.08 | 0.00 | 0.00 | 0.00 | 1.17 | 0.27 | 0.00 |
| TOTAL = | | | | | | | 0.46 |

*DISTANCE IS MEASURED FROM NEAR BANK: GREATEST DISTANCE IS STREAM WIDTH.
**VELOCITY MEASUREMENTS AT 60% OF MAXIMUM STREAM DEPTH.
STREAM WIDTH = 9.0 FT AT THE LOCATION OF MEASUREMENTS.
LOCATION : NORTH OF BELL RD (SECTION 3-1)
MEASUREMENT DATE: 11/13/2024

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 1/21/2025

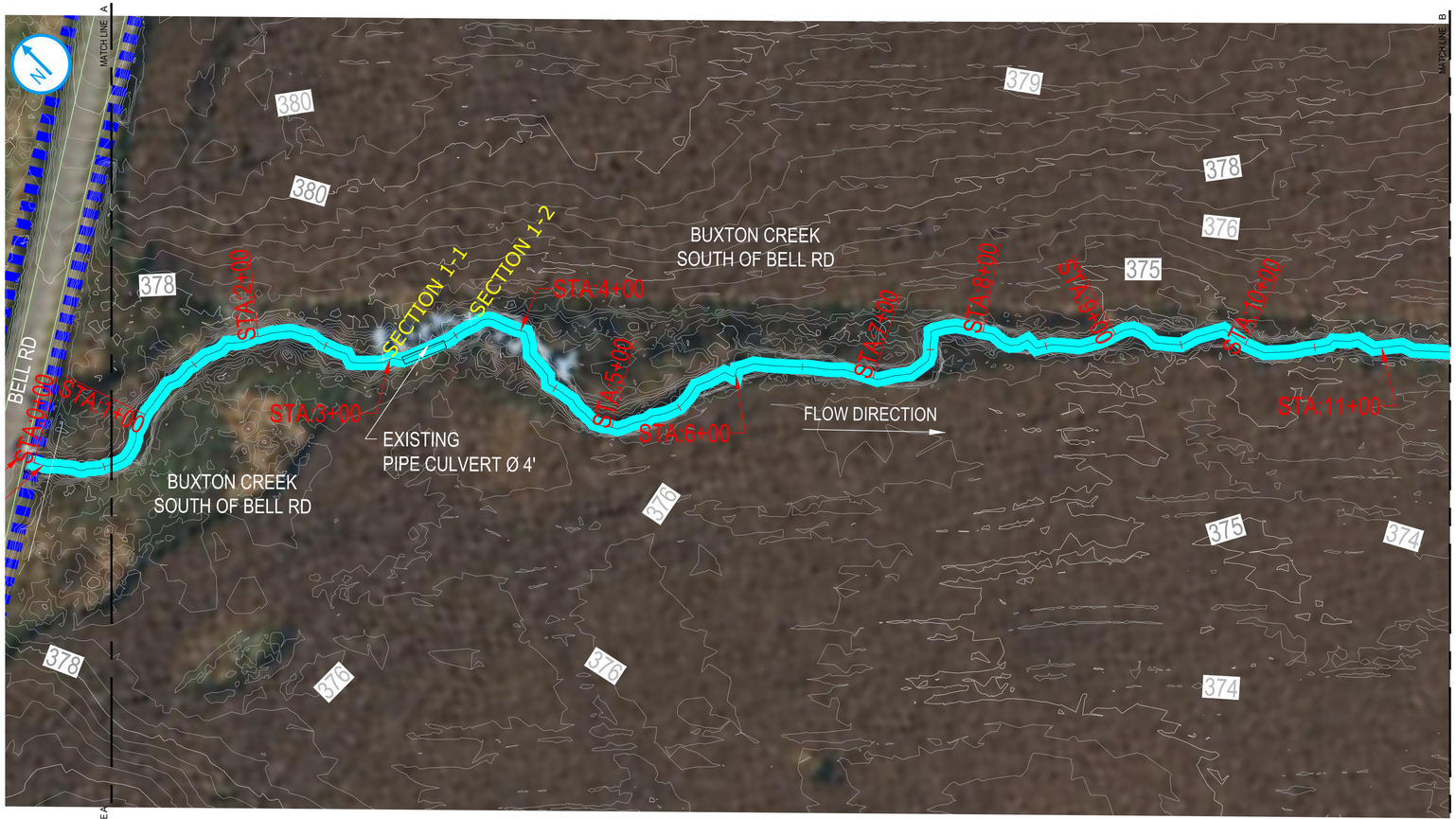
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: THE WETLAND TRUST; STREAM MITIGATION; Bell Rd, Pennellville, NY 13132; #### | Drawing Title: EXISTING PLAN & PROFILE NE-ES-1 | | | | ### ### ### | |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | | |
| Project Number 1940111895 | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number C-101 | | | Scale AS NOTED | Sc x | Rev. x |

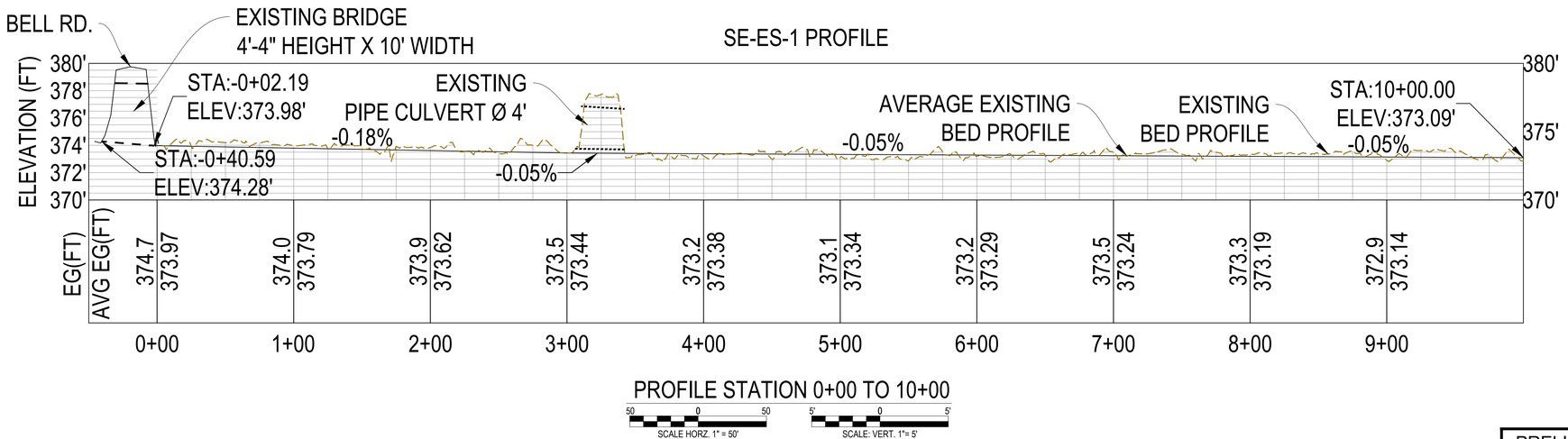
C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTORATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NE & SE.DWG

SAVED: 3/6/25 2:06 PM




EXISTING PLAN & PROFILE SE-ES-1

SCALE: 1"=50'




PROFILE STATION 0+00 TO 10+00

SCALE HORZ. 1" = 50'

SCALE: VERT. 1"= 5'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

Point Table

| Point # | Elevation (FT) | Northing | Easting | Description |
|---|---|---|---|---|
| 1 | 373.65 | 1197435.98 | 915479.83 | SECTION 1-1 |
| 2 | 374.65 | 1197402.68 | 915537.78 | SECTION 1-2 |
| 3 | 374.58 | 1196380.77 | 916083.78 | SECTION 2-1 |
| 4 | 374.89 | 1197976.36 | 915040.04 | SECTION 3-1 |

**TABLE C102-1 BUXTON CREEK (SOUTH OF BELL RD)**

MEASUREMENT LOCATION SECTION 1-1

BASEFLOW CONDITIONS

MEASURED FLOW DATA

| DISTANCE * (FT) | DISTANCE (FT) | DEPTH (FT) | DEPTH (FT) | 60% OF MAX** | SEGMENT DISTANCE (FT) | AREA (SQ FT) | FLOW (CFPS) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.63 | 0.00 | 0.24 | 0.00 | 0.63 | | -- |
| 1.25 | 1.88 | 0.48 | 0.59 | 0.26 | 1.25 | 0.78 | 0.20 |
| 2.50 | 3.13 | 0.69 | 0.76 | 0.49 | 1.25 | 0.85 | 0.42 |
| 3.75 | 4.38 | 0.83 | 0.42 | 0.26 | 1.25 | 0.74 | 0.19 |
| 5.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.63 | 0.13 | 0.00 |
| TOTAL = | | | | | | | 0.81 |

SECTION 1-2

| DISTANCE * (FT) | DISTANCE (FT) | DEPTH (FT) | DEPTH (FT) | 60% OF MAX** | SEGMENT DISTANCE (FT) | ARE A (SQ FT) | FLOW (CFPS) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.83 | 0.00 | 0.31 | 0.00 | 0.83 | | -- |
| 1.67 | 2.50 | 0.63 | 0.77 | 0.16 | 1.67 | 1.35 | 0.22 |
| 3.33 | 4.17 | 0.92 | 1.01 | 0.07 | 1.67 | 1.48 | 0.10 |
| 5.00 | 5.75 | 1.10 | 0.55 | 0.46 | 1.58 | 1.24 | 0.57 |
| 6.50 | 6.50 | 0.00 | 0.00 | 0.00 | 0.75 | 0.21 | 0.00 |
| TOTAL = | | | | | | | 0.89 |

*DISTANCE IS MEASURED FROM NEAR BANK: GREATEST DISTANCE IS STREAM WIDTH.
**VELOCITY MEASUREMENTS AT 60% OF MAXIMUM STREAM DEPTH.
STREAM WIDTH = 5.0 FT AT LOCATION OF MEASUREMENTS.
LOCATION : NORTH OF BELL RD (SECTION 1-1), 6.5 FT (SECTION 1-2)
MEASUREMENT DATE: 11/13/2024

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 1/21/2025

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTNG UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: THE WETLAND TRUST; STREAM MITIGATION; Bell Rd, Pennellville, NY 13132; #### | Drawing Title: EXISTING PLAN & PROFILE SE-ES-1 | | | ### ### | |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | ### | |
| Project Number 1940111895 | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number C-102 | | | Scale AS NOTED | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD.IWE\EXISTING PLAN AND PROFILES NE & SE.DWG

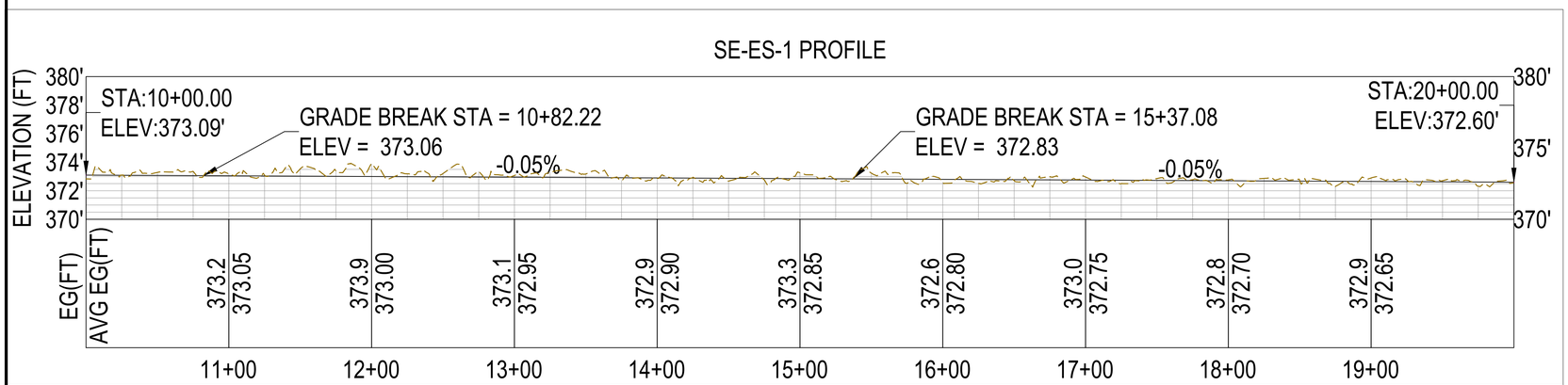
SAVED: 3/6/25 2:06 PM




EXISTING PLAN & PROFILE SE-ES-1

50 0 50

SCALE: 1"=50'




PROFILE STATION 10+00 TO 20+00

50 0 50 SCALE HORZ. 1" = 50'

5' 0 5' SCALE: VERT. 1"= 5'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

Point Table

| Point # | Elevation (FT) | Northing | Easting | Description |
|---|---|---|---|---|
| 1 | 373.65 | 1197435.98 | 915479.83 | SECTION 1-1 |
| 2 | 374.65 | 1197402.68 | 915537.78 | SECTION 1-2 |
| 3 | 374.58 | 1196380.77 | 916083.78 | SECTION 2-1 |
| 4 | 374.89 | 1197976.36 | 915040.04 | SECTION 3-1 |

**TABLE C-103-1 BUXTON CREEK (SOUTH OF BELL RD)**

MEASUREMENT LOCATION: SECTION 2-1

BASEFLOW CONDITIONS

MEASURED FLOW DATA

| DISTANCE * (FT) | DISTANCE (FT) | DEPTH (FT) | DEPTH (FT) | 60% OF MAX** | SEGMENT DISTANCE (FT) | AREA (SQ FT) | FLOW (CFPS) |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.92 | 0.00 | 0.23 | 0.00 | 0.92 | -- | -- |
| 1.83 | 2.75 | 0.46 | 0.58 | 0.10 | 1.83 | 1.12 | 0.11 |
| 3.67 | 4.58 | 0.71 | 0.66 | 0.30 | 1.83 | 1.14 | 0.34 |
| 5.50 | 6.42 | 0.60 | 0.30 | 0.16 | 1.83 | 0.88 | 0.14 |
| 7.33 | 7.33 | 0.00 | 0.00 | 0.00 | 0.92 | 0.14 | 0.00 |
| TOTAL = | | | | | | | 0.59 |

*DISTANCE IS MEASURED FROM NEAR BANK: GREATEST DISTANCE IS STREAM WIDTH.
**VELOCITY MEASUREMENTS AT 60% OF MAXIMUM STREAM DEPTH.
STREAM WIDTH = 7.3 FT AT LOCATION OF MEASUREMENTS
LOCATION : NORTH OF BELL RD
MEASUREMENT DATE: 11/13/2024

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 1/21/2025

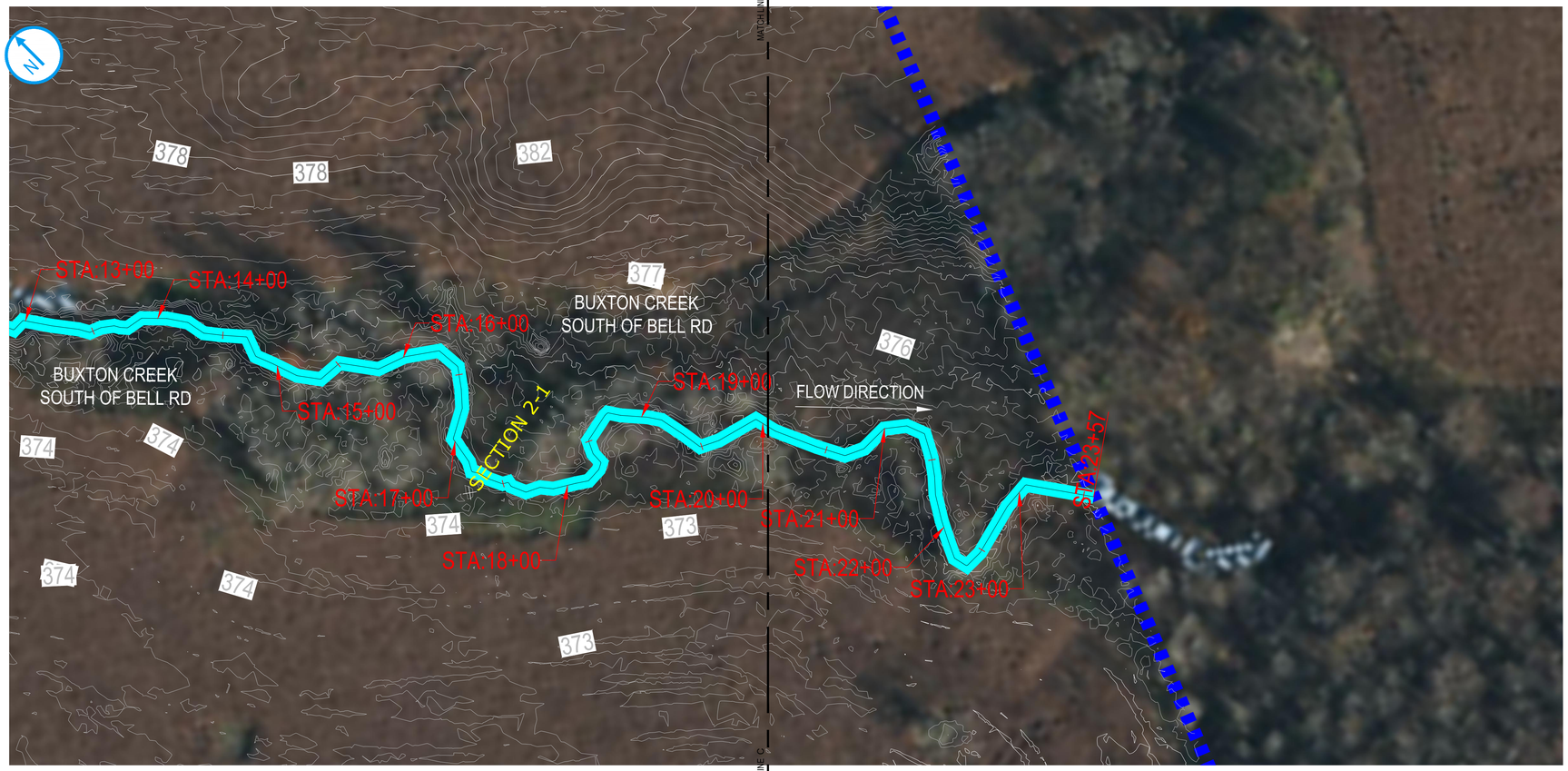
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: THE WETLAND TRUST; STREAM MITIGATION; Bell Rd, Pennellville, NY 13132; #### | Drawing Title: EXISTING PLAN & PROFILE SE-ES-1 | | | ### ### | |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | ### | |
| Project Number: 1940111895 | Designed by: S.M. Ahmadi | Drawn by: S.M. Ahmadi | Checked by: K. Buelow | Approved by: P. Domaszczynski | Date |
| Project Status: #### | Drawing Number: C-103 | | | Scale: AS NOTED | Sc: x / Rev.: x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICROND\WORKFINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NE & SE.DWG

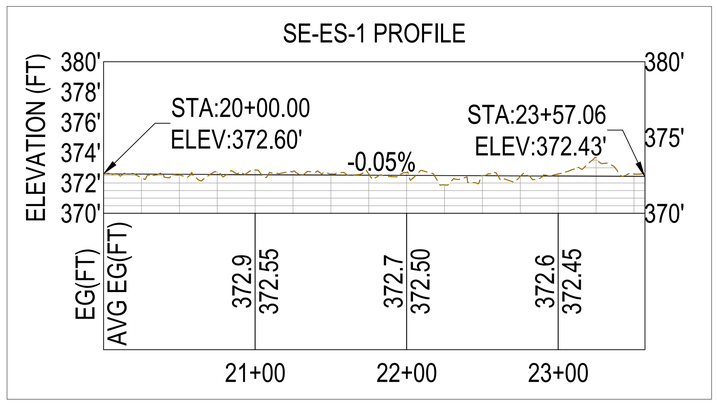
SAVED: 3/6/25 2:06 PM




## EXISTING PLAN & PROFILE SE-ES-1

50 0 50

SCALE: 1"=50'




## PROFILE STATION 20+00 TO 24+00

50 0 50

SCALE HORZ. 1" = 50'

5' 0 5'

SCALE: VERT. 1"= 5'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 1/21/2025

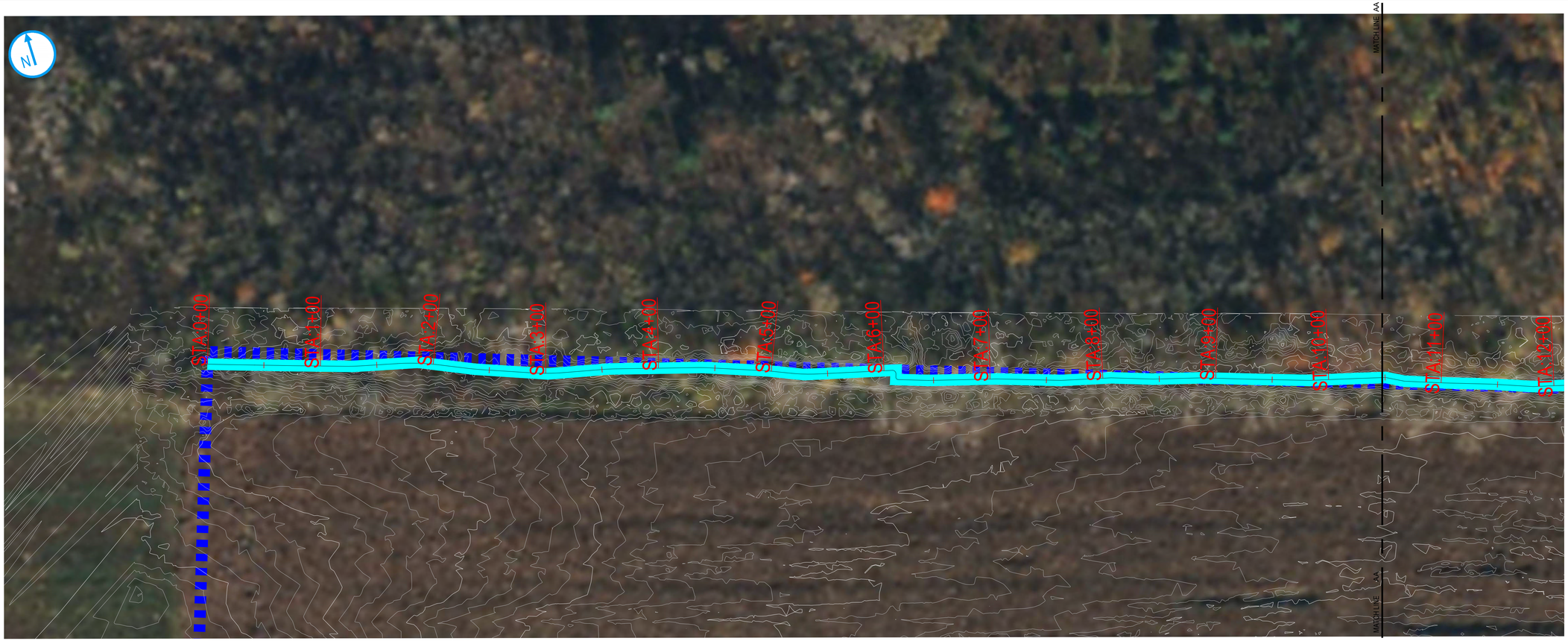
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **EXISTING PLAN & PROFILE SE-ES-1** | | | | | ###<br>###<br>### |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number **C-104** | | | Scale AS NOTED | Sc x | Rev. x |

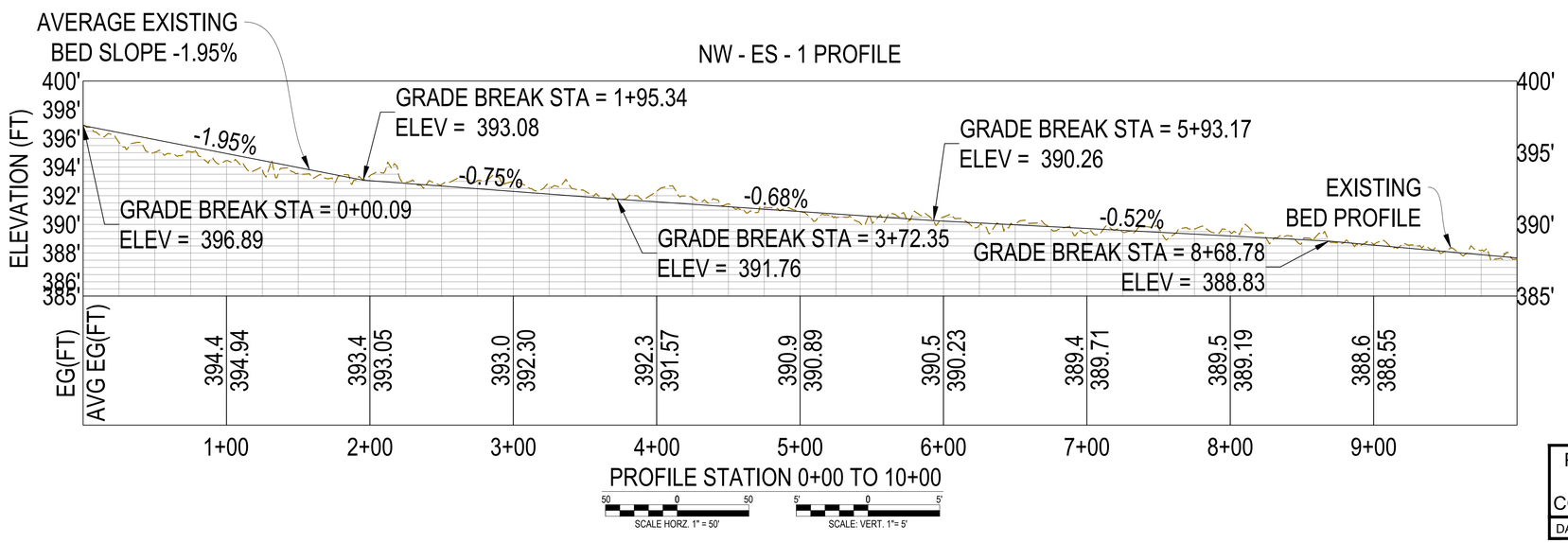
C:\USERS\SAHAMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NE & SE.DWG

SAVED: 3/6/25 2:05 PM




## EXISTING PLAN & PROFILE NW - ES - 1

50 0 50
SCALE: 1"=50'




PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/14/2025

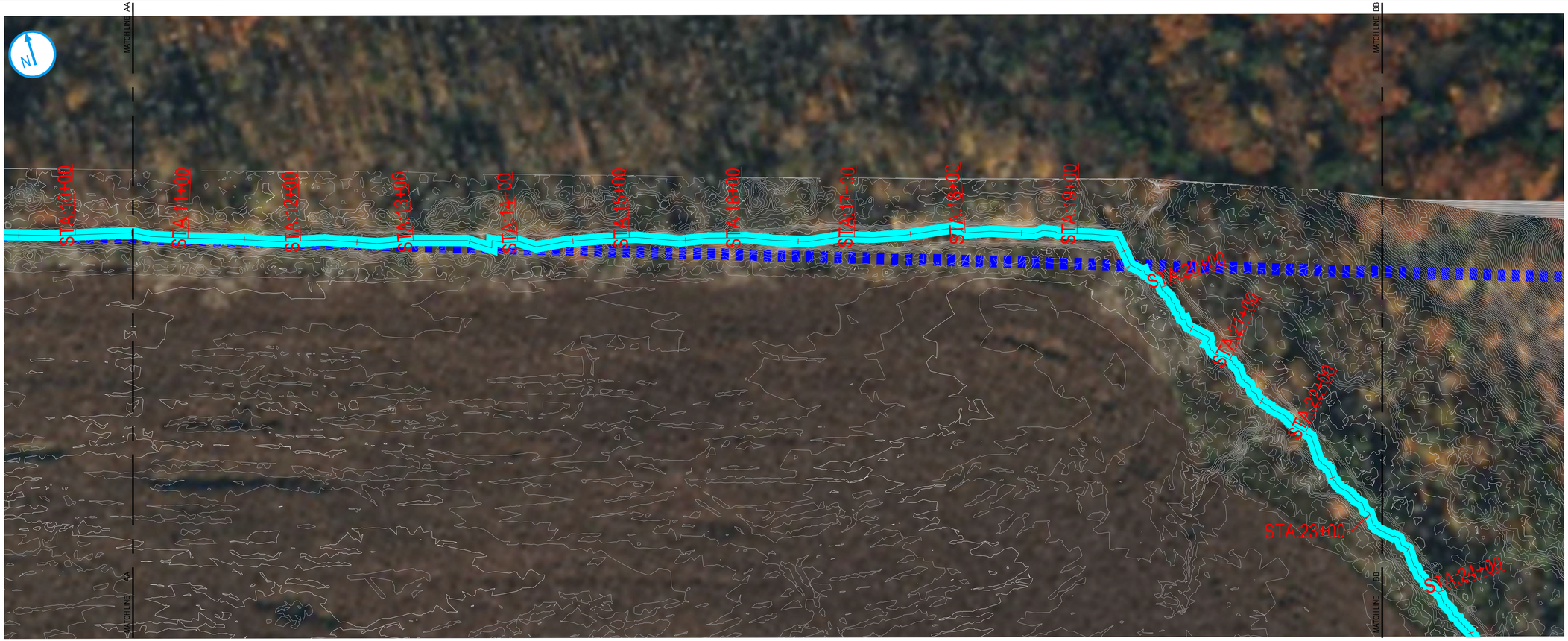
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **EXISTING PLAN & PROFILE NW - ES - 1** | | ###<br>### |
| Location:<br>NEW YORK | Designer / Professional Engineer Responsible:<br>#### | | ### |
| Project Number **1940111895** | Designed by<br>S.M. Ahmadi | Drawn by<br>S.M. Ahmadi | Checked by<br>K. Buelow | Approved by<br>P. Domaszczynski | Date<br>#### |
| Project Status<br>#### | Drawing Number<br>**C-105** | | Scale<br>AS NOTED | Sc<br>x | Rev.<br>x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NW.DWG

SAVED: 3/6/25 2:05 PM

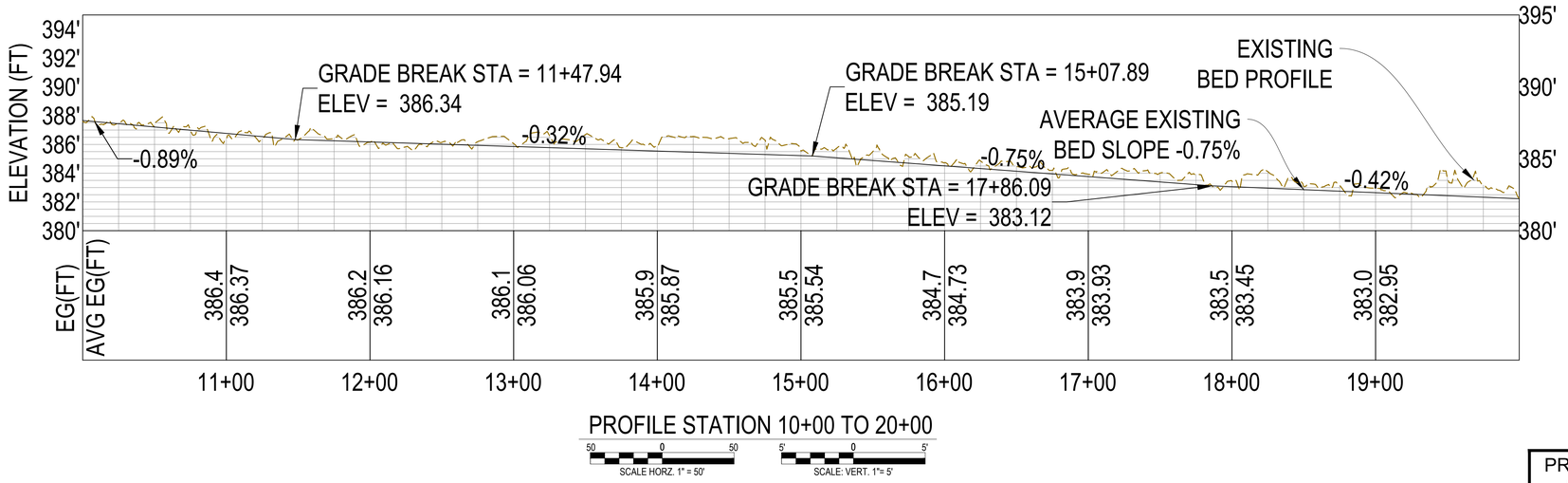



LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

## EXISTING PLAN & PROFILE NW - ES - 1

50 0 50
SCALE: 1"=50'

### NW - ES - 1 PROFILE




PROFILE STATION 10+00 TO 20+00

50 0 50
SCALE HORZ. 1" = 50'

5' 0 5'
SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 2/14/2025

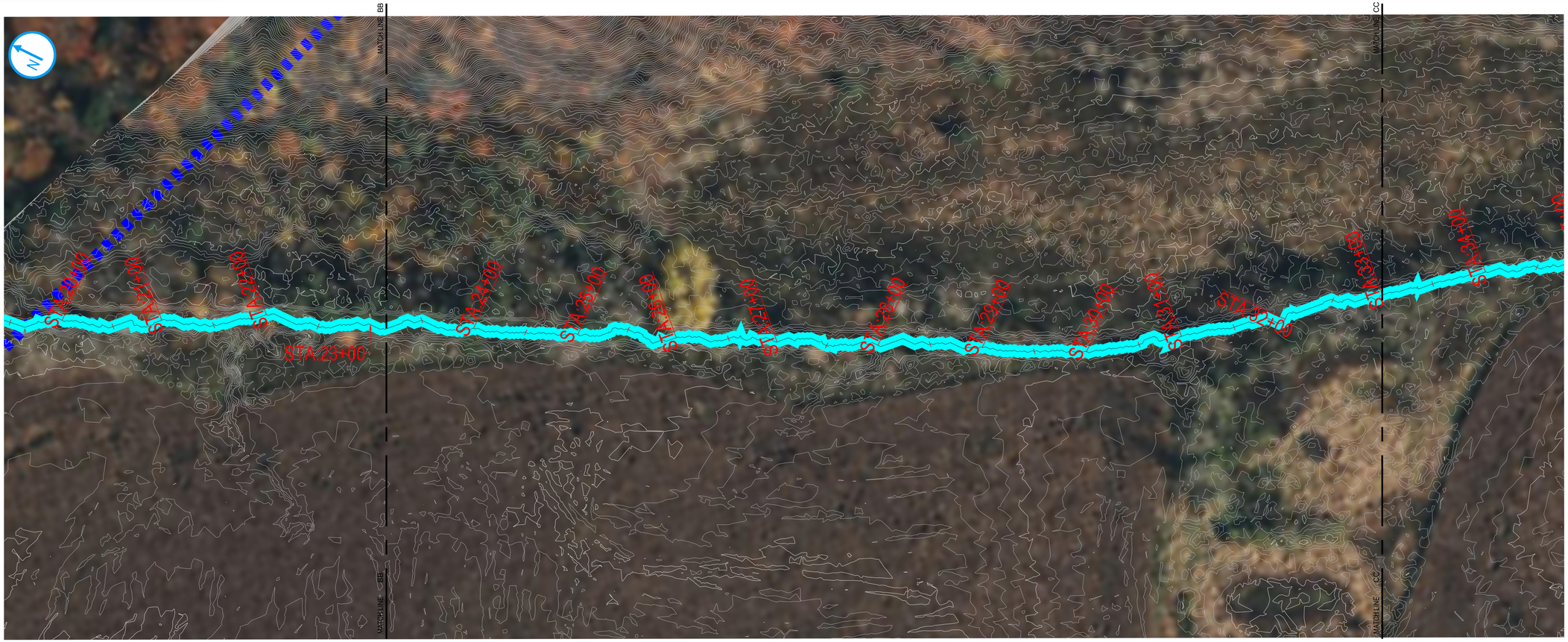
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **EXISTING PLAN & PROFILE NW - ES - 1** | | ###<br>### |
| Location:<br>NEW YORK | Designer / Professional Engineer Responsible:<br>#### | | ### |
| Project Number **1940111895** | Designed by: S.M. Ahmadi | Drawn by: S.M. Ahmadi | Checked by: K. Buelow | Approved by: P. Domaszczynski | Date: #### |
| Project Status: #### | Drawing Number **C-106** | | Scale: AS NOTED | Sc: x | Rev.: x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NW.DWG

SAVED: 3/6/25 2:05 PM




LEGEND:

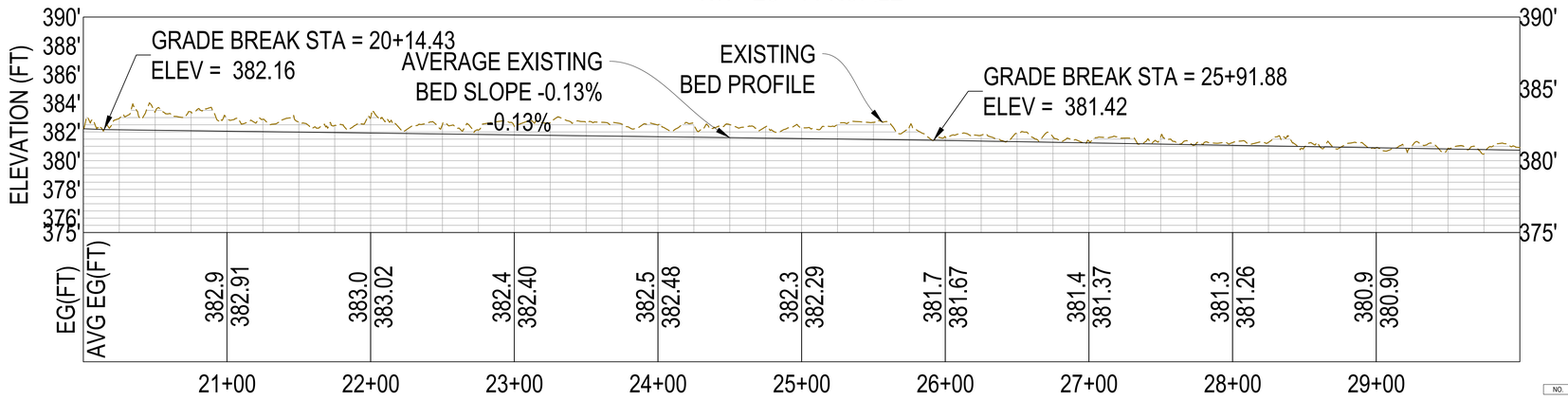
- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

## EXISTING PLAN & PROFILE NW - ES - 1

50 0 50

SCALE: 1"=50'

## NW - ES - 1 PROFILE




PROFILE STATION 20+00 TO 30+00

50 0 50

SCALE HORZ. 1" = 50'

5' 0 5'

SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/14/2025

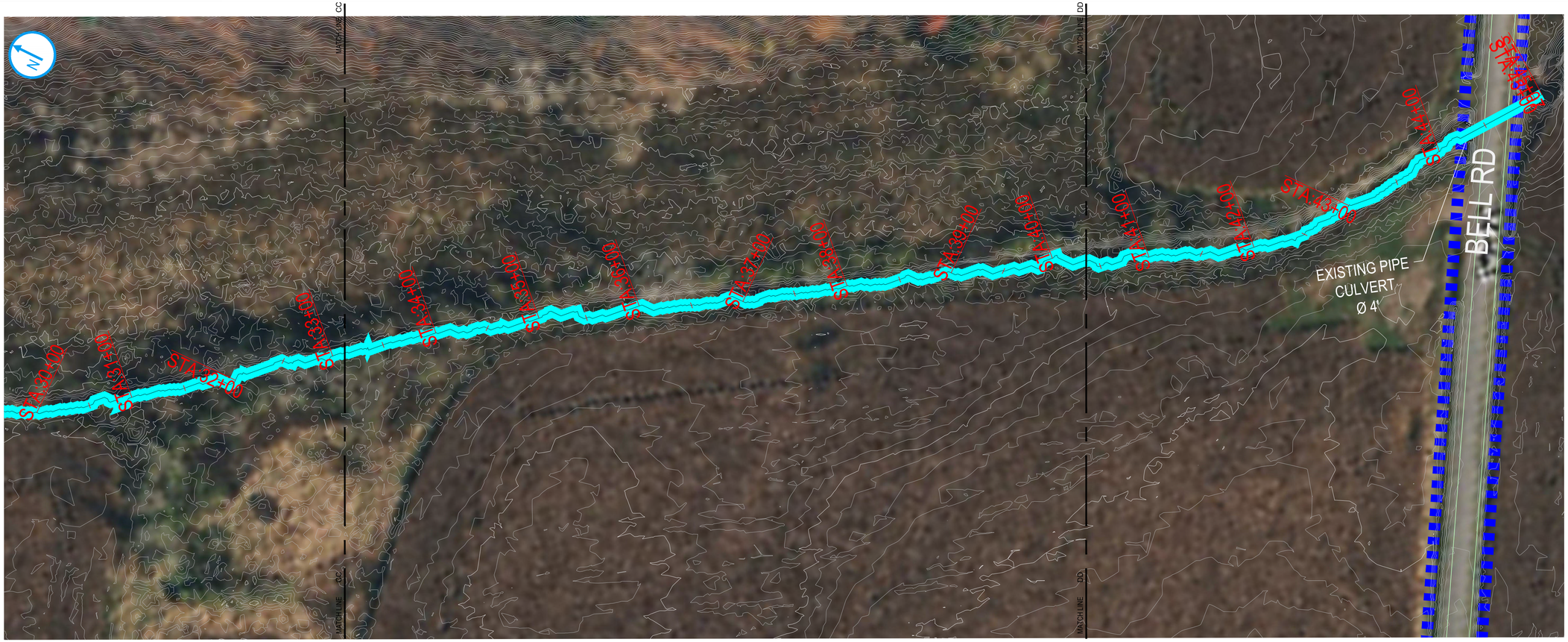
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **EXISTING PLAN & PROFILE NW - ES - 1** | | | | ###<br>### |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-107** | | | Scale AS NOTED | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NW.DWG

SAVED: 3/6/25 2:05 PM

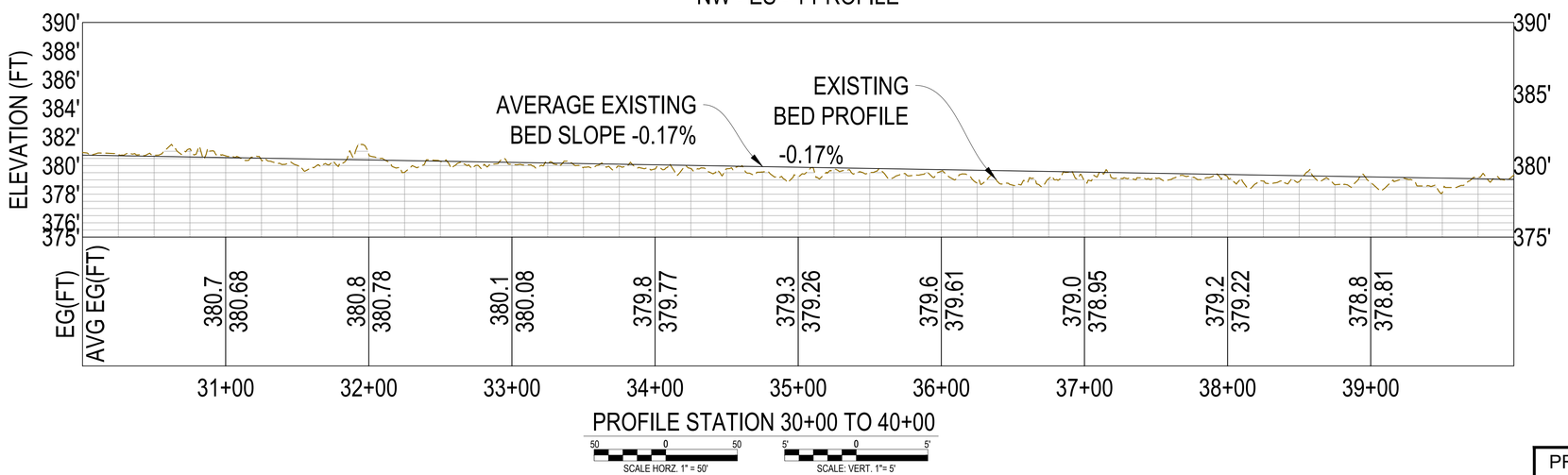



LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

## EXISTING PLAN & PROFILE NW - ES - 1

50 0 50
SCALE: 1"=50'

## NW - ES - 1 PROFILE




PROFILE STATION 30+00 TO 40+00

50 0 50
SCALE HORZ. 1" = 50'

5' 0 5'
SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 2/14/2025

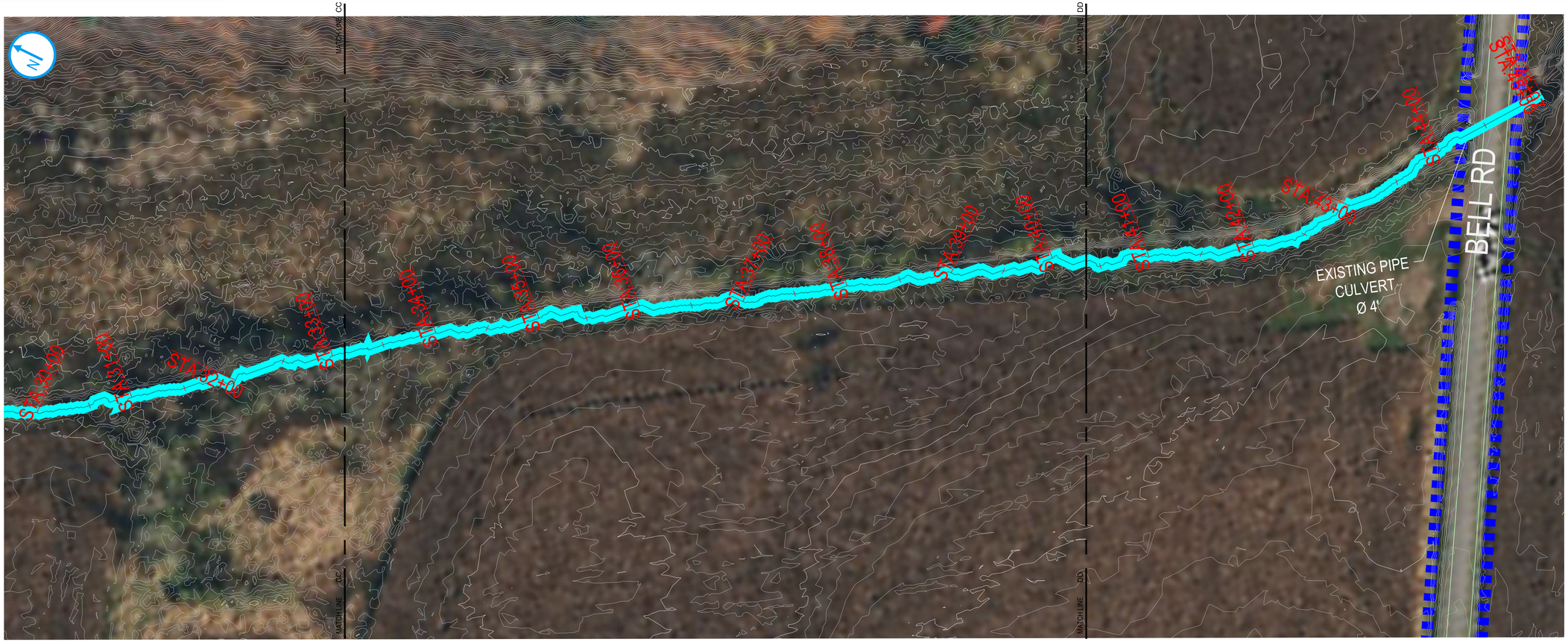
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **EXISTING PLAN & PROFILE NW - ES - 1** | | | | ###<br>### |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-108** | | | Scale AS NOTED | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NW.DWG

SAVED: 3/6/25 2:05 PM



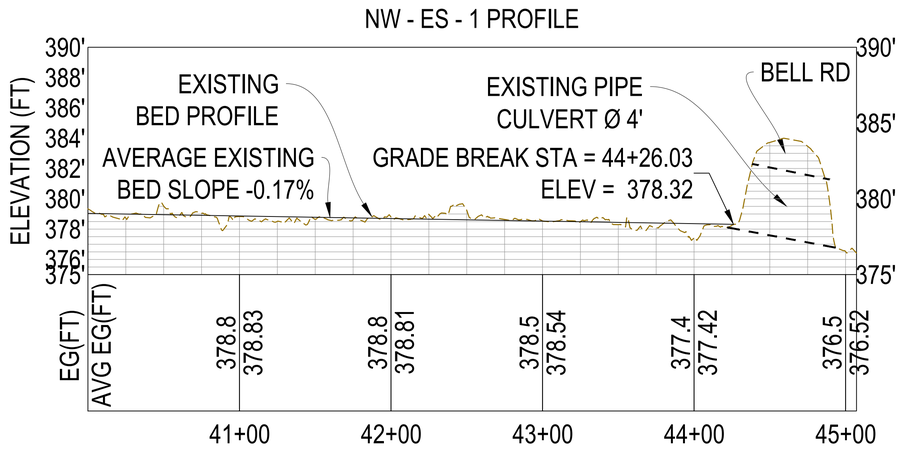

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- EXISTING STREAM ALIGNMENT

## EXISTING PLAN & PROFILE NW - ES - 1

50 0 50

SCALE: 1"=50'




## PROFILE STATION 40+00 TO 50+00

50 0 50 — SCALE HORZ. 1" = 50'

5' 0 5' — SCALE: VERT. 1"= 5'

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

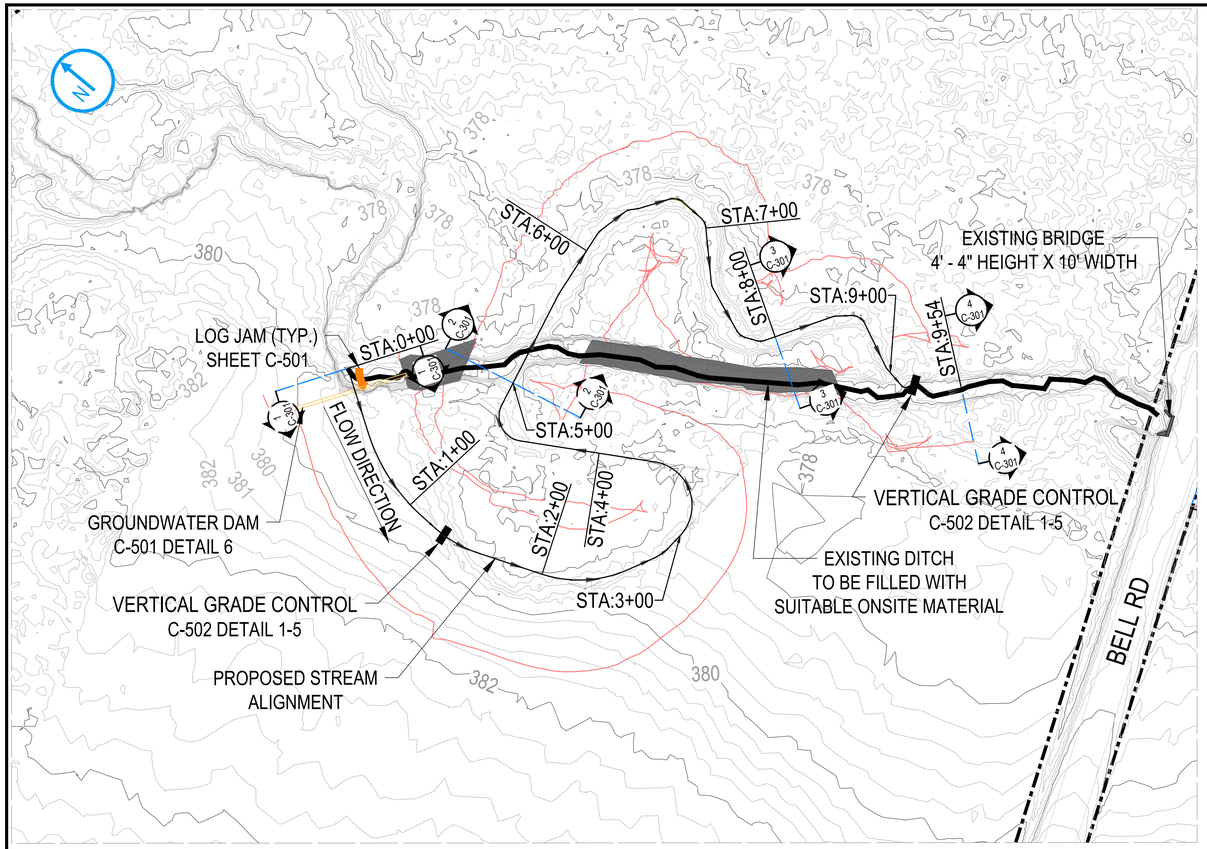
PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/14/2025

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **EXISTING PLAN & PROFILE NW - ES - 1** | | | | ###<br>### | |
| Location: NEW YORK | Designer / Professional Engineer Responsible: #### | | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number **C-109** | | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\EXISTING PLAN AND PROFILES NW.DWG

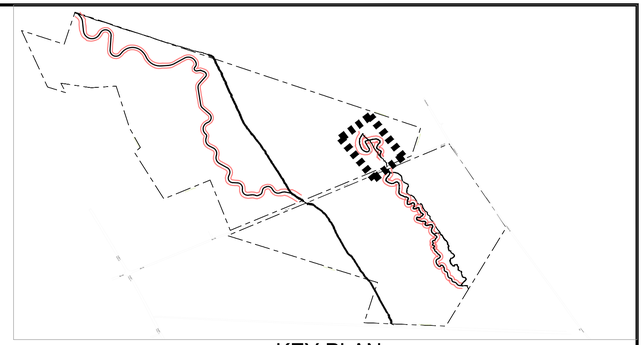
SAVED: 3/7/25 12:24 PM




PROPOSED PLAN & PROFILE NE-DS - 1

50 0 50

SCALE: 1"=50'



KEY PLAN

1000 0 1000

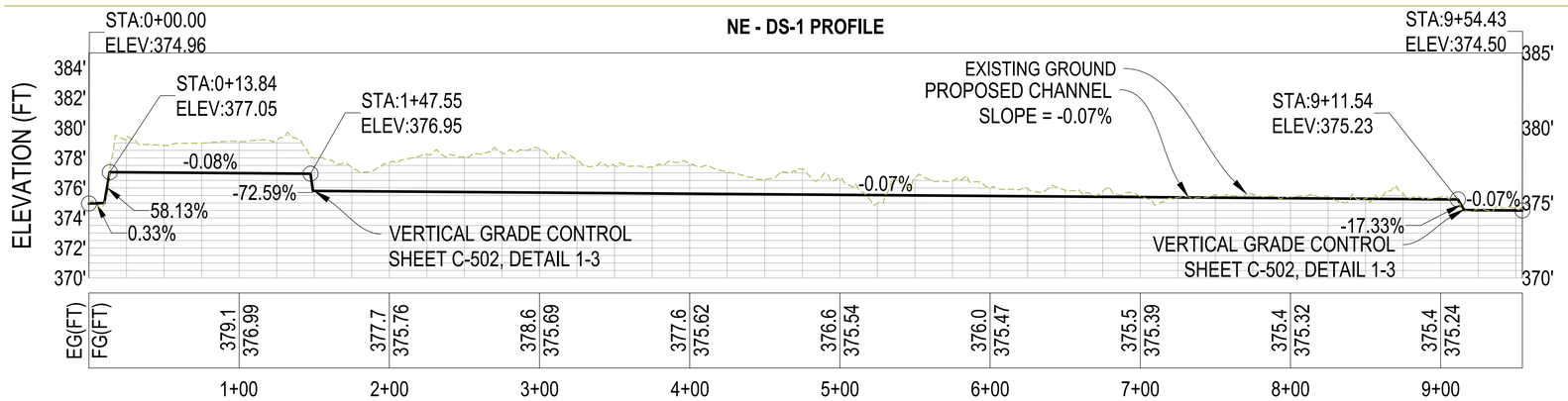
SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

NOTES:

1. THE PROPOSED STREAM AND FLOODPLAIN IS DESIGNED TO MAINTAIN THE VOLUME OF FLOW ENTERING AND EXITING THE SITE AS TO EXISTING CONDITION.
2. EXISTING DITCH IS TO BE FILLED AS SHOWN ON THE PLANS USING ONSITE SUITABLE MATERIAL.
3. NO WORK IS PROPOSED IN THE VICINITY OF THE BELL RD BRIDGE. THE BRIDGE WILL REMAIN UNCHANGED, AND THE STREAM HYDROLOGY AT BRIDGE LOCATION IS NOT EXPECTED TO BE AFFECTED BY THE PROPOSED WORK.




PROFILE STATION 0+00 TO 10+00

50 0 50 — SCALE HORZ. 1" = 50'

5' 0 5' — SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

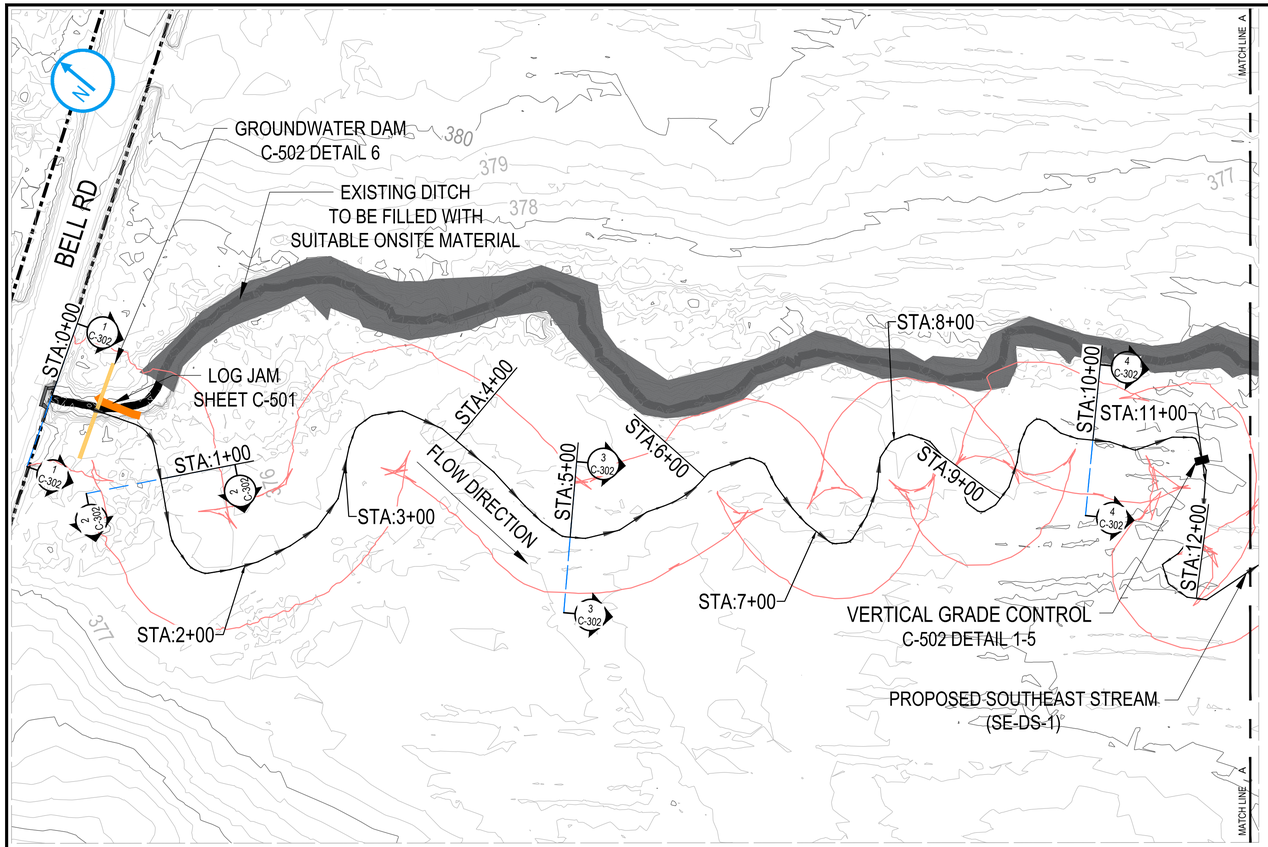
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **PROPOSED PLAN & PROFILE NE-DS - 1** | | | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-110** | | | Scale AS NOTED | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

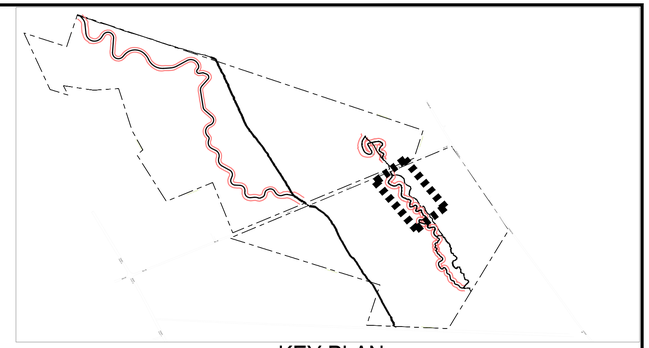
SAVED: 3/7/25 12:24 PM




PROPOSED PLAN VIEW - SE - DS - 1

50 0 50

SCALE: 1"=50'



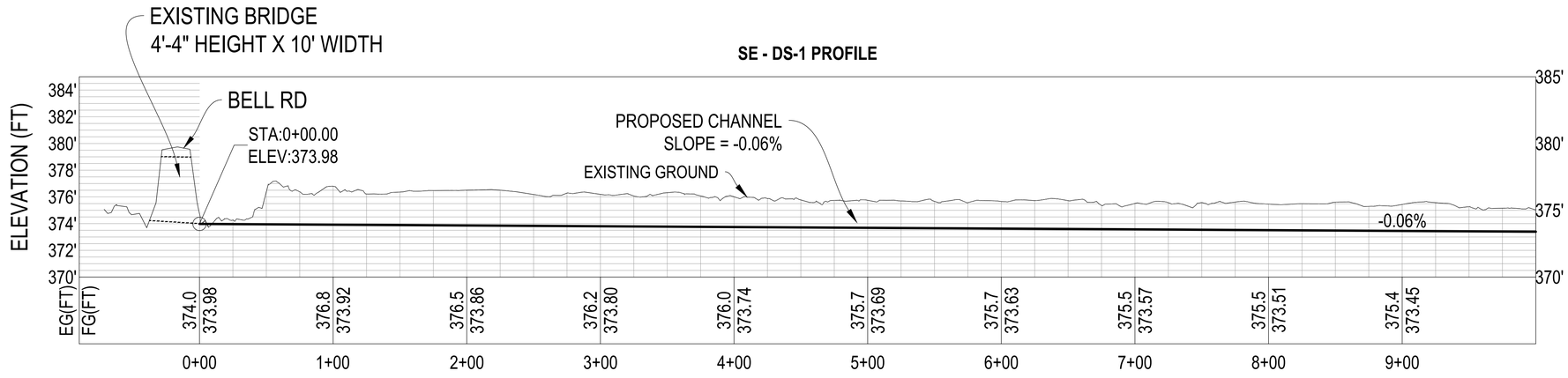
KEY PLAN

1000 0 1000

SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK




PROFILE STATION 0+00 TO 10+00

50 0 50 SCALE HORZ. 1" = 50'

5' 0 5' SCALE: VERT. 1"= 5'

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTNG UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

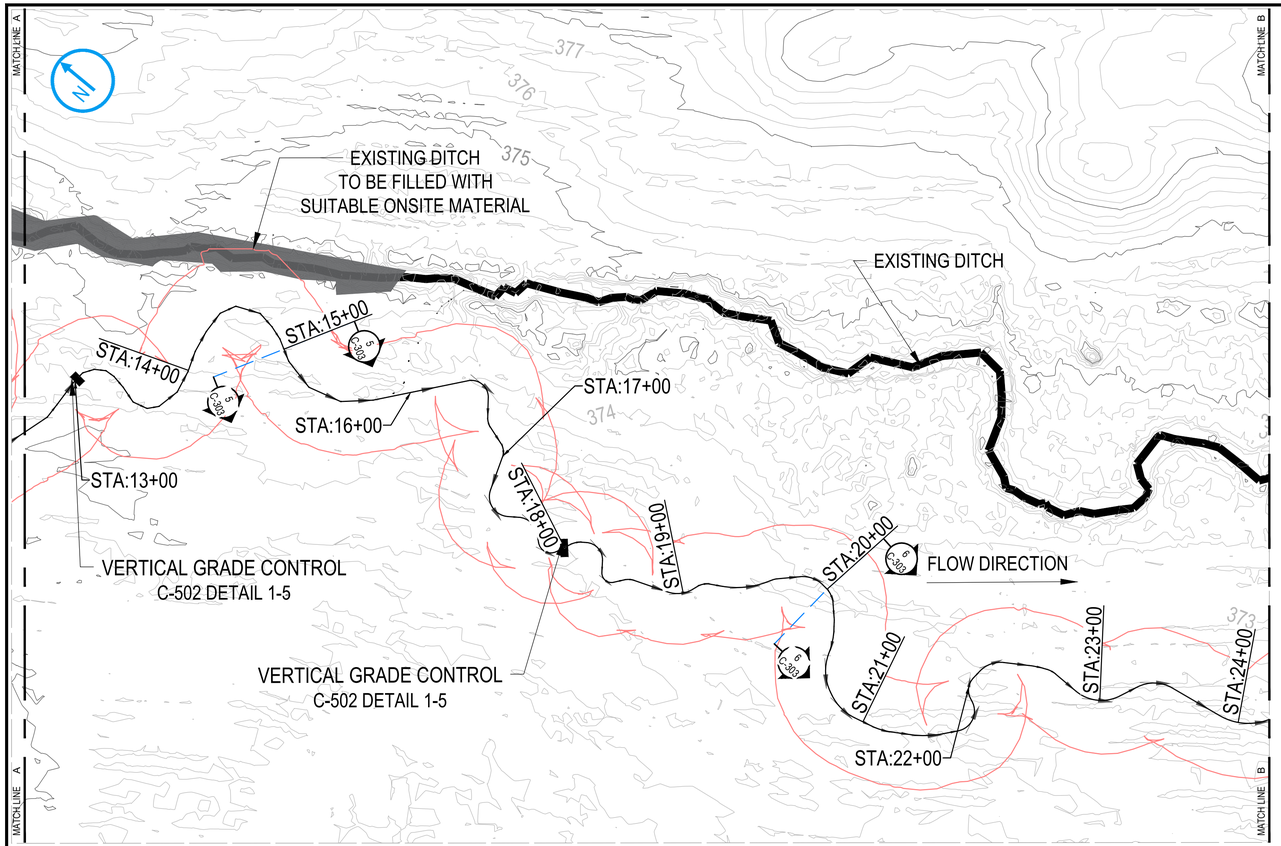
PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**, STREAM MITIGATION, Bell Rd, Pennellville, NY 13132, #### | Drawing Title: **PROPOSED PLAN & PROFILE SE - DS - 1** | | | ### ### ### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-111** | | | Scale AS NOTED | Sc x / Rev. x |

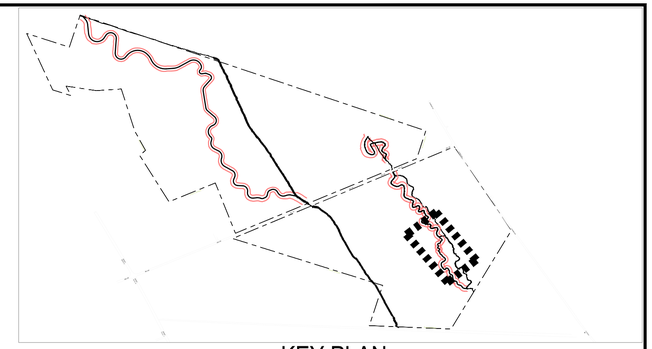
C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD RW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:04 PM




## PROPOSED PLAN VIEW - SE - DS - 1

50 0 50
SCALE: 1"=50'



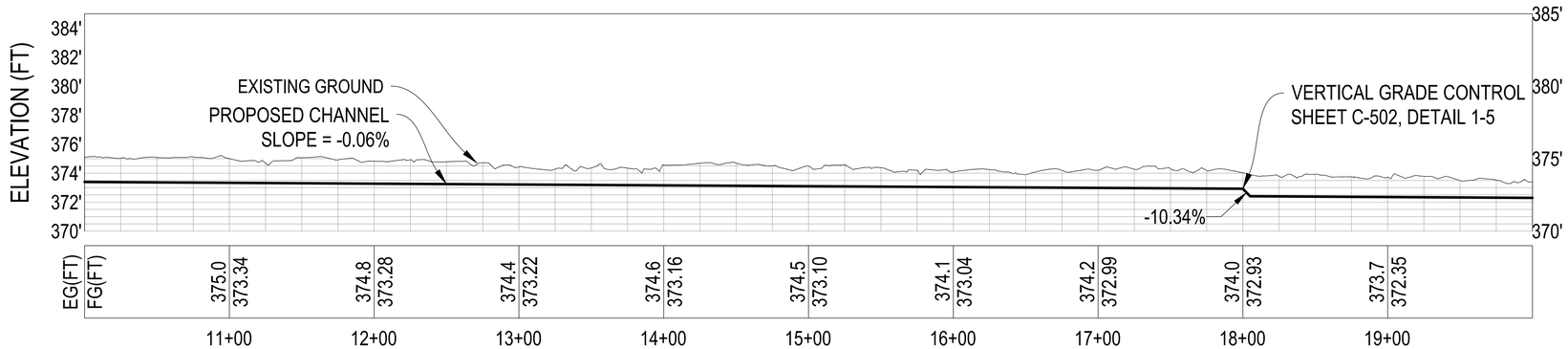
KEY PLAN

1000 0 1000
SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

## SE - DS-1 PROFILE




## PROFILE STATION 10+00 TO 20+00

50 0 50
SCALE HORZ. 1" = 50'

5' 0 5'
SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

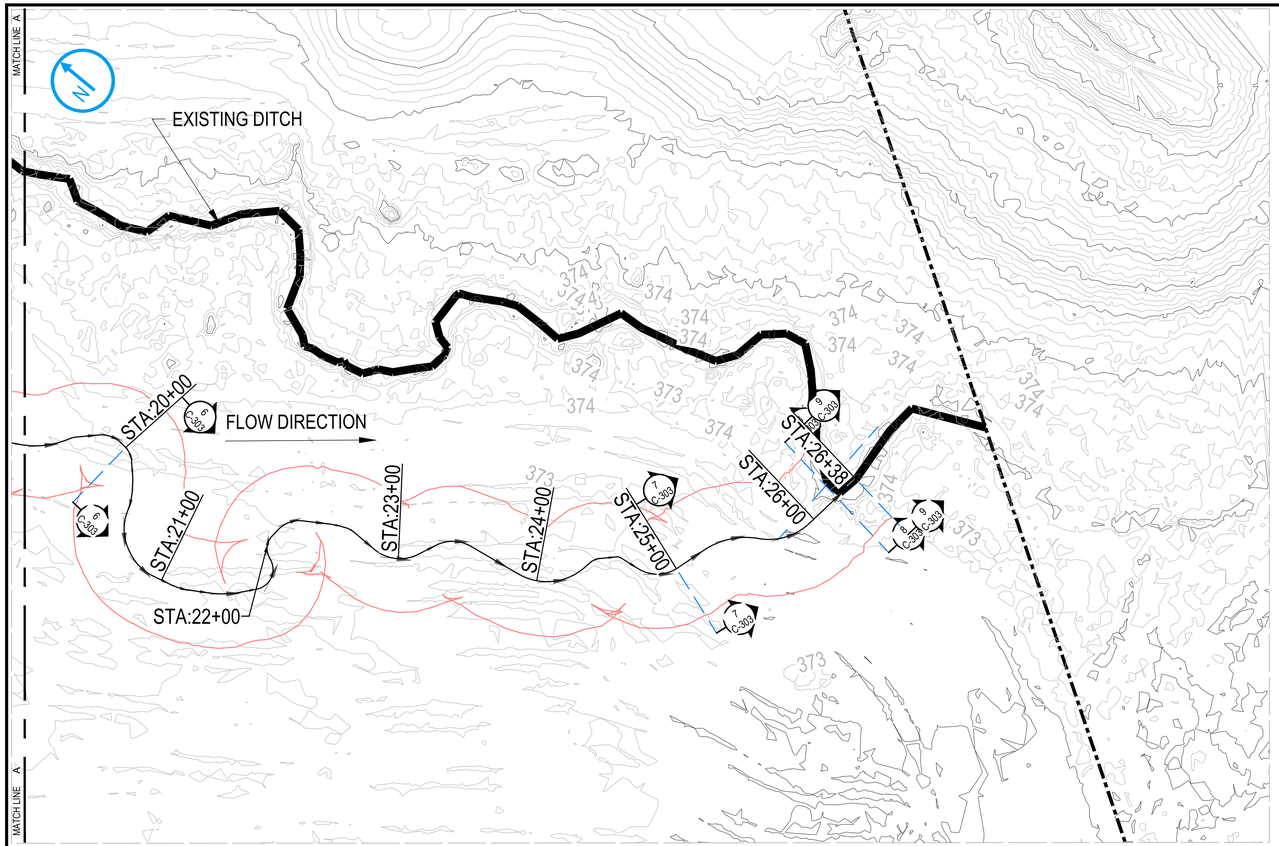
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED PLAN & PROFILE SE - DS - 1** | | ####<br>####<br>#### |
| Location: #### | Designer / Professional Engineer Responsible: #### | | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-112** | | Scale AS NOTED | Sc X | Rev. X |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

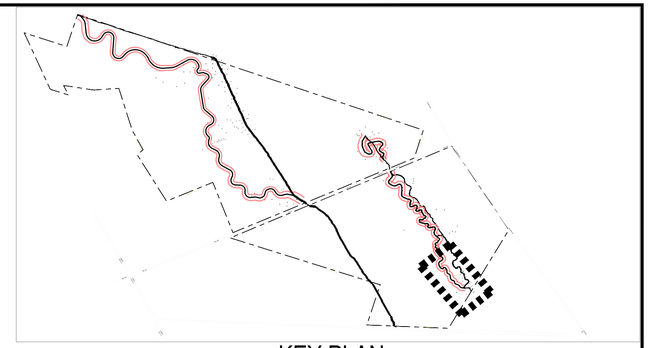
SAVED: 3/7/25 12:24 PM




PROPOSED PLAN VIEW - SE - DS - 1

50 0 50

SCALE: 1"=50'



KEY PLAN

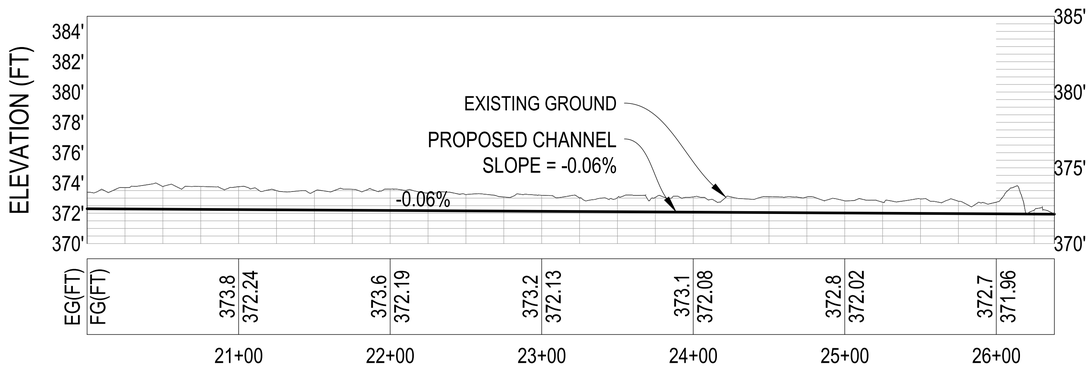
1000 0 1000

SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

**SE - DS-1 PROFILE**




PROFILE STATION 20+00 TO 26+50

50 0 50 SCALE HORZ. 1" = 50'

5' 0 5' SCALE: VERT. 1"= 5'

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

PRELIMINARY NOT FOR CONSTRUCTION

DATE: 2/24/2025

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

Project Details
**THE WETLAND TRUST**
STREAM MITIGATION
Bell Rd, Pennellville, NY 13132
####

Drawing Title
**PROPOSED PLAN & PROFILE SE - DS - 1**

Location: ####

Designer / Professional Engineer Responsible: ####

Project Number **1940111895**

Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date ####

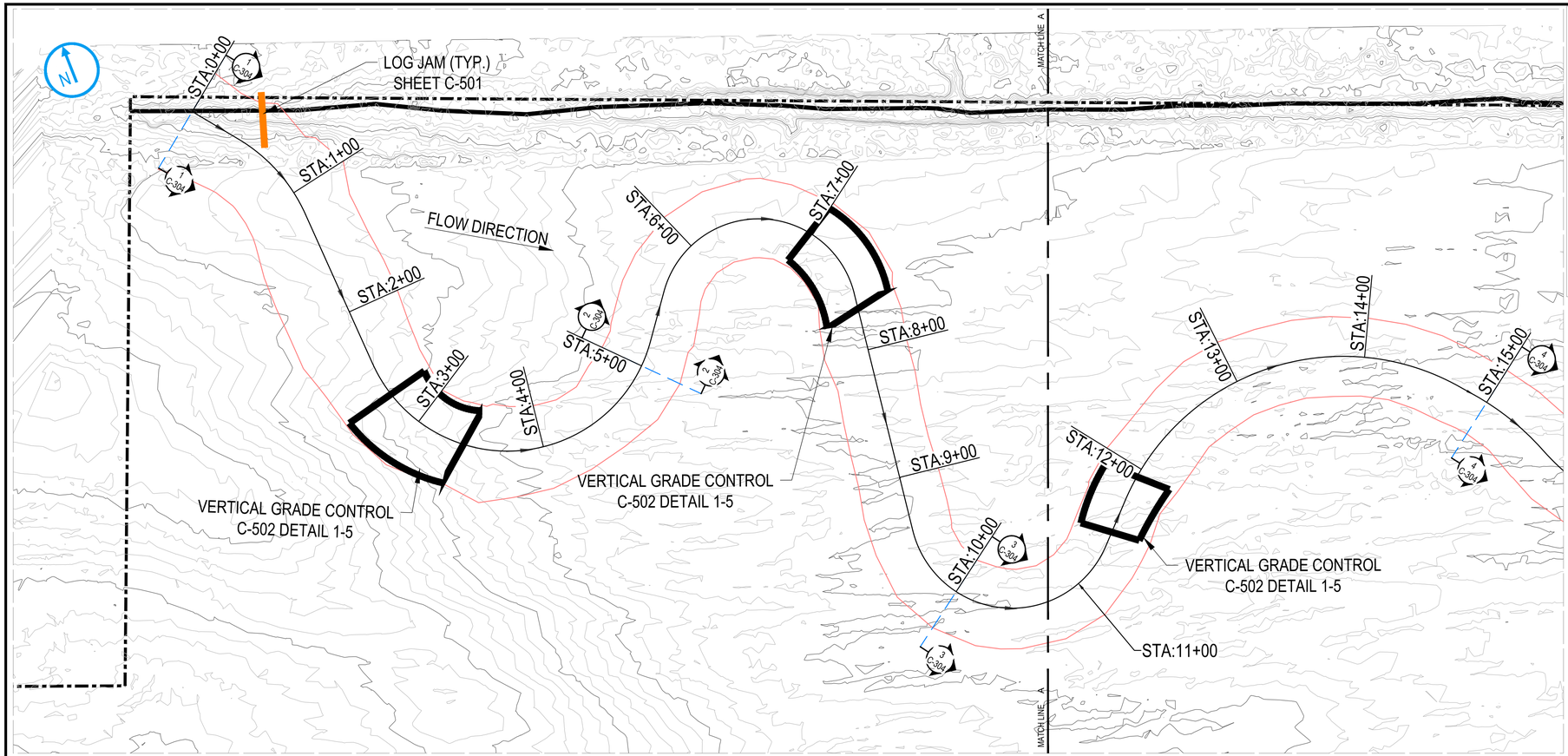
Project Status ####

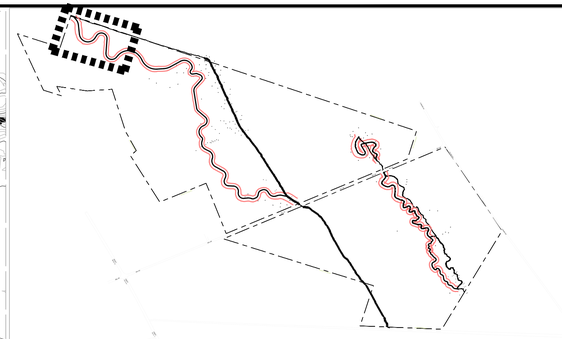
Drawing Number **C-113**

Scale AS NOTED | Sc X | Rev. X

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM



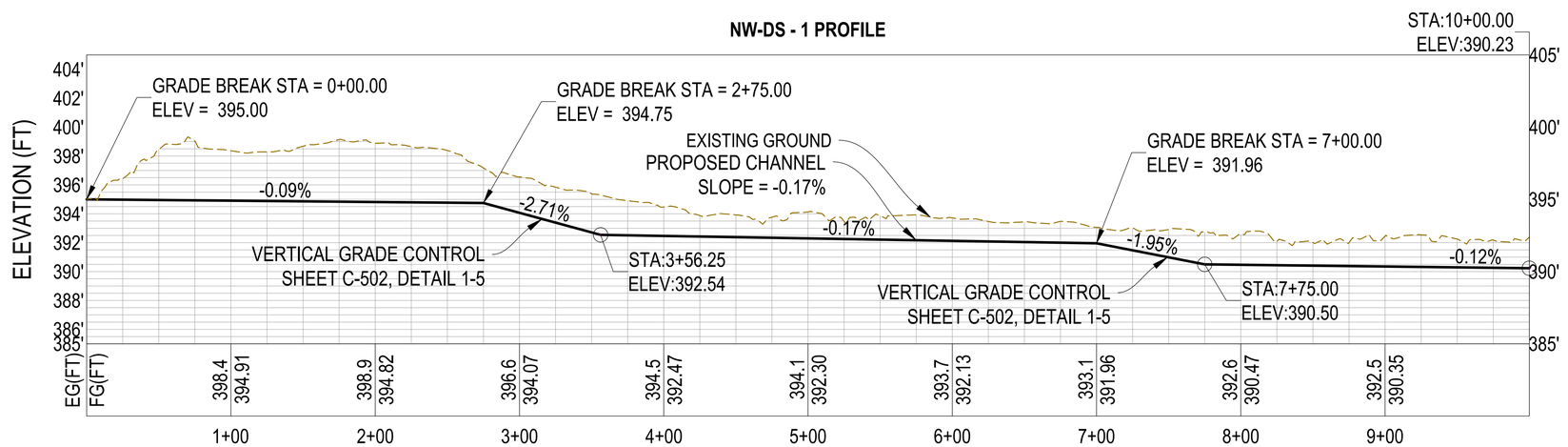
KEY PLAN

1000 0 1000
SCALE: 1"=1000'

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

## PROPOSED PLAN VIEW NW - DS - 1

50 0 50
SCALE: 1"=50'




## PROFILE STATION 1+00 TO 10+00

50 0 50
SCALE HORZ. 1" = 50'

5' 0 5'
SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

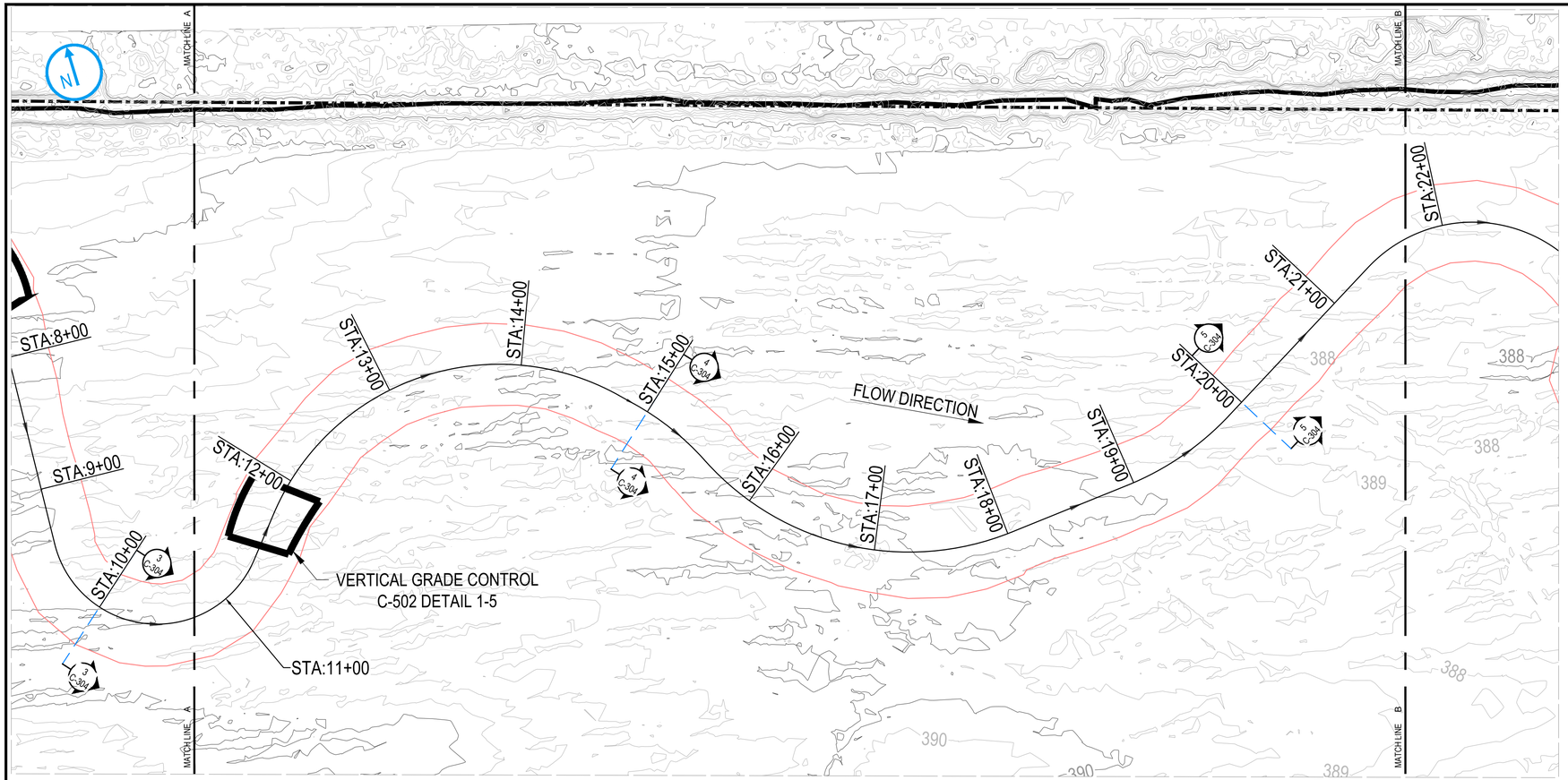
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

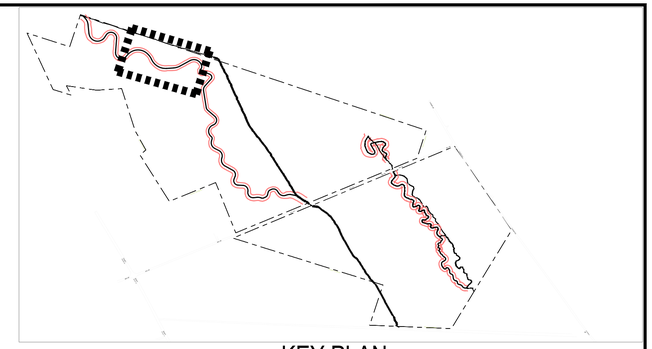
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **PROPOSED PLAN & PROFILE NW - DS - 1** | | | | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number **C-114** | | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM



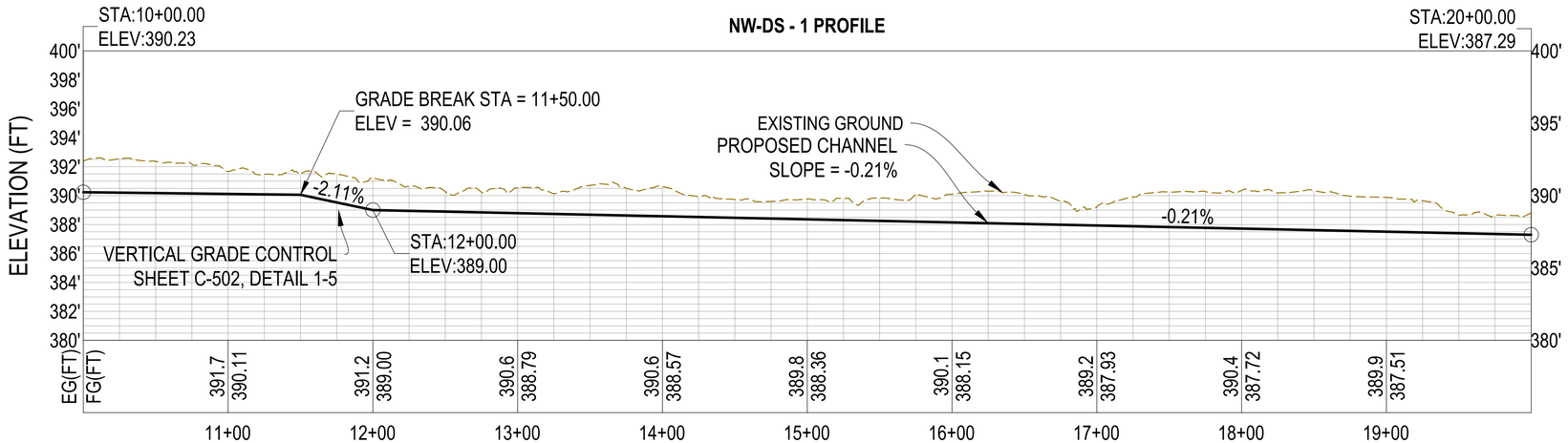
KEY PLAN

1000 0 1000
SCALE: 1"=1000'

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

## PROPOSED PLAN VIEW - NW-DS - 1

50 0 50
SCALE: 1"=50'




## PROFILE STATION 10+00 TO 20+00

50 0 50
SCALE HORZ. 1" = 50'

5' 0 5'
SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

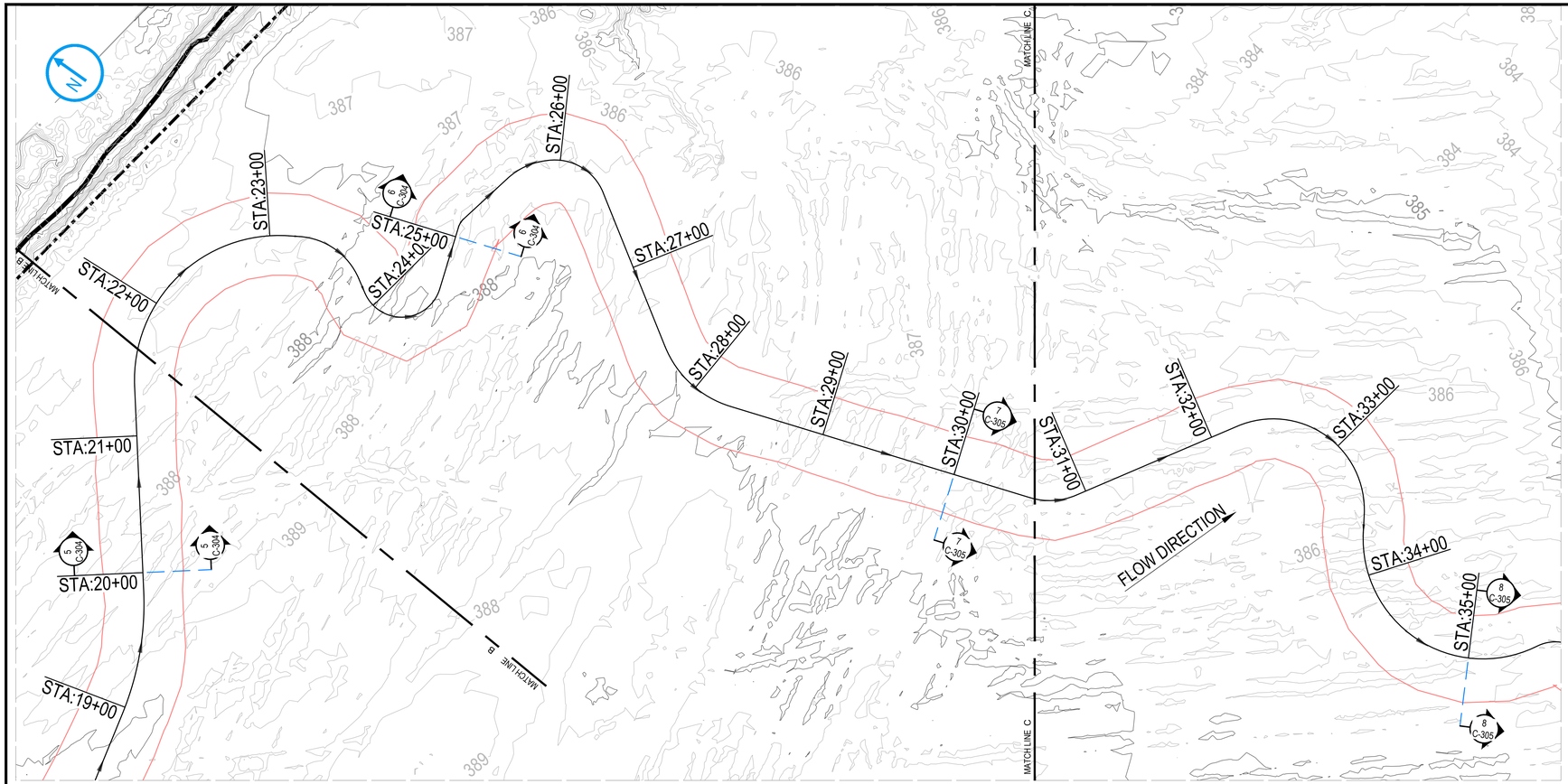
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

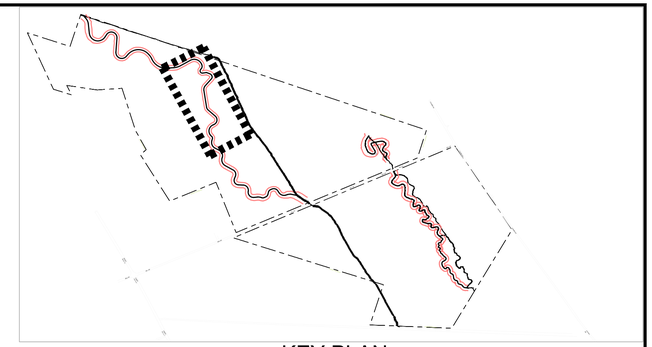
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **PROPOSED PLAN & PROFILE NW-DS - 1** | | | | ###<br>###<br>### |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-115** | | | Scale AS NOTED | Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICROND\DGFINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:04 PM



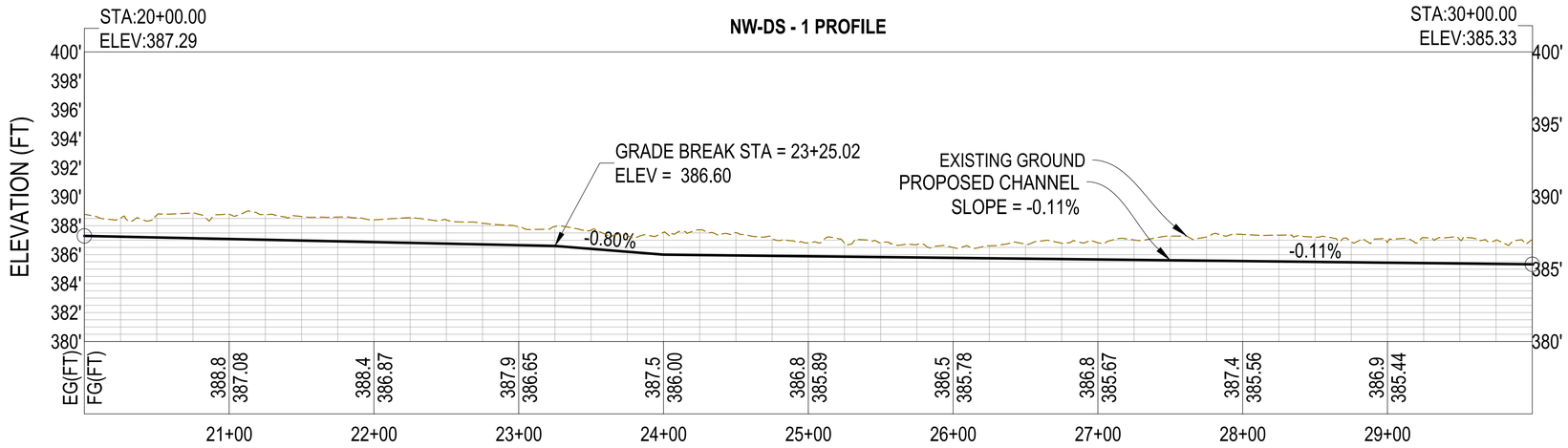
KEY PLAN

1000 0 1000
SCALE: 1"=1000'

LEGEND:
- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

## PROPOSED PLAN VIEW - NW-DS - 1

50 0 50
SCALE: 1"=50'




## PROFILE STATION 20+00 TO 30+00

50 0 50
SCALE HORZ. 1" = 50'

5' 0 5'
SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

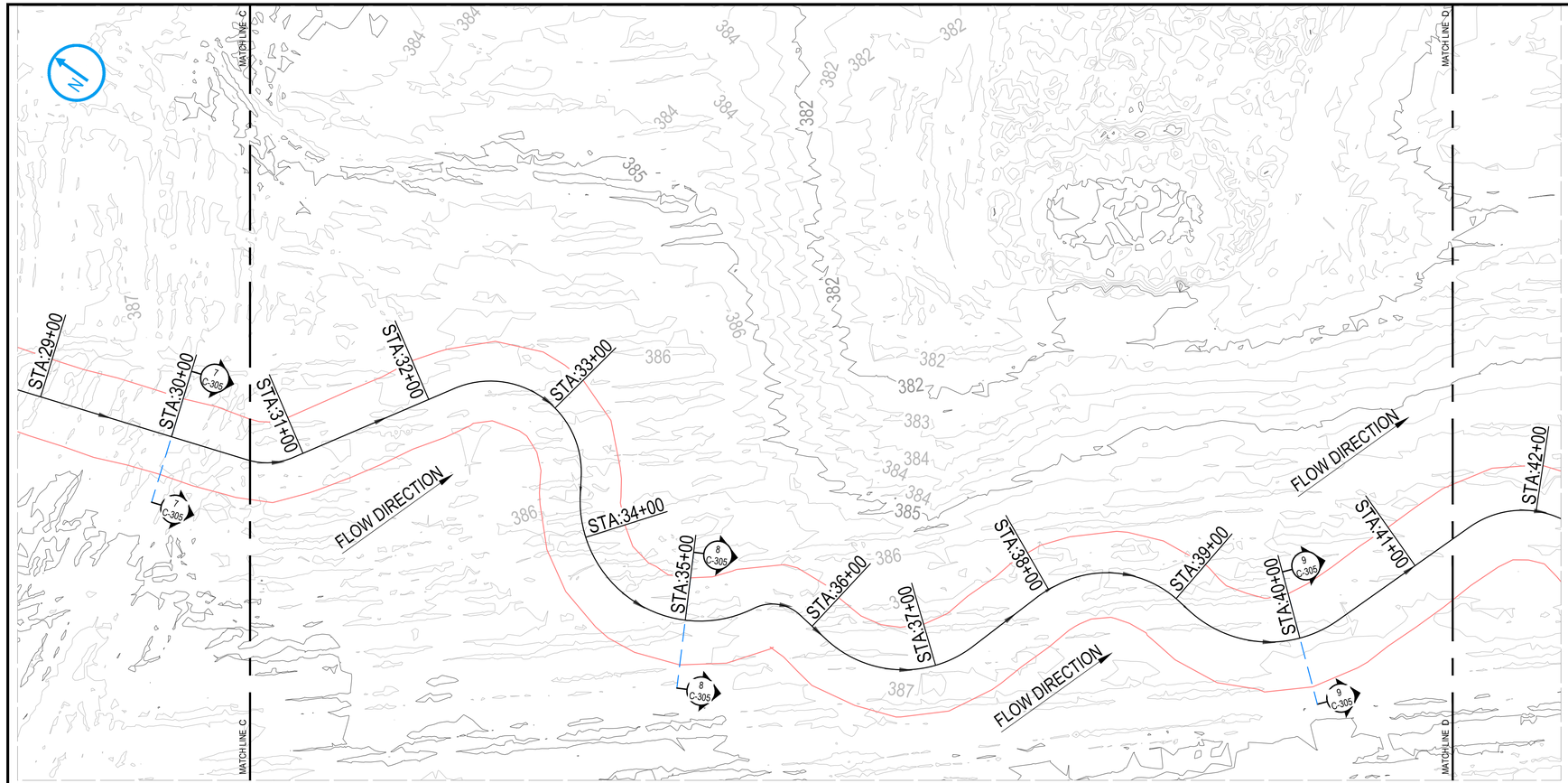
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | |
|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **PROPOSED PLAN & PROFILE NW-DS - 1** | | | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-116** | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

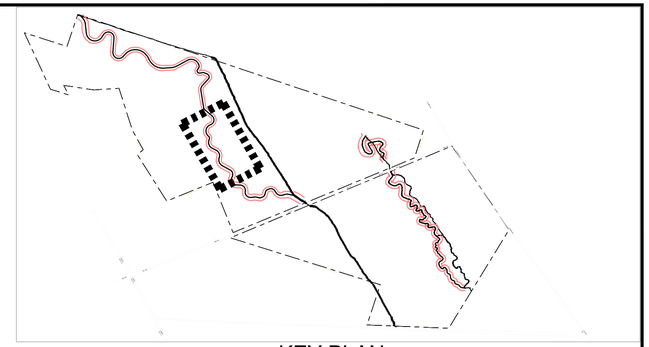
SAVED: 3/7/25 12:24 PM




PROPOSED PLAN VIEW - NW-DS - 1

50 0 50

SCALE: 1"=50'



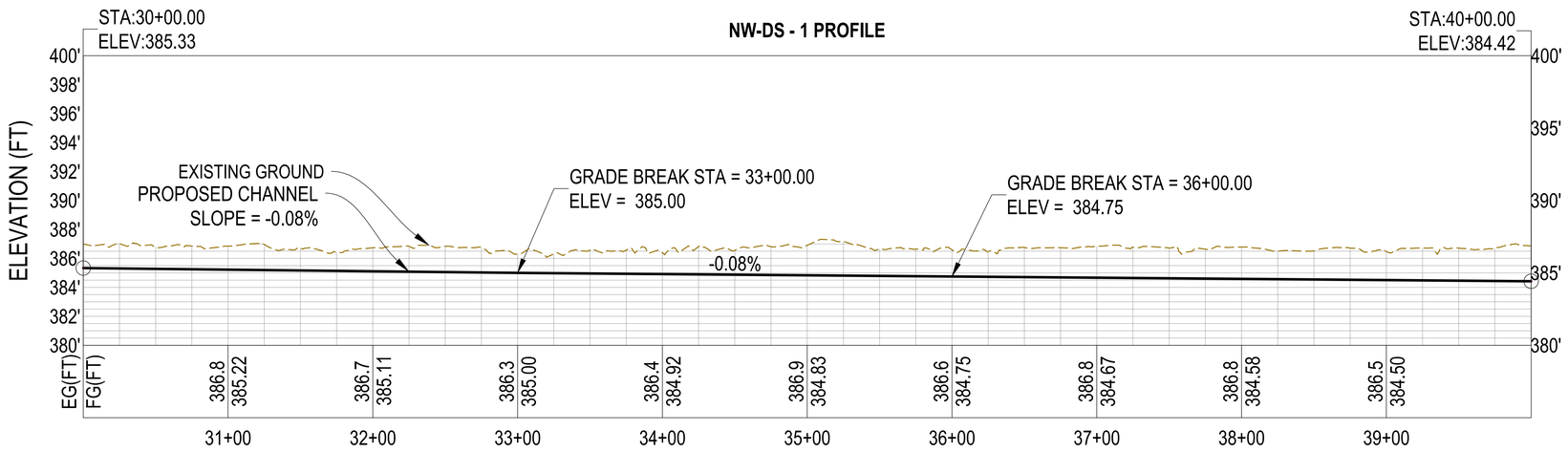
KEY PLAN

1000 0 1000

SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK




PROFILE STATION 30+00 TO 40+00

50 0 50 — SCALE HORZ. 1" = 50'

5' 0 5' — SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

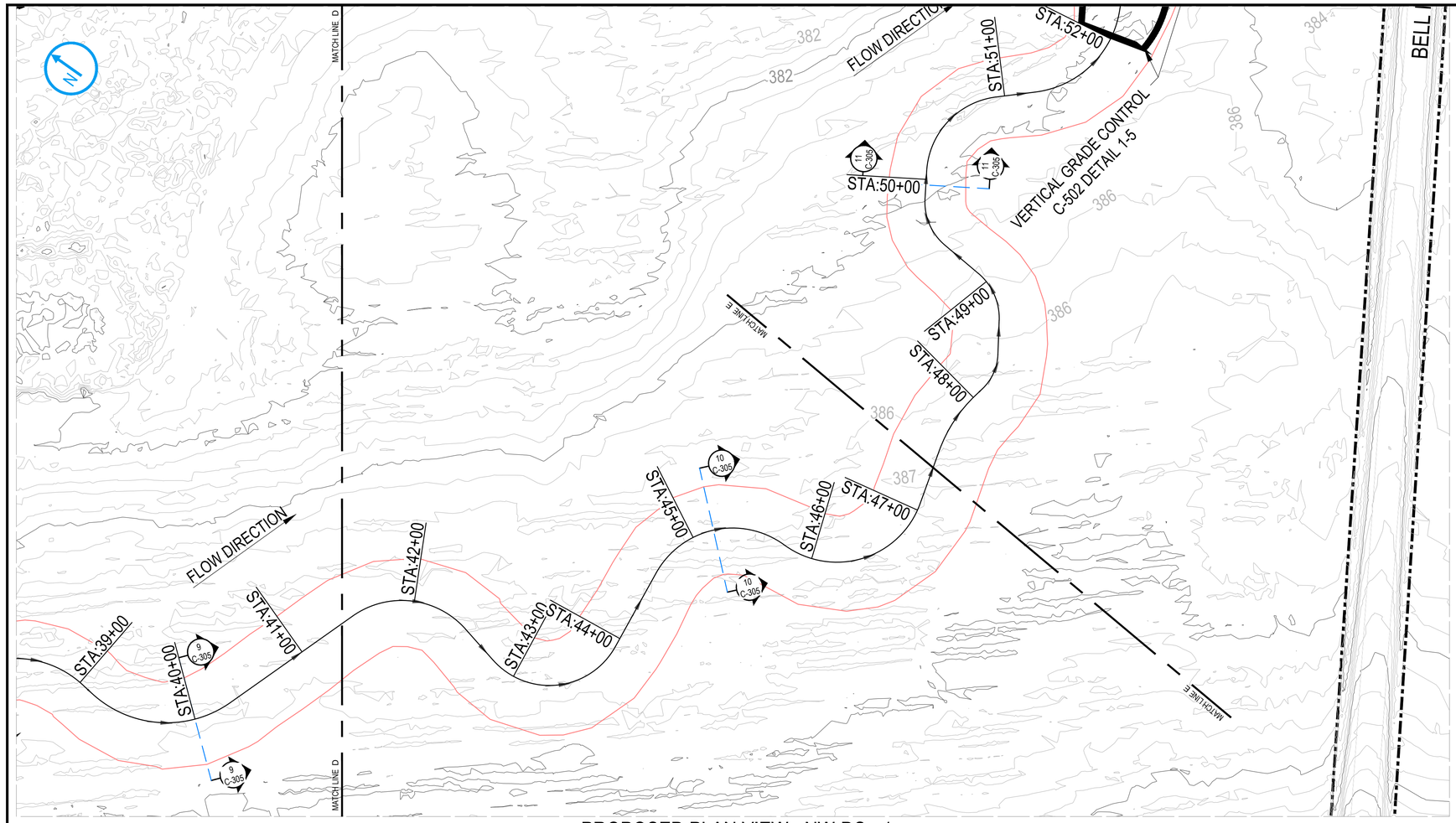
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED PLAN & PROFILE NW-DS - 1** | | ###<br>### |
| Location: #### | Designer / Professional Engineer Responsible: #### | | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-117** | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRONIX\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

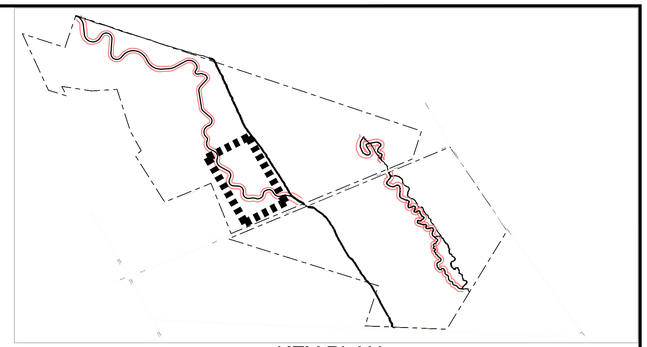
SAVED: 3/7/25 12:24 PM




## PROPOSED PLAN VIEW - NW-DS - 1

50 0 50

SCALE: 1"=50'



## KEY PLAN

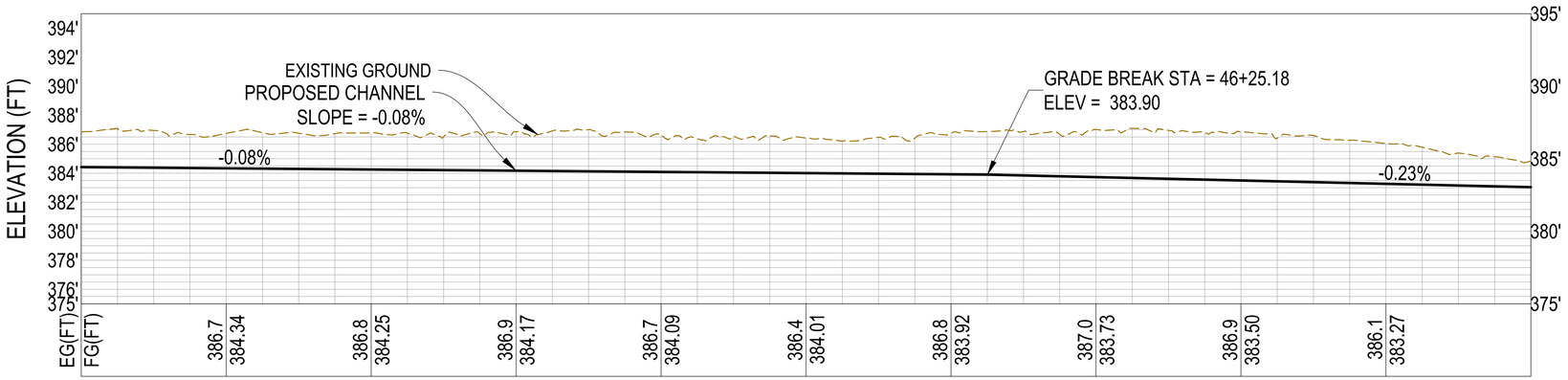
1000 0 1000

SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK

## NW-DS - 1 PROFILE




## PROFILE STATION 40+00 TO 50+00

50 0 50 — SCALE HORZ. 1" = 50'

5' 0 5' — SCALE: VERT. 1"= 5'

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

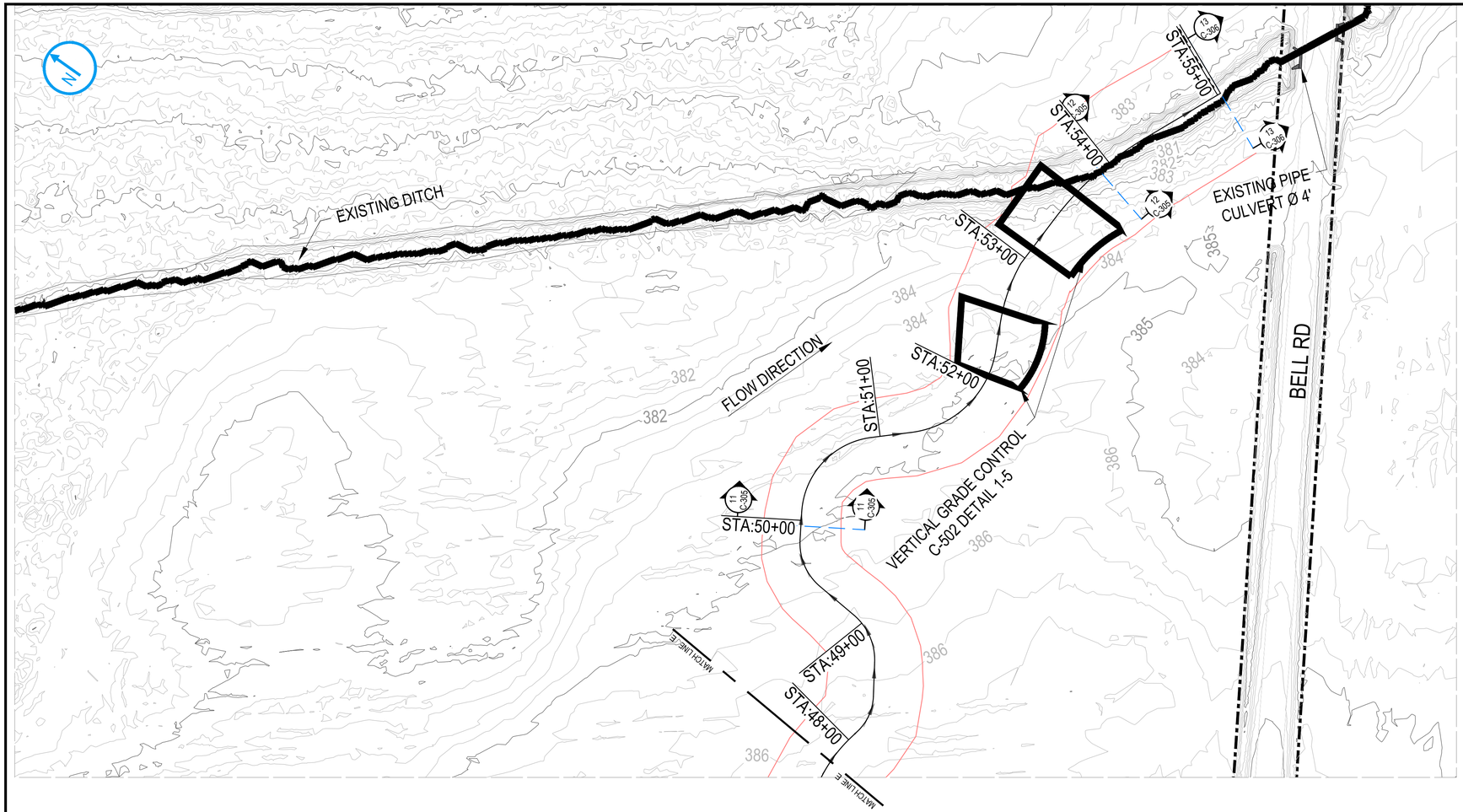
| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **PROPOSED PLAN & PROFILE NW-DS - 1** | | | | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number **C-118** | | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

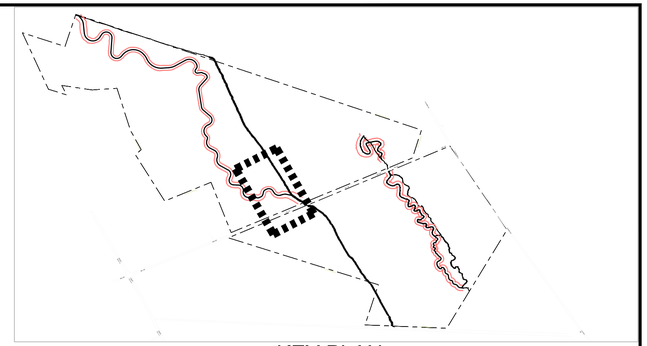
SAVED: 3/7/25 12:04 PM




PROPOSED PLAN VIEW - NW-DS - 1

50 0 50

SCALE: 1"=50'



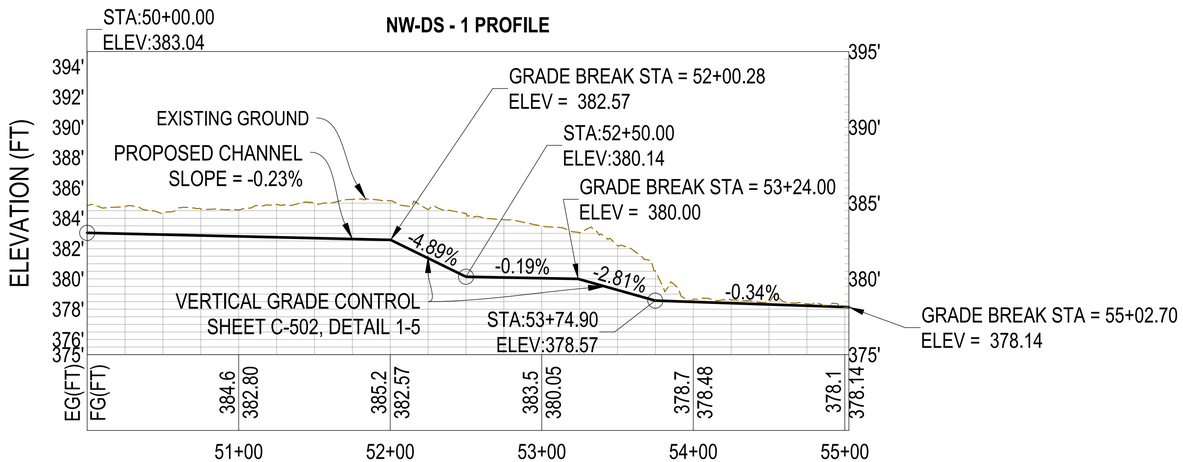
KEY PLAN

1000 0 1000

SCALE: 1"=1000'

LEGEND:

- PROPERTY BOUNDARY (APPROXIMATE)
- MAJOR CONTOUR LINES
- MINOR CONTOUR LINES
- EXISTING STREAM
- PROPOSED STREAM
- FILL AREA HATCH
- GROUNDWATER DAM
- LOG JAM
- VERTICAL GRADE CONTROL
- LIMITS OF STREAM WORK




PROFILE STATION 50+00 TO 56+00

50 0 50 SCALE HORZ. 1" = 50'

5' 0 5' SCALE: VERT. 1"= 5'

PRELIMINARY NOT FOR CONSTRUCTION

DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

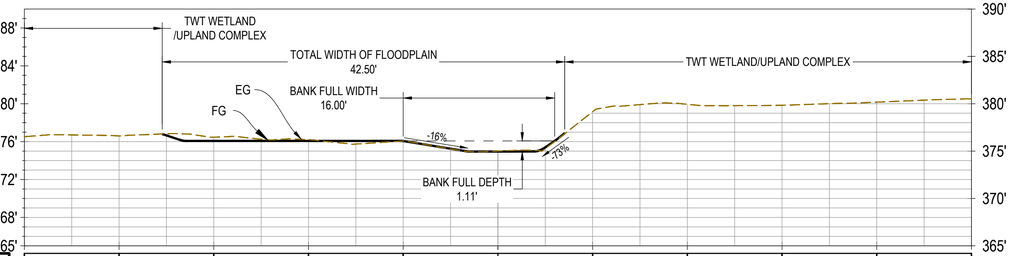
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details: THE WETLAND TRUST; STREAM MITIGATION; Bell Rd, Pennellville, NY 13132; #### | Drawing Title: PROPOSED PLAN & PROFILE NW-DS - 1 | | | | ### ### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | ### | |
| Project Number 1940111895 | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number C-119 | | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM

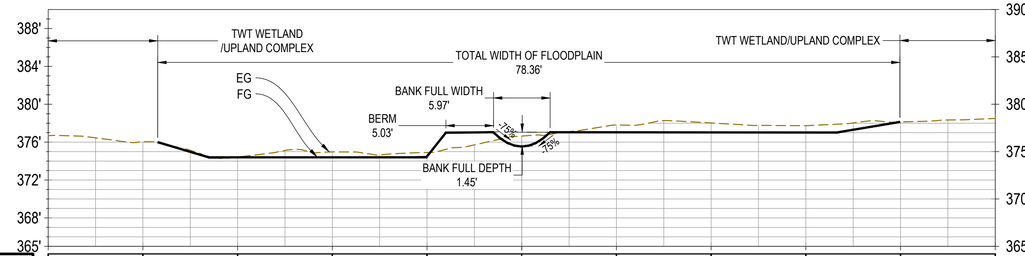
## SECTION 1 - 1
## ST 0+00.00




| EXISTING ELEVATIONS (FT) | 376.53 | 376.60 | 376.47 | 376.21 | 376.07 | 375.00 | 379.16 | 379.94 | 379.83 | 380.17 | 380.52 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

1-1 SECTION NE - DS - 1
1" = 8'

## SECTION 2 - 2
## ST 5+00.00




| EXISTING ELEVATIONS (FT) | 376.66 | 376.04 | 374.43 | 374.97 | 374.91 | 376.64 | 377.81 | 378.03 | 377.74 | 378.13 | 378.50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

2-2 SECTION NE - DS - 1
1" = #'

## SECTION 3 - 3
## ST 8+00.00




| EXISTING ELEVATIONS (FT) | 378.24 | 377.75 | 377.20 | 376.84 | 376.55 | 375.42 | 377.21 | 377.38 | 374.54 | 374.97 | 376.78 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

3-3 SECTION NE - DS - 1
1" = #'

## SECTION 4 - 4
## ST 9+54.43



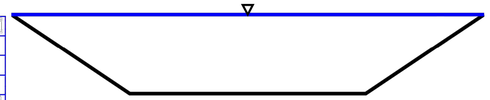

| EXISTING ELEVATIONS (FT) | 376.88 | 376.95 | 376.78 | 377.00 | 376.89 | 374.54 | 376.84 | 377.00 | 377.00 | 375.64 | 376.52 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

4-4 SECTION NE - DS - 1
1" = #'

Table C-301 - 1
Manning Formula Uniform Trapezoidal Channel Flow at Given Slope and Depth
Flow calculation for north of Bell Rd.

| Inputs | | |
|---|---|---|
| Bottom width, b | 3 | ft |
| Side slope 1 (horiz./vert.) | 1.5 | |
| Side slope 2 (horiz./vert.) | 1.5 | |
| Manning roughness, n ? ○Strickler ○B/B (See notes) | 0.03 | |
| Channel slope, S | 0.08 | % rise/run |
| Flow depth, y | 1 | ft |
| Bend Angle ? (for riprap sizing) | 0 | |
| Rock specific gravity (2.65) | 2.65 | |
| Design rock size, D50 ○Isbash ○Maynord ○Searcy * 1.25 (See notes) | 0.1 | ft |

| Results | | |
|---|---|---|
| Flow area, a | 4.5001 | ft^2 |
| Wetted perimeter, $P_w$ | 6.6056 | ft |
| Hydraulic radius, $R_h$ | 0.6812 | ft |
| Velocity, v | 1.0846 | ft/sec |
| **Flow, Q** | 4.8808 | cfs |
| Velocity head, $h_v$ | 0.0183 | ft |
| Top width, T | 6.0000 | ft |
| Froude number, F | 0.22 | |
| Average shear stress (tractive force), tau | 0.0340 | psf |
| n for design rock size per Strickler | 0.0265 | |
| n for design rock size per Blodgett | 0.0365 | |
| n for design rock size per Bathurst | 0.0153 | |
| Blodgett vs. Bathurst | Blodgett | |
| Required bottom angular rock size, D50 (Isbash & MC) ? | 0.0136 | ft |
| Required side slope 1 angular rock size, D50 (Isbash & MC) ? | 0.0164 | ft |
| Required side slope 2 angular rock size, D50 (Isbash & MC) ? | 0.0164 | ft |
| Required angular rock size, D50 (Maynord, Ruff, and Abt 1989) | 0.0076 | ft |
| Required angular rock size, D50 (Searcy 1967) | 0.0079 | ft |



Notes:

**Automated rock size and roughness design iteration**
Choose a roughness radio button (BB recommended) and a design rock size radio button (Isbash recommended). Fine-tune depth and rock size safety factor to get your desired flow with an even rock size. Every time you change any input value, the following iteration cycle happens: 1. Roughness is calculated from design rock size. 2. The requested roughness calculation is copied to input roughness. 3. Channel flow and required rock size are calculated. 4. Design rock size is adjusted. 5. Repeat until error in the design rock size is very small.

**Basic calculator (no iteration)**
Enter your desired roughness value. Ignore the design rock size input area.

NOTES:
1. BASEFLOW WAS MEASURED 0.46 CFS AS SHOWN ON SHEET C-101.
2. THE BANKFULL STATISTICS REPORT FROM STREAMSTATS (AREA-AVERAGED) SHOWS BANKFULL STREAM FLOW = 7.61 CFS FOR THE EXISTING BELL RD. NORTH STREAM.
3. THE PROPOSED STREAM SECTION CAPACITY IS CALCULATED AS 4.9 CFS AND PRESENTED IN (TABLE C-301-1) IN THIS SHEET.
   - 3.1. THE PROPOSED STREAM SECTION IS CLOSE TO A TRAPEZOIDAL SECTION AND IS DESIGNED TO ACCOMMODATE BASEFLOW. THE ACTUAL CONSTRUCTION WOULD BE ROUNDED CORNER TRAPEZOIDAL SHAPE.
   - 3.2. THE SHAPE OF THE STREAM WILL FOLLOW THE EXISTING STREAM CROSS SECTION FROM STATION 5+00 TO 9+00.
   - 3.3. GROUNDWATER DAMS ARE INSTALLED TO RAISE THE BASEFLOW HEAD AT THE START OF THE PROPOSED CHANNEL.
   - 3.4. LONGITUDINAL SLOPE IS MAINTAINED AT < 0.1 % TO MATCH UPSTREAM REFERENCE REACHES.
   - 3.5. VERTICAL GRADE CONTROL STRUCTURES ARE PROPOSED TO CONTROL THE VERTICAL GRADES WHERE APPLICABLE AS SHOWN ON THE PLANS AND PROFILES.
   - 3.6. LOG JAM SYSTEMS ARE PROPOSED TO AVOID POSSIBLE EROSION WHERE THE PROPOSED STREAM INTERSECTS THE EXISTING DITCH.

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

PRELIMINARY NOT FOR CONSTRUCTION
DATE: 2/24/2025

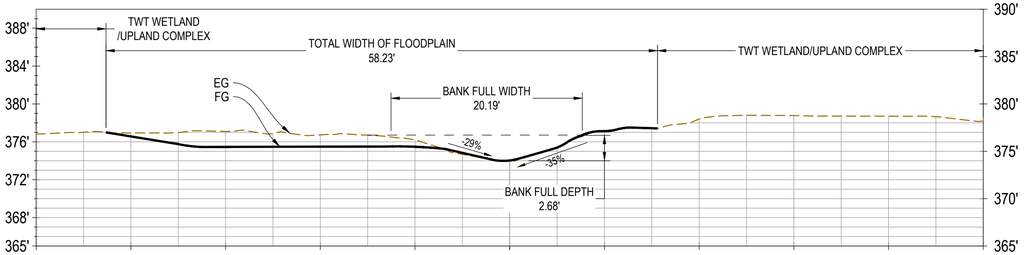
NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| Project Details | Drawing Title | |
|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED SECTION VIEWS NE - DS - 1** | ###<br>### |
| Location: #### | Designer / Professional Engineer Responsible: #### | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi / Drawn by S.M. Ahmadi / Checked by K. Buelow / Approved by P. Domaszczynski / Date #### | |
| Project Status #### | Drawing Number **C-301** | Scale AS NOTED / Sc x / Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM

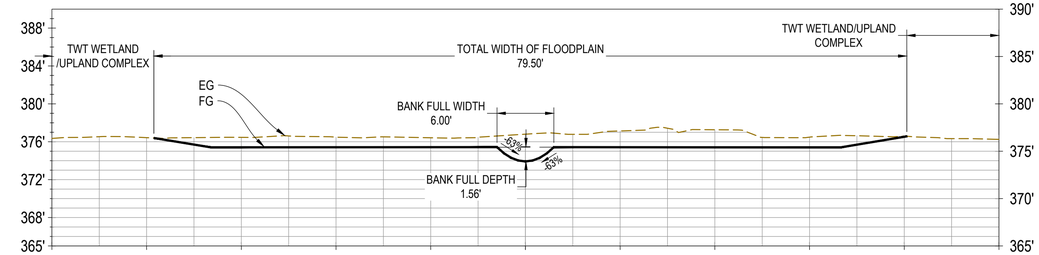
## SECTION 1 - 1
## ST 0+00.00




| EXISTING ELEVATIONS (FT) | 376.82 | 376.94 | 377.10 | 376.73 | 376.20 | 373.98 | 377.11 | 378.41 | 378.77 | 378.71 | 378.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

1-1 SECTION SE - DS - 1
1" = 8'

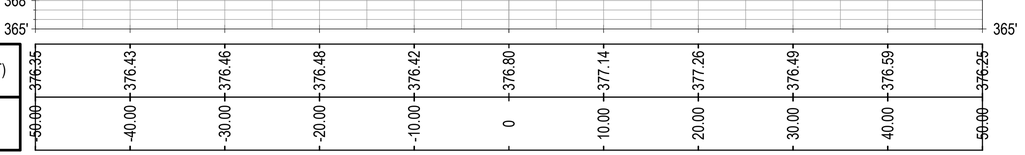
## SECTION 2 - 2
## ST 1+00.00




| EXISTING ELEVATIONS (FT) | 376.35 | 376.43 | 376.46 | 376.48 | 376.42 | 376.80 | 377.14 | 377.26 | 376.49 | 376.59 | 376.25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

2-2 SECTION SE - DS - 1
1" = 8'

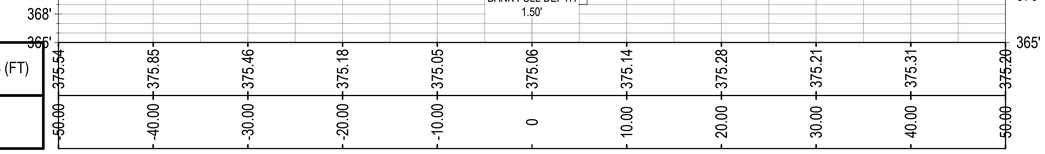
## SECTION 2 - 2
## ST 1+00.00




| EXISTING ELEVATIONS (FT) | 376.35 | 376.43 | 376.46 | 376.48 | 376.42 | 376.80 | 377.14 | 377.26 | 376.49 | 376.59 | 376.25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

3-3 SECTION SE - DS - 1
1" = 8'

## SECTION 4 - 4
## ST 10+00.00



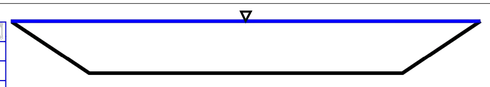

| EXISTING ELEVATIONS (FT) | 375.54 | 375.85 | 375.46 | 375.18 | 375.05 | 375.06 | 375.14 | 375.28 | 375.21 | 375.31 | 375.20 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

4-4 SECTION SE - DS - 1
1" = 8'

Table C-302 - 1
Manning Formula Uniform Trapezoidal Channel Flow at Given Slope and Depth
Flow calculation for south of Bell Rd.

| Inputs | | |
|---|---|---|
| Bottom width, b | 3 | ft |
| Side slope 1 (horiz./vert.) | 1.5 | |
| Side slope 2 (horiz./vert.) | 1.5 | |
| Manning roughness, n ? ○Strickler ○B/B (See notes) | 0.03 | |
| Channel slope, S | 0.08 | % rise/run |
| Flow depth, y | 0.5 | ft |
| Bend Angle ? (for riprap sizing) | 0 | |
| Rock specific gravity (2.65) | 2.65 | |
| Design rock size, D50 ○Isbash ○Maynord ○Searcy * 1.25 (See notes) | 0.1 | ft |

| Results | | |
|---|---|---|
| Flow area, a | 1.8751 | ft^2 |
| Wetted perimeter, $P_w$ | 4.8028 | ft |
| Hydraulic radius, $R_h$ | 0.3904 | ft |
| Velocity, v | 0.7483 | ft/sec |
| **Flow, Q** | 1.4031 | cfs |
| Velocity head, $h_v$ | 0.0087 | ft |
| Top width, T | 4.5000 | ft |
| Froude number, F | 0.20 | |
| Average shear stress (tractive force), tau | 0.0195 | psf |
| n for design rock size per Strickler | 0.0265 | |
| n for design rock size per Blodgett | 0.0412 | |
| n for design rock size per Bathurst | 0.0285 | |
| Blodgett vs. Bathurst | Blodgett | |
| Required bottom angular rock size, D50 (Isbash & MC) ? | 0.0065 | ft |
| Required side slope 1 angular rock size, D50 (Isbash & MC) ? | 0.0078 | ft |
| Required side slope 2 angular rock size, D50 (Isbash & MC) ? | 0.0078 | ft |
| Required angular rock size, D50 (Maynord, Ruff, and Abt 1989) | 0.0036 | ft |
| Required angular rock size, D50 (Searcy 1967) | 0.0038 | ft |



Notes:

**Automated rock size and roughness design iteration**
Choose a roughness radio button (BB recommended) and a design rock size radio button (Isbash recommended). Fine-tune depth and rock size safety factor to get your desired flow with an even rock size. Every time you change any input value, the following iteration cycle happens: 1. Roughness is calculated from design rock size. 2. The requested roughness calculation is copied to input roughness. 3. Channel flow and required rock size are calculated. 4. Design rock size is adjusted. 5. Repeat until error in the design rock size is very small.

**Basic calculator (no iteration)**
Enter your desired roughness value. Ignore the design rock size input area.

NOTES:

1. BASEFLOW IS MEASURED AT THREE SECTIONS ON SOUTH OF BELL RD. THE AVERAGE FLOW IS 0.76 CFS AS SHOWN ON TABLES C-102-1 AND C-103-1.
2. THE BANKFULL STATISTICS REPORT FROM STREAMSTATS (AREA-AVERAGED) SHOWS BANKFULL STREAM FLOW = 80.9 CFS FOR THE EXISTING BELL RD. SOUTH STREAM.
3. THE PROPOSED STREAM SECTION CAPACITY IS CALCULATED AS 1.4 CFS AND PRESENTED IN (TABLE C-302-1) IN THIS SHEET.
   - 3.1. THE PROPOSED STREAM SECTION IS CLOSE TO A TRAPEZOIDAL SECTION. IT IS DESIGNED TO ACCOMMODATE BASE FLOW. THE ACTUAL CONSTRUCTION WOULD BE ROUNDED CORNER TRAPEZOIDAL SHAPE FOR APPLICABILITY PURPOSES.
   - 3.2. THE AREA SOUTH OF BELL RD. IS VERY FLAT AND ONCE THE PROPOSED STREAM REACHES CAPACITY, FLOW WILL BE IN A SHEET FLOW MANNER IN THE FLOOD PLAIN EXTENT AND BEYOND.
   - 3.3. GROUNDWATER DAMS ARE INSTALLED TO RAISE THE BASEFLOW HEAD RIGHT AT THE START OF THE PROPOSED STREAM.
   - 3.4. TO SLOWDOWN THE FLOW, LONGITUDINAL SLOPE IS KEPT LOWER THAN 0.1% IN GENERAL.
   - 3.5. VERTICAL GRADE CONTROL STRUCTURES ARE PROPOSED TO CONTROL THE VERTICAL GRADES WHERE APPLICABLE AS SHOWN ON THE PLANS AND PROFILES.
   - 3.6. LOG JAM SYSTEMS ARE PROPOSED TO AVOID POSSIBLE EROSION WHERE THE PROPOSED STREAM INTERSECTS THE EXISTING DITCH.
4. BECAUSE THE EXISTING GROUND ELEVATIONS ARE NOT CHANGED DRAMATICALLY, FLOOD CAPACITY AND CHARACTERISTICS TEND TO REMAIN THE SAME.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

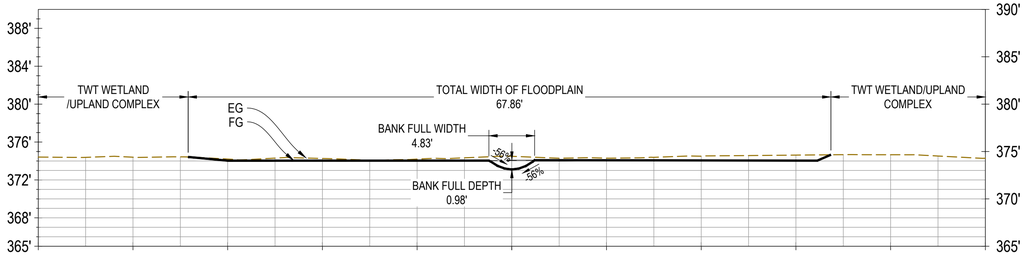
NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED SECTION VIEWS SE - DS - 1** | | ###<br>### |
| Location: #### | Designer / Professional Engineer Responsible: #### | | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-302** | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM

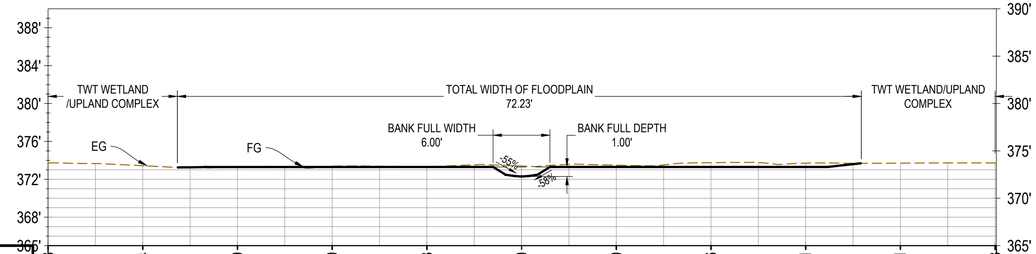
## SECTION 5 - 5
## ST 15+00.00




| EXISTING ELEVATIONS (FT) | 374.41 | 374.40 | 374.20 | 374.26 | 374.20 | 374.49 | 374.30 | 374.50 | 374.62 | 374.65 | 374.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

5-5 SECTION SE - DS - 1
1" = 8'

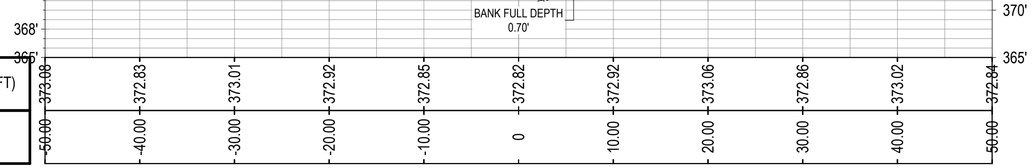
## SECTION 6 - 6
## ST 20+00.00




| EXISTING ELEVATIONS (FT) | 373.73 | 373.44 | 373.29 | 373.39 | 373.33 | 373.40 | 373.50 | 373.76 | 373.71 | 373.71 | 373.73 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

6-6 SECTION SE - DS - 1
1" = 8'

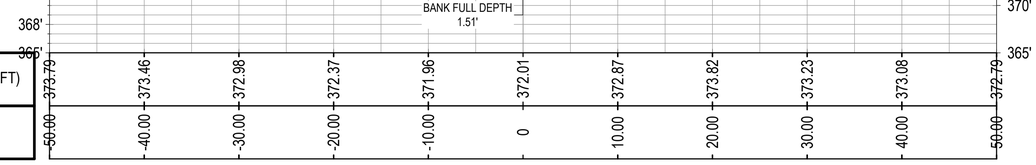
## SECTION 7 - 7
## ST 25+00.00




| EXISTING ELEVATIONS (FT) | 373.08 | 372.83 | 373.01 | 372.92 | 372.85 | 372.82 | 372.92 | 373.06 | 372.86 | 373.02 | 372.84 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

7-7 SECTION SE - DS - 1
1" = 8'

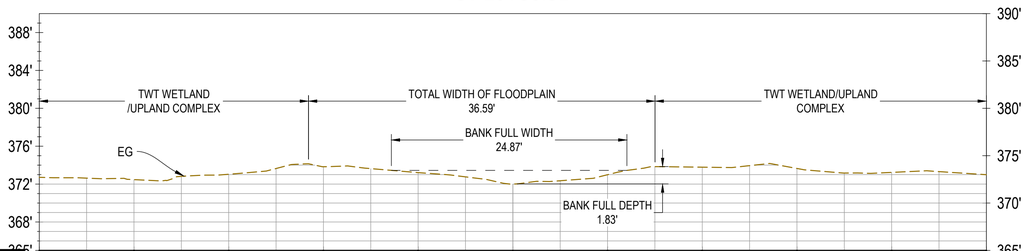
## SECTION 8 - 8
## ST 26+20.85




| EXISTING ELEVATIONS (FT) | 373.79 | 373.46 | 372.98 | 372.37 | 371.96 | 372.01 | 372.87 | 373.82 | 373.23 | 373.08 | 372.79 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

8-8 SECTION SE - DS - 1
1" = 8'

## SECTION 9 - 9
## ST 26+38.32




| EXISTING ELEVATIONS (FT) | 372.71 | 372.47 | 373.04 | 373.83 | 373.21 | 372.00 | 372.99 | 373.78 | 373.65 | 373.23 | 372.99 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

9-9 SECTION SE - DS - 1
1" = 8'

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

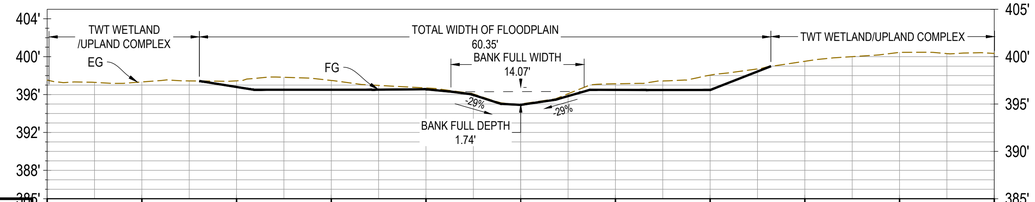
NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| Project Details | Drawing Title | | | | | |
|---|---|---|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED SECTION VIEWS SE - DS - 1** | | | | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### | |
| Project Status #### | Drawing Number **C-303** | | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM

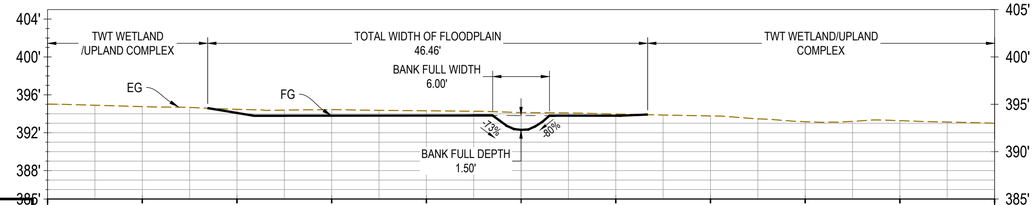
## SECTION 1 - 1
## ST 0+00.00




| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 397.53 | 397.33 | 397.45 | 397.48 | 396.69 | 395.00 | 397.13 | 398.05 | 399.51 | 400.45 | 400.34 |

1-1 SECTION NW-DS - 1
1" = 8'

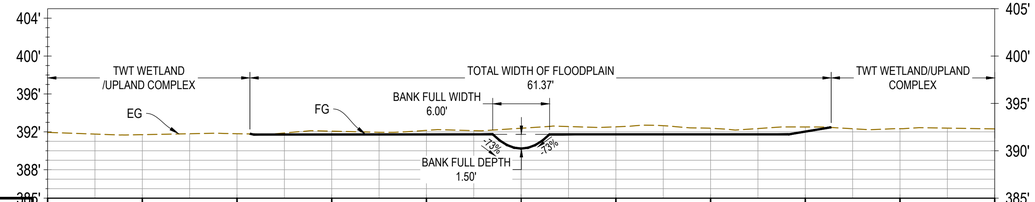
## SECTION 2 - 2
## ST 5+00.00




| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 395.62 | 394.76 | 394.47 | 394.44 | 394.32 | 394.13 | 393.97 | 393.77 | 393.16 | 393.27 | 392.98 |

2-2 SECTION NW-DS - 1
1" = 8'

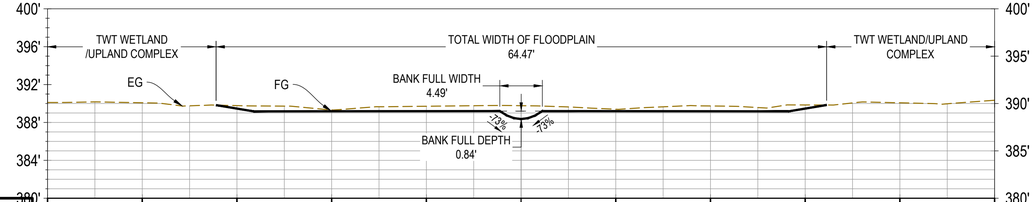
## SECTION 3 - 3
## ST 10+00.00




| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 391.94 | 391.70 | 391.80 | 392.07 | 392.16 | 392.38 | 392.53 | 392.38 | 392.52 | 392.33 | 392.31 |

3-3 SECTION NW-DS - 1
1" = #'

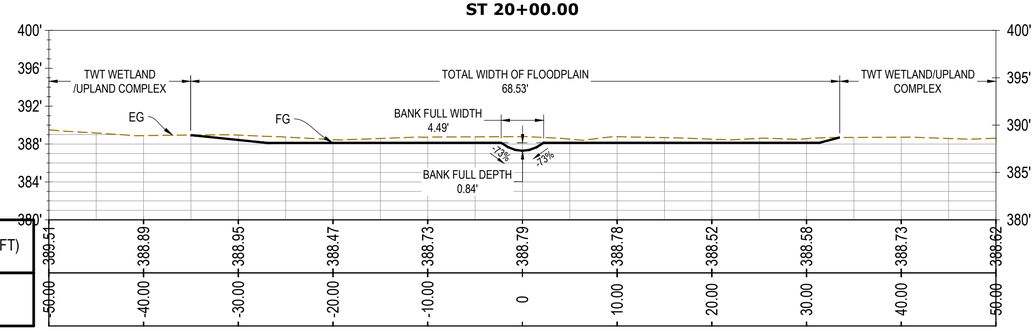
## SECTION 4 - 4
## ST 15+00.00




| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 390.10 | 390.08 | 389.78 | 389.32 | 389.71 | 389.77 | 389.40 | 389.74 | 389.85 | 390.07 | 390.34 |

4-4 SECTION NW-DS - 1
1" = 8'

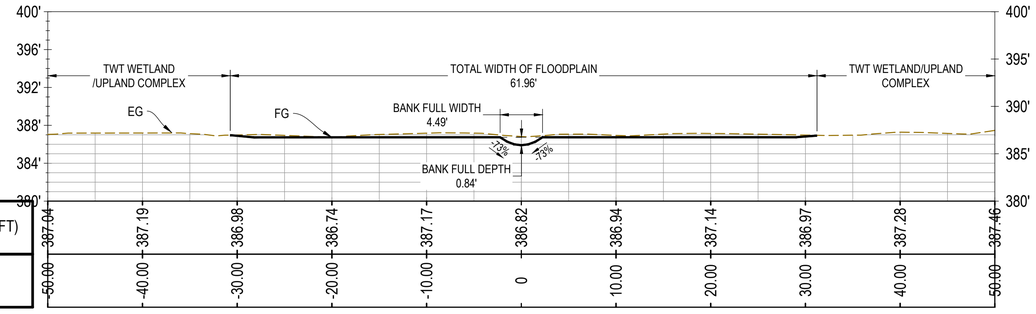
## SECTION 5 - 5
## ST 20+00.00




| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 389.51 | 388.89 | 388.95 | 388.47 | 388.73 | 388.79 | 388.78 | 388.52 | 388.58 | 388.73 | 388.62 |

5-5 SECTION NW-DS - 1
1" = #'

## SECTION 6 - 6
## ST 25+00.00




| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 387.04 | 387.19 | 386.98 | 386.74 | 387.17 | 386.82 | 386.94 | 387.14 | 386.97 | 387.28 | 387.46 |

6-6 SECTION NW-DS - 1
1" = 8'

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

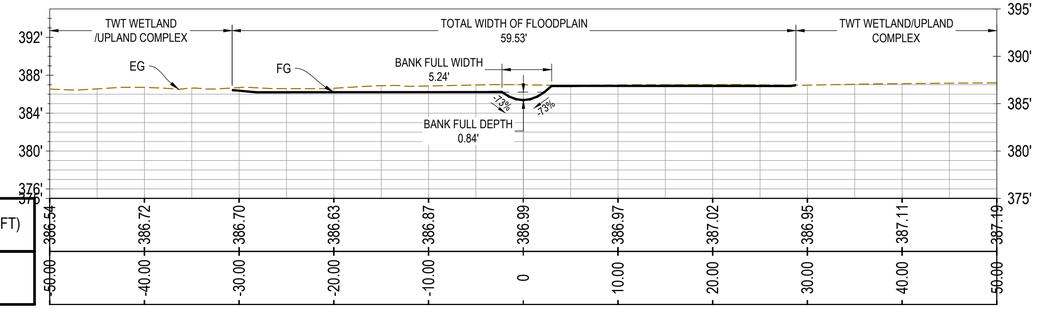
NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED SECTION VIEWS NW-DS - 1** | | ###<br>### |
| Location: #### | Designer / Professional Engineer Responsible: #### | | ### |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-304** | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICROND\WG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM

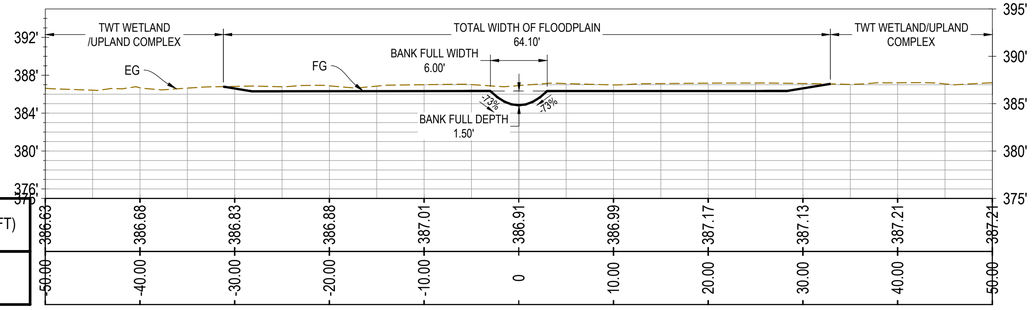
## SECTION 7 - 7
## ST 30+00.00




| OFFSET (FT) | EXISTING ELEVATIONS (FT) |
|---|---|
| -50.00 | 386.54 |
| -40.00 | 386.72 |
| -30.00 | 386.70 |
| -20.00 | 386.63 |
| -10.00 | 386.87 |
| 0 | 386.99 |
| 10.00 | 386.97 |
| 20.00 | 387.02 |
| 30.00 | 386.95 |
| 40.00 | 387.11 |
| 50.00 | 387.19 |

7-7 SECTION NW-DS - 1
1" = 8'

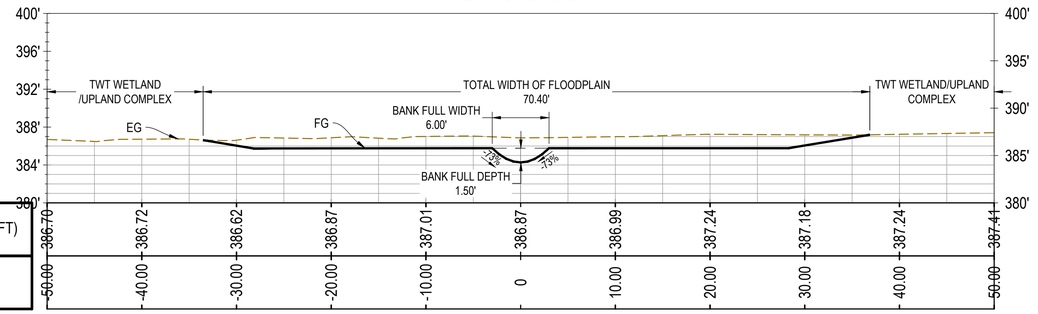
## SECTION 8 - 8
## ST 35+00.00




| OFFSET (FT) | EXISTING ELEVATIONS (FT) |
|---|---|
| -50.00 | 386.62 |
| -40.00 | 386.68 |
| -30.00 | 386.83 |
| -20.00 | 386.88 |
| -10.00 | 387.01 |
| 0 | 386.91 |
| 10.00 | 386.99 |
| 20.00 | 387.17 |
| 30.00 | 387.13 |
| 40.00 | 387.21 |
| 50.00 | 387.24 |

8-8 SECTION NW-DS - 1
1" = 8'

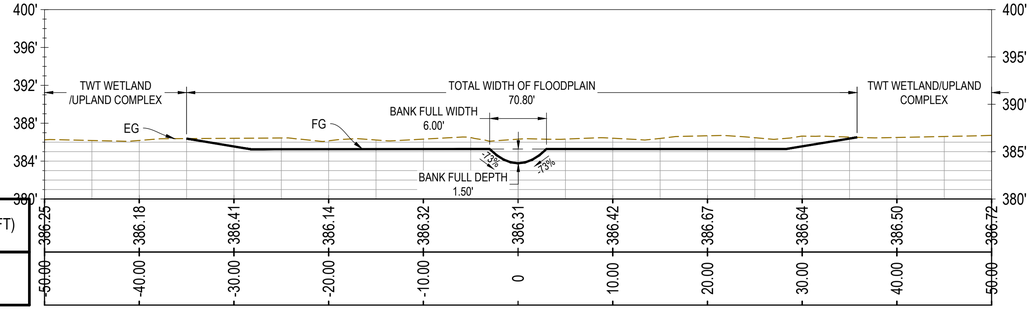
## SECTION 9 - 9
## ST 40+00.00




| OFFSET (FT) | EXISTING ELEVATIONS (FT) |
|---|---|
| -50.00 | 386.70 |
| -40.00 | 386.72 |
| -30.00 | 386.62 |
| -20.00 | 386.87 |
| -10.00 | 387.01 |
| 0 | 386.87 |
| 10.00 | 386.99 |
| 20.00 | 387.24 |
| 30.00 | 387.18 |
| 40.00 | 387.24 |
| 50.00 | 387.41 |

9-9 SECTION NW-DS - 1
1" = 8'

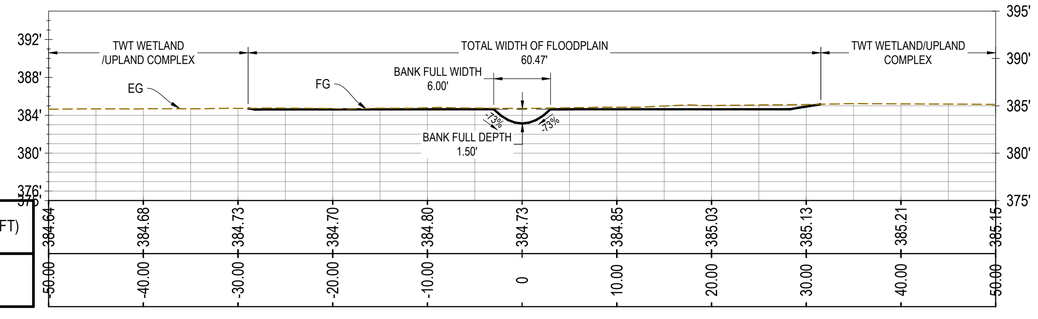
## SECTION 10 - 10
## ST 45+17.07




| OFFSET (FT) | EXISTING ELEVATIONS (FT) |
|---|---|
| -50.00 | 386.25 |
| -40.00 | 386.18 |
| -30.00 | 386.41 |
| -20.00 | 386.14 |
| -10.00 | 386.32 |
| 0 | 386.31 |
| 10.00 | 386.42 |
| 20.00 | 386.67 |
| 30.00 | 386.64 |
| 40.00 | 386.50 |
| 50.00 | 386.72 |

10-10 SECTION NW-DS - 1
1" = 8'

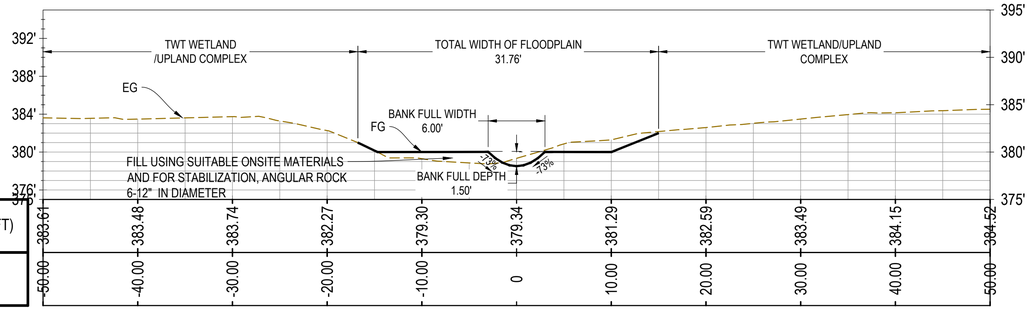
## SECTION 11 - 11
## ST 49+95.58




| OFFSET (FT) | EXISTING ELEVATIONS (FT) |
|---|---|
| -50.00 | 384.64 |
| -40.00 | 384.68 |
| -30.00 | 384.73 |
| -20.00 | 384.70 |
| -10.00 | 384.80 |
| 0 | 384.73 |
| 10.00 | 384.85 |
| 20.00 | 385.03 |
| 30.00 | 385.13 |
| 40.00 | 385.21 |
| 50.00 | 385.15 |

11-11 SECTION NW-DS - 1
1" = 8'

## SECTION 12 - 12
## ST 53+90.20




| OFFSET (FT) | EXISTING ELEVATIONS (FT) |
|---|---|
| -50.00 | 383.61 |
| -40.00 | 383.48 |
| -30.00 | 383.74 |
| -20.00 | 382.27 |
| -10.00 | 379.30 |
| 0 | 379.34 |
| 10.00 | 381.29 |
| 20.00 | 382.59 |
| 30.00 | 383.49 |
| 40.00 | 384.15 |
| 50.00 | 384.52 |

12-12 SECTION NW-DS - 1
1" = 8'

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 2/24/2025

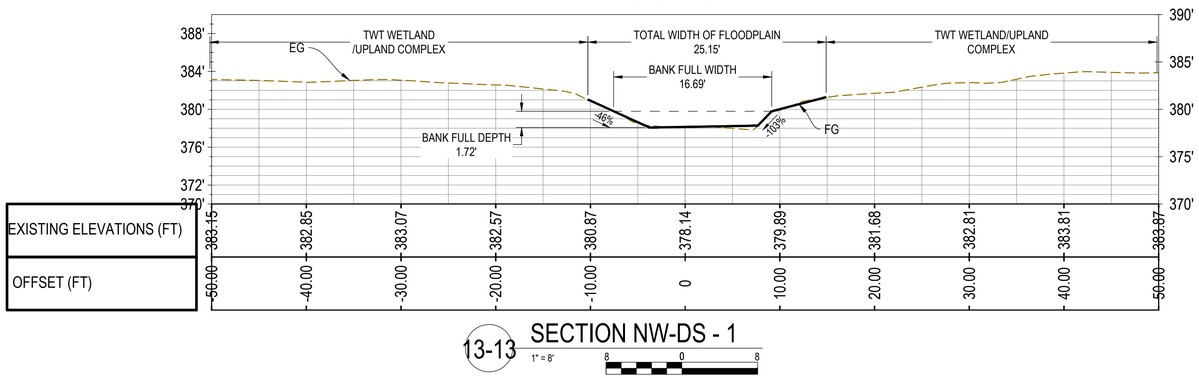
NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| Project Details | Drawing Title | | |
|---|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **PROPOSED SECTION VIEWS NW-DS - 1** | ###<br>### | |
| Location: #### | Designer / Professional Engineer Responsible: #### | ### | |
| Project Number **1940111895** | Designed by S.M. Ahmadi | Drawn by S.M. Ahmadi | Checked by K. Buelow | Approved by P. Domaszczynski | Date #### |
| Project Status #### | Drawing Number **C-305** | | Scale AS NOTED | Sc x | Rev. x |

C:\USERS\SMAHMAD\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:24 PM

## SECTION 13 - 13
## ST 55+02.70




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| EXISTING ELEVATIONS (FT) | 383.15 | 382.85 | 383.07 | 382.57 | 380.87 | 378.14 | 379.89 | 381.68 | 382.81 | 383.81 | 383.87 |
| OFFSET (FT) | -50.00 | -40.00 | -30.00 | -20.00 | -10.00 | 0 | 10.00 | 20.00 | 30.00 | 40.00 | 50.00 |

13-13 SECTION NW-DS - 1

1" = 8'

8 0 8

PRELIMINARY
NOT FOR
CONSTRUCTION

DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

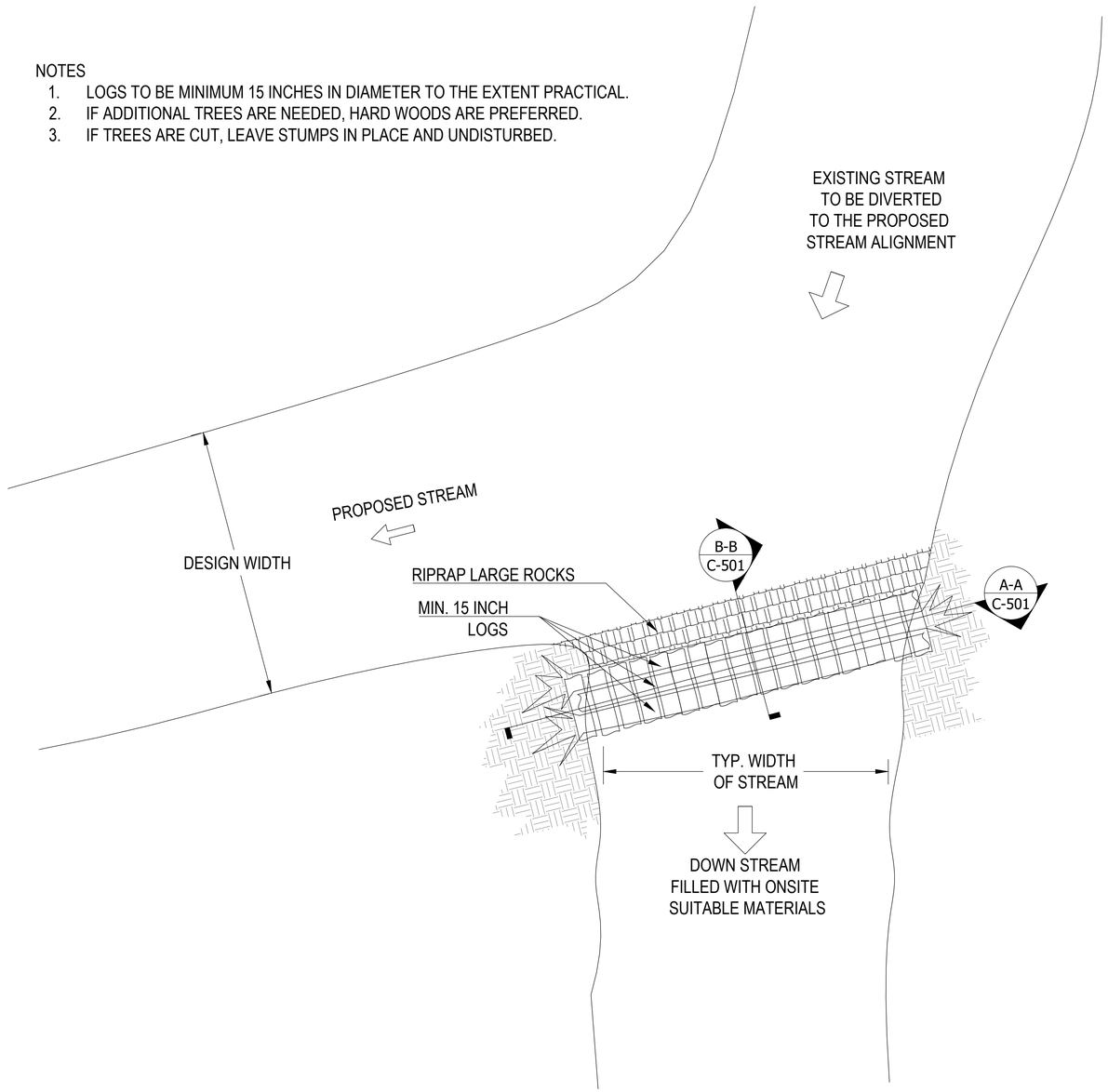
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | |
|---|---|---|---|---|---|---|
| Project Details<br>**THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title<br>**PROPOSED SECTION VIEWS NW-DS - 1** | | | | ####<br>####<br>#### | |
| Location:<br>#### | Designer / Professional Engineer Responsible:<br>#### | | | | | |
| Project Number **1940111895** | Designed by<br>S.M. Ahmadi | Drawn by<br>S.M. Ahmadi | Checked by<br>K. Buelow | Approved by<br>P. Domaszczynski | Date<br>#### | |
| Project Status #### | Drawing Number **C-306** | | | Scale<br>AS NOTED | Sc<br>X | Rev.<br>X |

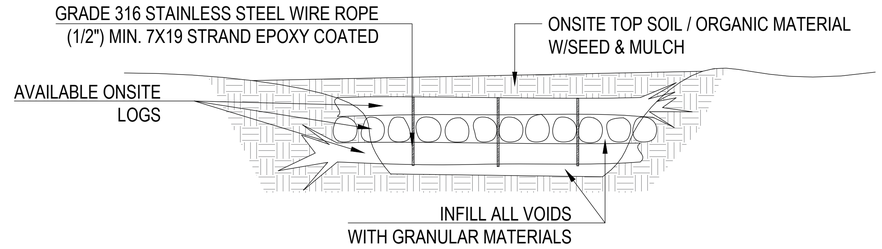
C:\USERS\SMAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

SAVED: 3/7/25 12:04 PM

NOTES
1. LOGS TO BE MINIMUM 15 INCHES IN DIAMETER TO THE EXTENT PRACTICAL.
2. IF ADDITIONAL TREES ARE NEEDED, HARD WOODS ARE PREFERRED.
3. IF TREES ARE CUT, LEAVE STUMPS IN PLACE AND UNDISTURBED.

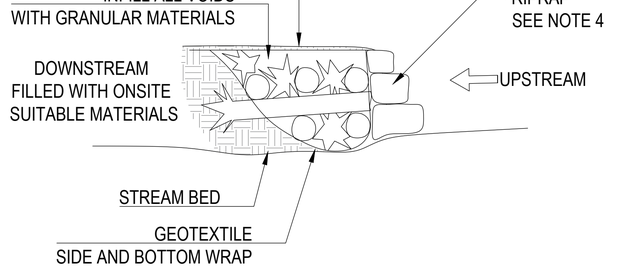



PLAN VIEW - LOG JAM (TYP.)
NOT TO SCALE




NOTES
1. EXISTING DOWNED TREES IF ANY SHALL BE USED TO BUILD THE ENGINEERED LOG JAM.
2. ACCESS THE EXITING CREEK DIVERSION FROM TOP OF BANK TO TOP OF BANK.
3. FIRST ROW OF LOGS SHALL BE PLACED PERPENDICULAR TO THE FLOW.
4. THE SUBSEQUENT LAYER OF LOGS WILL BE PLACED PERPENDICULARLY OVER THE FIRST ROW TO FORM A CRIB FORMATION ON WHICH TO CONTINUE UNTIL TOP OF BANK IS REACHED ON BOTH SIDES.
5. GEOTEXTILE SHALL BE USED TO WRAP THE BOTTOM AND SIDES OF THE LOG SYSTEM. DO NOT COVER THE TOP WITH GEOTEXTILE.
6. INFILL VOIDS BETWEEN THE LOGS WITH AVAILABLE ONSITE MATERIAL.
7. PLACE LARGE/HEAVY RIPRAP ON THE UPSTREAM SIDE OF THE LOG SYSTEM. (3 FEET MIN.) BACKFILL VOIDS WITH BED LOAD MATERIALS.

A-A SECTION
NOT TO SCALE




NOTES
1. BED LOAD MATERIAL SHALL BE PLACED OVER EACH ROW OF LOGS TO FILL VOIDS.
2. ENTIRE SYSTEM SHALL BE TIED WITH GRADE 316 STAINLESS STEEL WIRE ROPE (1/2") MIN. 7X19 STRAND EPOXY COATED.
8. PLACE LARGE/HEAVY RIPRAP ON THE UPSTREAM SIDE OF THE LOG SYSTEM. (3 FEET MIN.) BACKFILL VOIDS WITH BED LOAD MATERIALS.

B-B SECTION
NOT TO SCALE

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 2/24/2025

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

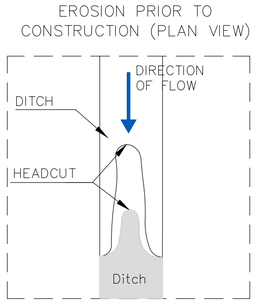
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| Project Details | Drawing Title | |
|---|---|---|
| **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | **MISCELLANEOUS DETAILS** | ####<br>#### |
| Location: #### | Designer / Professional Engineer Responsible: #### | #### |

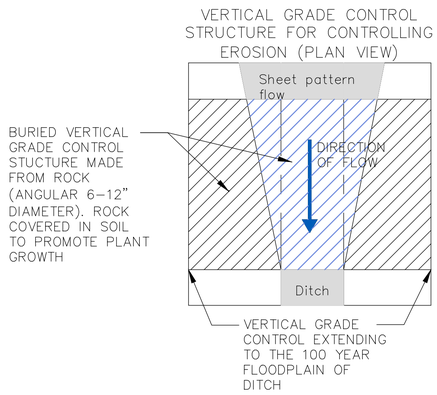
| Project Number | Designed by | Drawn by | Checked by | Approved by | Date |
|---|---|---|---|---|---|
| **1940111895** | #### | #### | #### | #### | #### |
| Project Status: #### | Drawing Number: **C-501** | | | Scale: AS NOTED | Sc: x / Rev.: x |

C:\USERS\SHAHMADI\DOWNLOADS\STREAM RESTOTRATION - MICROND\WG\FINAL DESIGN DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

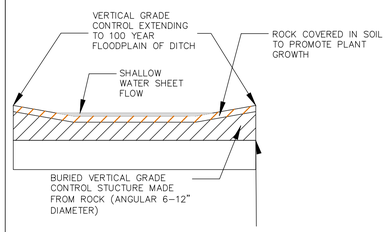
SAVED: 3/7/25 12:04 PM



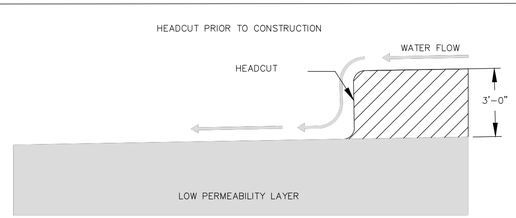

1 VERTICAL GRADE CONTROL
NOT TO SCALE



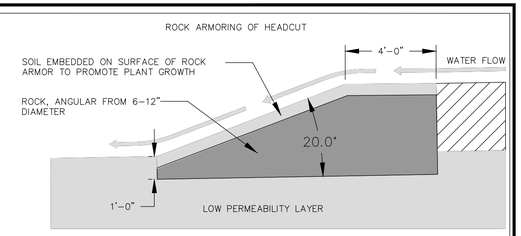

2 VERTICAL GRADE CONTROL
NOT TO SCALE



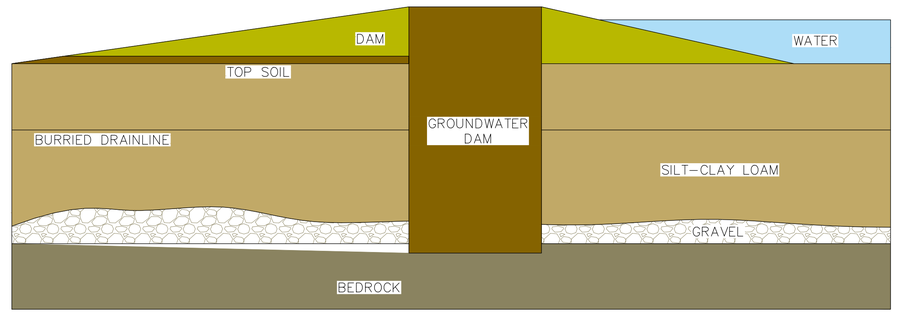

3 VERTICAL GRADE CONTROL
NOT TO SCALE



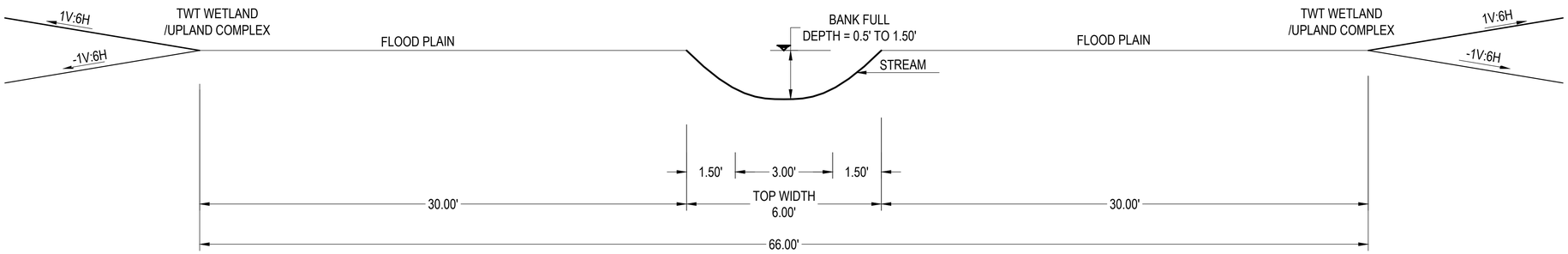

4 VERTICAL GRADE CONTROL
NOT TO SCALE




5 VERTICAL GRADE CONTROL
NOT TO SCALE




6 GROUND WATER DAM
NOT TO SCALE




## PROPOSED STREAM AND FLOODPLAIN SECTION (TYP.)
NOT TO SCALE

NOTES:
1. DETAILS 1 THROUGH 6 PRESENTED ON THIS SHEET ARE PROVIDED BY TWT.

NOTE: ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED

PRELIMINARY NOT FOR CONSTRUCTION
DATE: 2/24/2025

| NO. | REV DATE | REVISION | INT. |
|---|---|---|---|

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT. THIS DRAWING WAS PREPARED AT THE SCALE INDICATED. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR TO DETERMINE THE ACTUAL SIZE. DRAWING IS NOT SCALABLE IF NO SCALE BAR IS PRESENT.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Details: **THE WETLAND TRUST**<br>STREAM MITIGATION<br>Bell Rd, Pennellville, NY 13132<br>#### | Drawing Title: **MISCELLANEOUS DETAILS** | | | | ###<br>### | | |
| Location: #### | Designer / Professional Engineer Responsible: #### | | | | ### | | |
| Project Number **1940111895** | Designed by #### | Drawn by #### | Checked by #### | Approved by #### | Date #### | | |
| Project Status #### | Drawing Number **C-502** | | | Scale AS NOTED | Sc x | Rev. x | |

C:\USERS\SMAHMAD\DOWNLOADS\STREAM RESTOTRATION - MICRON\DWG\FINAL DESIGN.DWGS - BELL RD NW\PROPOSED PLAN AND PROFILES SE & NW.DWG

# Appendix L.

# Buxton Creek
# Long Term Management Plan (LTMP)

Oswego County, New York

**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**

May 2025

# 1.0 Introduction

The Wetland Trust, Inc. (TWT), as part of the Permittee Responsible Offsite Compensatory Mitigation Project (Project) on behalf of Micron NY Semiconductor Manufacturing, LLC (Micron), has developed a mitigation plan at the Buxton Creek Site, town of Schroeppel, Oswego County, New York (Mitigation Site) to develop wetland and stream mitigation acreage that will contribute to the total compensation needs for the construction of a semiconductor fabrication complex in the town of Clay, Onondaga County, NY. This Long-Term Management Plan (LTMP) has been developed based on anticipated monitoring and management activities for the Mitigation Site. Additional details are to be provided, if necessary, throughout the monitoring period and amended or revised as needed and approved by the USACE and NYSDEC. The purpose of the Long-Term Management Plan (LTMP) is to ensure the long-term sustainability of the protected and restored resources after mitigation performance standards have been achieved.

# 2.0 Responsible Party and Long-Term Steward

Micron is the Responsible Party for all phases of this Permittee Responsible mitigation through monitoring and final acceptance when a Certificate of Completion (or equivalent) will be provided by the agencies. Once the mitigation is complete Micron will transfer long-term management to TWT. As the fee simple owners of the Buxton Creek Site, TWT will be the long-term steward and responsible for long-term management of the wetland mitigation site including; identification of needs, development of recommendations, review with regulatory agencies as required, implementation, and efficacy measures. TWT shall implement this LTMP to preserve the habitat and conservation values in accordance with the approved Mitigation Plan, site protection instrument, and this LTMP. Long-term management tasks shall be funded through the Long-Term Management Fund.

# 3.0 Property Description

## 3.1 Conservation Values

The Mitigation Site provides an opportunity for restoration of a large stream/wetland complex with approximately 89 acres of wetland re-establishment, 27 acres of rehabilitation, and 9,000 linear ft of restored stream reaches in a previously drained and cultivated landscape. The permanent restoration and subsequent protection of this property has several site-specific conservation values that can be enhanced and maintained.

- ***Hydrologic Function***- Restoring the stream's natural sinuosity and floodplain connection will improve surface water retention, infiltration, and seasonal saturation of soils. Removal of artificial drainage and regrading will help reestablish groundwater-surface water interactions, essential for wetland hydrology.
- ***Water Quality***- Conversion of cropland to wetlands and vegetated buffers will reduce nutrient runoff, sedimentation, and agrochemical inputs into Buxton Creek and downstream waters.

## 3.2 Site Improvements

*Summary of site improvements including construction and restoration as per the Mitigation Plan. As-built report should be attached as an Appendix to this LTMP.*

# 4.0 Baseline Conditions

*Baseline conditions will be provided here with the as-built and final 10-year report referenced and attached. Conditions will be updated throughout the life of the project.*

# 5.0 Management Activities

The Buxton Creek long-term management strategy will ensure the long-term sustainability and ecological performance of the restored and protected aquatic, upland and biological resources long after the active monitoring period has closed. Upon approval of the Mitigation Plan, the proposed wetland restoration will be completed. This restoration will restore or rehabilitate approximately 117 acres of diverse, native wetland vegetation communities to support wetland wildlife populations and connectivity to adjacent preserved wetlands. If monitoring finds it necessary, the anticipated long-term management activities include:

- ***Invasive Species Management-*** At the conclusion of the ecological monitoring period, performance standards will be met and native vegetative communities well established. Long-term management will ensure that conservation values are not significantly threatened by invasive vegetation. If warranted, mechanical or chemical management of invasive species will be implemented (see Invasive Species Management Plan).
- ***Spillways and Groundwater Dams-*** The constructed spillways and groundwater dams will be monitored and maintained as needed to maintain structural integrity and contribution toward site-specific conservation values.
- ***Access-*** The main access and parking area will be maintained as needed via mowing or replenishing gravel in appropriate areas. Gates, padlocks, and fences will receive upkeep as needed.
- ***Security and Safety-*** The Buxton Creek site will not be open to the public to minimize impacts from human activity and the parcel will be posted for protection against trespassing. Signage posting and unauthorized access will be monitored and appropriately maintained. Trash will be collected on a yearly basis and security increased as warranted in the form of additional gates/locks, cameras, and contact with local authorities.

Any long-term management activities performed will be recorded in an annual report along with any recommendations for future management activities or proposed changes to the LTMP, if warranted.

# 6.0 Funding

To ensure long-term financial assurance TWT will continue to own the site fee simple in perpetuity. As a 501(c)(3) nonprofit, TWT has received tax-exempt status for the site, which helps assure its long-term protection. TWT has a director-controlled Stewardship Management Investment Account specifically established for the Micron Compensatory Mitigation project with funds provided by Micron Semiconductor Manufacturing LLC. Funds will be deposited into this account with the investment income (investment instruments are low risk and broad-based) used to support permanent long-term management and maintenance. These funds are sufficient to sustain long-term management as outlined in **Table 1**, in which the budget covers long-term management for all six sites combined.

**Table 1.** Budget estimate for potential long-term management and maintenance tasks, all six Micron Wetland/Stream mitigation sites, a total of 1,328 acres.

| Category | Task | Frequency | Estimated Cost per acre | Annualized Cost |
|---|---|---|---|---|
| Adaptive Management | Replanting | 5 | $1,800 | $7466 |
| | Reshaping terrain | 5 | $600 | $2489 |
| | Invasive species removal | 2 | $2,100 | $21777 |
| Maintenance | Site manipulation | 10 | $1500 | $3111 |
| | Boundary posting | 10 | $600 | $6244 |
| | Other practices | 3 | $1,320 | $9,126 |
| Long-Term Management | Other corrective adaptive management actions to ensure natural stability of site | 5 | $4,800 | $19,910 |
| Monitoring | To determine implementation tasks | 1 | $18 | $25,398 |
| Administration | For all tasks above including tax exempt status | 1 | $600 | $12,444 |
| Total annual budget* | | | | 102,500 |
| **Total Stewardship investment**** | | | | **$4,100,000** |

***Note: This table is an estimate based on 400 wetland credits @ $8,000 or (equivalent DEC Acres) and 13,500 stream ft @ $60***

# Micron Four-Fab Central New York Semiconductor Manufacturing Complex

## Oneida River

### Wetland Mitigation Plan

**Oswego County, NY**


**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**


July 2025

## Table of Contents

List of Figures ..... iii
List of Tables ..... iii
List of Appendices ..... iii
List of Related Documents ..... iii
1. Introduction and Objectives ..... 1
2. Site Description ..... 2
2.1 Site Selection ..... 2
2.2 Site Protection ..... 2
3. Baseline Information ..... 5
3.1 Land Use History ..... 5
3.2 Soils ..... 5
3.3 Wetlands and Hydrology ..... 6
3.4 Existing Wildlife ..... 10
3.6 Invasive Species ..... 11
3.7 Cultural and Historic Considerations ..... 11
4. Wetland Credit Accounting ..... 12
5. Wetland Mitigation Work Plan ..... 12
5.1 Invasive Vegetation Control ..... 16
5.2 Grading Plan ..... 16
5.3 Rehabilitation/Restoration of Existing Wetlands ..... 17
5.4 Buffer Establishment ..... 17
5.4 Planting Plan ..... 18
5.6 Sediment and erosion control measures ..... 24
6. Performance Standards ..... 24
7. Monitoring Requirements ..... 28
7.1 Reporting schedule ..... 29
8. Maintenance Plan ..... 30
8.1 Hydrology Maintenance ..... 30

8.2 Vegetation Maintenance..... 30
8.3 General Site Maintenance..... 31
9. Long Term Management Plan..... 31
9.1 Responsible Party..... 31
9.2 Long-Term Monitoring and Management Activities..... 32
9.3 Long-Term Funding Mechanism..... 32
10. Adaptive Management Plan..... 32
11. Financial Assurances..... 33
12. References..... 34

## List of Figures

**Figure 2-1.** Wetland Mitigation Sites Location Overview
**Figure 2-2.** Oneida River Imagery 2023
**Figure 3-1.** Oneida River Soils
**Figure 3-2.** Hydrology Monitoring Locations
**Figure 5-1.** Oneida River Site Plan
**Figure 6-1.** Vegetation Monitoring and Photo Point Locations

## List of Tables

**Table 3-1.** Soils Series Mapped within the Mitigation Area
**Table 3-2.** Staff Gauge Location
**Table 3-3** Monitoring Well Location
**Table 4-1.** Oneida River Credit Ratios and Anticipated Credit Generation for Wetlands
**Table 5-1.** Oneida River Grading for Wetland Types
**Table 5-2a.** PEM- Shallow Emergent Marsh Planting List
**Table 5-2b.** PEM- Deep Emergent Marsh Planting List
**Table 5-2c.** PSS- Scrub Shrub Planting List
**Table 5-2d.** PFO- Red Maple Hardwood Swamp Planting List
**Table 5-2e.** PFO- Hemlock Hardwood Swamp Planting List
**Table 5-2f.** Targeted Rehabilitation Planting Plan
**Table 5-3.** Construction Sequence
**Table 6-1.** Wetland Performance Standards and Interim Goals
**Table 7-1.** Anticipated Reporting Schedule

## List of Appendices

**Appendix A.** Conservation Easement
**Appendix B**. Historical Aerial Imagery
**Appendix C.** Wetland Determination Map, Summary Table, and Data Forms
**Appendix D.** Species Lists
**Appendix E**. Invasive Species Management Plan
**Appendix F.** SHPO Correspondence
**Appendix G**. Wetland Design Forms
**Appendix H.** Wetland Construction Plan Set
**Appendix I.** SWPPP (to be added in future submittals)
**Appendix J.** Long Term Management Plan (to be added in future submittals)

## List of Related Documents

Overview of Stream/Wetland Compensation on Six Mitigation Sites
Buxton Creek- Stream and Wetland Mitigation Plan
Fish Creek- Stream and Wetland Mitigation Plan
Upper Caughdenoy Creek Wetland Mitigation Plan
Lower Caughdenoy Creek Wetland Mitigation Plan
Sixmile Creek Wetland Mitigation Plan

# 1. Introduction and Objectives

Six sites in Oswego County make up the Permittee Responsible Offsite Compensatory Mitigation Project (Project) for the Micron NY Semiconductor Manufacturing, LLC (Micron) semiconductor fabrication site in the town of Clay, Onondaga County, New York. The Oneida River Wetland Mitigation Plan (Oneida River Plan) location is along Center Road in the town of Schroeppel, Oswego County, NY. The Project will address the total mitigation need for wetland credits and stream restoration to meet Micron permit requirements. The final number of credits required for compensation is still pending as of the drafting of this plan, however, an Overview document accompanying the six plans will be updated with final credit accounting. TWT submits this Oneida River Plan as one of six plans to satisfy Project mitigation needs and in fulfillment of the requirements of 33 C.F.R. Part 332 (2024).

This Oneida River Plan focuses on wetland mitigation components only. The objectives are to develop approximately 163 wetland mitigation credits on 191 mitigation acres toward a total compensation requirement of 405.7 credits (USACE) or 367.6 acres (NYSDEC) for the entire project. This includes:

- Re-establish wetlands to generate 151.1 USACE wetland credits equivalent to the restoration of 151.1 NYSDEC wetland mitigation acres, including:
    - 19.4 acres of PEM - Shallow Emergent Marsh
    - 26.4 acres of PEM - Deep Emergent Marsh
    - 12.8 acres of PSS – Scrub-Shrub
    - 85.1 acres of PFO - Red Maple Hardwood Swamp
    - 6.4 acres of PFO - Hemlock Hardwood Swamp
- Rehabilitate wetlands of the above cover types to generate 13.1 USACE wetland credits equivalent to the enhancement of 41.3 NYSDEC wetland mitigation acres.
- Establish 137.3 acres of upland buffer habitat, including:
    - 40.5 acres of herbaceous buffer habitat
    - 96.8 acres of shrub/forest buffer habitat

The distribution of wetland types may change due to balancing distribution among the other five mitigation plans in development. The distribution of wetland cover types, mitigation type, and acreage is dependent on site-specific characteristics which ultimately determine what wetlands are suitable at specific locations.

# 2. Site Description

The Oneida River Site is approximately 407 acres in size in the Town of Schroeppel, Oswego County, New York (**Figure 2-1**). The Site is within the Oneida River 12-digit HUC (041402020905) watershed, and the U.S. Geological Survey 7.5-minute quadrangle indexed as Brewerton. Coordinates for the approximate center of the Site are: [43.2224098, -76.2346513]. The Site is bordered by Center Road to the northeast and Oneida River Road and Oneida River to the south, and is the closest proximity to the Micron Campus (**Figure 2-2**).

## 2.1 Site Selection

The Oneida River Mitigation Site was selected along with five other sites to satisfy compensatory mitigation requirements for Micron Campus Impacts using site selection protocols described in Section 2.1 and 4.1 of the Micron Overview of Stream/Wetland Compensation on Six Mitigation Sites document. This Site is particularly well suited for wetland restoration with a combination of:

- very flat topography,
- thick clay and compacted sand/clay layers near the surface,
- large expanse of space for connectivity,
- opportunity for restoration of a large, degraded area due to logging.

## 2.2 Site Protection

The Wetland Trust, Inc. (TWT) is a 501(c)(3) nonprofit corporation and qualifying conservation organization (NYS ECL) whose mission is the protection, conservation, and restoration of wetlands and other critical habitat. TWT owns the Oneida River site fee simple and in perpetuity, with provisions to transfer to other similar nonprofits its lands and stewardship funds should TWT fail. All sites will receive the same protection. There are two layers of protection for this site:

> First, TWT will own the Oneida River mitigation site in perpetuity. TWT's vested interest in the site through fee-simple ownership reduces the risk of failure to satisfy performance standards.
>
> Second, TWT will file a USACE- and NYSDEC-approved Conservation Easement (CE, Appendix A) with the Oswego County Clerk. The Wetland Conservancy, Inc. (TWC), P.O. Box 220, Burdett, NY 14818-0220, a 501(c)(3) nonprofit corporation and qualifying conservation organization (NYS ECL), will be the easement holder. The easement will cite specific conditions and prohibitions and apply to the credit generating areas of the site. The site plan provides the rationale for the easement and assists in its enforcement. The CE names the USACE and NYSDEC as third-party enforcement entities.

This site will be protected under Article 24 of the Environmental Conservation Law. With the exception of activities approved as part of this Project permit or other activities approved by the USACE and NYSDEC, no further alterations within the easement boundary shall occur.

**Figure 2-1.** Wetland Mitigation Sites Location Overview

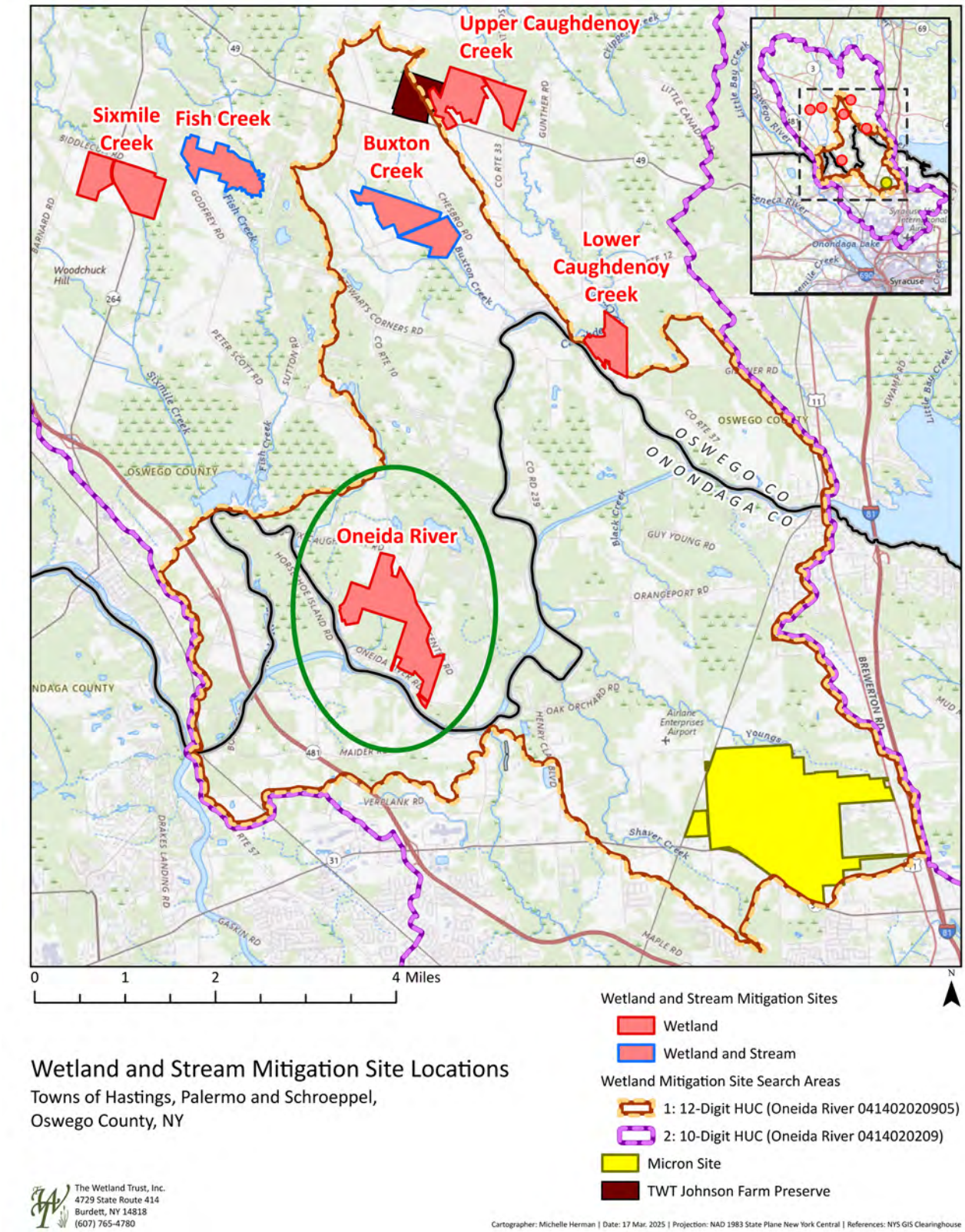
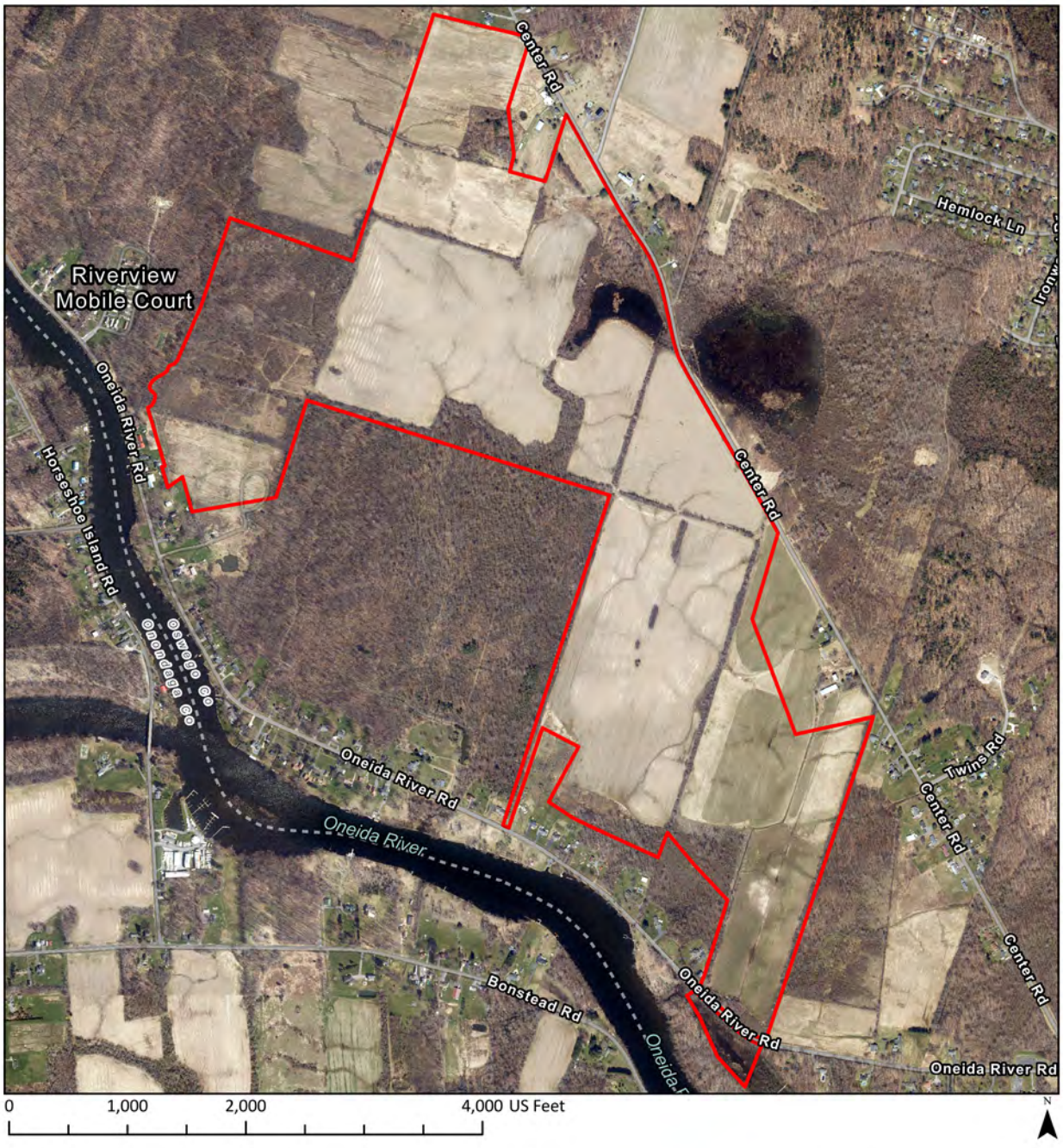


**Figure 2-2.** Oneida River Property (2023)



# 3. Baseline Information

## 3.1 Land Use History

*Historic*

A review of historic aerial imagery (**Appendix B**) was conducted to understand the property's land use history. In 1938, the entire parcel was cleared and in active agricultural use, with no observable forested areas. By 1972, this pattern largely persisted, with maintained fields and visible drainage infrastructure; however, successional vegetation had begun to establish along the small creek running through the property. By 1994, field abandonment was evident in several areas, with successional vegetation establishing across the site, particularly in the northwestern and northern portions. Between 2003 and 2023, these areas continued to develop into mature forested areas. There were few significant changes during this period, though in 2023 one section in the northeast was cleared, and many hedgerows between fields were removed following years of gradual expansion.

*Current Land Use*

Current land use is primarily dedicated to commercial crop production, with fields planted in corn and soybeans. Grading and drainage infrastructure are actively maintained to optimize field conditions and enhance agricultural productivity. The forested and wettest portions of the property are currently unmanaged and continue to undergo natural succession. Areas of former agriculture have transitioned to wetland vegetation in zones where drainage has failed or been discontinued.

## 3.2 Soils

USDA Natural Resources Conservation Service (NRCS) soil mapping of the site is summarized in **Table 3-1** and **Figure 3-2** below. The Site is characterized by gently rolling terrain with a mix of well-drained, moderately well-drained, and poorly drained soils. The property area features extensive coverage of Rhinebeck silt loam (RhA and RhB), particularly in the northern area. In the southern area of the property Rhinebeck silt loam and Canandaigua silt loam (Cd) are the predominant soils.

**Table 3-1. Soil Series Mapped within the Mitigation Area**

| Series | Symbol | Acres | % of Area | Drainage Class | Hydrologic Soil Group |
|---|---|---|---|---|---|
| Canandaigua silt loam | Cd | 59.44 | 14.60% | Poorly drained | C/D |
| Cut and fill land | CFL | 1.03 | 0.25% | Moderately well drained | C |
| Fluvaquents and Udifluvents, frequently flooded | FA | 2.86 | 0.70% | Poorly drained | B/D |
| Hudson silt loam, 2-6% slopes | HuB | 16.07 | 3.95% | Moderately well drained | C/D |
| Madalin silt loam, 0-3% slopes | Ma | 42.84 | 10.53% | Poorly drained | C/D |

| | | | | | |
|---|---|---|---|---|---|
| Minoa very fine sandy loam | Mn | 2.1 | 0.52% | Somewhat poorly drained | B/D |
| Naumburg loamy fine sand | Na | 4.5 | 1.11% | Somewhat poorly drained | A/D |
| Oakville loamy fine sand, 0-6% slopes | OaB | 3.6 | 0.88% | Well drained | A |
| Raynham silt loam, 0-6% slopes | RaB | 14.71 | 3.61% | Poorly drained | C/D |
| Rhinebeck silt loam, 0-2% slopes | RhA | 69.33 | 17.03% | Somewhat poorly drained | C/D |
| Rhinebeck silt loam, 2-6% slopes | RhB | 179.38 | 44.07% | Somewhat poorly drained | C/D |
| Swanton fine sandy loam | Sw | 4.83 | 1.19% | Poorly drained | C/D |
| Williamson very fine sandy loam, 2-6% slopes | WlB | 6.32 | 1.55% | Moderately well drained | D |

A 4-foot-long open-faced clay auger was used to sample soils across the mitigation area. Locations of soil test pits and the description of soil textures and depth to groundwater are detailed in **Figure 3-2** below.

## 3.3 Wetlands and Hydrology

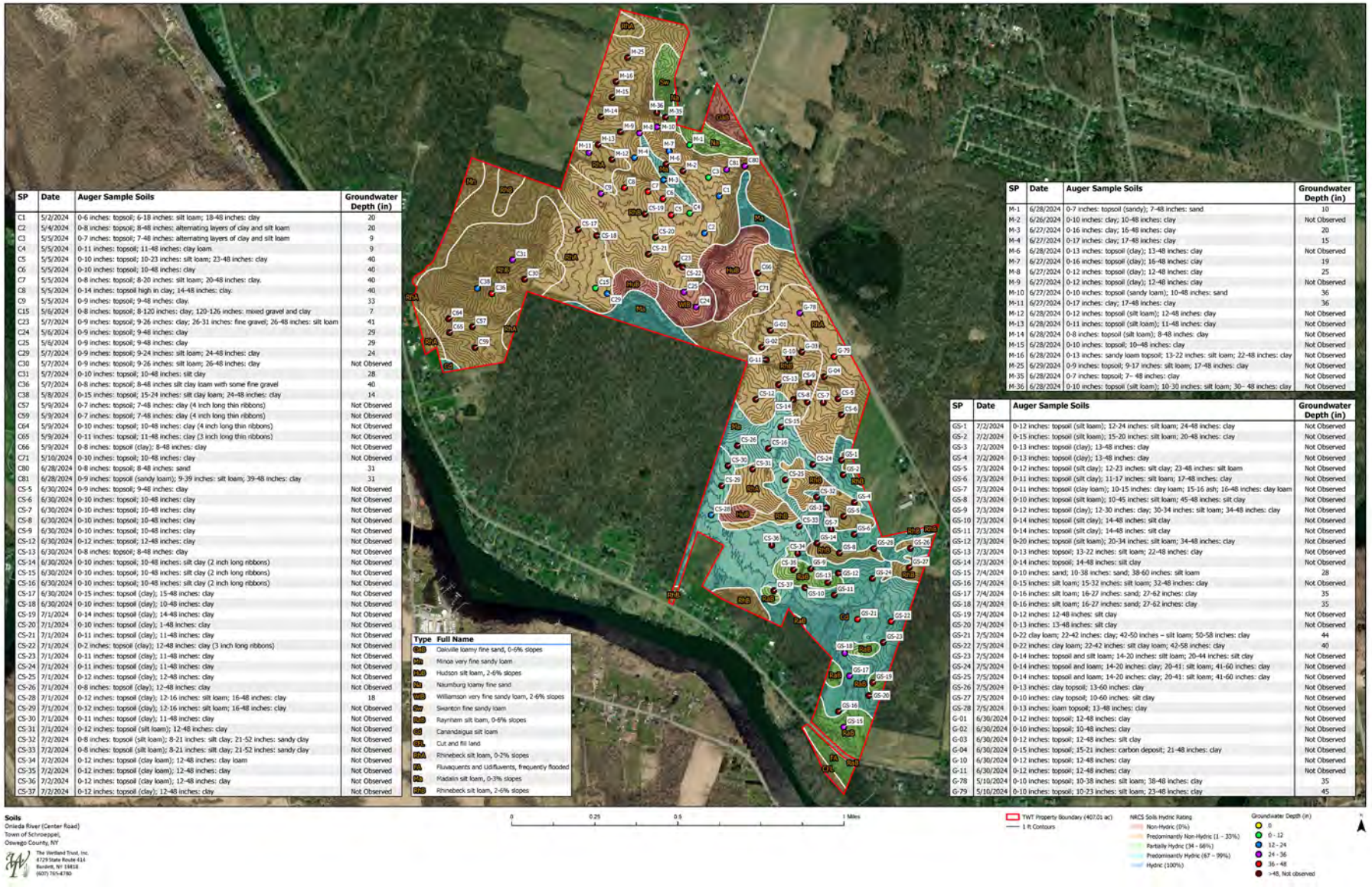
Hydrological characteristics at Oneida River were determined by TWT through wetland and aquatic resource delineations, aerial imagery interpretation, review of regulatory maps, wetland design field assessments which included a series of soil test pits, and interviews with previous property owners.

Both state and federal wetlands are mapped onsite. Existing wetlands, streams, and drainage features were delineated in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplement. Field visits for delineation concurrence by USACE and NYSDEC were conducted in August 2024 with final concurrence and pending as of this writing. All field data points were recorded with a centimeter-level accurate GNSS receiver and mapped in ArcGIS Pro. See **Appendix C** for the full delineation report including mapped wetlands and drainage features, delineated features summary table and data sheets.

The Oneida River lies just south of the site, where all delineated wetlands and drainage features ultimately flow into. Wetlands along D-23 and D-24, including PFO-01, PEM-11, PEM-12, PEM-14, and POW-01, are part of a DEC- and NWI-mapped stream system and are influenced by both groundwater and surface water. Additional wetlands near D-32 through D-34 show similar hydrologic associations.

Across the site, hydrology is strongly influenced by high clay-content soils, which promote surface water retention in low areas and runoff collection zones. Agricultural compaction and drainage infrastructure contribute to wetland formation or marginal hydrologic conditions. Recent logging and farming activities have caused rutting in clay-rich soils, resulting in prolonged surface water and the establishment of wetland vegetation in some areas. In certain locations, an aquitard-like layer further limits infiltration, enhancing saturation.

**Figure 3-1.** Oneida River Soils



| SP | Date | Auger Sample Soils | Groundwater Depth (in) |
|---|---|---|---|
| C1 | 5/2/2024 | 0-6 inches: topsoil; 6-18 inches: silt loam; 18-48 inches: clay | 20 |
| C2 | 5/4/2024 | 0-8 inches: topsoil; 8-48 inches: alternating layers of clay and silt loam | 20 |
| C3 | 5/5/2024 | 0-7 inches: topsoil; 7-48 inches: alternating layers of clay and silt loam | 9 |
| C4 | 5/5/2024 | 0-11 inches: topsoil; 11-48 inches: clay loam | 9 |
| C5 | 5/5/2024 | 0-10 inches: topsoil; 10-23 inches: silt loam; 23-48 inches: clay | 40 |
| C6 | 5/5/2024 | 0-10 inches: topsoil; 10-48 inches: clay | 40 |
| C7 | 5/5/2024 | 0-8 inches: topsoil; 8-20 inches: silt loam; 20-48 inches: clay. | 40 |
| C8 | 5/5/2024 | 0-14 inches: topsoil high in clay; 14-48 inches: clay. | 40 |
| C9 | 5/5/2024 | 0-9 inches: topsoil; 9-48 inches: clay. | 33 |
| C15 | 5/6/2024 | 0-8 inches: topsoil; 8-120 inches: clay; 120-126 inches: mixed gravel and clay | 7 |
| C23 | 5/7/2024 | 0-9 inches: topsoil; 9-26 inches: clay; 26-31 inches: fine gravel; 26-48 inches: silt loam | 41 |
| C24 | 5/6/2024 | 0-9 inches: topsoil; 9-48 inches: clay | 29 |
| C25 | 5/6/2024 | 0-9 inches: topsoil; 9-48 inches: clay | 29 |
| C29 | 5/7/2024 | 0-9 inches: topsoil; 9-24 inches: silt loam; 24-48 inches: clay | 24 |
| C30 | 5/7/2024 | 0-9 inches: topsoil; 9-26 inches: silt loam; 26-48 inches: clay | Not Observed |
| C31 | 5/7/2024 | 0-10 inches: topsoil; 10-48 inches: silt clay | 28 |
| C36 | 5/7/2024 | 0-8 inches: topsoil; 8-48 inches silt clay loam with some fine gravel | 40 |
| C38 | 5/8/2024 | 0-15 inches: topsoil; 15-24 inches: silt clay loam; 24-48 inches: clay | 14 |
| C57 | 5/9/2024 | 0-7 inches: topsoil; 7-48 inches: clay (4 inch long thin ribbons) | Not Observed |
| C59 | 5/9/2024 | 0-7 inches: topsoil; 7-48 inches: clay (4 inch long thin ribbons) | Not Observed |
| C64 | 5/9/2024 | 0-10 inches: topsoil; 10-48 inches: clay (4 inch long thin ribbons) | Not Observed |
| C65 | 5/9/2024 | 0-11 inches: topsoil; 11-48 inches: clay (3 inch long thin ribbons) | Not Observed |
| C66 | 5/9/2024 | 0-8 inches: topsoil (clay); 8-48 inches: clay | Not Observed |
| C71 | 5/10/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| C80 | 6/28/2024 | 0-8 inches: topsoil; 8-48 inches: sand | 31 |
| C81 | 6/28/2024 | 0-9 inches: topsoil (sandy loam); 9-39 inches: silt loam; 39-48 inches: clay | 31 |
| CS-5 | 6/30/2024 | 0-9 inches: topsoil; 9-48 inches: clay | Not Observed |
| CS-6 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| CS-7 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| CS-8 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| CS-9 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| CS-12 | 6/30/2024 | 0-12 inches: topsoil; 12-48 inches: clay | Not Observed |
| CS-13 | 6/30/2024 | 0-8 inches: topsoil; 8-48 inches: clay | Not Observed |
| CS-14 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: silt clay (2 inch long ribbons) | Not Observed |
| CS-15 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: silt clay (2 inch long ribbons) | Not Observed |
| CS-16 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: silt clay (2 inch long ribbons) | Not Observed |
| CS-17 | 6/30/2024 | 0-15 inches: topsoil (clay); 15-48 inches: clay | Not Observed |
| CS-18 | 6/30/2024 | 0-10 inches: topsoil (clay); 10-48 inches: clay | Not Observed |
| CS-19 | 7/1/2024 | 0-14 inches: topsoil (clay); 14-48 inches: clay | Not Observed |
| CS-20 | 7/1/2024 | 0-10 inches: topsoil (clay); 1-48 inches: clay | Not Observed |
| CS-21 | 7/1/2024 | 0-11 inches: topsoil (clay); 11-48 inches: clay | Not Observed |
| CS-22 | 7/1/2024 | 0-2 inches: topsoil (clay); 12-48 inches: clay (3 inch long ribbons) | Not Observed |
| CS-23 | 7/1/2024 | 0-11 inches: topsoil (clay); 11-48 inches: clay | Not Observed |
| CS-24 | 7/1/2024 | 0-11 inches: topsoil (clay); 11-48 inches: clay | Not Observed |
| CS-25 | 7/1/2024 | 0-12 inches: topsoil (clay); 12-48 inches: clay | Not Observed |
| CS-26 | 7/1/2024 | 0-8 inches: topsoil (clay); 12-48 inches: clay | Not Observed |
| CS-28 | 7/1/2024 | 0-12 inches: topsoil (clay); 12-16 inches: silt loam; 16-48 inches: clay | 18 |
| CS-29 | 7/1/2024 | 0-12 inches: topsoil (clay); 12-16 inches: silt loam; 16-48 inches: clay | Not Observed |
| CS-30 | 7/1/2024 | 0-11 inches: topsoil (clay); 11-48 inches: clay | Not Observed |
| CS-31 | 7/1/2024 | 0-12 inches: topsoil (silt loam); 12-48 inches: clay | Not Observed |
| CS-32 | 7/2/2024 | 0-8 inches: topsoil (silt loam); 8-21 inches: silt clay; 21-52 inches: sandy clay | Not Observed |
| CS-33 | 7/2/2024 | 0-8 inches: topsoil (silt loam); 8-21 inches: silt clay; 21-52 inches: sandy clay | Not Observed |
| CS-34 | 7/2/2024 | 0-12 inches: topsoil (clay loam); 12-48 inches: clay loam | Not Observed |
| CS-35 | 7/2/2024 | 0-12 inches: topsoil (clay loam); 12-48 inches: clay | Not Observed |
| CS-36 | 7/2/2024 | 0-12 inches: topsoil (clay loam); 12-48 inches: clay | Not Observed |
| CS-37 | 7/2/2024 | 0-12 inches: topsoil (clay); 12-48 inches: clay | Not Observed |

| SP | Date | Auger Sample Soils | Groundwater Depth (in) |
|---|---|---|---|
| M-1 | 6/28/2024 | 0-7 inches: topsoil (sandy); 7-48 inches: sand | 10 |
| M-2 | 6/26/2024 | 0-10 inches: clay; 10-48 inches: clay | Not Observed |
| M-3 | 6/27/2024 | 0-16 inches: clay; 16-48 inches: clay | 20 |
| M-4 | 6/27/2024 | 0-17 inches: clay; 17-48 inches: clay | 15 |
| M-6 | 6/28/2024 | 0-13 inches: topsoil (clay); 13-48 inches: clay | Not Observed |
| M-7 | 6/27/2024 | 0-16 inches: topsoil (clay); 16-48 inches: clay | 19 |
| M-8 | 6/27/2024 | 0-12 inches: topsoil (clay); 12-48 inches: clay | 25 |
| M-9 | 6/27/2024 | 0-12 inches: topsoil (clay); 12-48 inches: clay | Not Observed |
| M-10 | 6/27/2024 | 0-10 inches: topsoil (sandy loam); 10-48 inches: sand | 36 |
| M-11 | 6/27/2024 | 0-17 inches: clay; 17-48 inches: clay | 36 |
| M-12 | 6/28/2024 | 0-12 inches: topsoil (silt loam); 12-48 inches: clay | Not Observed |
| M-13 | 6/28/2024 | 0-11 inches: topsoil (silt loam); 11-48 inches: clay | Not Observed |
| M-14 | 6/28/2024 | 0-8 inches: topsoil (silt loam); 8-48 inches: clay | Not Observed |
| M-15 | 6/28/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| M-16 | 6/28/2024 | 0-13 inches: sandy loam topsoil; 13-22 inches: silt loam; 22-48 inches: clay | Not Observed |
| M-25 | 6/29/2024 | 0-9 inches: topsoil; 9-17 inches: silt loam; 17-48 inches: clay | Not Observed |
| M-35 | 6/28/2024 | 0-7 inches: topsoil; 7- 48 inches: clay | Not Observed |
| M-36 | 6/28/2024 | 0-10 inches: topsoil (silt loam); 10-30 inches: silt loam; 30- 48 inches: clay | Not Observed |

| SP | Date | Auger Sample Soils | Groundwater Depth (in) |
|---|---|---|---|
| GS-1 | 7/2/2024 | 0-12 inches: topsoil (silt loam); 12-24 inches: silt loam; 24-48 inches: clay | Not Observed |
| GS-2 | 7/2/2024 | 0-15 inches: topsoil (silt loam); 15-20 inches: silt loam; 20-48 inches: clay | Not Observed |
| GS-3 | 7/2/2024 | 0-13 inches: topsoil (clay); 13-48 inches: clay | Not Observed |
| GS-4 | 7/2/2024 | 0-13 inches: topsoil (clay); 13-48 inches: clay | Not Observed |
| GS-5 | 7/3/2024 | 0-12 inches: topsoil (silt clay); 12-23 inches: silt clay; 23-48 inches: silt loam | Not Observed |
| GS-6 | 7/3/2024 | 0-11 inches: topsoil (silt clay); 11-17 inches: silt loam; 17-48 inches: clay | Not Observed |
| GS-7 | 7/3/2024 | 0-11 inches: topsoil (clay loam); 10-15 inches: clay loam; 15-16 ash; 16-48 inches: clay loam | Not Observed |
| GS-8 | 7/3/2024 | 0-10 inches: topsoil (silt loam); 10-45 inches: silt loam; 45-48 inches: silt clay | Not Observed |
| GS-9 | 7/3/2024 | 0-12 inches: topsoil (clay); 12-30 inches: clay; 30-34 inches: silt loam; 34-48 inches: clay | Not Observed |
| GS-10 | 7/3/2024 | 0-14 inches: topsoil (silt clay); 14-48 inches: silt clay | Not Observed |
| GS-11 | 7/3/2024 | 0-14 inches: topsoil (silt clay); 14-48 inches: silt clay | Not Observed |
| GS-12 | 7/3/2024 | 0-20 inches: topsoil (silt loam); 20-34 inches: silt loam; 34-48 inches: clay | Not Observed |
| GS-13 | 7/3/2024 | 0-13 inches: topsoil; 13-22 inches: silt loam; 22-48 inches: clay | Not Observed |
| GS-14 | 7/3/2024 | 0-14 inches: topsoil; 14-48 inches: silt clay | Not Observed |
| GS-15 | 7/4/2024 | 0-10 inches: sand; 10-38 inches: sand; 38-60 inches: silt loam | 28 |
| GS-16 | 7/4/2024 | 0-15 inches: silt loam; 15-32 inches: silt loam; 32-48 inches: clay | Not Observed |
| GS-17 | 7/4/2024 | 0-16 inches: silt loam; 16-27 inches: sand; 27-62 inches: clay | 35 |
| GS-18 | 7/4/2024 | 0-16 inches: silt loam; 16-27 inches: sand; 27-62 inches: clay | 35 |
| GS-19 | 7/4/2024 | 0-12 inches: 12-48 inches: silt clay | Not Observed |
| GS-20 | 7/4/2024 | 0-13 inches: 13-48 inches: silt clay | Not Observed |
| GS-21 | 7/5/2024 | 0-22 clay loam; 22-42 inches: clay; 42-50 inches – silt loam; 50-58 inches: clay | 44 |
| GS-22 | 7/5/2024 | 0-22 inches: clay loam; 22-42 inches: silt clay loam; 42-58 inches: clay | 40 |
| GS-23 | 7/5/2024 | 0-14 inches: topsoil and silt loam; 14-20 inches: silt loam; 20-44 inches: silt clay | Not Observed |
| GS-24 | 7/5/2024 | 0-14 inches: topsoil and loam; 14-20 inches: clay; 20-41: silt loam; 41-60 inches: clay | Not Observed |
| GS-25 | 7/5/2024 | 0-14 inches: topsoil and loam; 14-20 inches: clay; 20-41: silt loam; 41-60 inches: clay | Not Observed |
| GS-26 | 7/5/2024 | 0-13 inches: clay topsoil; 13-60 inches: clay | Not Observed |
| GS-27 | 7/5/2024 | 0-10 inches: clay topsoil; 10-60 inches: silt clay | Not Observed |
| GS-28 | 7/5/2024 | 0-13 inches: loam topsoil; 13-48 inches: clay | Not Observed |
| G-01 | 6/30/2024 | 0-12 inches: topsoil; 12-48 inches: clay | Not Observed |
| G-02 | 6/30/2024 | 0-10 inches: topsoil; 10-48 inches: clay | Not Observed |
| G-03 | 6/30/2024 | 0-12 inches: topsoil; 12-48 inches: silt clay | Not Observed |
| G-04 | 6/30/2024 | 0-15 inches: topsoil; 15-21 inches: carbon deposit; 21-48 inches: clay | Not Observed |
| G-10 | 6/30/2024 | 0-12 inches: topsoil; 12-48 inches: clay | Not Observed |
| G-11 | 6/30/2024 | 0-12 inches: topsoil; 12-48 inches: clay | Not Observed |
| G-78 | 5/10/2024 | 0-10 inches: topsoil; 10-38 inches: silt loam; 38-48 inches: clay | 35 |
| G-79 | 5/10/2024 | 0-10 inches: topsoil; 10-23 inches: silt loam; 23-48 inches: clay | 45 |

| Type | Full Name |
|---|---|
| OnB | Oakville loamy fine sand, 0-6% slopes |
| Mn | Minoa very fine sandy loam |
| HuB | Hudson silt loam, 2-6% slopes |
| Nb | Naumburg loamy fine sand |
| WnB | Williamson very fine sandy loam, 2-6% slopes |
| Sw | Swanton fine sandy loam |
| RaB | Raynham silt loam, 0-6% slopes |
| Cd | Canandaigua silt loam |
| CUT | Cut and fill land |
| RhA | Rhinebeck silt loam, 0-2% slopes |
| FA | Fluvaquents and Udifluvents, frequently flooded |
| Ma | Madalin silt loam, 0-3% slopes |
| RhB | Rhinebeck silt loam, 2-6% slopes |

Soils
Oneida River (Center Road)
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
6729 State Route 414
Rexford, NY 12148
(607) 765-4780

0 0.25 0.5 1 Miles

TWT Property Boundary (407.01 ac)
1 ft Contours

NRCS Soils Hydric Rating
Non-Hydric (0%)
Predominantly Non-Hydric (1 - 33%)
Partially Hydric (34 - 66%)
Predominantly Hydric (67 - 99%)
Hydric (100%)

Groundwater Depth (in)
0
0 - 12
12 - 24
24 - 36
36 - 48
>48, Not observed

N

Hydrology at the site will continue to be monitored until work begins. Groundwater monitoring wells, a staff gauge, and a rain gauge will be installed at the site in spring 2025.

Staff Gauges

A staff gauge will be installed at Oneida River for the purpose of measuring water levels in the pond, providing critical data to monitor surface water dynamics and its relationship to groundwater monitoring well data. Placement will ensure easy accessibility and unobstructed views to accommodate both drone and physical observations. Approximate elevations derived from GIS data will be field verified during installation using survey grade GPS. Details in **Table 3-2** below and **Figure 3-2**.

**Table 3-2. Staff Gauge Location**

| Gauge Number | Elevation (ft) | Latitude | Longitude | Description |
|---|---|---|---|---|
| **1** | 388.67 | 43.228534 | -76.237627 | In center of Deep Emergent Wetland #M-04 |
| **2** | 393.01 | 43.22647 | -76.23198 | Middle of a made pond surrounded by drainages |
| **3** | 401.45 | 43.223103 | -76.229724 | In center of Deep Emergent Wetland #G-78 |
| **4** | 401.40 | 43.223166 | -76.229834 | In center of Deep Emergent Wetland #CS-27 |
| **5** | 376.23 | 43.215146 | -76.227085 | In center of Deep Emergent Wetland #GS-24 |

Monitoring Wells

Approximately seven groundwater monitoring wells using Onset HOBO water level dataloggers will be strategically placed across the site to capture critical groundwater data every four hours, with locations informed by hydrology and drainage patterns, soil delineations, and observed site characteristics. Elevations will be verified during installation to ensure accuracy, and placement adjustments may be made based on field findings. Any changes will be documented in the as built report. See **Table 3-3** and **Figure 3-2** for details.

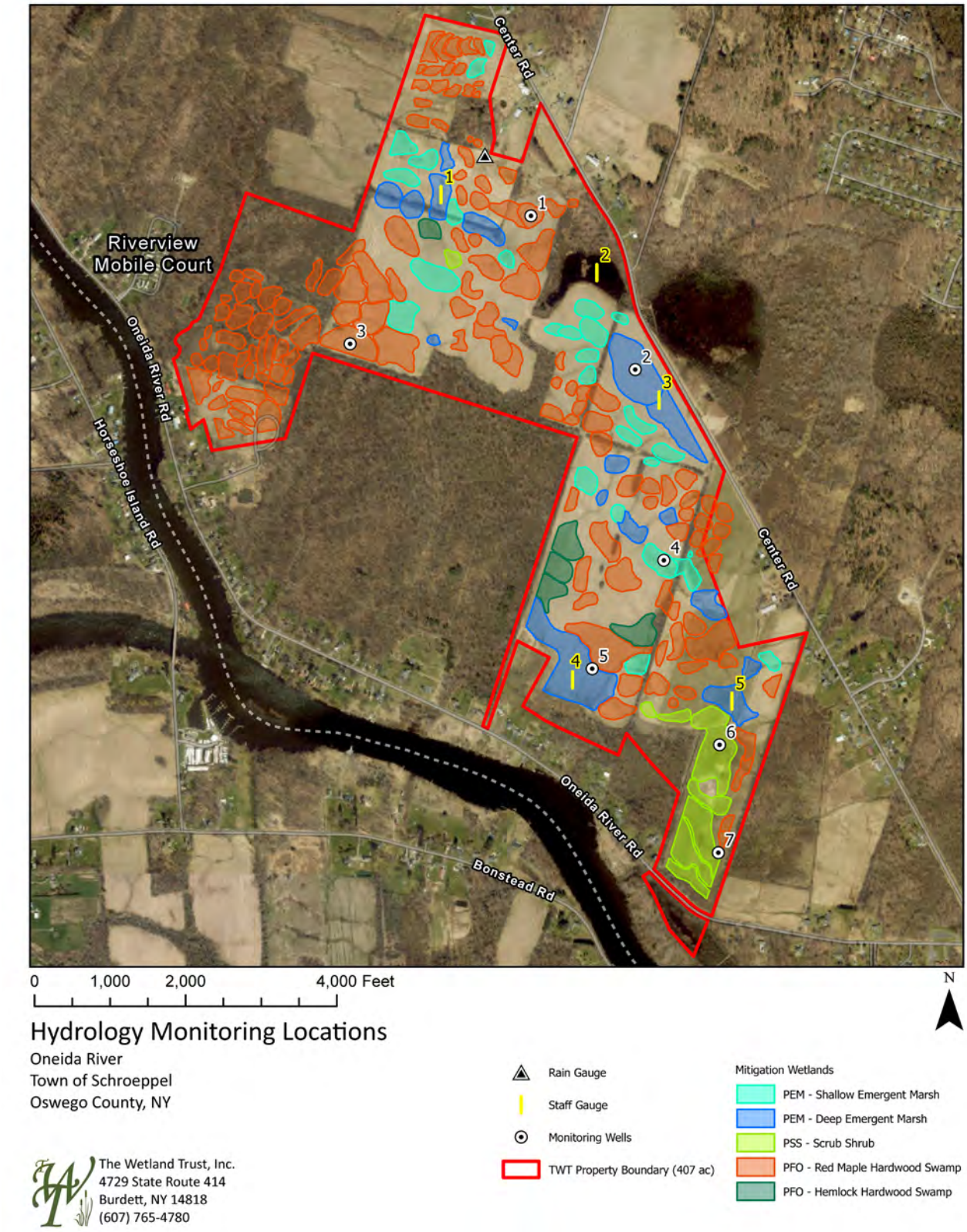
**Table 3-3. Monitoring Well Location**

| Well # | Elevation (ft) | Latitude | Longitude | Location | Description |
|---|---|---|---|---|---|
| **1** | 401.04 | 43.22797209 | -76.23436814 | North field | Near planned wetland C-03; highest elevation point |
| **2** | 400.75 | 43.22390841 | -76.23058787 | North field | Near planned wetland G-78 |
| **3** | 387.33 | 43.22458966 | -76.24092062 | North field | Near planned wetland C-14; determines groundwater on the NW side |
| **4** | 381.94 | 43.21887028 | -76.22955032 | South field | Near planned wetland CS-24 |
| **5** | 373.07 | 43.21600487 | -76.23214644 | South field | Near planned wetland CS-28 |
| **6** | 372.98 | 43.21399689 | -76.22753113 | South field | Near planned wetland GS-21 |
| **7** | 371.25 | 43.21114365 | -76.22757616 | South field | Near planned wetland GS-17; lowest elevation point |

Rain Gauge

One HOBO Rain Gauge Data Logger (RG3) is installed at the site to measure precipitation on-site (coordinates: 43.229609, -76.236033) and has been recording data since April 28, 2025. This data will support the interpretation of hydrologic responses observed in monitoring wells and staff gauges. This device will not be used in peak winter as it cannot measure snow, only rainfall.

**Figure 3-2.** Oneida River Hydrology Monitoring Locations



## 3.4 Existing Wildlife

Various wildlife, including amphibian, reptile, bird, and mammal species, have been recorded at the Oneida River mitigation site, either through visual or auditory observations. Amphibians were identified by sight using egg mass, juvenile, or adult presence and by sound if mating calls were discernible. Four main species were noted at this site, including the American toad (*Anaxyrus americanus*), gray treefrog (*Dryophytes versicolor*), northern green frog (*Lithobates clamitans melanota*), and wood frog (*Lithobates sylvaticus*), all of which are secure both statewide and globally. One reptile species, the eastern garter snake (*Thamnophis sirtalis sirtalis*), was visually identified at this site.

Numerous bird species were observed at the Oneida River site using both visual and auditory identification. Many species of least conservation concern we recorded and can be found in Appendix D. Multiple bird species of greater conservation concern were also documented at the Oneida River mitigation site, including the sandhill crane (*Antigone canadensis*), which has a critically imperiled breeding population in New York State; the rusty blackbird (*Euphagus carolinus*), which is a high priority species of greatest conservation need in New York State; the bald eagle (*Haliaeetus leucocephalus*), which is a threatened species in New York State; and the osprey (*Pandion haliaetus*), which is a species of special concern in New York State.

Various mammal species were also observed within the Oneida River site and the immediate area either directly or indirectly (i.e., scat, footprints, etc.), including the white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), North American beaver (*Castor canadensis*), raccoon (*Procyon lotor*), and eastern cottontail (*Sylvilagus floridanus*), all of which are of least conservation concern.

### 3.4.1 Federally Listed Species and Habitat Consideration

Consultation has been initiated with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act to ensure that the proposed stream/wetland mitigation activities will not adversely affect federally listed species or their critical habitats. Coordination is ongoing, and any conservation measures or recommendations provided by USFWS will be incorporated into the project design and implementation, as appropriate. The official species list generated through the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) system is included in **Appendix D.**

## 3.5 Existing Vegetation

The Oneida River site features a mix of agricultural, upland, and wetland ecosystems. A large portion of the site is currently cultivated as a soybean (*Glycine max*) field, resulting in limited vegetative diversity within the agricultural zone. Surrounding the field and perimeter are delineated wetlands that support a combination of native and invasive plant species. Native vegetation, including white turtle head (*Chelone glabra*), water willow (*Decodon verticillatus*), and royal fern (*Osmunda regalis*) contribute vital habitat and ecological functions. A complete list of species observed at the Oneida River site can be found in **Appendix D.**

## 3.6 Invasive Species

The key invasives of Oneida River include, purple loosestrife (*Lythrum salicaria*) affecting 17.75 acres, reed canary grass (*Phalaris arundinacea*) affecting 10.29 acres, common reed (*Phragmites australis*) affecting 1.28 acres, and cattail (*Typha spp*) affecting 1.90 acres. In addition to these dominant species, other invasive plants present in the area include smooth brome (*Bromus inermis*), American manna grass (*Glyceria maxima*), honeysuckle (*Lonicera spp.*), buckthorn (*Rhamnus cathartica*), multiflora rose *(Rosa multiflora*), bittersweet nightshade (*Solanum dulcamara*), tufted vetch (*Vicia cracca*). Refer to **Appendix E** for baseline maps of key invasive species extent.

**Table 3-4.** Invasive Species Coverage at Oneida River in 2025

| **Invasive Species** | **1-5% Cover (Affected Acres)** | **5-25% Cover (Affected Acres)** | **>25% Cover (Affected Acres)** | **Total Area (Affected Acres)** |
|---|---|---|---|---|
| Common Reed (*Phragmites australis*) | 0.11 | 0.00 | 1.57 | 1.68 |
| Reed Canary Grass (*Phalaris arundinacea*) | 8.04 | 1.10 | 1.15 | 10.29 |
| Purple Loosestrife (*Lythrum salicaria*) | 14.48 | 0.32 | 2.95 | 17.75 |
| Cattail (Typha sp.) | 0.89 | 0.67 | 0.34 | 1.90 |
| Cattail (Typha sp.) | 0.00 | 0.01 | 0.06 | 0.07 |

## 3.7 Cultural and Historic Considerations

In accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), initial consultation was initiated with the New York State Historic Preservation Office (NY SHPO) in August 2024 to assess the potential for the proposed mitigation site to affect historic properties or cultural resources. An August 14, 2024 letter from NY SHPO recommended a Phase IA/IB archaeological survey for components of the project that will involve ground disturbance. Further tribal consultation required Onondaga Nation presence for the field surveys. A Phase 1A/1B Work plan was submitted on April 8th, 2025 and approved on April 24th, 2025 (**Appendix F**) with Phase 1B field work in progress as of this writing.

# 4. Wetland Credit Accounting

The USACE and NYSDEC will determine credit generation based on wetland acres that meet or exceed performance standards and proposed credit ratios (**Table 4-1**). One-to-one ratios are based on re-establishment (or creation) of the specific cover types targeted to replace lost functions. 3.5-to-one ratios are based on rehabilitation of existing wetlands and were informed by numerous discussions with regulatory agencies. The final credit generation will be adjusted based on monitoring results and meeting the performance standards of the mitigation site.

**Figure 4-1. USACE Wetland Credit Generation and NYSDEC Mitigation Acreage**

| **Wetland type** Cowardin | **Cover type** Edinger | **Mitigation Type** NYSDEC | **Acres** | **Mitigation type** USACE | **Credit/ Mitigation Ratio** | **Credits/ Adjusted Acres** |
|---|---|---|---|---|---|---|
| **PEM** | **Shallow emergent marsh** | Restoration | 19.4 | Re-establishment | 1:1 | 19.4 |
| | | Enhancement | 0.4 | Rehabilitation | 3.5:1 | 0.1 |
| | **Deep emergent marsh** | Restoration | 26.4 | Re-establishment | 1:1 | 26.4 |
| | | Enhancement | 3.9 | Rehabilitation | 3.5:1 | 1.1 |
| **PFO** | **Hemlock hardwood swamp** | Restoration | 6.4 | Re-establishment | 1:1 | 6.4 |
| | | Enhancement | 0.4 | Rehabilitation | 3.5:1 | 0.1 |
| | **Red maple- hardwood swamp** | Restoration | 85.1 | Re-establishment | 1:1 | 85.1 |
| | | Enhancement (ag fields) | 7.2 | Rehabilitation (ag fields) | 3.5:1 | 2.1 |
| | | Enhancement | 26.8 | Rehabilitation | 3:1 | 8.9 |
| **PSS** | **Scrub shrub** | Restoration | 12.8 | Re-establishment | 1:1 | 12.8 |
| | | Enhancement (ag fields) | 1.4 | Rehabilitation (ag fields) | 3.5:1 | 0.4 |
| | | Enhancement | 1.2 | Rehabilitation | 3:1 | 0.4 |
| | | **Total** | **191.4** | | | **163.2** |

Open water areas (deep water aquatic habitats and vegetated shallows) greater than 0.1 contiguous acre will only be credited where they equal 10% or less of the total wetland creation and re-establishment areas or so long as they are part of a well-integrated complex of open water and emergent vegetation. Deepwater aquatic habitat is defined as any open water area that is either a) permanently inundated at mean annual water depths >6.6 ft, lacks soil, and/or is either unvegetated or supports only floating or submersed macrophytes, or b) permanently inundated areas ≤6.6 ft in depth that do not support rooted-emergent or woody plant species. Areas ≤6.6 ft mean annual depth that support only submergent aquatic plants are vegetated shallows, not wetlands. The 2 acres of open water (POW) that will be impacted will be accommodated by POW areas within the wetlands where they are not counted toward the credit total.

# 5. Wetland Mitigation Work Plan

The wetland mitigation work plan at Oneida River will focus on re-establishing naturally appearing and functioning wetlands. Work methods include removing or disabling existing

drainage tiles, disabling ditches, restoring shallow basins and the natural rims of drained and filled wetlands, and restoring microtopography as described throughout this section. These methods will ensure the target hydrology is met, supporting a diverse community of hydrophytic vegetation. The treatment of existing invasive vegetation will begin prior to construction to minimize the extent of spread to work areas. Seeding/planting will be completed after all grading is complete.

Wetlands were designed at the site in May, June, and July 2024 by TWT staff. Field design forms were filled out for each wetland polygon **(Appendix G)**. Determination of the types of wetlands to be re-established for each area within the Oneida River Site is based on the cover types outlined in Ecological Communities of New York State (Edinger, 2014) and is guided by the number of acres of each wetland type necessary to meet mitigation requirements for the Micron impacts.

Approximately 20.5 acres of shallow emergent marsh, 20.6 acres of deep emergent marsh, 12.7 acres of scrub-shrub, 76.2 acres of red maple hardwood swamp, and 7.2 acres of hemlock hardwood swamp will be re-established with an additional 41 acres of rehabilitation of these cover types **(Figure 5-1)**. The following characteristics guide the locations of each type of wetland to be re-established.

### Shallow Emergent Marsh

Considerations/Characteristics

- Often placed so they are visible to the public
- Prioritized for building within grasslands
- Occurs on mineral soil or deep muck soils (rather than true peat)
- Composition of approximately 75% herbaceous vegetation, 10% emergent aquatics, 5% shrubs under 2 m, 2% shrubs between 2-5 m, 2% trees, and 5% floating aquatics.

Targeted Hydroperiod

- Water depth will range from 1 to 24 inches (during flooding)
- Permanently saturated soils and seasonally flooded
- Periods of dry substrate in mid-late summer
- Water level within 12 inches of the surface for 14-28 consecutive days during the growing season.

### Deep Emergent Marsh

Considerations/Characteristics

- Prioritized for building within grassland areas
- Mineral soils or fine-grained organic soils
- Substrate is flooded by waters that are not subject to violent wave action
- Composition of approximately 85% emergent herbaceous vegetation and 25% floating aquatic vegetation in areas.

Targeted Hydroperiod

- Water depth will range from 6 to 36 inches
- Water level will fluctuate seasonally with water remaining year-round. There will be standing water remaining in the fall.

**Shrub Swamp**

Considerations/Characteristics

- Often occurs along the shore a lake, river, or stream
- In wet depressions or valleys not associated with lakes, or as a transition zone between a marsh, fen, or bog and a swamp or upland community
- Substrate is usually mineral soil or muck
- Composition of approximately 80% shrubs, 12% trees, 40% herbaceous plants, 10% non-vascular plants, aquatics, and vines.

Targeted Hydroperiod

- Water table within 12 inches of the surface for 28 or more consecutive days in the summer
- 1 to 6 inches of inundation for 14 or less consecutive days in in the spring

**Hemlock-Hardwood Swamp**

Considerations/Characteristics

- Mineral soils and deep muck in depressions
- Receives groundwater discharge
- Composition of approximately 85% trees, 25% shrubs, 35% herbaceous vegetation, and 10% vines and non-vascular plants.

Targeted Hydroperiod

- Periods of spring inundation
- Dry substrate in late summer and fall

**Red Maple-Hardwood Swamp**

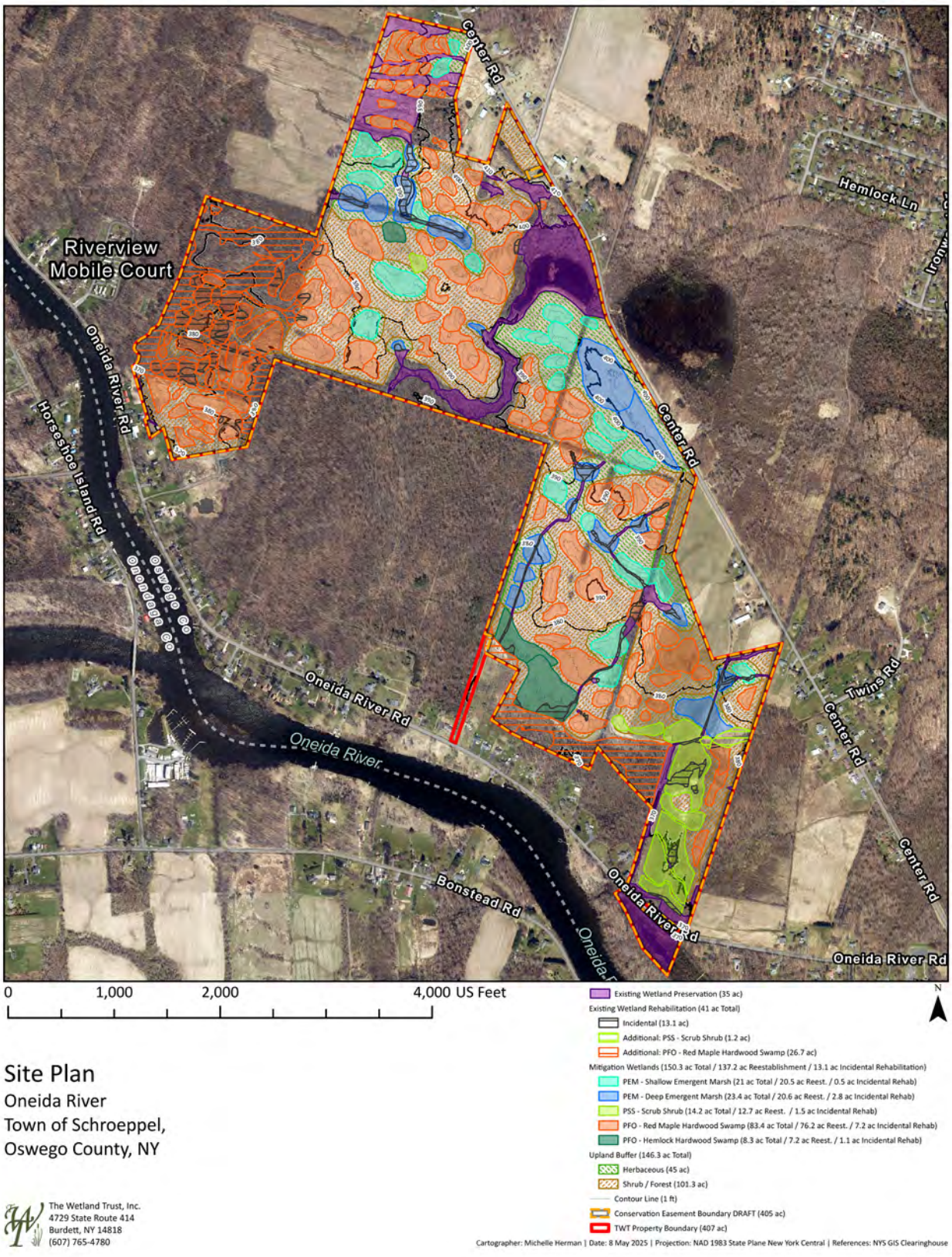
Considerations/Characteristics

- Poorly drained depressions
- Usually inorganic soils with peat, if present, that is less than 20 cm deep
- Occasionally on muck or shallow peat, that is typically acidic to circumneutral
- Composition of approximately 80% trees, 80% shrubs, 50% herbaceous vegetation, and 20% non-vascular plants.

Targeted Hydroperiod

- Seasonal flooding with saturated soils

**Figure 5-1.** Oneida River Site Plan



Equipment operators will include local construction and farming personnel, including those currently farming the sites, and TWT staff. The on-site experience of farming and local knowledge of the operators will maximize productivity and work quality. Prior to construction, work areas will be mowed and/or crops harvested to increase visibility. One or more parking/staging areas for heavy equipment and vehicles will be designated along Bell Road as necessary, avoiding any identified wetlands or aquatic resources. TWT staff will be onsite every day to direct and oversee construction. No tree removal is planned. Should any tree removal be necessary, it will only occur after November 1st.

## 5.1 Invasive Vegetation Control

Prior to the initiation of earthwork, invasive vegetative species will be controlled following strategies outlined in the Invasive Species Monitoring Plan (ISMP, **Appendix E**). This Oneida River ISMP details the target species, timing, and control methods. Methods may include mechanical removal, such as hand-pulling or mowing and chemical treatments using targeted herbicides. These actions will occur during the appropriate season of the target species to maximize effectiveness. Invasive species control will avoid soil disturbance, reduce seed dispersal, and limit impacts on local resources. All treated areas will be monitored to ensure the effectiveness of the control measures, and follow-up treatments will be applied as necessary.

## 5.2 Grading Plan

Basin and berm construction

A shallow basin will be shaped for each designed wetland. The basins will measure 10 feet in diameter to over 200-feet in diameter based on location characteristics and targeted cover type. The basin is dug so that it is deepest in the center in relation to the low edge of the marked perimeter. Basins will range in depth from 1-inch to 36-inches, based on targeted cover type. Refer to **Appendix H** for plan view details. Small, earthen berms around the lower two-thirds of the wetland basin will be constructed from 1.0 to 2.0 feet high at a minimum width of 3-feet wide and gradual 5 percent slopes. Core trenches filled with compacted clay layers will be constructed under the berms to disable the buried drainage structures (**Appendix H)**.

An excavator and dozer will be used to shape gradual slopes and bays along the inside edge of the constructed wetland for a natural look and function. Elevations are verified during construction using a laser level. Topsoil will be temporarily stored on site and spread in and around the finished wetland basin. Spoil material removed is shaped with gradual slopes so that it appears like natural hummock/hollow and ridges. Operators will aim to create wetlands on top of clay texture spoil material by leveling areas of spread soil and creating shallow basins in the soil.

Microtopography restoration

Pit and mound microtopography will be created within each wetland basin, with average specifications depending on the desired wetland type (**Table 5-1**). Emergent basins will generally have the deepest pits, i.e. maximum water depth (approximately 36 inches), and higher and larger

mounds (24-30 inches high and 36 inches in diameter) that are spaced farther apart (30 feet) relative to all other wetland types. The remaining PSS and PFO wetland types will have 10-foot-spaced mounds ranging from 4-12 inches high and 12-48 inches in diameter set within 1-6 inches of water. The soil in these features will not be compacted so it can be expected to settle by 50-percent. Typical cross sections for emergent, scrub-shrub, and forested cover types are depicted in **Figures C-E** in **Appendix H**.

**Table 5-1. Oneida River Grading for Wetland Types**

| Wetland Type | Maximum wetland basin depth (in) | Average individual mound height (in)* | Average mound diameter (in) | Mound Spacing (ft) | Mound Density/acre |
|---|---|---|---|---|---|
| PEM – Shallow Emergent Marsh | 24 | 24 | 36 | 30 | 80 |
| PEM – Deep Emergent Marsh | 36 | 30 | 36 | 30 | 40 |
| PFO – Floodplain Forest | 4 | 12 | 36 | 10 | 200 |
| PFO – Hemlock Hardwood Swamp | 1 | 12 | 36 | 10 | 400 |
| PFO – Red Maple Hardwood Swamp | 1 | 6 | 48 | 10 | 200 |
| PSS – Scrub-shrub | 6 | 4 | 12 | 10 | 400 |

*soil is kept uncompacted and will settle by up to 50%

## 5.3 Rehabilitation/Restoration of Existing Wetlands

Aside from the incidental rehabilitation (where existing wetlands overlap with designed wetland polygons), additional areas of targeted rehabilitation will occur. The main area, the previously forested and cleared parcel to the west of the property, is largely dominated by dead and dying green ash (*Fraxinus pennsylvanica*). Recent logging operations removed mature trees leaving debris, mostly consisting of green ash and shagbark hickory (*Carya ovata*), and pits and mounds from stump removal. Invasive species such as multiflora rose (*Rose multiflora*) have started spreading outward through this area while other high level invasives such as purple loosestrife (*Lythrum salicaria*) and reed canary (*Phalaris arundinacea*) are predicted to follow. Rehabilitation methods include:

- Hydrology- Where constructed drainage features are influencing the site hydrology, actions will be taken to eliminate these features such as the use of ditch plugs.
- Vegetation- Plant wetland specific, native, species to replace lost green ash and increase site diversity. Invasive species control required to prevent spreading to other areas.

## 5.4 Buffer Establishment

Upland buffers will be established surrounding all re-established, restored, or rehabilitated wetland areas to enhance habitat quality, protect water quality, and improve ecological function. Where buffers surround re-established palustrine emergent (PEM) wetlands, they will be planted with native herbaceous upland species to maintain open habitat structure and provide transitional zones that support pollinators and other wildlife. In areas adjacent to re-established palustrine scrub-

shrub (PSS), palustrine forested (PFO) wetlands, or restored stream channels, upland buffers will be planted with native shrub and tree species to create structurally diverse, forested buffer zones. These plantings will promote shading, nutrient uptake, and habitat connectivity.

## 5.4 Planting Plan

The desired wetland plant community will be established through broadcasting high-quality, native seeds and planting trees and shrubs as per the planting plan in Table **5-2a-f** below. The objective is to re-establish and rehabilitate high-quality emergent, shrub, and forested wetlands of select communities to replace the lost functions at the Micron Impact Site.

Species proposed are based on many factors including commercial availability, typical species present in similar/local plant communities, species present at the impact site and Mitigation site, species establishment considerations (e.g. rhizomatous), etc. The species listed are not intended to be exclusive and may be supplemented or changed with ecologically similar species.

Spacing is a general recommendation and will be random and not grid like. Site conditions and topographic features will be utilized in plant placements, such as black willow (Salix nigra) along riparian features. TWT staff will coordinate and provide guidance to the planting crew prior to the start of work and will be on-site during operations. Pre-staking of planting locations, used to facilitate instruction to planting staff, will be completed as necessary.

The site will also be seeded and planted to increase the likelihood of successfully establishing target species/quantities and to minimize the opportunity for invasive species to become established. Seeding shown are targeted to supplement plantings and will be further customized with distributor based on site factors and seed/plant material availability. The distributor has confirmed that all mixes can be customized as necessary.

TWT plans on erecting a deer-proof fence around the Buxton Creek Site construction areas to increase the survival rate of planted trees and shrubs. The lower portion of the fence will be modified for the passage of frogs, toads, salamanders, snakes, turtles, and small mammals.

Both PSS and PFO wetland Re-Establishment/Restoration areas will use a mix of herbaceous species derived from **Table 5-2a**, PEM- Shallow Emergent Plant List, as the foundational understory mix. The PSS and PFO areas will be at an early successional state and these herbaceous species are important early succession companion species that support success. While each community type listed includes a few representative herbaceous plantings tailored to sites specific goals, the broader PEM list will be used to add plant species diversity for each creation site.

| **Table 5-2a. PEM - Shallow Emergent Marsh** | | | | | |
|---|---|---|---|---|---|
| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |

| | | | | | |
|---|---|---|---|---|---|
| Swamp Milkweed | *Asclepias incarnata* | OBL | 4 | S5 | 15-20 pounds per acre |
| Symphyotrichum puniceum | *Aster puniceus* | OBL | 4 | S5 | |
| False nettle | *Boehmeria cylindrica* | OBL | 7 | S5 | |
| Canada bluejoint grass | *Calamagrostis canadensis* | OBL | 7 | S5 | |
| wild calla | *Calla palustris* | OBL | 7 | S5 | |
| Longhair Sedge | *Carex comosa* | OBL | 4 | S5 | |
| Fringed Sedge | *Carex crinita* | OBL | 3 | S5 | |
| Bottlebrush Sedge | *Carex hystericina* | OBL | 5 | S5 | |
| Shallow Sedge | *Carex lurida* | OBL | 4 | S5 | |
| Pointed Broom Sedge | *Carex scoparia* | FACW | 1 | S5 | |
| Upright Sedge | *Carex stricta* | OBL | 4 | S5 | |
| Hairy-fruited sedge | *Carex trichocarpa* | OBL | 5 | S5 | |
| fox sedge | *Carex vulpinoidea* | OBL | 2 | S5 | |
| White Turtlehead | *Chelone glabra* | OBL | 6 | S5 | |
| Swamp Loosestrife | *Decodon verticillatus* | OBL | 7 | S5 | |
| deer-tongue rosette grass | *Dichanthelium clandestinum* | FACW | 4 | S5 | |
| Crested wood fern | *Dryopteris cristata* | OBl | 8 | S5 | |
| Three-way Sedge | *Dulichium arundinaceum* | OBL | 8 | S5 | |
| Common Spikerush | *Eleocharis palustris* | OBL | 5 | S5 | |
| Eastern riverbank wild rye | *Elymus riparius* | FACW | 6 | S5 | |
| Virginia Wildrye | *Elymus virginicus* | FACW | 6 | S5 | |
| Virginia wild rye | *Elymus virginicus* | FACW | 6 | S5 | |
| Boneset | *Eupatorium perfoliatum* | FACW | 3 | S5 | |
| common flat-topped goldenrod | *Euthamia graminifolia* | FAC | 1 | S5 | |
| Spotted Joe-Pye Weed | *Eutrochium maculatum* | OBL | 4 | S5 | |
| fowl manna grass | *Glyceria striata* | OBL | 6 | S5 | |
| Common sneezeweed | *Helenium autumnale* | FACW | 4 | S5 | |
| Swamp sunflower | *Helianthus angustifolius* | FACW | 10 | S2 | |
| Spotted Touch-me-not | *Impatiens capensis* | FACW | 3 | S5 | |
| Pale Touch-me-not | *Impatiens pallida* | FACW | 3 | S4 | |
| Northern Blue Flag | *Iris versicolor* | OBL | 4 | S5 | |
| Canada Rush | *Juncus canadensis* | OBL | 8 | S5 | |
| Soft Rush | *Juncus effusus* | OBL | 2 | S5 | |
| Cardinal Flower | *Lobelia cardinalis* | FACW | 7 | S4S5 | |
| Great Blue Lobelia | *Lobelia siphilitica* | FACW | 5 | S5 | |
| American bugleweed | *Lycopus americanus* | OBL | 4 | S5 | |
| Square-stemmed Monkey Flower | *Mimulus ringens* | OBL | 6 | S5 | |
| common wild bergamot | *Monarda fistulosa* | FACU | 2 | S5 | |
| Sensitive Fern | *Onoclea sensibilis* | FACW | 2 | S5 | |
| Cinnamon Fern | *Osmunda cinnamomea* | FACW | 6 | S5 | |
| Royal fern | *Osmunda regalis* | OBL | 6 | S5 | |
| Lizard's Tail | *Saururus cernuus* | OBL | 6 | S5 | |
| soft-stemmed bulrush | *Schoenoplectus tabernaemontani* | OBL | 4 | S5 | |
| dark-green bulrush | *Scirpus atrovirens* | OBL | 2 | S5 | |
| common wool grass | *Scirpus cyperinus* | OBL | 4 | S5 | |
| rough-leaved goldenrod | *Solidago patula* | OBL | 7 | S5 | |
| rough goldenrod | *Solidago rugosa* | FAC | 1 | S5 | |
| Indian grass | *Sorghastrum nutans* | FACU | 6 | S5 | |
| American bur-reed | *Sparganium americanum* | OBL | 4 | S5 | |
| lance-leaved aster | *Symphyotrichum lanceolatum* | FACW | 1 | S5 | |
| New England aster | *Symphyotrichum novae-angliae* | FACW | 1 | S5 | |
| Purple-Stemmed Aster | *Symphyotrichum puniceum* | OBL | 4 | S5 | |
| Marsh Fern | *Thelypteris palustris* | FACW | 4 | S5 | |
| Blue Vervain | *Verbena hastata* | FACW | 3 | S5 | |
| white vervain | *Verbena urticifolia* | FAC | 2 | S5 | |
| New York ironweed | *Vernonia noveboracensis* | FACW | 3 | S4 | |
| Culver's root | *Veronicastrum virginicum* | FACW | 5 | S2 | |

| | | | | | |
|---|---|---|---|---|---|
| common golden Alexanders | *Zizia aurea* | FAC | 4 | S5 | |

**Table 5-2b. PEM - Deep Emergent Marsh**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| Sweet flag | *Acorus americanua* | OBL | 5 | S5 | Herbaceous plugs 3-ft spacing<br><br>15-20 pounds per acre in applicable areas |
| river bulrush | *Bolboschoenus fluviatilis* | OBL | 4 | S5 | |
| bristly sedge | *Carex comosa* | OBL | 4 | S5 | |
| long sedge | *Carex folliculata* | OBL | 7 | S5 | |
| Gray's Sedge | *Carex grayi* | FACW | 7 | S5 | |
| Cartex lacustris | *Carex lacustris* | OBL | 5 | S5 | |
| cyperus-like sedge | *Carex pseudocyperus* | OBL | 6 | S5 | |
| three-fruited sedge | *Carex trisperma* | OBL | 8 | S5 | |
| Swamp Loosestrife | *Decodon verticillatus* | OBL | 7 | S5 | |
| blue flag | *Iris versicolor* | OBL | 4 | S5 | |
| Canada rush | *Juncus canadensis* | OBL | 8 | S5 | |
| bayonet rush | *Juncus militaris* | OBL | 9 | S4 | |
| rice cut grass | *Leersia oryzoides* | OBL | 4 | S5 | |
| Royal Fern | *Osmunda regalis* | OBL | 6 | S5 | |
| green arrow arum | *Peltandra virginica* | OBL | 6 | S5 | |
| pickerel weed | *Pontederia cordata* | OBL | 4 | S5 | |
| common arrowhead | *Sagittaria latifolia* | OBL | 3 | S5 | |
| Lizards tail | *Saururus cernuus* | OBL | 3 | S5 | |
| three-square bulrush | *Schoenoplectus pungens* | OBL | 6 | S5 | |
| soft-stemmed bulrush | *Schoenoplectus tabernaemontani* | OBL | 4 | S5 | |
| Green Bulrush | *Scirpus atrovirens* | FACW | 2 | S5 | |
| Woolgrass | *Scirpus cyperinus* | FACW | 4 | S5 | |
| Water Parsnip | *Sium suave* | OBL | 6 | S5 | |
| Bur-reed | *Sparganium americanum* | OBL | 4 | S5 | |
| giant bur-reed | *Sparganium eurycarpum* | OBL | 4 | S5 | |
| Wild rice | *Zizania palustris* | OBL | 8 | SNR | |
| Sweet flag | *Acorus americanua* | OBL | 5 | S5 | |
| river bulrush | *Bolboschoenus fluviatilis* | OBL | 4 | S5 | |
| bristly sedge | *Carex comosa* | OBL | 4 | S5 | |
| long sedge | *Carex folliculata* | OBL | 7 | S5 | |
| Gray's Sedge | *Carex grayi* | FACW | 7 | S5 | |

**Table 5-2c. PSS – Scrub Shrub**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| speckled alder | *Alnus incana* | FACW | 5 | S5 | 450/acre<br><br>Shrub clusters |
| Smooth alder | *Alnus serrulata* | OBL | 6 | S5 | |
| black chokeberry | *Aronia melanocarpa* | FACW | 7 | S5 | |
| Purple chokeberry | *Aronia prunifolia* | FACW | 7 | S4 | |
| Buttonbush | *Cephalanthus occidentalis* | OBL | 7 | S5 | |
| Silky dogwood | *Cornus amomum* | FACW | 6 | S5 | |
| Gray dogwood | *Cornus racemosa* | FAC | 2 | S5 | |
| Red osier dogwood | *Cornus sericea* | FACW | 6 | S5 | |
| Common winterberry | *Ilex verticillata* | FACW | 7 | S5 | |

| | | | | | |
|---|---|---|---|---|---|
| Northern spicebush | *Lindera benzoin* | FACW | 6 | S5 | |
| Ninebark | *Physocarpus opulifolius* | FACW | 7 | S5 | |
| Swamp rose | *Rosa palustris* | FACW | 9 | S5 | |
| Bebbs willow | *Salix bebbiana* | FACW | 3 | S5 | |
| Pussy willow | *Salix discolor* | FACW | 3 | S5 | |
| shining willow | *Salix lucida* | FACW | 5 | S5 | |
| meadow willow | *Salix petiolaris* | FACW | 5 | S5 | |
| Silky willow | *Salix sericea* | OBL | 5 | S5 | |
| Common elderberry | *Sambucus canadensis* | FACW | 4 | S5 | |
| Meadow-sweet | *Spiraea alba* | FACW | 3 | S4 | |
| steeplebush | *Spiraea tomentosa* | FACW | 4 | S5 | |
| High bush blueberry | *Vaccinium corymbosum* | FACW | 6 | S5 | |
| Northern wild raisin | *Viburnum cassinoides* | FACW | 7 | S5 | |
| Arrow-wood | *Viburnum dentatum* | FAC | 3 | S5 | |
| Nannyberry | *Viburnum Lentago* | FAC | 4 | S5 | |

**Table 5-2d. PFO – Red Maple Hardwood Swamp**

| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
|---|---|---|---|---|---|
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Red maple | *Acer rubrum* | FAC | 4 | S5 | |
| Silver maple | *Acer saccharinum* | FACW | 6 | S5 | |
| yellow birch | *Betula alleghaniensis* | FAC | 7 | S5 | |
| Ironwood | *Carpinus caroliniana* | FAC | 6 | S5 | |
| Bitternut hickory | *Carya cordiformis* | FAC | 7 | S5 | |
| Blackgum | *Nyssa sylvatica* | FAC | 7 | S5 | |
| American sycamore | *Platanus occidentalis* | FACW | 3 | S5 | |
| Eastern cottonwood | *Populus deltoides* | FAC | 2 | S5 | |
| Swamp white oak | *Quercus bicolor* | FACW | 7 | S5 | |
| American elm | *Ulmus americana* | FACW | 4 | S5 | |
| Slippery elm | *Ulmus rubra* | FAC | 8 | S5 | |
| Shrub Species* | | | | | |
| speckled alder | *Alnus incana* | FACW | 5 | S5 | |
| common winterberry | *Ilex verticillata* | FACW | 7 | S5 | |
| spicebush | *Lindera benzoin* | FACW | 6 | S5 | |
| Arrow-wood | *Viburnum dentatum* | FAC | 3 | S5 | |
| Nannyberry | *Viburnum Lentago* | FAC | 4 | S5 | |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | | |
| Herbaceous** | | | | | |
| False Nettle | *Boehmeria cylindrica* | OBL | 7 | S5 | |
| tussock sedge | *Carex stricta* | OBL | 4 | S5 | |
| Spotted Touch-me-not | *Impatiens capensis* | FACW | 3 | S5 | |
| Sensitive Fern | *Onoclea sensibilis* | FACW | 2 | S5 | |
| royal fern | *Osmunda regalis* | OBL | 6 | S5 | |
| cinnamon fern | *Osmundastrum cinnamomeum* | FACW | 6 | S5 | |
| tall meadow rue | *Thalictrum pubescens* | FACW | 4 | S5 | |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | | |

| **Table 5-2e. PFO – Hemlock Hardwood Swamp** | | | | | |
|---|---|---|---|---|---|
| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Balsam fir | *Abies balsamea* | FAC | 6 | S5 | |
| Red maple | *Acer rubrum* | FAC | 4 | S5 | |
| Yellow birch | *Betula alleghaniensis* | FAC | 7 | S5 | |
| tamarack | *Larix laricina* | FACW | 5 | S5 | |
| black gum | *Nyssa sylvatica* | FAC | 7 | S5 | |
| black spruce | *Picea mariana* | FACW | 7 | S5 | |
| Red spruce | *Picea rubens* | FACU | 6 | S5 | |
| Eastern white pine | *Pinus strobus* | FACU | 3 | S5 | |
| northern white cedar | *Thuja occidentalis* | FACW | 6 | S5 | |
| american elm | *Ulmus americana* | FACW | 4 | S5 | |
| slippery elm | *Ulmus rubra* | FAC | 8 | S5 | |
| Shrub Species* | | | | | |
| common winterberry | *Ilex verticillata* | FACW | 7 | S5 | |
| spicebush | *Lindera benzoin* | FACW | 6 | S5 | |
| High bush blueberry | *Vaccinium corymbosum* | FACW | 6 | S5 | |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | | |
| Herbaceous** | | | | | |
| brome-like sedge | *Carex bromoides* | FACW | 7 | S5 | |
| long sedge | *Carex folliculata* | OBL | 7 | S5 | |
| three-fruited sedge | *Carex trisperma* | OBL | 8 | S5 | |
| goldthread | *Coptis trifolia* | FACW | 8 | S5 | |
| spotted jewelweed | *Impatiens capensis* | FACW | 3 | S5 | |
| sensitive fern | *Onoclea sensibilis* | FACW | 2 | S5 | |
| cinnamon fern | *Osmundastrum cinnamomeum* | FACW | 6 | S5 | |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | | |

| **Table 5-2f. PFO – Rehabilitation/Enhancement** | | | | | |
|---|---|---|---|---|---|
| Common Name | Scientific Name | Wetland Indicator | Coefficient of Conservatism (CoC) | Conservation Status | Planting Rate |
| Tree Speceis | | | | | 15-20 pounds per acre seed<br><br>450/acre<br><br>Shrub clusters<br><br>Trees 10-25 feet apart |
| Red Maple | *Acer rubrum* | FAC | 2 | S5 | |
| Black gum | *Nyssa sylvatica* | FAC | 5 | S5 | |
| Swamp white oak | *Quercus bicolor* | FACW | 7 | S5 | |
| Bur oak | *Quercus macrocarpa* | FAC | 6 | S5 | |
| Pin oak | *Quercus palustris* | FACW | 7 | S4 | |
| Black willow | *Salix nigra* | OBL | 2 | S5 | |
| Shrub Species* | | | | | |
| Chokeberry | *Aronia melanocarpa* | FACW | 6 | S5 | |
| Silky dogwood | *Cornus amomum* | FACW | 4 | S5 | |
| Red osier dogwood | *Cornus sericea* | FACW | 5 | S5 | |
| Buttonbush | *Cephalanthus occidentalis* | OBL | 7 | S5 | |
| Spicebush | *Lindera benzoin* | FAC | 5 | S5 | |
| Elderberry | *Sambucus canadensis* | FACW | 3 | S5 | |
| * These species listed are not an exhaustive list, additional species may be used from the PSS List | | | | | |
| Herbaceous** | | | | | |
| Grey sedge | *Carex grayi* | FACW | 7 | S5 | |
| Franks sedge | *Carex frankii* | OBL | 1 | S2 | |
| Pointed Broom Sedge | Carex scoparia | FACW | 1 | S5 | |

| | | | | | |
|---|---|---|---|---|---|
| Upright Sedge | Carex stricta | OBL | 4 | S5 | |
| **Not an exhaustive list, additional species may be added from the PEM lists. | | | | | |

## 5.5 Timing and Sequence

Micron's large project size will require a phased approach for construction; and the wetland mitigation effort will follow a similar phased approach consistent with regulatory requirements. See 33 C.F.R. § 332.3(m) "Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of **or concurrent with the activity causing the authorized impacts**." The Oneida River Site will be one of the first sites developed along with Buxton Creek and Lower Caughdenoy Creek (**Table 5-3**).

**Table 5-3. Mitigation Site Sequence**

| Site Name | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 ~ | ∞ In Perpetuity |
|---|---|---|---|---|---|---|---|---|
| Buxton Creek Stream and Wetlands | | Construction begins | | | | | | |
| **Oneida River Wetlands** | | Construction begins | | **Monitoring, maintenance, and adaptive management after construction for a 15-year period* after approved as-built (not to scale)** | | | | **Permanent stewardship begins after monitoring period ends, pending agency approval** |
| Lower Caughdenoy Creek Wetlands | | Construction begins | | | | | | |
| Fish Creek Stream and Wetlands | | | Construction begins | | | | | |
| Upper Caughdenoy Creek Wetlands | | | | Construction begins | | | | |
| Sixmile Creek Wetlands | | | | | Construction begins | | | |

The construction sequence at Oneida River follows that shown in **Table 5-4**. Due to the large size, the site will be constructed in approximately 2-3 years with the following spring dedicated to planting that will initiate the 15-year monitoring and maintenance window to meet success criteria. Planting in the fall may occur if it is advantageous to plant establishment.

The mitigation work plan at Oneida River will be phased in several steps. The treatment of existing invasive vegetation will begin as early as possible to minimize spread to work areas once agricultural activities cease and the wetlands are constructed. Seeding and planting will be completed after all grading is complete.

**Table 5-3. Construction Sequence**

| Activity | Timing | Phase |
|---|---|---|
| Invasive species management. | Spring Year 1* | Pre-construction |
| Work area layout and preparation, SWPPP implementation. | Spring Year 1 | Pre-construction |
| Groundwater dam installation, basin excavation, pond and ditch filling. Erosion control seeding. | Summer Year 1 | Construction Phase I: Earthwork |

| | | |
|---|---|---|
| Final grading to develop microtopography, loosening of soil as necessary. | Summer Year 1 | Construction Phase II: Topography Enhancement |
| Seeding, planting, and mulching per planting plan and SWPPP, placement of woody debris for a natural look | Fall Year 1 | Construction Phase III: Seeding & Planting |
| Removal of all construction materials and general site clean-up. Erosion and sediment control structures (silt fencing) will be removed once site is stabilized. | Fall Year 1 | Post-construction |
| *invasive species management will likely begin prior to this time with repeat treatments | | |

## 5.6 Sediment and erosion control measures

All erosion and sediment control practices will be installed as specified by the Stormwater Pollution Prevention Plan (SWPPP, **Appendix I**) prior to any ground disturbance. The limit of disturbance and spoil deposition areas will be clearly marked to ensure ground disturbances are minimized. Temporary erosion and sedimentation control measures in and around mitigation sites will receive consistent and constant inspection and maintenance by qualified personnel. Spoil and sediment collected will be removed and placed upland in a manner that prevents erosion and transportation of sediment to a waterway or wetland. All erosion and sediment control devices and structures will be removed once full stabilization is achieved and no later than three full growing seasons after the planting of the mitigation site.

# 6. Performance Standards

Success within the mitigation site is based on several factors. First, mitigation acreage must meet the three wetland criteria described in the 1987 Corps of Engineers Wetland Delineation Manual and 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, or any amendments thereto:

- Hydrology: the wetland area is inundated, or the water table is ≤12 inches below the soil surface for ≥14 consecutive days during the growing season. Hydrology must be met more than 50% of the monitoring period at a minimum frequency of 6 years in 10 or 8 years in 15. Any combination of inundation or shallow water table is acceptable in meeting the 14-day minimum requirement.
- Vegetation: the wetland area demonstrates a relative dominance of Facultative (FAC) or wetter plant coverage, meeting one or more USACE Wetland Determination Data Form Hydrophytic Vegetation Indicators.
- Soils: the wetland area contains soil profiles that demonstrate one or more USACE Wetland Determination Data Form Hydric Soil Indicators.

Second, mitigation success will depend on the establishment of wetland community types (as described in Section 5) that replace in form and function the impacted wetlands. At Buxton Creek, the targeted cover types are shallow and deep emergent marsh, floodplain forest, red maple and hemlock hardwood forest.

Third, by the end of the 15-year monitoring period, the site shall meet or exceed the following vegetative performance standards (see also **Table 6-1**):

- **Palustrine Emergent Wetland (PEM):** The areas meeting palustrine emergent wetland criteria will have ninety percent (90%) relative cover of wetland work areas by native hydrophytes (FAC, FACW, or OBL). Monitoring will be conducted yearly with interim targets of 20% relative cover after the first full year after planting, 40% by Year 3, 60% by Year 5, and 80% by Year 7, providing sufficient time to assess progress and account for any adaptive management needs to ensure final success criteria will be met. The final performance standard of 90% shall be met at 10 years.

  Deep emergent and shallow emergent marsh (Edinger et al. 2014) are the targeted cover types for PEM areas.
  - Shallow marshes will be 6 inches to 3 feet deep with exposed soils in the summer and very variable in species.
  - Deep emergent marshes will be 6 inches to 6 feet deep, less likely to have exposed soils, and very variable in species, with species more likely to be submerged or floating.
- **Palustrine Scrub Shrub (PSS)**: The areas meeting palustrine scrub shrub criteria will have at least 400 native shrubs/trees per acre, and those stems will display normal and healthy growth, free of disease and pests. At least 280 will be native shrub species. Stem density standards will include native volunteer species. Up to 800 woody stems will be planted, as needed, based on survival. Stem density monitoring will be conducted at a frequency of 10 times in 15 years, providing sufficient time to assess progress and account for any adaptive management needs to ensure final success criteria will be met.
- **Palustrine Forest (PFO)**: The areas meeting palustrine forest criteria will have a minimum of 400 native, live, and healthy (disease- and pest-free) woody plants growing per acre. At least 280 will be native tree species. Stem density standards will include native volunteer species. Up to 600 woody stems will be planted, as needed, based on survival. Stem density monitoring will be conducted at a frequency of 10 times in 15 years, providing sufficient time to assess progress and account for any adaptive management needs to ensure final success criteria will be met.

  Because tree height is an important factor in reducing long-term herbivory and ensuring overall success, monitoring will also occur for a period of 15 years, with average tree height targets within planting areas at 2 ft. by the 3rd year of vegetation growth, 3 ft. by the 5th year of vegetation growth, 4 ft. by the 7th year of vegetation growth, 6 ft. by the 10th year of vegetation growth, 8 ft by the $12^{th}$ year, and 9 ft by the $15^{th}$ year. The wetland forest types targeted are:
  - Floodplain Forest, will be planted adjacent to streams

  - Red-maple hardwood swamp- can be characterized by being seasonally flooded with hummocks and hollows, and red maple will most likely be the dominant canopy tree. Although ash may be abundant, those species are no longer planted.

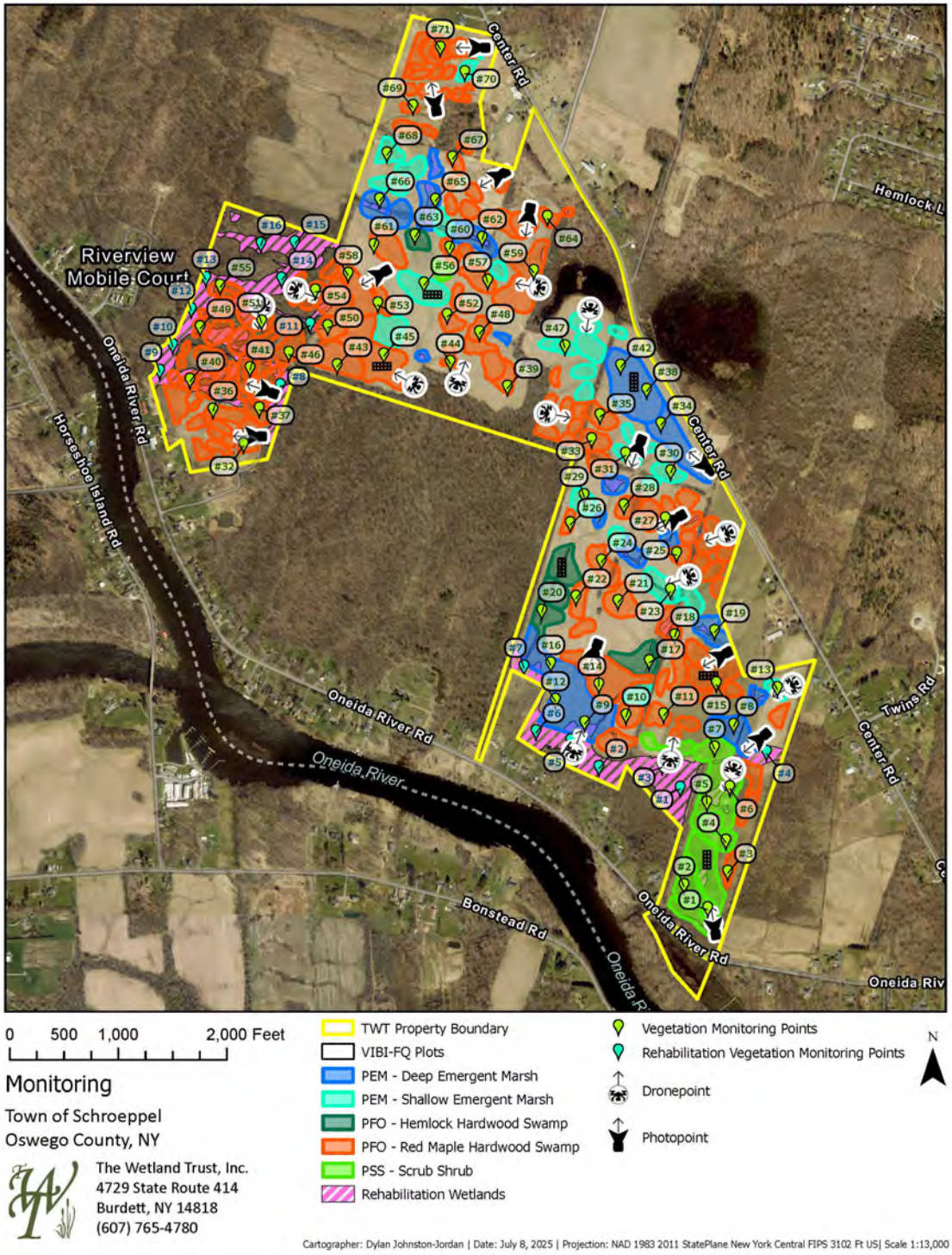
- **Invasive Species**
  - Wetland acreage will have a final target of less than 5% relative cover of all non-Typha invasive plant species such as, but not limited to: purple loosestrife, common reed, and reed canarygrass. Interim targets will be 15% the first year following planting, 15% by Year 3, 12.5% by Year 5 and 10% by Year 7.
  - Due to the difficulty of distinguishing the three species of cattails, as well as the likelihood that at least one of these will be present in many types of New York wetlands, the total relative cover of all invasive species, including cattails, will be less than 10%. Interim targets will be 20% the first year following planting, 18.5% by Year 3, 15% by Year 5 and 12.5% by Year 7.
- **VIBI:** The vegetation index of biotic integrity "floristic quality" (VIBI-FQ) of the rehabilitated and re-established wetlands will be equal to or greater than 40 by the end of the monitoring period. Final scores will be dependent on baseline VIBI scores and will have a minimum of 10-point increase. VIBI plots will be placed in each cover type for re-establishment and rehabilitation. Interim targets will aim for a score of 15 or more by the first year following planting, ≥20 by Year 3, ≥30 by Year 5, and ≥35 by Year 7.
- **Stratified Randomized Permanent Plots:** To obtain a comprehensive view of characteristics at the site, random permanent plots will be established for data collection. The plots will be stratified among the different wetland cover types and mitigation types in which plots will have an equal chance of being selected in each stratum. Vegetation data such as relative cover, stem counts, tree height, and invasive coverage will be observed and documented within these plots for baseline data and post-mitigation monitoring for the 15-year period. See **Figure 6-1** for proposed permanent data collection locations.

**Table 6-1. Wetland Performance Standards and Interim Goals**

| Performance Standard | Interim and Final Goals | | | | | | |
|---|---|---|---|---|---|---|---|
| | Year 1[1] | Year 3 | Year 5 | Year 7 | Year 10[2] | Year 12 | Year 15[3] |
| Relative cover by native perennial hydrophytes (FAC or wetter) | 20% | 40% | 60% | 80% | 90% | | |
| Stem density in PSS areas (per acre, maximum of 160 shall be tree species) | 400[4] | 400 | 400 | 400 | 400 | 400 | 400 |
| Stem density in PFO areas (per acre, maximum of 200 shall be shrub species) | 400[4] | 400 | 400 | 400 | 400 | 400 | 400 |
| Tree height in PFO areas | 1 ft | 2 ft | 3 ft | 4 ft | 6.6 ft | 8ft | 9ft |
| Relative cover of all non-Typha invasive plant species in PEM, PSS, and PFO areas | 15% | 15% | 12.5% | 10% | 5% | | |
| Total relative cover of all invasive species, including Typha spp. in PEM, PSS, and PFO areas | 20% | 18.5% | 15% | 12.5% | 10% | | |
| VIBI-FQ score | ≥15 | ≥20 | ≥30 | ≥35 | ≥40 | | |

1. First full growing season following planting
2. Final herbaceous/PEM and PSS goals to be met at this time or additional monitoring years added
3. Final PFO (tree height and density) goals to be met at this time
4. Based on a beginning planting rate of 450 stems per acre with additional stems to be planted within the first three monitoring years, if needed, depending on survival. Approximately 25% of the final stem goals are expected to be native volunteer species.

**Figure 6-1.** Vegetation Monitoring and Photo Point Locations



# 7. Monitoring Requirements

There will be an initial post-construction "as-built" plan sheet of constructed features with 1' contours, map/descriptions of planted materials, wetland delineation by wetland cover type (PEM, PSS, PFO) and other habitat types e.g. tributaries, ditches, vegetated shallows, deepwater, estimates of invasive plant species cover within the re-establishment areas, and other information relevant for monitoring comparison.

Site monitoring begins after construction is completed and will consist of ten (10) monitoring reports over fifteen (15) years unless additional monitoring is required to demonstrate achievement of performance standards. Monitoring information collected will determine if performance standards are being met and inform maintenance tasks or adaptive management needed to help meet those standards.

Each monitoring report will include:

- Work completed, as-builts, and milestones
  - Evaluation of progress toward all performance goals (i.e. Sections 6 and 9) as appropriate.
  - Report on the status of all erosion control measures on the mitigation site, and any additional temporary measures needed.
  - Weekly mapping of all work completed.
- Hydrological reporting
  - Hydrology data collected from permanent water wells, as well as hydrology information derived from Wetland Determination Data Forms completed throughout the site.
  - Maps showing the location and extent of wetland cover types (PEM, PSS, PFO) and other habitat types (e.g., tributaries, ditches, vegetated shallows, deepwater), locations of monitoring wells, staff gauges, and precipitation gauges.
  - Vegetated shallows and/or deep-water habitats >0.1 acre in size will be mapped and reported.
- Vegetation reporting
  - Description of the general plant health, vigor, and mortality including a prognosis for future survival with qualitative descriptions and photos illustrating tree growth.
  - Relative cover, stem density, and tree height reporting with descriptions of the monitoring protocols used.
  - VIBI scores and data sheets for wetland rehabilitation areas.
- Wildlife reporting
  - List of wildlife observed and other salient biological occurrences.
- Invasive species reporting

- Relative cover of invasive species with descriptions of the monitoring protocols used.
- Any areas >0.1 acre that are dominated by invasives will be mapped with acreages.

- Corrective actions proposed/implemented
  - Description of remedial actions completed during the monitoring year. Any measures requiring additional soil manipulation or changes in hydrology, all of which will be undertaken only after written approval from NYSDEC and USACE Buffalo District.
- Other
  - Photographs at permanent photo points.

## 7.1 Reporting schedule

After an initial Post-Construction As-Built Report, monitoring reports will be submitted by December 31st of the monitoring year to describe conditions in the growing season. All reports in digital format will be submitted to USACE, Regulatory Branch, Auburn Office and NYSDEC, Region 7 Headquarters in Syracuse, with any hard copies provided upon request. All monitoring, reporting, requests, and adaptive management is the responsibility of the permittee, Micron, with implementation by TWT.

**Table 7-1. Anticipated Reporting Schedule.**

| **Activity** | **Years Post Construction** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| Wetland and aquatic resources delineation | | X | | X | | X | | X | | | X | | | X | | X |
| Hydrologic monitoring | * | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Vegetation: native and invasive relative cover | | X | X | X | X | X | X | X | X | X | X | | | X | | X |
| Vegetation: woody stem density and tree height | | X | | X | | X | | X | | | X | | | X | | X |
| Vegetation: VIBI-FQ | | X | | X | | X | | X | | | X | | | X | | X |
| Photo sequence | | X | X | X | X | X | | X | | | X | | | X | | X |
| Detailed site mapping | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Reports** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| As-built report | X | | | | | | | | | | | | | | | |
| Monitoring & management report | | X | X | X | X | X | | X | | | X | | X | X | | X |

*Location of wells and gauges will be detailed in the as-built report

If construction takes more than one growing season to be completed, an interim construction report will be submitted and will describe completed tasks and those remaining. The monitoring timeline will begin following the completion of construction and planting activities described herein.

# 8. Maintenance Plan

Periodic maintenance activities will be expected to occur following initial construction and planting to ensure long-term viability of the restored and protected resources on the project sites. Below are descriptions outlining the projected maintenance activities during the monitoring period. Any maintenance activities undertaken will be documented in the appropriate monitoring report along with a discussion of any anticipated maintenance to be completed in future years. Significant adjustments such as earthwork will require USACE and NYSDEC approval.

## 8.1 Hydrology Maintenance

Immediately following construction and throughout the 15-year monitoring period, Micron, facilitated by TWT, will monitor the development of site hydrology to ensure that adequate and anticipated hydrology has been restored. It is understood that wetland hydrology may take time to develop, sometimes years, and the desired hydrology or hydric soils may not be achieved until later in the monitoring period. Factors that could negatively impact the intended hydrology include erosion of spillways, failed ditch plugs, compromised groundwater dams, unidentified drainage tiles, and wildlife activity (i.e. beaver and muskrats). If hydrology standards are not being met, TWT will determine if more time is needed for development or make the appropriate adjustments as soon as practicable, preferably before vegetation establishment to minimize disturbance. Possible maintenance actions addressing hydrology issues include:

- Reinforcing spillways with rock or installing other vertical grade control structures (requires USACE and NYSDEC approval),
- Adjusting height/depth of ditch fill or groundwater dams (requires USACE and NYSDEC approval),
- Additional drain tile searches,
- Trapping and/or relocating nuisance wildlife.

## 8.2 Vegetation Maintenance

The development of a healthy and diverse native vegetative community is crucial for the success of this wetland restoration project, therefore, Micron (via TWT) will closely monitor vegetative establishment following initial planting/seeding and throughout the 15-year monitoring period. Regular maintenance is intended to ensure the health and survival of native woody plants and herbaceous species, to limit the establishment and spread of invasive plant species, and to keep

performance standard progress on track. Maintenance actions for vegetative community health include:

- Herbivory prevention- Whitetail deer are a major threat to plant diversity (Blossey et al. 2024). TWT, to the degree practical, will install deer fence along the entirety of the wetland compensation areas with commercial grade 8 ft deer fence. The fence will stay on site for the project duration. To ensure other wildlife's free passage, the fence bottom will be raised to allow small mammals and herpetofauna to pass (about 6 inches),
- Tree and shrub maintenance to combat disease, herbivory, or competition from other plants,
- Supplemental planting/seeding of native trees, shrubs, or herbaceous vegetation,
- Managing invasive species as needed through mechanical or chemical control using aquatic-safe herbicides by a licensed applicator (requires NYSDEC approval).

### 8.3 General Site Maintenance

General site maintenance is anticipated to occur regularly throughout the 15-year monitoring period and beyond. Micron bears responsibility for site maintenance, as facilitated by TWT, the fee-simple owner of the site. Non-ecological maintenance tasks include but are not limited to fence and gate upkeep, structural maintenance where applicable, signage installation, monitoring for vandalism, and maintaining trail/security cameras if deemed necessary.

## 9. Long Term Management Plan

The purpose of the Long-Term Management Plan (LTMP) is to ensure the long-term sustainability of the protected and restored resources after mitigation performance standards have been achieved. The LTMP has been included in **Appendix J**. As the site develops and matures, the LTMP will be amended as needed to include relevant information. After the monitoring period has ended, TWT will prepare a final LTMP to be submitted with the project's final monitoring report that will be reviewed and approved by the USACE and NYSDEC. The final LTMP will address the site-specific future needs of the project based upon conditions at the time of the active period closeout.

### 9.1 Responsible Party

Micron is the Responsible Party for all phases of this permittee responsible mitigation through monitoring and final acceptance when a Certificate of Completion (or an equivalent) will be provided by the agencies. Once the mitigation is complete Micron will transfer long-term management to TWT.

### 9.2 Long-Term Monitoring and Management Activities

The LTMP includes the anticipated long-term monitoring and management activities and their estimated costs. These activities will be adjusted as needed throughout and after the active ecological monitoring period.

### 9.3 Long-Term Funding Mechanism

TWT has a director-controlled Stewardship Management Investment Account specifically established for Micron mitigation projects. This account's investment income will come from investment instruments that are low-risk and broad-based, (e.g., TWT may use 30-year Treasury Bonds) to support permanent long-term management and maintenance as described in the final LTMP. The entirety of the account will be funded before implementation starts at $8,000/credit (or per DEC restoration/creation acre) for the wetland compensation and $60/ft for stream compensation. The funding level designed in the Long-Term Management Budget in the LTMP is sufficient to sustain the long-term management of all of Micron's wetland and stream compensation. This fund will also have a clause in TWT's Bylaws that provides for its transfer along with the Micron lands to another NGO should that issue arise.

## 10. Adaptive Management Plan

Beyond the anticipated maintenance needs detailed in Section 8, preparedness for unexpected changes in site conditions is imperative to the continued success of the project. This adaptive management strategy outlines the approach for addressing potential challenges and unexpected changes, including those related to fire, climate change, disease, and other factors. Continuous monitoring to inform the adaptation of management strategies will ensure that the protected and restored resources remain resilient and meet long-term conservation goals. Potential challenges warranting adaptive management include:

- **Fire**: The effects of a significant fire event can lead to negative impacts on a young, re-established wetland. Fire can scorch and kill newly planted or immature vegetation, particularly woody species like trees and shrubs. The loss of vegetative cover can lead to increased soil erosion resulting in potential sedimentation issues to connected water bodies. Fire can create favorable conditions for invasive species as well as affect soil structure and permeability thereby altering hydrology. In the event of a significant fire event, TWT will address the loss of plants, erosion, and any other impacts and determine the appropriate adaptive management approach such as replanting, stabilizing soils, and/or monitoring water quality to facilitate recovery.
- **Climate change**: Changes in precipitation and temperatures associated with climate change can significantly affect wetland mitigation sites through a variety of mechanisms, impacting the hydrology, vegetation, wildlife, and overall ecological functions. To adaptively manage the impacts of climate change on wetland mitigation sites, TWT can

implement strategies such as altered water management practices and management of vegetative communities with an emphasis on native species resilient to climate variability and extremes.

- **Disease**: Unforeseen damage to wildlife, vegetation, and ecosystem services is possible via disease or pests. Pathogen spread or a pest invasion can decrease plant diversity and biomass, disrupting the wetland's structural integrity and the success of mitigation performance standards. Monitoring and early detection will be key to assessing such an event and implementing adaptive management strategies such as replanting (i.e. with hardier, disease-resistant species), sanitation processes and controlling the spread.
- **Flood**: Though wetlands aid in flood attenuation, a significant flooding event can have negative effects on a young wetland mitigation project. High energy floodwaters can cause soil erosion and sedimentation, leading to the damage of plant roots and flooding of vegetation. Ditch plugs or groundwater dams/low earthen berms that were installed during construction may fail or breach under serious flooding events. In such an event, TWT will determine the appropriate adaptive management action including replanting of the site, soil stabilization, or re-construction of ditch plugs and groundwater dams.

# 11. Financial Assurances

The short-term financial assurances for this compensatory mitigation plan will include individual performance bonds for each mitigation site to ensure compliance with permit requirements and project success. Experienced insurance brokers with the Great American Insurance Group will assist in preparing these financial assurances by providing guidance on structuring the performance bonds and ensuring they meet regulatory expectations. This approach ensures that each mitigation site is financially secured independently, providing clear accountability and reducing risk for both regulatory agencies and stakeholders.

## 12. References

Biebighauser, T.R., 2007. Wetland Drainage, Restoration, and Repair. University Press of Kentucky. 241 pages.

Biebighauser, T.R., 2015. Wetland Restoration and Construction: A Technical Guide (3rd ed.). Wetland Restoration and Training, LLC.

Blossey, B., D. Hare, and D.M. Walter. Where have all the flowers gone? A call for federal leadership in deer management in the United States. 2024. Front. Conserv, Sci. 5:1382132

Conley et al. 2018. New York State Riparian Opportunity Assessment.

Cowardin et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States.

Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2014. Ecological Communities of New York State (2nd ed.). A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

Environmental Laboratory, 1987. Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/. Accessed Jun 2022.

US Army Corps of Engineers. 1999. USACE Highway Methodology Workbook Supplement

US Army Corps of Engineers. 2005. Regulatory Guidance Letter No 05-05 – Ordinary High Water Mark Identification

US Army Corps of Engineers. 2008. Jurisdictional Determination Form Instructional Guidebook.

US Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (v.2). ERDC/EL TR-12-1. Vicksburg, MS.

US Army Corps of Engineers. 2016b. Guidelines for Stream Mitigation Banking and In-lieu Fee Programs in Ohio

US Environmental Protection Agency. 2005. Riparian Buffer Width, Vegetative Cover, and Nitrogen Removal Effectiveness: A Review of Current Science and Regulations

# Appendix A.

# CONSERVATION EASEMENT

On lands of The Wetland Trust, Inc.

Center Road, Town of Schroeppel, Oswego

County, NY

*covering a 396.4-acre portion of*

Tax Parcels 315.-1-3, 315.-1-39, 315.01-1-4, 315.00-1-29 and 305.00-04-17.01

THIS DECLARATION OF CONSERVATION EASEMENT is made as of the _____ day of _____202_, by The Wetland Trust, Inc. (the "Grantor"), a New York not-for-profit with offices at 4729 State Route 414, Burdett, NY 14818, for the benefit of, but not the burden upon, The Wetland Conservancy, Inc. (the "Holder"), a New York not-for-profit entity having its office at P.O. Box 220, Burdett, New York 14818.

**WHEREAS**, Grantor is the owner in fee simple of approximately 407 acres of certain real property located in the Town of Schroeppel, County of Oswego, and State of New York, of which property is covered by this conservation easement and more fully described in Schedule A and annexed hereto (the "Protected Property"), and

**WHEREAS,** The Wetland Trust, Inc., a non-profit 501(c)(3) organization, is providing compensatory mitigation services to Micron New York Semiconductor Manufacturing LLC, with principal offices at 8000 South Federal Way, Boise, Idaho, 83716 for unavoidable adverse impacts to waters of the United States authorized under Section 404 of the Clean Water Act (33 U.S.C. § 1344) , and/or Sections 9 or 10 of the Rivers and Harbors Act (33 U.S.C. §§ 401, 403); and impacts to jurisdiction waters of New York State authorized under …….

**WHEREAS,** the Protected Property is to be protected in perpetuity through this Conservation Easement for those purposes as described in the Micron Oneida River Mitigation Plan, attached to this CE, pursuant to which The Wetland Trust, Inc., has committed to permanently protect and maintain a mitigation project on the Protected Property; and

**WHEREAS**, in relation to the compensatory mitigation activities, the Protected Property is subject to the conditions of the Mitigation plan, and any Federal or NY State Permit; and

**WHEREAS**, to ensure the long-term protection of the Protected Property, Grantor agrees to restrict ownership and use of the Protected Property: in order to protect, restore, and maintain the chemical, physical, and biological integrity of waters of the United States including wetlands through the control of discharges of dredged or fill material located on the Protected Property; in accordance with the common law and with the Conservation Easements provisions of New York Environmental Conservation Law ("**ECL**") Article 49, Title 3; in recognition of the continuing benefit to scenic and natural resources and the environment; and as a condition of being issued the Permit; and

**WHEREAS**, Grantor desires to declare, create, and convey to the Holder a Conservation Easement placing certain limitations and affirmative obligations on the Protected Property for the purpose of maintaining the Protected Property substantially in its natural condition, in perpetuity; and

**WHEREAS**, the purposes of this Conservation Easement are to protect the scenic, natural resource, and aquatic resource values of the Protected Property including native flora and fauna and the ecological processes that support them, diverse forest types and conditions, soil productivity, biological diversity, water quality, and aquatic habitats including wetlands; and

**WHEREAS**, the Holder is a 501 ©(3) not-for-profit corporation and is qualified to hold a Conservation Easement in accordance with ECL Section 49-0305; and

**WHEREAS**, Grantor agrees, in accordance with ECL Section 49-0305.5, that rights of enforcement of the terms of this Conservation Easement shall be held by the Holder, and that the USACE, NYSDEC or other appropriate enforcement agencies of the United States or New York State hold rights of enforcement under the Permit; and

**NOW, THEREFORE**, for the foregoing consideration, and in further consideration of the restrictions, rights, and agreements herein, and for the purposes of preservation, protection, and conservation of the Protected Property and the conservation and wildlife resources thereon, Grantor hereby creates, gives, grants, bargains, and conveys to the Holder a perpetual easement in, to, over, and across the Protected Property subject to the Permit, , and any current and future modifications thereto.

## A. RESTRICTIONS

Grantor shall ensure compliance with the following Restrictions on the Protected Property, which shall run with the Protected Property in perpetuity, and be binding on the Grantor, the Holder, and their respective successors, assigns, lessees, and other occupiers and users. These Restrictions are subject to Grantor's Reserved Rights, which follow.

1. **General**. There shall be no future fillings, flooding, excavating, mining, or drilling; no removal of natural materials (soil, sand, gravel, rock, minerals, etc.); no dumping of materials; and no alteration of the topography which would materially affect the Protected Property in any manner, except as authorized by the Permit, , and any modifications thereof.

2. **Waters and Wetlands**. In addition to the general restrictions above, within the Protected Property there shall be no draining, dredging, damming, or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws and regulations, except as authorized by the Permit, and any modifications thereof.

3. **Trees/Vegetation**. On the Protected Property there shall be no clearing, burning, cutting, or destroying of trees or vegetation, except as may be necessary to protect public health or safety or as authorized by the Permit, and any modifications thereof; there shall be no planting or introduction of non-native or exotic species of trees or vegetation.

4. **Waste Disposal.** There shall be no disposal or storage of liquid or solid waste or other unsightly, hazardous, toxic or offensive material on the Protected Property.

5. **Uses**. No agricultural, animal husbandry, industrial, residential development, mining, logging, or commercial activity shall be undertaken or allowed on the Protected Property.

6. **Structures**. There shall be no construction, erection, or placement of buildings, billboards, or any other structures, to include fences, parking lots, trailers, mobile homes, camping accommodations, or recreational vehicles, or additions to existing structures, on the Protected Property, except as

authorized by the Permit, and any modifications thereof.

7. **New Roads**. There shall be no construction of new roads, trails, or walkways on the Protected Property without the prior written approval (including approval of the manner of construction) of the Holder and the USACE and NYSDEC

8. **Utilities**. There shall be no construction or placement of utilities or related facilities (including telecommunications towers and antennas) in, over, or under the Protected Property without the prior written approval (including approval of the manner of construction) of the Holder, the USACE and the NYSDEC.

9. **Pest Control**. There shall be no application of pesticides or biological controls, including controls of problem vegetation, on the Protected Property without prior written approval (including approval of the manner of application) of the Holder, the USACE, the NYSDEC or as authorized by the Permit, and any modifications thereof.

10. **Vehicular Use**. There shall be no use of any motorized vehicle or motorized equipment, and no use of any non-motorized bicycle anywhere on the Protected Property, except in the case of emergency, for the purpose of enforcement of applicable laws and regulations, for the purpose of monitoring compliance with the purposes of this Conservation Easement, or as authorized by the Permit, and any modifications thereof.

11. **Subdivision**. There shall be no division or subdivision of the Protected Property.

12. **Marking**. The Grantor shall mark the limits of the Protected Property in a manner approved by the Holder, USACE, and NYSDEC and shall maintain the marking in place so as to notify the public that the Protected Property is an area preserved for conservation purposes.

13. **Other Prohibitions**. Any other use of, or activity on, the Protected Property which is or may become inconsistent with the purposes of the Conservation Easement, the preservation of the Protected Property substantially in its natural condition, or the protection of its environmental systems, is prohibited, except as authorized by the Permit, and any modifications thereof.

## B. RESERVED RIGHTS OF GRANTOR

Grantor reserves the right to engage in all acts or uses not prohibited by the Restrictions, which are not inconsistent with the Purpose of this Conservation Easement, the preservation of the Protected Property substantially in its natural condition, and the protection of its environmental systems, and which do not interfere with any obligations under the Permit, and any modifications or amendments thereof. Nothing herein shall be deemed to modify or amend any other or additional agreements between or among Grantor, the Holder, and/or the USACE and NYSDEC. In the event any of Grantor's acts or uses on the Protected Property are subject to review under the New York State Environmental Quality Review Act (SEQRA), Grantee and the Holder shall be designated as interested parties and notified of the review process.

## C. GENERAL PROVISIONS

The following General Provisions shall be binding upon the Grantor and the Grantor's heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees and agents, and shall inure to the benefit of the Holder, USACE and NYSDEC, and the heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees and agents of the Holder, USACE and NYSDEC:

1. **Rights of Access and Entry.** The Holder, USACE and NYSDEC shall have the right to enter and go upon the Protected Property for purposes of monitoring and inspection, and to take actions necessary to verify compliance with the Restrictions. The Holder shall also have rights of visual access and view, and the right to enter and go upon the Protected Property for purposes of making scientific or educational observations and studies, and taking samples, in such a manner as will not disturb the quiet enjoyment of the Protected Property by Grantor. No right of access or entry by the general public to any portion of the Protected Property is conveyed by this Conservation Easement.

2. **Enforcement.** Grantor acknowledges and agrees that the Holder's, USACE's and NYSDEC's

remedies at law for any violation of this Conservation Easement are inadequate. In the event of a breach of any of the Restrictions set forth above, the Holder, USACE, or NYSDEC will notify the Grantor in writing of the breach. The Grantor shall have thirty (30) days after receipt of such notice to undertake actions that are reasonably calculated to promptly correct the conditions constituting the breach. If the Grantor fails to commence such corrective action within thirty (30) days, or fails to complete the necessary corrective action, the Holder, USACE, or NYSDEC may undertake such actions, including legal proceedings, as are necessary to effect such corrective action. Among other relief, the Holder, USACE, NYSDEC shall be entitled to specific performance of the terms of this Conservation Easement and to a complete restoration of the Protected Property, correcting damage caused by any breach of the Restrictions. Breaches of the General Provisions of this Conservation Easement shall be actionable without notice. The costs of a breach, correction or restoration, including reasonable Holder expenses, expert or consultant expenses, court costs and attorneys' fees, shall be paid by the Grantor. Enforcement shall be at the discretion of the Holder, USACE, or NYSDEC. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel or waiver. The Holder, USACE, or NYSDEC's enforcement rights are in addition to, and shall not limit, enforcement rights available under other provisions of law or equity, or under any applicable permit or certification. Failure to timely enforce compliance with this Conservation Easement or the use limitations contained herein by any party shall not bar subsequent enforcement by such party and shall not be deemed a waiver of the party's right to take action to enforce any provision of this Conservation Easement.

**Events Beyond Grantor's Control.** Nothing herein shall be construed to authorize the Holder or the USACE to institute any proceedings against Grantor for any changes to the Protected Property caused by acts of God or circumstances beyond the Grantor's control such as earthquake, fire, flood, storm, war, civil disturbance, strike, or similar causes.

3. **Obligations of Ownership.** Grantor is responsible for payment of all real estate taxes, assessments, fees, or other charges levied upon the Protected Property, and Grantor will provide copies of receipts evidencing payment of any such charges upon request of the Holder, USACE, or NYSDEC. Any liens, mortgages or other encumbrances affecting the Protected Property shall be subject to the terms of this Conservation Easement. The Holder, USACE, or NYSDEC shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Protected Property, except as expressly provided herein. Nothing herein shall relieve the Grantor of the obligation to comply with federal, state, or local laws, regulations, and permits that may apply to the exercise of ownership, or rights under this

Conservation Easement, by Grantor.

4. **Recording.** The Grantor shall have this Conservation Easement duly recorded and indexed as such in the Office of the County Clerk of Oswego County, New York, as described in ECL Section 49-0305.4. Upon recording, the Grantor shall forward a copy of this Conservation Easement as recorded to the Holder, USACE, and NYSDEC and, as described in ECL Section 49-0305.4, the New York Department of Environmental Conservation.

5. **Extinguishment.** In the event that changed conditions render impossible the continued use of the Protected Property for conservation purposes, this Conservation Easement may only be extinguished, in whole or in part, by judicial proceeding under authority of ECL Section 49-0307. In accordance with 33 C.F.R. 332.7(a)(3), USACE must be provided 60-day advance notification before any action is taken to amend or terminate this Conservation Easement.

6. **Eminent Domain.** If all or part of the Protected Property is taken in the exercise of eminent domain so as to substantially abrogate the Restrictions imposed by this Conservation Easement, the Grantor and the Holder shall promptly notify the USACE and NYSDEC and shall join in appropriate actions at the time of such taking to recover the full value of the taking, and all incidental and direct damages due to the taking. Each party shall be responsible for its own costs in any such legal proceeding.

7. **Proceeds of Taking.** This Conservation Easement constitutes a real property interest immediately vested in the Holder. In the event that all or a portion of this Protected Property is sold, exchanged, or involuntarily converted following an extinguishment or the exercise of eminent domain, the Holder shall be entitled to the fair market value of this Conservation Easement. The parties stipulate that the fair market value of this Conservation Easement shall be determined by identifying the fair market value of the Protected Property unencumbered by this Conservation Easement (minus any increase in value after the date of this grant attributable to

improvements) and subtracting the value of the Protected Property with the Conservation Easement at the time of this grant. The values at the time of this grant shall be the values used, or which would have been used, to calculate a deduction for federal income tax purposes, pursuant to Section 170(h) of the Internal Revenue Code (whether the grant is eligible or ineligible for such a deduction). The Holder shall use its share of the proceeds in a manner consistent with the purposes of this Conservation Easement.

8. **Notification.** Any notice, request for approval, or other communication required under this Conservation Agreement shall be sent by registered or certified mail, postage prepaid, to the

following addresses (or such address as may be hereafter specified by notice pursuant to this paragraph):

To Grantor:

The Wetland Trust, Inc.
4729 State Route 414
Burdett, New York 14818

To Holder:

The Wetlands Conservancy, Inc
P.O. Box 220
Burdett, New York 14818

To the USACE:

U.S. Army Corps of Engineers, New York District ATTN:

Regulatory Branch
Room 1937, 26 Federal Plaza
New York, NY 10278-0090

And

U.S. Army Corps of Engineers, Buffalo District ATTN:

Regulatory Branch
1776 Niagara Street
Buffalo, NY 14207-3199

To the NYSDEC:

?

9. **Assignment.** This Conservation Easement is transferable, but only to a holder qualified under ECL Section 49-0305.3, and approved in writing by the USACE and NYSDEC before transfer. As a condition of such transfer, the transferee shall agree to all of the restrictions, rights, and provisions herein, and to continue to carry out the purposes of this Conservation Easement. Assignments shall be accomplished by amendment of this Conservation Easement in accordance with Section C, Paragraph 14. In accordance with 33 C.F.R. 332.7(a)(3), USACE must be provided 60-day advance notification before any action is taken to assign this Conservation Easement.

10. **Failure of Holder.** If at any time the Holder is unable or fails to enforce this Conservation Easement, or if the Holder ceases to be a holder qualified under ECL Section 49-0305, and if within

a reasonable period of time after the occurrence of one of these events the Holder fails to make an assignment pursuant to paragraph 10, then the Holder's interest shall become vested in another holder, as approved by the USACE and NYSDEC, qualified in accordance with an appropriate (e.g., cy pres) proceeding, to be brought by the Grantor in a court of competent jurisdiction, or by Holder, USACE, and NYSDEC finding a replacement entity agreeable to USACE and NYSDEC

11. **Subsequent Transfer.** This Conservation Easement shall be perpetual and run with the land and shall be binding upon all future owners of any interest in the Protected Property. The conveyance of any portion of or any interest in the Protected Property, by sale, exchange, devise or gift, shall be made by an instrument which expressly provides that the interest thereby conveyed is subject to this Conservation Easement, without modification or amendment of the terms of this Easement, and such instrument shall expressly incorporate this Conservation Easement by reference, specifically setting forth the date, office, liber and page of the recording of this Conservation Easement. The failure of any such instrument to comply with the provisions hereof shall not affect the validity or enforceability of this Conservation Easement, nor shall such failure affect the Holder's or the USACE' rights hereunder. No less than thirty (30) days prior to conveyance of any interest in the Protected Property, Grantor (to include any successor Grantor) shall notify the Holder, USACE, and NYSDEC of such intended conveyance, providing the full names and mailing addresses of all Grantees, and the individual principals thereof, under any such conveyance. In accordance with 33 C.F.R. 332.7(a)(3), USACE must be provided 60-day advance notification before any action is taken to transfer the Protected Property.

12. No **Merger of Interests.** In the event the same person or entity ever simultaneously holds an interest in the Protected Property under this Conservation Easement, and holds the underlying title in fee, the parties intend that the separate interests shall not merge.

13. **Amendment.** This Conservation Easement may be amended in accordance with ECL Section 49-0307, but only in a writing signed by the Grantor and the Holder, or their successors or assigns, and approved in writing by the USACE and NYSDEC, its successors or assigns; provided such amendment does not affect the qualification of this Conservation Easement or the status of the Holder under ECL Section 49-0305 or any other applicable law; and provided such amendment is consistent with the conservation purposes of this grant and its perpetual duration. Any amendment to this Conservation Easement shall be recorded and provided to the Holder, the USACE and the New York State Department of Environmental Conservation, in the manner set forth in paragraph C-5 above. In accordance with 33 C.F.R. 332.7(a)(3), USACE and NYSDEC must be provided 60-day advance notification before any action is taken to amend this Conservation Easement.

14. **Severability.** Should a court of competent jurisdiction find any separate part of this Conservation Easement void or unenforceable le, the remainder shall continue in full force and effect.

15. **Warranties by Grantor.** Grantor warrants that it owns the Protected Property in fee simple, and that Grantor owns all interests in the Protected Property that may be impaired by the granting of this Conservation Easement. Grantor further warrants that there are no outstanding mortgages, tax liens, encumbrances , or other interests in the Protected Property that have not been expressly subordinated to this Conservation Easement. Grantor further warrants that no structures of any kind, to include roads, trails or walkways, and no violations of restrictions of this of this Conservation Easement exist on the Protected Property at the time of execution hereof. Grantor further warrants that the Holder shall have the use of and enjoy all the benefits derived from and arising out of this Conservation Easement.

16. **No Gift or Dedication**. Nothing contained in this Conservation Easement shall be deemed to be a gift for dedication of all or any part of either the Permitted Property or the Protected Property to the public, or for public use.

IN WITNESS WHEREOF, Grantor and Holder have executed this Conservation Easement, as of the date written above.

Execution by Grantor: The Wetland Trust, Inc.

By: _____

Title:

STATE OF NEW YORK) ss.:

COUNTY OF Schuyler)

On the __day of _____in the year 202_ before me, the undersigned, a notary public in and for said state, personally appeared the Grantor _____, _____ of The Wetland Trust, Inc. personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____

Notary Public Date: _____

Approval and Acceptance by Holder: The Wetland Conservancy, Inc.

By: _____

Title: Chair

STATE OF NEW YORK) ss:

COUNTY OF Tompkins)

On the __day of _____in the year 202_ before me, the undersigned, a notary public in and for said state, personally appeared the Holder **Aaron Ristow**, Chair of The Wetland Conservancy, Inc. personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____ _____

Notary Public Date

**Schedule A. Legal description of parcel to be covered by this Conservation Easement.**

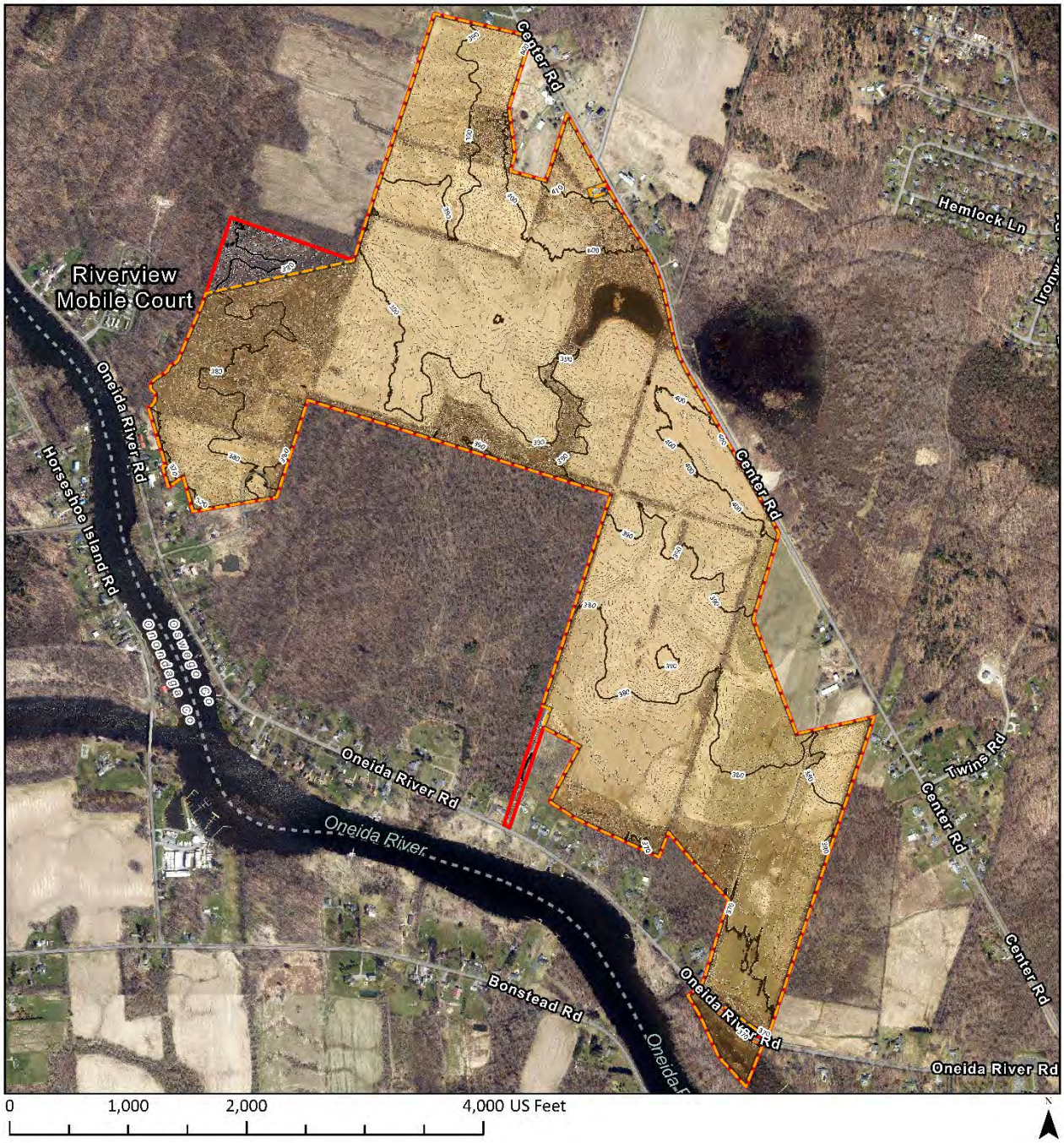
Oneida River, Center Road

Town of Schroeppel, Oswego County, NY, covering a *396.4*-acre portion

of Tax Parcels 315.-1-3, 315.-1-39, 315.01-1-4, 315.00-1-29 and 305.00-04-17.01

ALL THAT TRACT OR PARCEL OF LAND,

[Left intentionally blank- awaiting boundary survey with descriptions of metes and bounds]




## Conservation Easement

Oneida River
Town of Schroeppel,
Oswego County, NY

Contour Line (1 ft)
Conservation Easement Boundary DRAFT (396.4 ac)
TWT Property Boundary (407 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 20 Mar. 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

# Appendix B.



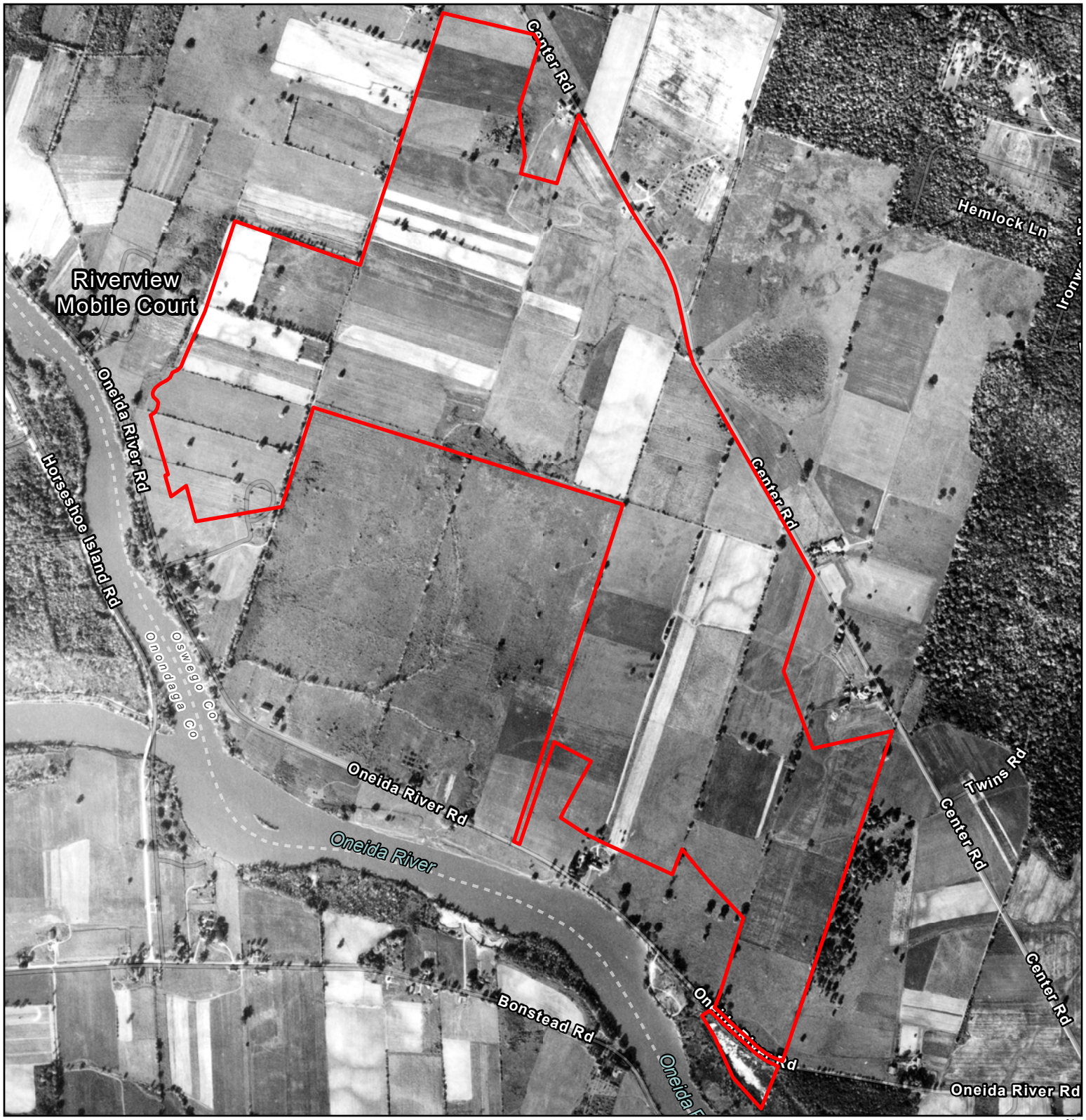

TWT Property Boundary (411.1 ac)

# Imagery (1938)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse



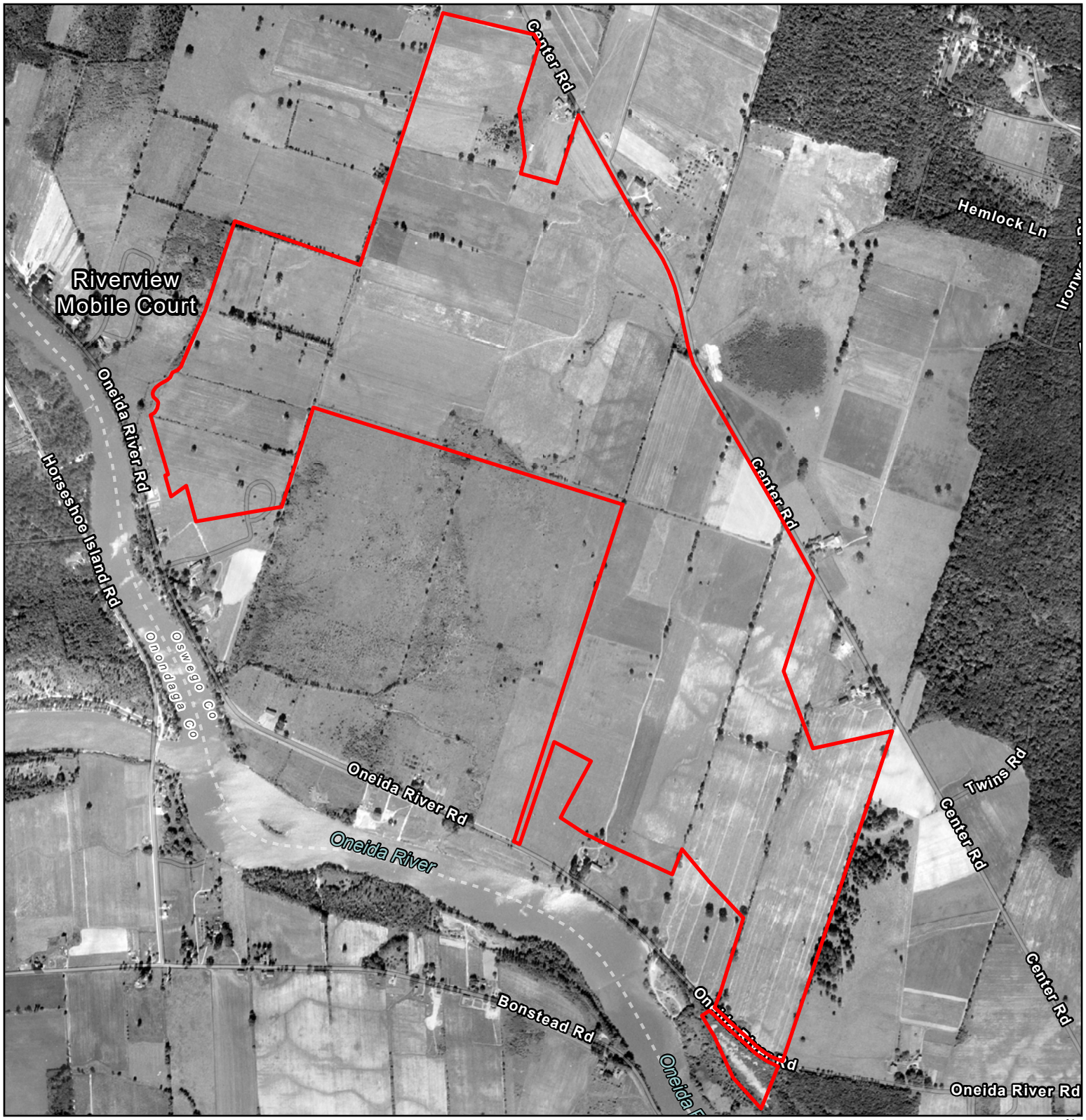

# Imagery (1951)

Oneida River
Town of Schroeppel,
Oswego County, NY

TWT Property Boundary (411.1 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse



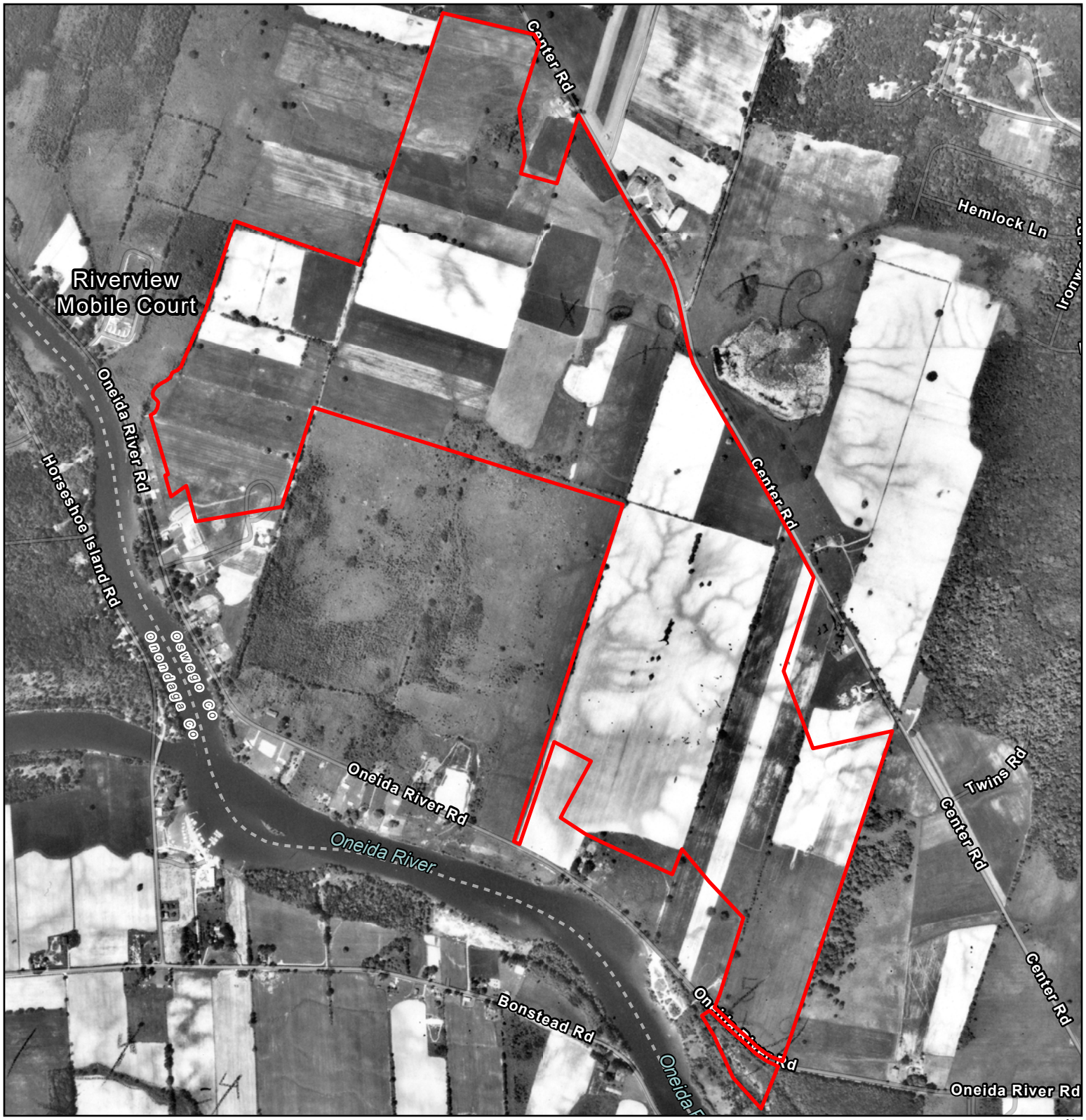

TWT Property Boundary (411.1 ac)

# Imagery (1955)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse



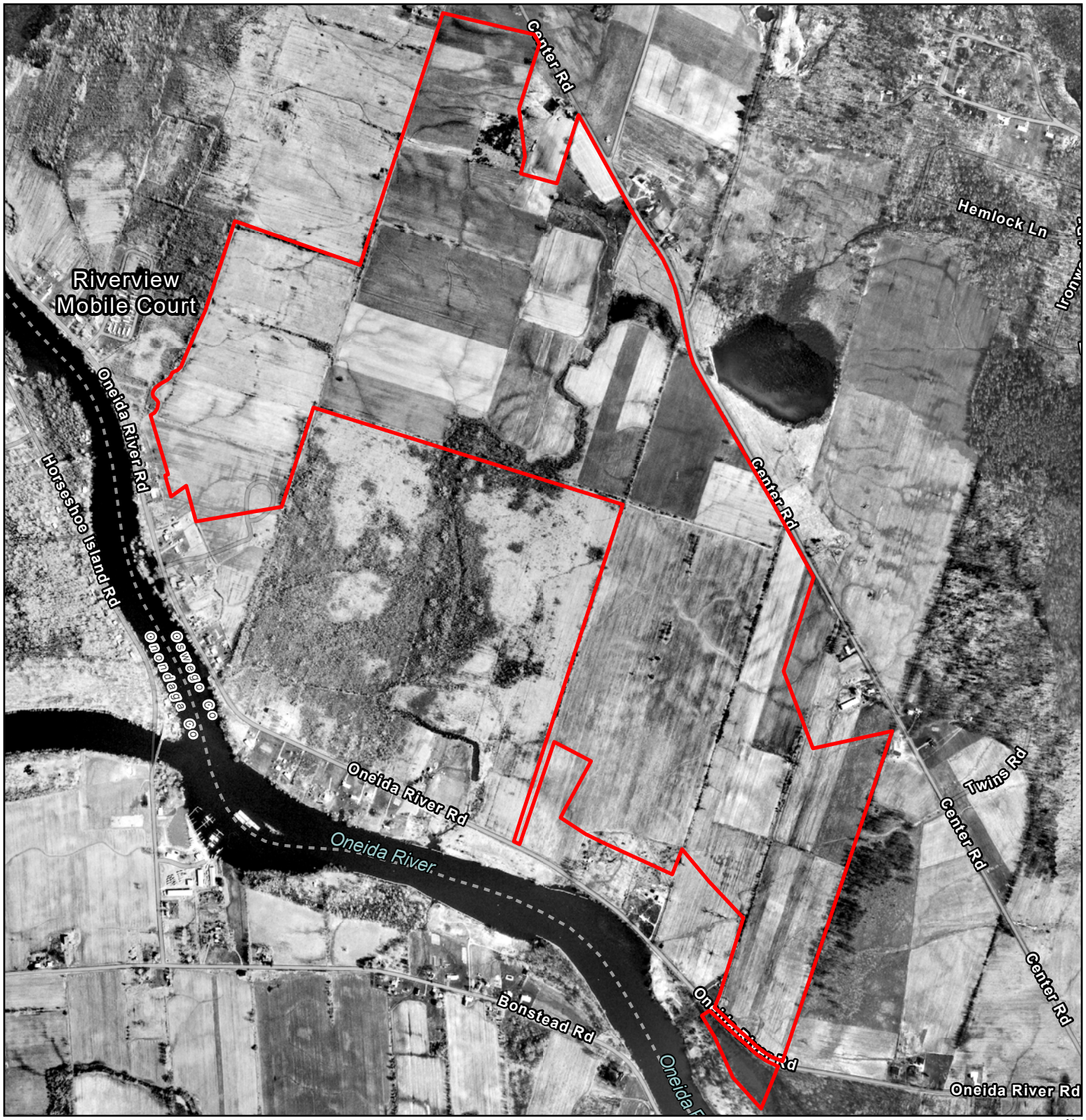

TWT Property Boundary (411.1 ac)

# Imagery (1966)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




TWT Property Boundary (411.1 ac)

# Imagery (1972)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




TWT Property Boundary (411.1 ac)

# Imagery (1994)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse



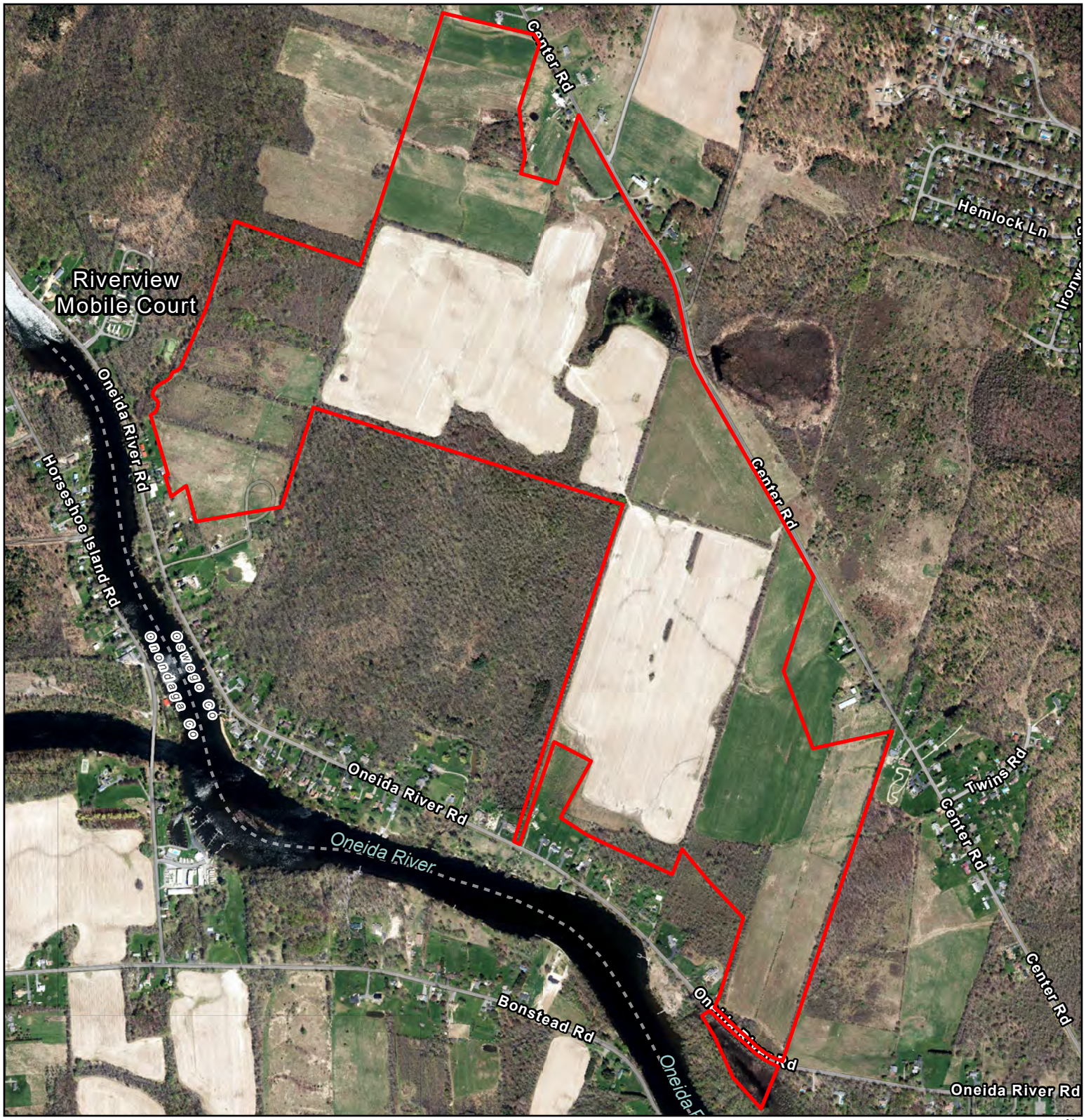

TWT Property Boundary (411.1 ac)

# Imagery (2009)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




TWT Property Boundary (411.1 ac)

# Imagery (2015)

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 3 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse

# Appendix C.

## Micron- Oneida River Mitigation Site

# Wetland Delineation Report

## May 2025

The Wetland Trust, Inc. (TWT) conducted delineations of wetlands, drainages, and streams at the Micron-Oneida River Wetland compensatory mitigation site located in Schroeppel, Oswego County, New York. The Oneida River site is bordered by Center Road to the northeast and Oneida River Road/Oneida River to the south and is approximately 407 acres in size. The purpose of the delineation is to determine the location and extent of wetlands and other water features on the Oneida River site to aid in the planning and design of the wetland mitigation plan and obtaining the required regulatory permits.

### Methods

A desktop review was conducted prior to field work which included background data such as aerial photography (current and historical), soil maps, and NY State and Federal wetland maps (see Mitigation Plan). Wetland delineations were conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (Regional Supplement USACE 2012). All delineations were completed consistently with the 1995 NYSDEC Freshwater Wetlands Delineation Manual (NYSDEC 1995). All field data points were recorded with a centimeter-level accuracy GNSS receiver and mapped in ArcGIS Pro. Field visits for delineation concurrence by USACE and NYSDEC were conducted in August 2024.

### Results

A total of 76.9 acres of wetland and open water features were delineated on the Oneida River mitigation site. The wetland areas are described here as four general complexes based on site location and similar drainage relationships. All wetlands on this site eventually drain to the Oneida River with some general hydrological relationships. The entire site has primarily been in active agriculture for more than 75 years with some exceptions described by area. Wetland areas are described generally from west to east.

**Active Agricultural Portions (PEM-42, PEM-11, PEM-05 to 07, PEM-13 to 17, PEM 1 to 4)**

regardless of what complex fall into the category of being currently farmed and with little or no wetland vegetation present. These areas were delineated based on the following characteristics to varying degrees. Soil cracking, algal growth, and stressed plantings were all observed in these areas. These wetlands are characterized by a gently sloping to concave (land feature) where water periodically accumulates and stands for long periods. Soil cracking stressed agricultural plantings (soybean-2024), and algal growth were observed. Soil cracking is often evidence of seasonal saturation followed by drying, a common condition in temporary or seasonally inundated wetlands. Algal growth typically indicates standing or slow-moving

water, which is prevalent in wetlands. It may also indicate nutrient enrichment, particularly nitrogen and phosphorus, resulting from agricultural activities. Although not a definitive indicator on its own, algal growth can support evidence of wetland hydrology when observed alongside other indicators such as cracking soils and stressed plants. These areas delineated as wetlands were verified in the field with the Agencies.

**Southwest Portion with Recent Forest Clearing (PEM-16, 17, 40 to 46, PFO-07 to 09)**

This area represents one of the most complicated wetland delineation areas for all six of the sites. Soils are heavy in clays from obvious depression areas (with wetlands) to elevated sloping areas with a mix of upland and wetland plants. Further complicating the area is that all PEM areas were PFO or Upland FO prior to recent logging in 2023. Heavy forestry equipment has created deep ruts that trap water, most growing sedges or other wetland vegetation. Most of these ruts also parrel the contours, creating linear hydrological dams on the slopes. Also note that many sedge species need clearing and disturbance to trigger robust growth and the logging activity created this condition. The areas mapped as PFO did not get logged and are a better representation of what this location likely looked like prior to logging. These wetland boundaries were easier to identify with better separation of upland to wetland plants. This area required additional field work in 2025 expanding many more wetland areas in the logged areas recognizing the problematic nature of the area.

**Northwest Portion (PEM-01 to 07)**

All of these wetland and aquatic features eventually drain to the Oneida River. The area has been in agriculture for over 75 years, but for at least the last 15 years in pasture based on conversations with the previous owner. This owner was planning to till the area in 2023, but many of the areas were too wet leaving 1-to-2-foot-deep ruts where large heavy tractors attempted to start plowing. The wetlands are generally linear draining east to west with some signs of possible agricultural drainage attempts. The adjacent upland areas between are generally elevated 1 to 4 feet. **PEM-05 to PEM-07** area the only exception previously described above being in agriculture (soybeans) in 2024. **PEM-01 to PEM-04** are all dominated by graminoids and are wet meadow like. They have a heavy dominance of invasive species which extend into the upland with a strong presence of Knapweeds (*Centaurea Spp*.).

**Central Portion (PEM-08 to 15, PSS-01, PFO-01, POW-01)**

All these wetland and aquatic features eventually drain to the Oneida River and are associated with a mapped stream **S-23**. This area included a mapped as State Wetland under the original wetland mapping (State Regulated Wetland BR-6).

**PEM-08, PEM-09, PEM-10, PSS-01** have all been influenced by active agriculture for many years and **PEM-08, PEM-09** were impacted by agriculture in 2024. **PEM-08** and **PEM-09** both have a strong presence of wetland vegetation such as sedges with very deep ruts from agricultural equipment. **PEM-10**

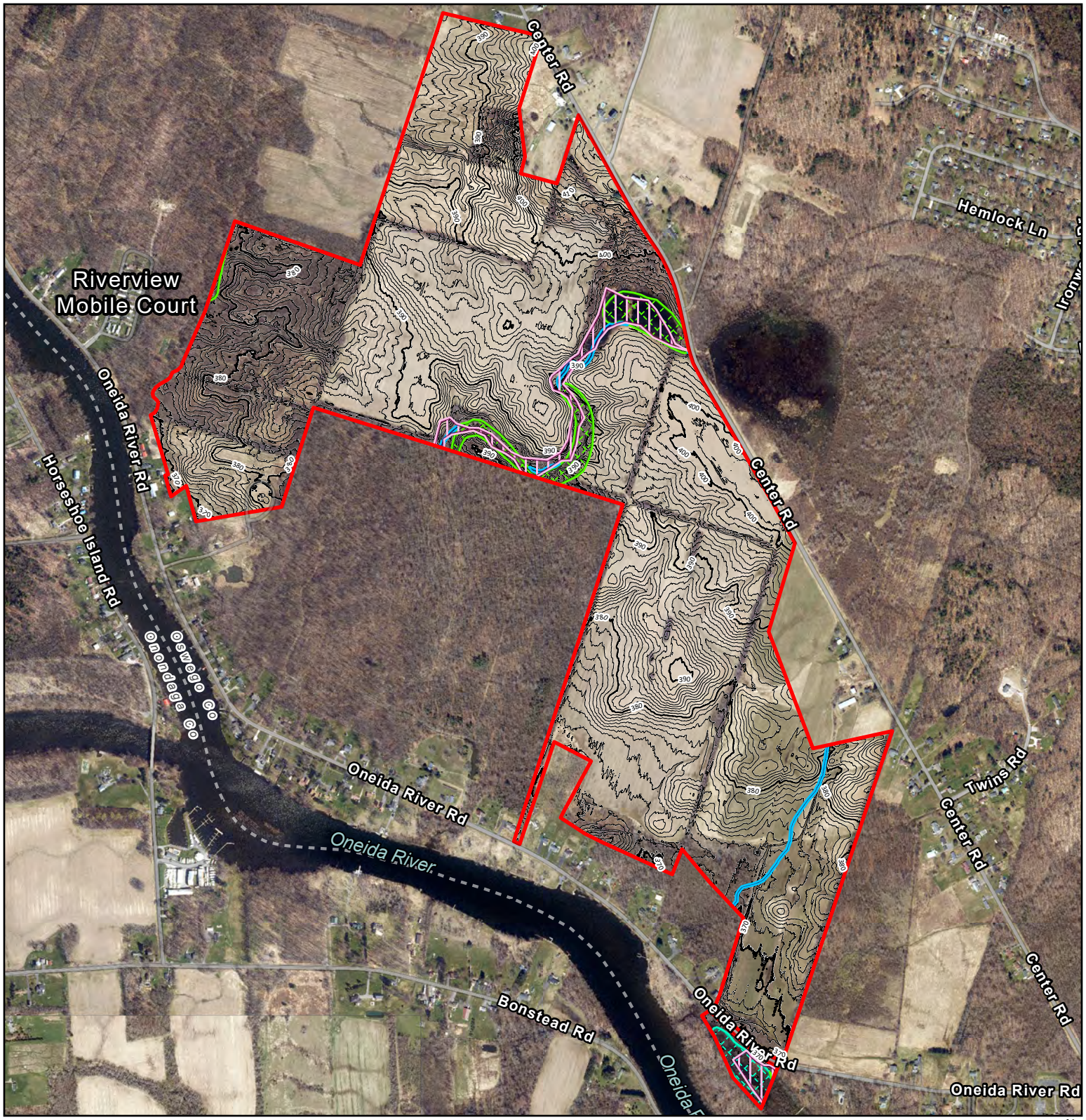
and **PSS-01** have been removed from recent agriculture by their landscape position just off the agriculture field limits. **PFO-01** starts on the north side of **POW-01** and is in an area relatively flat, slightly sloping towards **POW-01**. **PFO-01** continues beyond the outlet of **POW-01,** and it becomes a linear forested wetland with **D-23** in the middle. Agriculture has been maximized up to the edges of **PFO-01** for over 1,000 feet of this wetland. **D-23** is a perennial drainage/stream flowing through wetland once it leaves **POW-01.**

**POW-01** is a constructed feature, likely excavated. Some areas of **POW-01** include areas of shallow and emergent vegetation. **PEM-12** is a shallow to deep emergent feature that stands out in this feature. Sand Hill Cranes (*Grus canadensis*) were observed in **POW-01.**

**Eastern Portion (PEM 18 to PEM 39, PFO 02 to PFO 06, POW 02, PSS 02)**

All these wetlands and aquatic features eventually drain to the Oneida River. Most of the wetlands were in agriculture in 2024 as previously described.

Attachments: 1. State and Federal Mapped Wetlands
2. Oneida River Delineation Map
2. Delineation Summary Table
3. Data Sheets




# State and Federal Mapped Wetlands

Oneida River
Town of Schroeppel,
Oswego County, NY

NYSDEC Wetlands (9.9 ac)

NWI Wetlands (14.5 ac total)

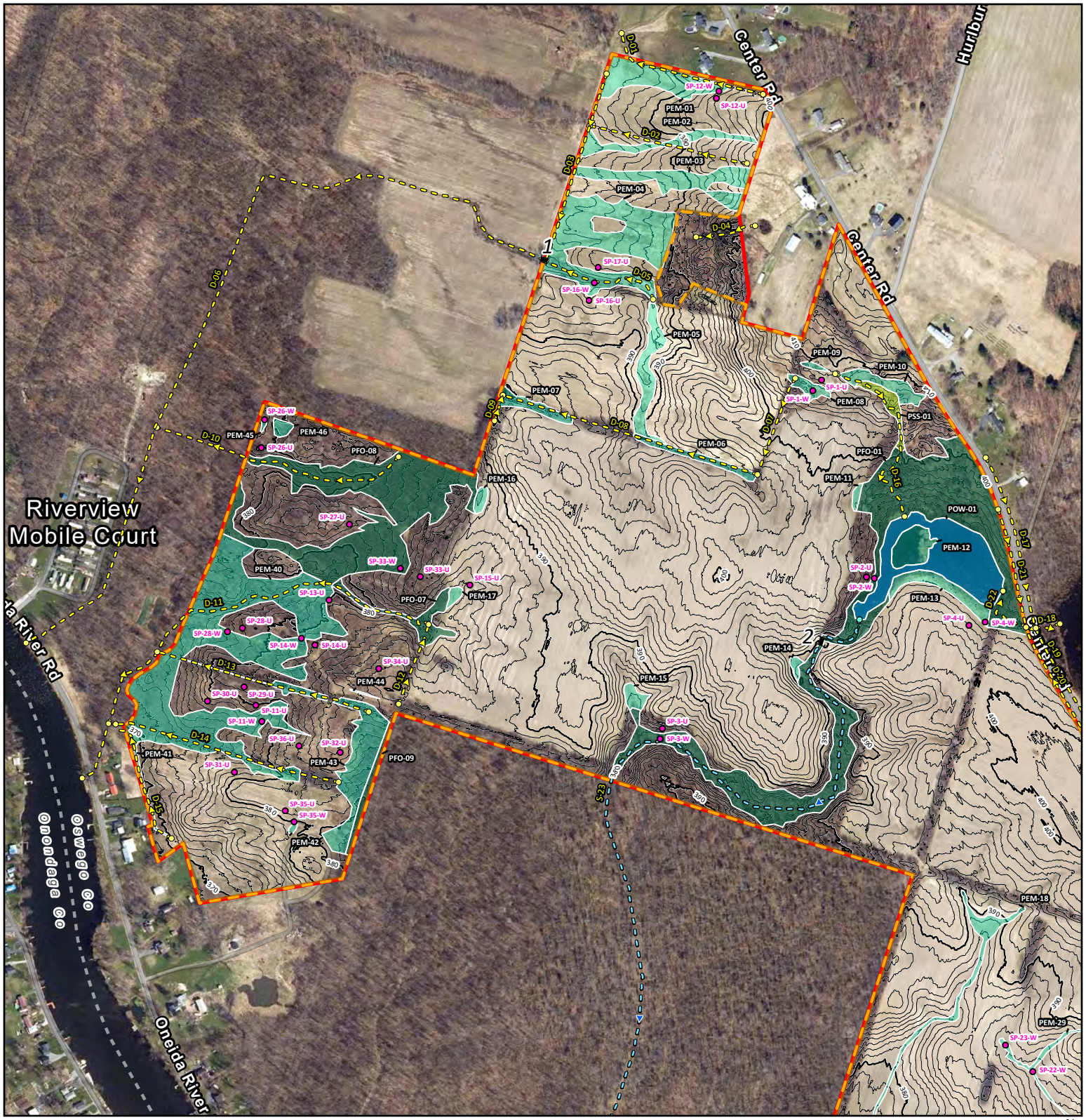
- Freshwater Emergent Wetland (3 ac)
- Freshwater Forested/Shrub Wetland (10 ac)
- Riverine (1.5 ac)

Contour Line (1 ft)

TWT Property Boundary (407 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 9 Dec. 2024 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




0 500 1,000 2,000 US Feet

N

- Wetland Delineation Sample Points (n = 54)
- Culverts (n = 3)

Drainage Features
- Ditch
- Stream

Delineated Wetlands (76.9 ac Total)
- Open Water - Pond (4 ac)
- PEM (43.2 ac)
- PSS (2.5 ac)
- PFO (27.2 ac)

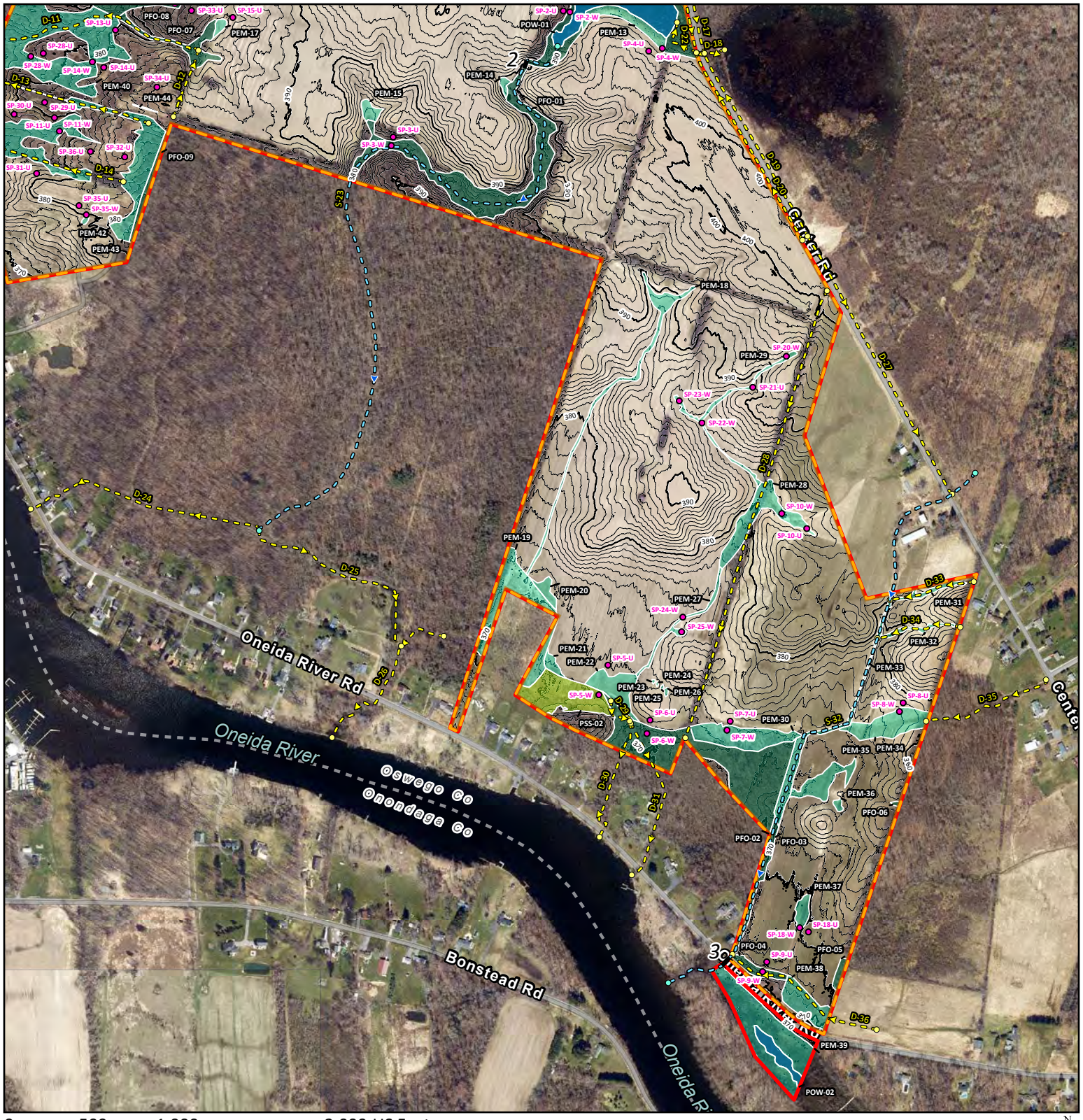
- Contour Line (1 ft)
- Delineation Concurrence Request Boundary (399.5 ac)
- TWT Property Boundary (407 ac)

# Delineated Wetlands and Drainage Features

Oneida River - Northwest
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 7 May 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse




0 500 1,000 2,000 US Feet

N

- Wetland Delineation Sample Points (n = 54)
- Culverts (n = 3)

Drainage Features
- Ditch
- Stream

Delineated Wetlands (76.9 ac Total)
- Open Water - Pond (4 ac)
- PEM (43.2 ac)
- PSS (2.5 ac)
- PFO (27.2 ac)

- Contour Line (1 ft)
- Delineation Concurrence Request Boundary (399.5 ac)
- TWT Property Boundary (407 ac)

# Delineated Wetlands and Drainage Features

## Oneida River - Southeast
## Town of Schroeppel,
## Oswego County, NY


The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780


Cartographer: Michelle Herman | Date: 7 May 2025 | Projection: NAD 1983 State Plane New York Central | References: NYS GIS Clearinghouse

## Oneida River Wetland Delineation Summary Table

| ID | Wetland Type Cowardin | Cover Type Edinger | Acres | Linear Feet | Notes | Flow Regime |
|---|---|---|---|---|---|---|
| 1 | Culvert | - | - | 15.18545614 | Farm road crossing, conveys flow from D-05 off-site via D-06. | - |
| 2 | Culvert | - | - | 22.16652186 | Farm equipment crossing over POW-01 outflow (D-23). | - |
| 3 | Culvert | - | - | 39.98858755 | Conveys flow from D-32 and D-36 under Oneida River Rd to Oneida River. | - |
| D-01 | Ditch | Ditch / artificial intermittent stream | - | 817.7078168 | Northwest corner north property line, drains off-site to northwest. | Intermittent |
| D-02 | Ditch | Ditch / artificial intermittent stream | - | 800.8526457 | Field ditch along fence, drains West to D-03. | Intermittent |
| D-03 | Ditch | Ditch / artificial intermittent stream | - | 972.3669391 | Northwest corner west property line, parallels farm road and drains South. | Intermittent |
| D-04 | Ditch | Ditch / artificial intermittent stream | - | 302.0269498 | Probable drainage path from off-site pond through forested area and eventually PEM-04. | Intermittent |
| D-05 | Ditch | Ditch / artificial intermittent stream | - | 623.9057581 | Flows West through Culvert 1 and continues as D-06. | Intermittent |
| D-06 | Ditch | Ditch / artificial intermittent stream | - | 4222.075936 | Off-site continuation of flow from D-05 to Oneida River. | Intermittent |
| D-07 | Ditch | Ditch / artificial intermittent stream | - | 512.689052 | Hedgerow drainage from PEM-08 to PEM-06 / D-08. | Intermittent |
| D-08 | Ditch | Ditch / artificial intermittent stream | - | 1319.499011 | Recently plowed hedgerow drainage flowing West to PEM-05 / PEM-07. | Intermittent |
| D-09 | Ditch | Ditch / artificial intermittent stream | - | 133.3073154 | Hedgerow drainage that gathers flow from D-08 and field to southeast. | Intermittent |
| D-10 | Ditch | Ditch / artificial intermittent stream | - | 1289.444218 | Flow through forested area to D-06 based on aerial photos. | Intermittent |
| D-11 | Ditch | Ditch / artificial intermittent stream | - | 2333.971203 | Flow from hedgerow (PFO-07) through PEM-40 and PFO-08, going off-site to Oneida River. Recent clearing has obscured pathway through field, but past aerials show it. | Intermittent |
| D-12 | Ditch | Ditch / artificial intermittent stream | - | 420.8803732 | Recently plowed hedgerow drainage flowing to D-11. | Intermittent |
| D-13 | Ditch | Ditch / artificial intermittent stream | - | 1,090.16 | Cleared hedgerow drainage flowing West to D-11. | Intermittent |
| D-14 | Ditch | Ditch / artificial intermittent stream | - | 1144.901701 | Cleared hedgerow drainage flowing West to D-11. | Intermittent |
| D-15 | Ditch | Ditch / artificial intermittent stream | - | 707.7963471 | Property line drainage flowing northwest to D-14 / D-11. | Intermittent |
| D-16 | Ditch | Ditch / artificial intermittent stream | - | 994.6983495 | Flows through PEM-10, PSS-01, and PFO-01 to POW-01. | Intermittent |
| D-17 | Ditch | Ditch / artificial intermittent stream | - | 882.8161954 | Roadside ditch along Center Rd., flows south to D-18 / D-22. | Intermittent |

| | | | | | | |
|---|---|---|---|---|---|---|
| D-18 | Ditch | Ditch / artificial intermittent stream | - | 174.4320407 | Outflow of off-site wetland under Center Rd to D-22. | Intermittent |
| D-19 | Ditch | Ditch / artificial intermittent stream | - | 1247.494021 | Roadside ditch along Center Rd., flows northwest to D-18 / D-22. | Intermittent |
| D-20 | Ditch | Ditch / artificial intermittent stream | - | 1280.730732 | Roadside ditch along Center Rd., flows northwest to D-22. | Intermittent |
| D-21 | Ditch | Ditch / artificial intermittent stream | - | 599.9624971 | Roadside ditch along Center Rd., flows south to D-22. | Intermittent |
| D-22 | Ditch | Ditch / artificial intermittent stream | - | 289.5401014 | Continuation of flow from D-18 into POW-01. | Intermittent |
| S-23 | Stream | Ditch / artificial intermittent stream | - | 4943.888189 | Outflow from POW-01, flows south in wooded corridor between active agricultural fields and into large forested area off-site. | Intermittent |
| D-24 | Ditch | Ditch / artificial intermittent stream | - | 1459.070342 | Off-site drainage based on aerial photos. Branches from D-23 and flows West to Oneida River. | Intermittent |
| D-25 | Ditch | Ditch / artificial intermittent stream | - | 1273.692637 | Off-site drainage based on aerial photos. Branches from D-23 and flows East into dug residential pond, and eventually D-26 and Oneida River. | Intermittent |
| D-26 | Ditch | Ditch / artificial intermittent stream | - | 1061.522144 | Off-site drainage based on aerial photos. Flows to Oneida River. | Intermittent |
| D-27 | Ditch | Ditch / artificial intermittent stream | - | 1756.026076 | Roadside ditch along Center Rd., flows southeast to D-32. | Intermittent |
| D-28 | Ditch | Ditch / artificial intermittent stream | - | 2787.164649 | In hedgerow between active agricultural fields. Drains south, varies between surface and sub-surface flow. | Intermittent |
| D-29 | Ditch | Ditch / artificial intermittent stream | - | 196.7464586 | Based on past aerial photos, conveys hydrology from south end of agricultural field to PFO-02 and points farther south. | Intermittent |
| D-30 | Ditch | Ditch / artificial intermittent stream | - | 766.3955087 | Based on past aerial photos, conveys drainage from agricultural fields to the north off-site to Oneida River. | Intermittent |
| D-31 | Ditch | Ditch / artificial intermittent stream | - | 1067.714061 | Based on past aerial photos, conveys drainage from agricultural fields to the north off-site to Oneida River. | Intermittent |
| S-32 | Ditch | Ditch / artificial intermittent stream | - | 3890.334899 | Main current drainage for southeast agricultural field. Flows south to Oneida River. | Intermittent |
| D-33 | Ditch | Ditch / artificial intermittent stream | - | 513.9649028 | Actively farmed, flows West to D-32. | Intermittent |
| D-34 | Ditch | Ditch / artificial intermittent stream | - | 516.6279927 | Actively farmed, flows West to D-32. | Intermittent |
| D-35 | Ditch | Ditch / artificial intermittent stream | - | 795.4096038 | Off-site drainage based on aerial photos, provides hydrology to PEM-34. | Intermittent |
| D-36 | Ditch | Ditch / artificial intermittent stream | - | 1011.463191 | At south end of southeast agricultural field, conveys drainage from off-site fields West to D-32. | Intermittent |
| PEM-01 | PEM | Shallow emergent | 1.58924628748 | - | Influenced by agricultural activity. "Lands" technique formerly used here. | Intermittent |
| PEM-02 | PEM | Shallow emergent | 0.847977622509 | - | Influenced by agricultural activity. "Lands" technique formerly used here. | Intermittent |

| | | | | | | |
|---|---|---|---|---|---|---|
| PEM-03 | PEM | Shallow emergent | 1.6906629137 | - | Influenced by agricultural activity. "Lands" technique formerly used here. | Intermittent |
| PEM-04 | PEM | Shallow emergent | 4.33482290659 | - | Influenced by agricultural activity. "Lands" technique formerly used here. | Intermittent |
| PEM-05 | PEM | Shallow emergent | 0.962672391693 | - | Actively farmed, connects PEM-04 and PEM-06. | Intermittent |
| PEM-06 | PEM | Shallow emergent | 0.481864830392 | - | Surrounds D-08, recently plowed hedgerow. | Intermittent |
| PEM-07 | PEM | Shallow emergent | 0.484725698229 | - | Surrounds D-08, recently plowed hedgerow. | Intermittent |
| PEM-08 | PEM | Shallow emergent | 0.288829076649 | - | Isolated wet spot with invasive plant species. Influenced by agricultural activities. | Ephemeral |
| PEM-09 | PEM | Shallow emergent | 0.0708979870255 | - | Isolated wet spot with invasive plant species. Influenced by agricultural activities. | Intermittent |
| PEM-10 | PEM | Shallow emergent | 0.592956716403 | - | Recently cleared farm area, adjacent to Center Rd. High invasive plant species cover. | Intermittent |
| PEM-11 | PEM | Shallow emergent | 0.093091779424 | - | Actively farmed extension of PFO-01. | Intermittent |
| PEM-12 | PEM | Shallow emergent | 0.73647088231 | - | Vegetated area in the center of POW-01. | Intermittent |
| PEM-13 | PEM | Shallow emergent | 0.765752767348 | - | Buffer between POW-01 and active agricultural field. High invasive plant species cover. | Intermittent |
| PEM-14 | PEM | Shallow emergent | 0.0962788451358 | - | Actively farmed extension of PFO-01. | Intermittent |
| PEM-15 | PEM | Shallow emergent | 0.235261880456 | - | Actively farmed extension of PFO-01. | Intermittent |
| PEM-16 | PEM | Shallow emergent | 0.150195445947 | - | Isolated wet spot on the edge of an agricultural field, bordering forest. | Intermittent |
| PEM-17 | PEM | Shallow emergent | 0.113080426818 | - | Isolated wet spot on the edge of an agricultural field, bordering forest. | Intermittent |
| PEM-18 | PEM | Shallow emergent | 1.08323563721 | - | Very narrow drainage pathways through active agricultural field. Pooling water on surface with high clay content. Drains south to PEM-19. | Intermittent |
| PEM-19 | PEM | Shallow emergent | 1.40488932161 | - | Borders south edge of actively farmed field. Receives hydrology from PEM-18. | Intermittent |
| PEM-20 | PEM | Shallow emergent | 0.251794247009 | - | Actively farmed extension of PEM-19. | Intermittent |
| PEM-21 | PEM | Shallow emergent | 0.195708295502 | - | Actively farmed extension of PEM-19 / PSS-02. | Intermittent |
| PEM-22 | PEM | Shallow emergent | 0.966149620152 | - | Actively farmed south edge of field, adjacent to PSS-02 and PFO-02. | Intermittent |
| PEM-23 | PEM | Shallow emergent | 0.0104102560464 | - | Actively farmed, isolated wet spot. High clay content. | Intermittent |
| PEM-24 | PEM | Shallow emergent | 0.0081720772303 | - | Actively farmed, isolated wet spot. High clay content. | Intermittent |
| PEM-25 | PEM | Shallow emergent | 0.00926449813474 | - | Actively farmed, isolated wet spot. High clay content. | Intermittent |
| PEM-26 | PEM | Shallow emergent | 0.0232980539491 | - | Actively farmed, isolated wet spot. High clay content. | Intermittent |
| PEM-27 | PEM | Shallow emergent | 0.36800964906 | - | Very narrow drainage pathway through active agricultural field. Pooling water on surface with high clay content. Flows south to PEM-22. | Intermittent |
| PEM-28 | PEM | Shallow emergent | 1.44989616487 | - | Hedgerow between active agricultural fields and part of field to East where drain tile is present. Connects hydrology from PEM-29 to PEM-27. | Intermittent |
| PEM-29 | PEM | Shallow emergent | 0.561380202329 | - | Very narrow drainage pathways through active agricultural field. Pooling water on surface with high clay content. Flows south to PEM-28. | Intermittent |

| | | | | | | |
|---|---|---|---|---|---|---|
| PEM-30 | PEM | Shallow emergent | 1.53735961279 | - | Between agricultural field and PFO-02. Influenced by agricultural activity. | Intermittent |
| PEM-31 | PEM | Shallow emergent | 0.253403142733 | - | Actively farmed, surrounds D-33. | Intermittent |
| PEM-32 | PEM | Shallow emergent | 0.212421699388 | - | Actively farmed, surrounds D-34. | Intermittent |
| PEM-33 | PEM | Shallow emergent | 1.01418048316 | - | Surrounds D-32, northern half within active agricultural field, southern half just inside treeline along edge of field. | Intermittent |
| PEM-34 | PEM | Shallow emergent | 1.30797936537 | - | Actively farmed, connects D-35 hydrology to D-32. | Intermittent |
| PEM-35 | PEM | Shallow emergent | 0.811172913061 | - | Actively farmed, drains to D-32. | Intermittent |
| PEM-36 | PEM | Shallow emergent | 0.0714460814105 | - | Actively farmed, isolated wet spot. High clay content. | Intermittent |
| PEM-37 | PEM | Shallow emergent | 0.299308758536 | - | Actively farmed, isolated wet spot. High clay content. | Intermittent |
| PEM-38 | PEM | Shallow emergent | 0.990459277013 | - | Between south edge of field and Oneida River Rd. Influenced by agricultural activity. | Intermittent |
| PEM-39 | PEM | Shallow emergent | 3.09943591803 | - | Surrounds POW-02, part of larger off-site wetland. Adjacent to Oneida River. | Intermittent |
| PEM-40 | PEM | Shallow emergent | 10.554181 | - | Recently cleared of woody vegetation. | Intermittent |
| PEM-41 | PEM | Shallow emergent | 0.125072298623 | - | Surrounds property line drainage ditch. | Intermittent |
| PEM-42 | PEM | Shallow emergent | 0.035037 | - | Actively farmed, isolated wet spot. | Intermittent |
| PEM-43 | PEM | Shallow emergent | 1.962936 | - | Forested area with cleared edges contunuing to offsite forested area. | Intermittent |
| PEM-44 | PEM | Shallow emergent | 0.021349 | - | Isolated wet depression used for agriculture drainage. Most likely an agriculture furrow. | Intermittent |
| PEM-45 | PEM | Shallow emergent | 0.024632 | - | Isolated wet spot in an upland forested area. Adjacent to an old farm road, good location for a vernal pool. | Intermittent |
| PEM-46 | PEM | Shallow emergent | 0.147902 | - | Isolated wet area surrounded by forested upland. End of old farm road. | Intermittent |
| PFO-01 | PFO | Red maple- hardwood swamp | 11.3482341365 | - | Surrounds POW-01 and D-23. Receives hydrology from off-site wetland across Center Rd. and from adjacent agricultural fields to West and East. | Intermittent |
| PFO-02 | PFO | Red maple- hardwood swamp | 5.85947334628 | - | Borders south edge of agricultural field, likely extends farther south off-site. | Intermittent |
| PFO-03 | PFO | Red maple- hardwood swamp | 0.56003268375 | - | Borders agricultural field and surrounds D-32. | Intermittent |
| PFO-04 | PFO | Red maple- hardwood swamp | 0.387625304315 | - | Between southeast agricultural field and Oneida River Rd. Contains D-36. | Intermittent |
| PFO-05 | PFO | Red maple- hardwood swamp | 0.201121263831 | - | Hedgerow along property line. | Intermittent |
| PFO-06 | PFO | Red maple- hardwood swamp | 0.0300287740516 | - | Isolated wet spot along property line, larger forested area off-site to East. | Intermittent |
| PFO-07 | PFO | Red maple- hardwood swamp | 0.792364 | - | Surrounds D-11, connects PEM-17 to PFO-08. | Intermittent |
| PFO-08 | PFO | Red maple- hardwood swamp | 7.589133 | - | Influenced by agricultural activity. Borders off-site wet forest. Connects to PEM-40. | Intermittent |

| | | | | | | |
|---|---|---|---|---|---|---|
| POW-01 | Open Water - Pond | Farm pond / artificial pond | 3.51220403552 | - | Large agricultural pond formed between 1959-1972. Surrounded by invasive species. | Perennial |
| POW-02 | Open Water - Pond | Farm pond / artificial pond | 0.541015007256 | - | Surrounded by PEM-39, part of larger off-site wetland. | Perennial |
| PSS-01 | PSS | Scrub shrub | 0.422530472545 | - | Borders active agricultural field, connects PEM-10 to PFO-01. | Intermittent |
| PSS-02 | PSS | Scrub shrub | 2.0554009768 | - | Borders south edge of active agricultural field. | Intermittent |

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/13/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-1-U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.228839 Long: -76.234340 Datum: WGS84

Soil Map Unit Name: Center Rd delineated wetlands NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
surrounded by agricultural

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes No Depth (inches):

Water Table Present? Yes No Depth (inches):

Saturation Present? Yes No Depth (inches):
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrological connection

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-1-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Ambrosia artemisiifolia* | 40 | Yes | FACU |
| 2. *Digitaria ischaemum* | 20 | Yes | FACU |
| 3. *Asclepias syriaca* | 5 | No | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 65 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 60 | x 4 = | 240 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 65 (A) | | 265 (B) |

Prevalence Index = B/A = 4.08

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No trees, 70% herbaceous cover

## SOIL

Sampling Point: SP-1-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10yr 3/2 | 100 | | | | | | Sandy loam |
| 10-16 | 7.5yr 6/6 | 50 | 7.5yr 4/4 | 50 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Very red soil under the A horizon

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/Oswego Sampling Date: 6/13/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-1-W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%):

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.228695 Long: -76.234503 Datum: WGS84

Soil Map Unit Name: Center Rd delineated wetlands NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
•Isolated wet area surrounded by agricultural
•In a small depression

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes No Depth (inches):

Water Table Present? Yes No Depth (inches):

Saturation Present? Yes No Depth (inches):
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
•Soils are damp, not saturated
•In tractor ruts there is standing water

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-1-W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Carex scoparia* | 10 | No | FACW |
| 2. *Juncus effusus* | 50 | Yes | OBL |
| 3. *Solidago canadensis* | 2 | No | FACU |
| 4. *Solidago rugosa* | 15 | No | FAC |
| 5. *Onoclea sensibilis* | 30 | No | FACW |
| 6. *Cornus amomum* | 1 | No | FACW |
| 7. *Carex lupulina* | 70 | Yes | OBL |
| 8. *Viburnum dentatum* | 1 | No | FAC |
| 9. *Anthoxanthum odoratum* | 20 | No | FACU |
| 10. *Agrostis gigantea* | 10 | No | FACW |
| 11. *Symphyotrichum puniceum* | 2 | No | OBL |
| 12. *Carex vulpinoidea* | 2 | No | OBL |
| | 213 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 124 | x 1 = | 124 |
| FACW species | 51 | x 2 = | 102 |
| FAC species | 16 | x 3 = | 48 |
| FACU species | 22 | x 4 = | 88 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 213 (A) | | 362 (B) |

Prevalence Index = B/A = 1.70

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No trees or shrubs, 100% herbaceous cover

## SOIL

Sampling Point: SP-1-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 3/2 | 100 | | | | | Loamy/Clayey | Oxidized roots |
| 10-16 | | 50 | 7.5yr 3/2 | 50 | | | | 7.5yr 6/5 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Would not let me enter 7.5yr 6/5 in the matrix

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/12/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): non Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.226163 Long: -76.233522 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No x | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
- 100ft from field
- Young forest area, dominated by black cherry
- Area is approximately 4ft higher than wetland

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetland hydrology

## SOIL

Sampling Point: SP2U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-12 | 10yr 2/2 | 95 | 7.5yr 4/6 | 5 | | | Loamy/Clayey | |
| 12-16 | 7.5yr 5/6 | 80 | 7.5yr 3/2 | 20 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Top layer appears to be hydric. Lower layers are not

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2U

| Tree Stratum (Plot size: 15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Prunus serotina* | 70 | Yes | FACU |
| 2. *Sassafras albidum* | 10 | No | FACU |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 80 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 6) | | | |
| 1. *Lonicera tatarica* | 3 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 3 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 6 | =Total Cover | |
| **Herb Stratum** (Plot size: 6) | | | |
| 1. *Prunus serotina* | 30 | No | FACU |
| 2. *Parthenocissus quinquefolia* | 95 | Yes | FACU |
| 3. *Toxicodendron radicans* | 60 | Yes | FAC |
| 4. *Lonicera tatarica* | 1 | No | FACU |
| 5. *Solidago rugosa* | 1 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 187 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 3 | x 2 = | 6 |
| FAC species | 61 | x 3 = | 183 |
| FACU species | 209 | x 4 = | 836 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 273 (A) | | 1025 (B) |

Prevalence Index = B/A = 3.75

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)
80% tree cover, 5% shrub, 100% herb cover

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd. City/County: Schroeppel/ Oswego Sampling Date: 6/12/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP2W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): non Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.226144 Long: -76.233375 Datum: WSG84

Soil Map Unit Name: RhB: Rhinebeck silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
- Open water system
- Emergent vegetation in water
- Shrub layer at shore w/ trees in Background

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- X High Water Table (A2)
- x Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes x | No | Depth (inches): | 6 |
| Water Table Present? | Yes x | No | Depth (inches): | 6 |
| Saturation Present? (includes capillary fringe) | Yes x | No | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology present

**VEGETATION** – Use scientific names of plants. Sampling Point: SP2W

| Tree Stratum (Plot size: 10) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 35 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 35 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 6) | | | |
| 1. *Acer rubrum* | 20 | Yes | FAC |
| 2. *Alnus incana* | 20 | Yes | FACW |
| 3. *Cornus amomum* | 2 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 42 | =Total Cover | |
| **Herb Stratum** (Plot size: 6) | | | |
| 1. *Decodon verticillatus* | 10 | No | OBL |
| 2. *Hydrocharis morsus-ranae* | 3 | No | OBL |
| 3. *Lemna minor* | 60 | Yes | OBL |
| 4. *Phalaris arundinacea* | 1 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 74 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 73 | x 1 = | 73 |
| FACW species | 23 | x 2 = | 46 |
| FAC species | 55 | x 3 = | 165 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 151 (A) | | 284 (B) |

Prevalence Index = B/A = 1.88

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
•Agricultural field 100ft across open water
•10ft diameter encompassed wetland and open water

## SOIL

Sampling Point: SP2W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

No soil test because open water submurged test hole. Can assume hydric soils

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/13/24

Applicant/Owner: The wetland Trust State: NY Sampling Point: SP-3-U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): non Slope (%): 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.224118 Long: -76.237323 Datum: WGS84

Soil Map Unit Name: Ma: Madalin silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No x | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No x | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Dry area, declines towards the wetland

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No sign of wetlands hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-3-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15 ) | | | |
| 1. *Rosa multiflora* | 50 | Yes | FACU |
| 2. *Carya cordiformis* | 5 | No | FAC |
| 3. *Prunus serotina* | 15 | No | FACU |
| 4. *Rhamnus cathartica* | 20 | Yes | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 90 =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Rosa multiflora* | 20 | Yes | FACU |
| 2. *Viburnum lentago* | 5 | No | FAC |
| 3. *Impatiens capensis* | 45 | Yes | FACW |
| 4. *Persicaria virginiana* | 5 | No | FAC |
| 5. *Solidago rugosa* | 20 | Yes | FAC |
| 6. *Toxicodendron radicans* | 10 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 105 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 45 | x 2 = | 90 |
| FAC species | 65 | x 3 = | 195 |
| FACU species | 85 | x 4 = | 340 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 195 (A) | | 625 (B) |

Prevalence Index = B/A = 3.21

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
open area due to dead ash trees. Only one wetland species

## SOIL

Sampling Point: SP-3-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 5/3 | 85 | 7.5yr 4/3 | 15 | | | Loamy/Clayey | |
| 10-16 | 7.5yr 4/4 | 80 | 7.5yr 4/3 | 20 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** x

Remarks:

No oxidized root channels, no wet soil

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/13/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP3W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): non Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.223978 Long: -76.237365 Datum: WGS84

Soil Map Unit Name: Ma: Madalin silt loam NWI classification: Yes: PFO1C Freshwater Forested/Shrub Wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
•Riparian wetland
•Generally flat

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- x Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): | |
| Water Table Present? | Yes | No x | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
•Stream within 20ft and flowing
•Steam is 3-4ft wide, 3-4ft deep

**VEGETATION** – Use scientific names of plants. Sampling Point: SP3W

| Tree Stratum (Plot size: 15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 10 | =Total Cover | |
| Sapling/Shrub Stratum (Plot size: 15) | | | |
| 1. *Rosa multiflora* | 6 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 3. *Rhamnus cathartica* | 10 | Yes | FAC |
| 4. *Carya ovata* | 2 | No | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 23 | =Total Cover | |
| Herb Stratum (Plot size: 6) | | | |
| 1. *Impatiens capensis* | 80 | Yes | FACW |
| 2. *Persicaria virginiana* | 35 | Yes | FAC |
| 3. *Carex intumescens* | 3 | No | FACW |
| 4. *Symphyotrichum lanceolatum* | 15 | No | FACW |
| 5. *Toxicodendron radicans* | 3 | No | FAC |
| 6. *Viburnum dentatum* | 2 | No | FAC |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 138 | =Total Cover | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 103 | x 2 = | 206 |
| FAC species | 60 | x 3 = | 180 |
| FACU species | 8 | x 4 = | 32 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 171 (A) | | 418 (B) |

Prevalence Index = B/A = 2.44

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

- 60% dead ash trees on 15ft plot
- 100% herbaceous cover
- 15% shrub cover
- 70% tree cover (including ash)

## SOIL

Sampling Point: SP3W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 3/2 | 90 | 7.5yr 4/3 | 10 | | | Loamy/Clayey | |
| 10-16 | 7.5yr 5/1 | 90 | 7.5yr 5/4 | 10 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

- Soil saturated to surface
- Dense clay below B horizon
- ±/-18in of stream elevation
- Oxidized root channels in A horizon

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/13/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-4-U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): non Slope (%): 0-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2254918700 Long: -76.2316192600 Datum: WSG84

Soil Map Unit Name: RhB: Rhinebeck silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No x | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No x | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
- Agricultural field planted with soy bean
- Spotted a sandhill crane and blue heron

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
no sign of wetlands hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-4-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 10 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 10 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 10 (A) | | 50 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)
Farm field was planted with soy bean. Soy bean just starting to sprout

## SOIL

Sampling Point: SP-4-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 3/2 | 100 | | | | | | Sandy/ clay/ loam |
| 8-14 | 7.5yr 3/3 | 70 | 7.5yr 4/4 | 30 | | | | Sandy/ clay/ loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** x

Remarks:

No hydric soils

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/13/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-4-W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): non Slope (%): 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.225545 Long: -76.2313208147 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam NWI classification: no

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** X **No** |
| Wetland Hydrology Present? | Yes x | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
- Spotted a sandhill crane and herring
- Edge of agriculture
- Recent activity of tree dump @ edge of wetland
- 70ft from a pond
- Pond is 2ft lower than our point

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** x **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Edge of wetland, by farm field. Could not get further due to logging debris. Assume hydrology is present

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-4-W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: 15 ) | | | |
| 1. *Salix discolor* | 20 | Yes | FACW |
| 2. *Alnus incana* | 7 | Yes | FACW |
| 3. *Cornus racemosa* | 1 | No | FAC |
| 4. *Viburnum dentatum* | 1 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 29 =Total Cover | | |
| Herb Stratum (Plot size: 6 ) | | | |
| 1. *Juncus effusus* | 6 | No | OBL |
| 2. *Symphyotrichum puniceum* | 15 | Yes | OBL |
| 3. *Rosa multiflora* | 3 | No | FACU |
| 4. *Geum aleppicum* | 1 | No | FAC |
| 5. *Typha latifolia* | 10 | Yes | OBL |
| 6. *Lythrum salicaria* | 15 | Yes | OBL |
| 7. *Sisyrinchium campestre* | 1 | No | UPL |
| 8. *Rumex crispus* | 1 | No | FAC |
| 9. *Eupatorium perfoliatum* | 2 | No | FACW |
| 10. *Toxicodendron radicans* | 1 | No | FAC |
| 11. *Phalaris arundinacea* | 5 | No | FACW |
| 12. *Agrostis gigantea* | 3 | No | FACW |
| | 63 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 46 | x 1 = | 46 |
| FACW species | 37 | x 2 = | 74 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 3 | x 4 = | 12 |
| UPL species | 1 | x 5 = | 5 |
| Column Totals: | 92 (A) | | 152 (B) |

Prevalence Index = B/A = 1.65

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Dead green ash in shrub layer, 5%

## SOIL

Sampling Point: SP-4-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 3/1 | 70 | 7.5yr 4/4 | 30 | | | Loamy/Clayey | |
| 10-16 | 10yr 6/1 | 60 | 10yr 6/3 | 40 | | | | Sandy clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

edge of hydric and non hydric soils

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/17/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP5U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): non Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.215172 Long: -76.2327295784 Datum: WSG84

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes ____ | No x | If yes, optional Wetland Site ID: ____ |

Remarks: (Explain alternative procedures here or in a separate report.)
Agricultural field planted with soy

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No x | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No x | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No x | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology present

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 10 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 10 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 10 (A) | | 50 (B) |
| Prevalence Index = B/A = | | | 5.00 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)
soy beans are just starting to sprout

## SOIL

Sampling Point: SP5U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-8 | 5yr 4/1 | 75 | 5yr 5/6 | 25 | | | | |
| 8-14 | 5yr 4/1 | 90 | 5yr 5/6 | 10 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** x

Remarks:

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/17/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP5W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): non Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.215017 Long: -76.232794 Datum: WSG84

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No x | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes x | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
soils are very close to being hydric and all other factors indicate it's a wetland

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** x **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
10-20ft band of reed canary grass when entering, assuming soil is damp with hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP5W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Fraxinus pennsylvanica* | 30 | Yes | FACW |
| 2. *Cornus amomum* | 10 | No | FACW |
| 3. *Viburnum dentatum* | 1 | No | FAC |
| 4. *Salix viminalis* | 15 | Yes | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 56 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Onoclea sensibilis* | 50 | Yes | FACW |
| 2. *Juncus effusus* | 40 | Yes | OBL |
| 3. *Carex crinita* | 5 | No | OBL |
| 4. *Fraxinus pennsylvanica* | 15 | No | FACW |
| 5. *Solidago gigantea* | 15 | No | FACW |
| 6. *Carex lurida* | 2 | No | OBL |
| 7. *Amphicarpaea bracteata* | 20 | No | FAC |
| 8. *Symphyotrichum puniceum* | 2 | No | OBL |
| 9. *Carex vulpinoidea* | 2 | No | OBL |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 151 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 51 | x 1 = | 51 |
| FACW species | 135 | x 2 = | 270 |
| FAC species | 21 | x 3 = | 63 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 207 (A) | | 384 (B) |

Prevalence Index = B/A = 1.86

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% herb cover, 50-60% shrub cover, 5-10% tree cover (dead ash)

## SOIL

Sampling Point: SP5W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 6/6 | 95 | 7.5yr 4/1 | 5 | | | | |
| 10-16 | 7.5yr 6/6 | 60 | 7.5yr 4/2 | 40 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- x Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** x

Remarks:

soils very close to being hydric

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/17/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP6U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): non Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.214601 Long: -76.231656 Datum: WSG84

Soil Map Unit Name: RaB: Raynham silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Soy bean agricultural field

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of hydrology except for the presence of oxidized rhizospheres

**VEGETATION** – Use scientific names of plants. Sampling Point: SP6U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 10 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 10 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 10 (A) | | 50 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)
Soy beans starting to sprout

## SOIL

Sampling Point: SP6U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 5yr 4/1 | 100 | | | | | Loamy/Clayey | |
| 9-15 | 10yr 4/2 | 95 | 5yr 4/6 | | | | Loamy/Clayey | Ox root channels |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** x

Remarks:
no hydric soils

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/17/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP6W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): non Slope (%): 0

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.214383 Long: -76.231728 Datum: WSG84

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes x | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
- Predominantly shrub wetland with a mixture of upland shrubbery
- Relatively flat
- Dead green ash

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): | |
| Water Table Present? | Yes | No x | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** x **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
no drainage patterns, assume wetland hydrology is present

**VEGETATION** – Use scientific names of plants. Sampling Point: SP6W

| Tree Stratum (Plot size: 15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Ulmus americana* | 7 | Yes | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 7 | =Total Cover | |
| Sapling/Shrub Stratum (Plot size: 6) | | | |
| 1. *Rhamnus cathartica* | 40 | Yes | FAC |
| 2. *Cornus racemosa* | 15 | Yes | FAC |
| 3. *Lonicera tatarica* | 5 | No | FACU |
| 4. *Cornus amomum* | 10 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 70 | =Total Cover | |
| Herb Stratum (Plot size: 6) | | | |
| 1. *Persicaria virginiana* | 35 | Yes | FAC |
| 2. *Lysimachia nummularia* | 35 | Yes | FACW |
| 3. *Solidago altissima* | 15 | No | FACU |
| 4. *Symphyotrichum lanceolatum* | 15 | No | FACW |
| 5. *Solidago rugosa* | 3 | No | FAC |
| 6. *Agrostis gigantea* | 7 | No | FACW |
| 7. *Geum canadense* | 1 | No | FAC |
| 8. *Galium aparine* | 2 | No | FACU |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 113 | =Total Cover | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 74 | x 2 = | 148 |
| FAC species | 94 | x 3 = | 282 |
| FACU species | 22 | x 4 = | 88 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 190 (A) | | 518 (B) |

Prevalence Index = B/A = 2.73

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% herb cover, 85% shrub, 5% forrest

## SOIL

Sampling Point: SP6W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 1-10 | 7.5yr 3/1 | 85 | 7.5yr 5/6 | 15 | | | Loamy/Clayey | |
| 10-16 | 7.5yr 4/2 | 60 | 7.5yr 5/6 | 60 | | | | Sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- x Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
oxidized root channels

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Oswego Sampling Date: 6/17/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP7U

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): sloping Local relief (concave, convex, none): non Slope (%): 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.214578 Long: -76.229872 Datum:

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes x | No | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
- Hydraulic soils are present, but vegetation and hydrology does not meet wetland criteria; recently mowed
- Spring may have wet soils
- Field slopes towards the south

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No drainage, no standing water, oxidize root channels

**VEGETATION** – Use scientific names of plants. Sampling Point: SP7U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Phleum pratense* | 30 | Yes | FACU |
| 2. *Trifolium pratense* | 30 | Yes | FACU |
| 3. *Anthoxanthum odoratum* | 30 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 90 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 90 | x 4 = | 360 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 90 (A) | | 360 (B) |
| Prevalence Index = B/A = | | | 4.00 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)
- Vegetation had estimated percent because it was recently mowed
- Hay field with upland species

## SOIL

Sampling Point: SP7U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 5yr 4/1 | 100 | | | | | Loamy/Clayey | |
| 10-15 | 10yr 4/2 | 95 | 5yr 4/6 | 5 | | | Loamy/Clayey | ox root channels |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** x **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 6/17/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP7W

Investigator(s): KH, EF, HF, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.214432 Long: -76.229943 Datum: WSG

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
- Relatively flat, recently forested
- Pockets of water

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| Surface Water (A1) | Water-Stained Leaves (B9) | |
| High Water Table (A2) | Aquatic Fauna (B13) | |
| Saturation (A3) | Marl Deposits (B15) | |
| Water Marks (B1) | Hydrogen Sulfide Odor (C1) | |
| Sediment Deposits (B2) | x Oxidized Rhizospheres on Living Roots (C3) | |
| Drift Deposits (B3) | Presence of Reduced Iron (C4) | |
| Algal Mat or Crust (B4) | Recent Iron Reduction in Tilled Soils (C6) | |
| Iron Deposits (B5) | Thin Muck Surface (C7) | |
| Inundation Visible on Aerial Imagery (B7) | Other (Explain in Remarks) | |
| x Sparsely Vegetated Concave Surface (B8) | | |

Secondary Indicators (minimum of two required)

| |
|---|
| x Surface Soil Cracks (B6) |
| Drainage Patterns (B10) |
| Moss Trim Lines (B16) |
| Dry-Season Water Table (C2) |
| Crayfish Burrows (C8) |
| Saturation Visible on Aerial Imagery (C9) |
| Stunted or Stressed Plants (D1) |
| Geomorphic Position (D2) |
| Shallow Aquitard (D3) |
| Microtopographic Relief (D4) |
| X FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): | |
| Water Table Present? | Yes | No x | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
- Signs of previous standing water
- Pits in the ground with sparce vegetation and cracking soil

**VEGETATION** – Use scientific names of plants. Sampling Point: SP7W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 6 ) | | | |
| 1. *Salix sp.* | 2 | No | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 2 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Juncus tenuis* | 60 | Yes | FAC |
| 2. *Carex vulpinoidea* | 30 | Yes | OBL |
| 3. *Galium palustre* | 2 | No | OBL |
| 4. *Cornus amomum* | 7 | No | FACW |
| 5. *Solidago gigantea* | 2 | No | FACW |
| 6. *Juncus effusus* | 30 | Yes | OBL |
| 7. | | | |
| 8. *Agrostis gigantea* | 15 | No | FACW |
| 9. *Lysimachia nummularia* | 5 | No | FACW |
| 10. *Carex lacustris* | 3 | No | OBL |
| 11. *Carex scoparia* | 1 | No | FACW |
| 12. *Carex granularis* | 1 | No | FACW |
| | 156 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 65 | x 1 = | 65 |
| FACW species | 31 | x 2 = | 62 |
| FAC species | 60 | x 3 = | 180 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 156 (A) | | 307 (B) |

Prevalence Index = B/A = 1.97

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
- Influx of upland plants, towards upland plot
- Recently cleared w/ tree debris pushed up on side of forest
- 100% herb cover, <5% shrub cover

## SOIL

Sampling Point: SP7W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 5yr 4/1 | 100 | | | | | Loamy/Clayey | |
| 10-15 | 10yr 4/2 | 95 | 5yr 4/6 | 5 | | | Loamy/Clayey | ox root channels |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Gabor Southeast) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-8-U

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): sloping Slope (%): 2-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2147235988 Long: -76.2290795381 Datum: WGS84

Soil Map Unit Name: RaB: Raynham silt loam, 0-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Area is hay field in historical agricultural field with over 75 years based on aerial imagery.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soil test pit to 20" , no signs of wetland hydrology

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-8-U

| Tree Stratum (Plot size: 15' Radius) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' Radius) | | | |
| 1. *Phleum pratense* | 40 | Yes | FACU |
| 2. *Solidago altissima* | 30 | Yes | FACU |
| 3. *Daucus carota* | 15 | No | UPL |
| 4. *Apocynum cannabinum* | 20 | No | FAC |
| 5. *Anthoxanthum aristatum* | 15 | No | UPL |
| 6. *Vicia americana* | 10 | No | FACU |
| 7. | | | |
| | 130 =Total Cover | | |
| **Herb Stratum** (Plot size: 1 Meter Radius) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 80 | x 4 = | 320 |
| UPL species | 30 | x 5 = | 150 |
| Column Totals: | 130 (A) | | 530 (B) |
| Prevalence Index = B/A = | | | 4.08 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: SP-8-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 7.5YR 4/2 | 100 | | | | | Loamy/Clayey | |
| 9-16 | 7.5YR 6/3 | 80 | 7.5YR 6/6 | 20 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Gabor Southeast) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-8-W

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2147235988 Long: -76.2261000377 Datum: WGS84

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology ? significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology ? naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Area has drainage directed to this area from large agricultural area, area is naturally wetland area. Runoff increase and rapidness from drainage is factor of current condition. Wetland primarily herbacous along edge of field and transitions into more shrub wetland

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes x | No ____ | Depth (inches): | 2" |
| Water Table Present? | Yes x | No ____ | Depth (inches): | 0" |
| Saturation Present? (includes capillary fringe) | Yes x | No ____ | Depth (inches): | 0" |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Water Table Present, and many wetland hydrolgy indicators. Drainage swale flowing east to west to drainage ditches

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-8-W

| Tree Stratum (Plot size: 15' Radius) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' Radius) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 Meter Radius) | | | |
| 1. *Carex lupulina* | 60 | Yes | OBL |
| 2. *Carex lurida* | 50 | Yes | OBL |
| 3. *Onoclea sensibilis* | 5 | No | FACW |
| 4. *Lysimachia nummularia* | 50 | Yes | FACW |
| 5. *Eutrochium maculatum* | 5 | No | OBL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 170 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 115 | x 1 = | 115 |
| FACW species | 55 | x 2 = | 110 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 170 (A) | | 225 (B) |

Prevalence Index = B/A = 1.32

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Wet meado area that is periodically mowed along fringes, phragmites australis stand in center

## SOIL

Sampling Point: SP-8-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 5YR 4/2 | 97 | 10YR 6/4 | 3 | | | Loamy/Clayey | |
| 9-15 | 5YR 5/1 | 90 | 5YR 5/6 | 10 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Gabor Southeast) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-9-W

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2104868200 Long: -76.2291699800 Datum: WGS84

Soil Map Unit Name: RaB: Raynham silt loam, 0-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Wet meadow, swale drains east to west into drainage ditch

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No x | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No x | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes x | No ____ | Depth (inches): 1" |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-9-W

| Tree Stratum (Plot size: 15' R) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 10 | Yes | FACW |
| 2. *Acer rubrum* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 | =Total Cover | |
| Sapling/Shrub Stratum (Plot size: 15' R) | | | |
| 1. *Cornus amomum* | | | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| Herb Stratum (Plot size: 1 meter R) | | | |
| 1. *Juncus effusus* | 10 | No | OBL |
| 2. *Epilobium coloratum* | 25 | Yes | OBL |
| 3. *Typha latifolia* | 5 | No | OBL |
| 4. *Cyperus strigosus* | 2 | No | FACW |
| 5. *Lobelia cardinalis* | 3 | No | OBL |
| 6. *Ludwigia palustris* | 40 | Yes | OBL |
| 7. *Leersia oryzoides* | 5 | No | OBL |
| 8. *Euthamia graminifolia* | 5 | No | FAC |
| 9. *Eupatorium perfoliatum* | 3 | No | FACW |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 98 | =Total Cover | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 88 | x 1 = | 88 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 113 (A) | | 148 (B) |

Prevalence Index = B/A = 1.31

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Arae at edge of

## SOIL

Sampling Point: SP-9-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 10-16 | 7.5YR 3/2 | 85 | 7.5YR 6/4 | 15 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** x **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Gabor Southeast) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-9-U

Investigator(s): Ehf,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Flat Slope (%): 1-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2148651655 Long: -76.2260170894 Datum: WGS84

Soil Map Unit Name: Cd: Canandaigua silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No ___ (If no, explain in Remarks.)

Are Vegetation Y , Soil N , or Hydrology ? significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation Y , Soil N , or Hydrology ? naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ___ | No X | **within a Wetland?** | **Yes** ___ | **No** X |
| Wetland Hydrology Present? | Yes ___ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Area is agricultural field with 75 years plus of history. All soybean and possible drainage tile within field

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Area is with soybean field, with no visible drainage patterns

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-9-U

| Tree Stratum (Plot size: 15' R ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' R ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 Meter R ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Area 85-100 % soybean in historical ag field

## SOIL

Sampling Point: SP-9-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5YR 4/3 | 90 | 7.5YR 5/6 | 10 | | | Loamy/Clayey | |
| 10-16 | 5YR 5/3 | 60 | 7.5YR 4/4 | 40 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd City/County: Schroeppel/ Oswego Sampling Date: 7/3/24

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-10-W

Investigator(s): KH, TB, DJJ Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2179577380 Long: -76.2287023203 Datum: WSG84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
- Backed up farm drainage system
- In between two agricultural fields, one soy, one hay
- Connecting to the tree line that boarders the other farm property
- Finger shaped, expanding as clog gets worse

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| Surface Water (A1) | Water-Stained Leaves (B9) | |
| High Water Table (A2) | Aquatic Fauna (B13) | |
| x Saturation (A3) | Marl Deposits (B15) | |
| Water Marks (B1) | Hydrogen Sulfide Odor (C1) | |
| Sediment Deposits (B2) | Oxidized Rhizospheres on Living Roots (C3) | |
| Drift Deposits (B3) | Presence of Reduced Iron (C4) | |
| Algal Mat or Crust (B4) | Recent Iron Reduction in Tilled Soils (C6) | |
| Iron Deposits (B5) | Thin Muck Surface (C7) | |
| Inundation Visible on Aerial Imagery (B7) | Other (Explain in Remarks) | |
| Sparsely Vegetated Concave Surface (B8) | | |

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No 0 | Depth (inches): | |
| Water Table Present? | Yes | No 0 | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes x | No | Depth (inches): 0 | |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturation increases toward treeline

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-10-W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Typha latifolia* | 50 | Yes | OBL |
| 2. *Phalaris arundinacea* | 90 | Yes | FACW |
| 3. *Carex vulpinoidea* | 25 | No | OBL |
| 4. *Juncus effusus* | 5 | No | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 170 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 80 | x 1 = | 80 |
| FACW species | 90 | x 2 = | 180 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 170 (A) | | 260 (B) |

Prevalence Index = B/A = 1.53

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% herb cover. Dominated by invasive species

## SOIL

Sampling Point: SP-10-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-12 | 7.5yr 3/2 | 100 | | | | | | |
| 12-20 | 7.5yr 5/2 | 80 | 7.5yr 6/6 | 20 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
hydric soils

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (CNY Crops Northwest) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-11-U

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): slope Slope (%): 2-4

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2244559747 Long: -76.2448677767 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation Y , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ____ | No X | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Area recently cleared, mostly herbacous plant growth over 85% of area

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No x | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No x | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No x | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetland hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-11-U

| Tree Stratum (Plot size: 15' R) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' R) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 meter R) | | | |
| 1. *Solidago altissima* | 70 | Yes | FACU |
| 2. *Solidago rugosa* | 15 | No | FAC |
| 3. *Agrostis gigantea* | 20 | No | FACW |
| 4. *Apocynum cannabinum* | 10 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 115 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 20 | x 2 = | 40 |
| FAC species | 25 | x 3 = | 75 |
| FACU species | 70 | x 4 = | 280 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 115 (A) | | 395 (B) |

Prevalence Index = B/A = 3.43

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: SP-11-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 4/4 | 100 | | | | | Loamy/Clayey | |
| 10-16 | 10YR 4/4 | 60 | 10YR 5/2 | 40 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (CNY Crops Northwest) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-11-W

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): sloping Slope (%): 2-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2242365097 Long: -76.2447573934 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation Y , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology n naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No ____ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Area on edge of recent clearing, was primarily young forested area.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): | ____ |
| Water Table Present? | Yes X | No ____ | Depth (inches): | 15" |
| Saturation Present? (includes capillary fringe) | Yes X | No ____ | Depth (inches): | 10" |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Distinct wetland hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-11-W

| Tree Stratum (Plot size: 15' R) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' R) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 Meter R) | | | |
| 1. *Fraxinus pennsylvanica* | 5 | No | FACW |
| 2. *Lysimachia nummularia* | 60 | Yes | FACW |
| 3. *Symphyotrichum puniceum* | 25 | Yes | OBL |
| 4. *Carex crinita* | 25 | Yes | OBL |
| 5. *Onoclea sensibilis* | 10 | No | FACW |
| 6. *Juncus effusus* | 3 | No | OBL |
| 7. *Epilobium hirsutum* | 5 | No | FACW |
| 8. *Galium asprellum* | 1 | No | OBL |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 134 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 54 | x 1 = | 54 |
| FACW species | 80 | x 2 = | 160 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 134 (A) | | 214 (B) |

Prevalence Index = B/A = 1.60

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Area cleared with past 2 years, previous area likely forested

## SOIL

Sampling Point: SP-11-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-14 | 7.5YR 4/1 | 95 | 7.5YR 6/4 | 5 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Murray) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-12-W

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope (%): 1-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2327657910 Long: -76.2362235477 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Wet meadow like swale draining east to west. Adjacent uplands are old field like. Agricultural history of site and likely used as pasture.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): | |
| Water Table Present? | Yes | No X | Depth (inches): | >15" |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): | 12" |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wet meadow like with no obvious surface area flows/drainage

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-12-W

| Tree Stratum (Plot size: 15' R) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' R) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 Meter R) | | | |
| 1. *Carex vulpinoidea* | 30 | No | OBL |
| 2. *Carex scoparia* | 25 | No | FACW |
| 3. *Carex lurida* | 40 | Yes | OBL |
| 4. *Juncus effusus* | 40 | Yes | OBL |
| 5. *Lythrum salicaria* | 20 | No | OBL |
| 6. *Phleum pratense* | 3 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 158 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 130 | x 1 = | 130 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 3 | x 4 = | 12 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 158 (A) | | 192 (B) |

Prevalence Index = B/A = 1.22

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Area 100% cover, no trees or shrubs

## SOIL

Sampling Point: SP-12-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5YR 4/2 | 85 | 7.5YR 5/6 | 15 | | | Loamy/Clayey | |
| 10-16 | 7.5YR 5/2 | 70 | 7.5YR 5/6 | 30 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (CNY Crops Northwest) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-13-U

Investigator(s): EF, HF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope (%): 3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2258793945 Long: -76.2435002191 Datum: WGS84

Soil Map Unit Name: RaB: Raynham silt loam, 0-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation Y , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** | **Yes** ____ | **No** X |
| Wetland Hydrology Present? | Yes ____ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared within the last year (recently forested). Currently dominated by herbaceous growth and young shrubs all under 4'

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetland hydrology. Area drains towards wetland.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-13-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Rosa multiflora* | 25 | Yes | FACU |
| 2. *Lonicera periclymenum* | 10 | No | |
| 3. *Cornus racemosa* | 3 | No | FAC |
| 4. *Fraxinus americana* | 5 | No | FACU |
| 5. *Toxicodendron radicans* | 20 | Yes | FAC |
| 6. *Solidago gigantea* | 10 | No | FACW |
| 7. *Solidago rugosa* | 5 | No | FAC |
| 8. *Persicaria virginiana* | 15 | Yes | FAC |
| 9. *Impatiens capensis* | 5 | No | FACW |
| 10. *Euthamia graminifolia* | 2 | No | FAC |
| 11. *Vitis riparia* | 3 | No | FAC |
| 12. | | | |
| | 103 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 48 | x 3 = | 144 |
| FACU species | 30 | x 4 = | 120 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 93 (A) | | 294 (B) |

Prevalence Index = B/A = 3.16

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No tree or shrub cover due to recent clearing. Used 5' radius for veg sample due to clearing and better analysis of veg

## SOIL

Sampling Point: SP-13-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 7.5YR 3/3 | 100 | | | | | Loamy/Clayey | Clay Loam |
| 6-12 | 5YR 4/1 | 95 | 5YR 4/6 | 5 | | | Loamy/Clayey | Clay Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (CNY Crops Northwest) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-13-W

Investigator(s): EF, HF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0-1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.225989 Long: 76.243486 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** **Yes** X **No** ____ |
| Wetland Hydrology Present? | Yes X | No 0 | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Old Agricultural drainage swale near sample point

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): ____ |

**Wetland Hydrology Present?** **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetland hydrology at time of sampling. Wetland hydrology is assumed to be present during large rain events and growing season. 5' lower than upland sample point.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-13-W

| Tree Stratum (Plot size: 15) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer saccharinum* | 40 | Yes | FACW |
| 2. *Fraxinus pennsylvanica* | 20 | Yes | FACW |
| 3. *Nyssa sylvatica* | 10 | No | FAC |
| 4. *Ulmus americana* | 5 | No | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 75 | =Total Cover | |

| Sapling/Shrub Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 2. *Rosa multiflora* | 15 | Yes | FACU |
| 3. *Rhamnus cathartica* | 3 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 23 | =Total Cover | |

| Herb Stratum (Plot size: 5) | | | |
|---|---|---|---|
| 1. *Persicaria virginiana* | 25 | Yes | FAC |
| 2. *Solidago rugosa* | 25 | Yes | FAC |
| 3. *Carex intumescens* | 15 | No | FACW |
| 4. *Toxicodendron radicans* | 35 | Yes | FAC |
| 5. *Symphyotrichum lanceolatum* | 3 | No | FACW |
| 6. *Thelypteris palustris* | 3 | No | FACW |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 106 | =Total Cover | |

| Woody Vine Stratum (Plot size: ) | | | |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 91 | x 2 = | 182 |
| FAC species | 98 | x 3 = | 294 |
| FACU species | 15 | x 4 = | 60 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 204 (A) | | 536 (B) |

Prevalence Index = B/A = 2.63

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Wetland sample point at edge of clearing with some forest still intact. Half plot in forest half cleared

## SOIL

Sampling Point: SP-13-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 7.5YR 3/3 | 100 | | | | | Loamy/Clayey | Clay Loam |
| 6-12 | 5YR 4/1 | 95 | 5YR 4/6 | 5 | | | Loamy/Clayey | Clay Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (CNY Crops Northwest) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-14-U

Investigator(s): EF, HF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2252709911 Long: -76.2437645475 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Old Agricultural drainage swale near sample point

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Cleared within last year

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-14-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 5 ) | | | |
| 1. *Solidago rugosa* | 7 | No | FAC |
| 2. *Rosa multiflora* | 5 | No | FACU |
| 3. *Rubus occidentalis* | 3 | No | UPL |
| 4. *Juncus tenuis* | 20 | Yes | FAC |
| 5. *Trifolium pratense* | 10 | Yes | FACU |
| 6. *Symphyotrichum lanceolatum* | 15 | Yes | FACW |
| 7. *Cornus racemosa* | 5 | No | FAC |
| 8. *Fraxinus americana* | 2 | No | FACU |
| 9. *Toxicodendron radicans* | 10 | Yes | FAC |
| 10. *Oxalis montana* | 3 | No | FACU |
| 11. | | | |
| 12. | | | |
| | 80 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 42 | x 3 = | 126 |
| FACU species | 20 | x 4 = | 80 |
| UPL species | 3 | x 5 = | 15 |
| Column Totals: | 80 (A) | | 251 (B) |
| Prevalence Index = B/A = | | | 3.14 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: SP-14-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 7.5YR 4/3 | 100 | | | | | Loamy/Clayey | Sandy Loam |
| 9-14 | 10YR 6/3 | 85 | 7.5YR 5/6 | 15 | | | Loamy/Clayey | Sandy Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (CNY Crops Northwest) City/County: Oswego Sampling Date: 7/31/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-15-U

Investigator(s): EHF,HEF Section, Township, Range: Pennellville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): slope Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2260773277 Long: -76.2408852775 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No N | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No ____ | **within a Wetland?** **Yes** ____ **No** X |
| Wetland Hydrology Present? | Yes ____ | No N | If yes, optional Wetland Site ID: ____ |

Remarks: (Explain alternative procedures here or in a separate report.)
Area is with agricultural field planted with soy bean, sample point selected because of aerial signature showing possible drainage, slight yellowing in soy bean, and swale like area within field.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ____ | No X | Depth (inches): ____ |
| Water Table Present? | Yes ____ | No X | Depth (inches): ____ |
| Saturation Present? (includes capillary fringe) | Yes ____ | No X | Depth (inches): >20" |

**Wetland Hydrology Present?** **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Other than slight swale like area in field no signs of surface flow or signs of wetlands hydrology

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP-15-U

| Tree Stratum (Plot size: 15' R) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' R) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 meter R) | | | |
| 1. *Glycine max* | 85 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 85 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 85 | x 5 = | 425 |
| Column Totals: | 85 (A) | | 425 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Agricultural field with 75 plus years of farming based on aerial imagery

## SOIL

Sampling Point: SP-15-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 7.5YR 4/3 | 100 | | | | | Loamy/Clayey | |
| 9-15 | 7.5YR 4/2 | 80 | 7.5YR 4/6 | 20 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Murray City/County: Hastings/Oswego Sampling Date: 7/30/24

Applicant/Owner: The Wetland Trust inc. State: NY Sampling Point: SP16U

Investigator(s): EF,HF Section, Township, Range: Pennelville

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2299332976 Long: -76.2386522538 Datum: WGS 84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation n, Soil n, or Hydrology n significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation n, Soil n, or Hydrology n naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes x | No | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No x | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Swale like area draining to wetland area to the south, A-horizon very shallow due to farming practices

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetland hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP16U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 50 | Yes | UPL |
| 2. *Cyperus esculentus* | 50 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 50 | x 2 = | 100 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 50 | x 5 = | 250 |
| Column Totals: | 100 (A) | | 350 (B) |

Prevalence Index = B/A = 3.50

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
50/50 mix of Soy bean and Chufa

## SOIL

Sampling Point: SP16U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-4 | 7.5yr 4/2 | 100 | | | | | Loamy/Clayey | |
| 4-10 | 7.5yr 4/1 | 95 | 7.5yr 4/1 | 5 | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Murray City/County: Hastings/Oswego Sampling Date: 7/30/24

Applicant/Owner: The Wetland Trust inc. State: NY Sampling Point: SP16W

Investigator(s): EF,HF Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 0-1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2301710359 Long: -76.2385504354 Datum: WGS84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation n , Soil n , or Hydrology n significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation n , Soil n , or Hydrology n naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes x | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes x | No | **within a Wetland?** | **Yes** x | **No** |
| Wetland Hydrology Present? | Yes | No x | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Area is a wet meadow with 100 % cover. Area is a linear like feature between agricultural field on the south and old field plant community on the north. The agricultural field slopes towards this area and contributes to hydrology of this wetland area. Cattail is a dominate species in wetland. Both wetlands and uplands have significant areas of invasive species.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
no signs of wetland hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP16W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Epilobium parviflorum* | 40 | Yes | FACW |
| 2. *Juncus effusus* | 20 | No | OBL |
| 3. *Acorus calamus* | 25 | Yes | OBL |
| 4. *Euthamia graminifolia* | 5 | No | FAC |
| 5. *Eupatorium perfoliatum* | 3 | No | FACW |
| 6. *Eutrochium purpureum* | 5 | No | FAC |
| 7. *Symphyotrichum puniceum* | 10 | No | OBL |
| 8. *Phalaris arundinacea* | 5 | No | FACW |
| 9. *Onoclea sensibilis* | 7 | No | |
| 10. *Solidago altissima* | 5 | No | FACU |
| 11. | | | |
| 12. | | | |
| | 125 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 55 | x 1 = | 55 |
| FACW species | 48 | x 2 = | 96 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 118 (A) | | 201 (B) |

Prevalence Index = B/A = 1.70

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: SP16W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-4 | 7.5yr 4/2 | 100 | | | | | | |
| 4-10 | 7.5yr 4/1 | 90 | 7.5yr 4/1 | 10 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx) Below 16 inches we are encountering more sandy soils, soils moist at 20 inches

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Murray City/County: Hastings/Oswego Sampling Date: 7/30/24

Applicant/Owner: The Wetland Trust inc. State: NY Sampling Point: SP17U

Investigator(s): EF,HF Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): convex Slope (%): 0-1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.2303801109 Long: -76.2384802988 Datum: WGS 84

Soil Map Unit Name: RhB: Rhinebeck silt loam, 2-6% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation y, Soil n, or Hydrology n significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation n, Soil n, or Hydrology n naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No x | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No x | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Area elevated approximately 5' higher than wetland. Old field habitat

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No x | Depth (inches): |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of wetland hydrology

**VEGETATION** – Use scientific names of plants. Sampling Point: SP17U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Euthamia graminifolia* | 80 | Yes | FAC |
| 2. *Fragaria vesca* | 15 | No | UPL |
| 3. *Achillea millefolium* | 5 | No | FACU |
| 4. *Phleum pratense* | 20 | No | FACU |
| 5. *Dactylis glomerata* | 10 | No | FACU |
| 6. *Anthoxanthum odoratum* | 5 | No | FACU |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 135 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 80 | x 3 = | 240 |
| FACU species | 40 | x 4 = | 160 |
| UPL species | 15 | x 5 = | 75 |
| Column Totals: | 135 (A) | | 475 (B) |

Prevalence Index = B/A = 3.52

**Hydrophytic Vegetation Indicators:**

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: SP17U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 10yr 5/3 | 100 | | | | | | |
| 9-14 | 10yr 5/3 | 95 | 10yr 5/6 | 5 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- x Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Gabor East) City/County: Oswego Sampling Date: 8/21/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-18-U

Investigator(s): EF, DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.211140°N Long: 76.228148°W Datum: WGS84

Soil Map Unit Name: Canandaigua silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No ___ | **within a Wetland?** | **Yes** ___ | **No** X |
| Wetland Hydrology Present? | Yes X | No ___ | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with soybeans which are lush, green and appear healthy. Heavy rains from the prior 3 weeks resulted in unusually wet hydrological conditions at the time of sampling, it also rained during the sampling. Ditches border several sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are very likely to be present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): | |
| Water Table Present? | Yes ___ | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): 0 | |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Heavy rains from the prior 3 weeks resulted in unusually wet hydrological conditions at the time of sampling.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-18-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 meter ) | | | |
| 1. *Glycine max* | 90 | Yes | UPL |
| 2. *Equisetum arvense* | 10 | No | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 90 | x 5 = | 450 |
| Column Totals: | 100 (A) | | 480 (B) |
| Prevalence Index = B/A = | | | 4.80 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Glycine max is lush, green and appears healthy. 100% herbacious coverage.

## SOIL

Sampling Point: SP-18-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 10YR 4/2 | 100 | | | | | Loamy/Clayey | Silt Loam |
| 10-15 | 10YR 4/2 | 90 | 2.5YR 3/6 | 10 | | | Loamy/Clayey | Silt Loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Sample location is in an agricultural field. Soils are identical to SP-A-U with the exception that there is a much thicker 100% matrix section before the redoxed matrix.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road (Gabor East) City/County: Oswego Sampling Date: 8/21/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-18-W

Investigator(s): EF, DJJ, KH Section, Township, Range: Penneville

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.211208°N Long: 76.228342°W Datum: WGS84

Soil Map Unit Name: Canandaigua silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ___ | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No ___ | **within a Wetland?** | **Yes** X **No** ___ |
| Wetland Hydrology Present? | Yes X | No ___ | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Sample point is in an agricultral field, planted with soybeans which are stressed and have stunted growth. Heavy rains from the prior 3 weeks resulted in unusually wet hydrological conditions at the time of sampling. It also rained during the sampling. Ditches border several sides of the field. Natural basins have been filled, leveled, and drained for agriculture. The surface of the ground has been sloped for drainage. Buried drainage structures are very likely to be present.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): | |
| Water Table Present? | Yes X | No ___ | Depth (inches): | 14 |
| Saturation Present? (includes capillary fringe) | Yes X | No ___ | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Heavy rains from the prior 3 weeks resulted in unusually wet hydrological conditions at the time of sampling.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-18-W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 1 meter ) | | | |
| 1. *Glycine max* | 20 | Yes | UPL |
| 2. *Ludwigia palustris* | 20 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 40 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 20 | x 1 = | 20 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 20 | x 5 = | 100 |
| Column Totals: | 40 (A) | | 120 (B) |

Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Glycine max is stressed, smaller than adjacent plants and yellowing. In the deepest point in depression, Glycine max is not able to grow, plants are not present.

## SOIL

Sampling Point: SP-18-W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-9 | 10YR 4/2 | 90 | 2.5YR 3/6 | 10 | | | Loamy/Clayey | Silt Loam |
| 9-15 | 10YR 4/3 | 60 | 10YR 4/1 | 20 | | | Loamy/Clayey | Silt Loam |
| | | | 10YR 4/6 | 20 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Sample location is in an agricultural field

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP20w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.220519 Long: -76.228586 Datum: WGS84

Soil Map Unit Name: Rineback silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation y, Soil N, or Hydrology n significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology n naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No x | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: |

Remarks: (Explain alternative procedures here or in a separate report.)
Visibly an old drainage pattern in an agriculture frield planted with soy beans. Extent of drainage is unknown but drainage tile is present due to current farmers word which could be influing the overall hydrology. Sample point is adjacent to tree line sharing another agriculture field. Based on recent Agency (USACE and DEC site visits this area is being considered disturbed wetland in an agricultural field.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes x | No | Depth (inches): <1 |
| Water Table Present? | Yes | No x | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No x | Depth (inches): |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Sample point is at the edge of standing water. No water in the hole, only water puddled on top of surface. Area is relatively low to surrounding areas and collecting runoff

**VEGETATION** – Use scientific names of plants. Sampling Point: SP20w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals: | 100 (A) | | 500 (B) |

Prevalence Index = B/A = 5.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)
Soy beans stunted in growth. Soy are all brown and dying due to the late season. Outside of plot, in the wetter area there is 20% growth which includes the species: Ranunculus sceleratus, Juncus effusus, and eleocharis.

## SOIL

Sampling Point: SP20w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 3/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 10yr 3/2 | 97 | 10yr 5/6 | 3 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Soil exhibits marginal hydrolic conditions. No oxidized roots. The extent the soil color represents pre-drainage tile conditions is unknown.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/Oswego Sampling Date: 10/21/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP21u

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none Convex Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.220016 Long: -76.229336 Datum: WGS84

Soil Map Unit Name Rinebeck silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology n significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N , Soil N , or Hydrology n naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features,

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** **Yes** **No** X |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID |

Remarks: (Explain alternative procedures here or in a separate report.)
Each side of sample point show similar area to SP20w, Visibly an old drainage pattern in an agriculture frield planted with soy beans. Extent of drainage is unknown but drainage tile is present due to current farmers word which could be influing hydrology.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes x No Depth (inches): <1

Water Table Present? Yes No x Depth (inches):

Saturation Present? Yes No X Depth (inches):
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No signs of soil cracking, oxidized root channels, area on more of a slope than SP 20W, drainage tile likely helping to influence conditions

**VEGETATION** – Use scientific names of plants. Sampling Point: SP21u

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Glycine max* | 100 | Yes | UPL |
| 2. *Ranunculus sceleratus* | 10 | No | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 110 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 10 | x 1 = | 10 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 100 | x 5 = | 500 |
| Column Totals | 110 (A) | | 510 (B) |

Prevalence Index = B/A = 4.64

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide support data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
Plot Dominated by soy. Browning of soy due to late season.

**SOIL**

Sampling Point: SP21u

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 3/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 10yr 3/2 | 99 | 10yr 5/6 | 1 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

Models are <1% with no oxidized roots, very faint mottles

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP22w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum: WGS84

Soil Map Unit Name: Rinebeck silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Visibly an old drainage pattern in an agriculture frield planted with soy beans. Extent of drainage is unknown but drainage tile is present due to current farmers word which could be influinghydrology. Sample point taken in wetter area, Soy is stunted in growth. Based on recent Agency (USACE and DEC) site visits this area is being considered disturbed wetland in an agricultural field.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| X Surface Water (A1) | Water-Stained Leaves (B9) | Surface Soil Cracks (B6) |
| High Water Table (A2) | Aquatic Fauna (B13) | Drainage Patterns (B10) |
| Saturation (A3) | Marl Deposits (B15) | Moss Trim Lines (B16) |
| Water Marks (B1) | Hydrogen Sulfide Odor (C1) | Dry-Season Water Table (C2) |
| Sediment Deposits (B2) | Oxidized Rhizospheres on Living Roots (C3) | Crayfish Burrows (C8) |
| Drift Deposits (B3) | Presence of Reduced Iron (C4) | Stunted or Stressed Plants (D1) |
| Algal Mat or Crust (B4) | Recent Iron Reduction in Tilled Soils (C6) | Geomorphic Position (D2) |
| Iron Deposits (B5) | Thin Muck Surface (C7) | Shallow Aquitard (D3) |
| Inundation Visible on Aerial Imagery (B7) | Other (Explain in Remarks) | Microtopographic Relief (D4) |
| Sparsely Vegetated Concave Surface (B8) | | FAC-Neutral Test (D5) |

Secondary Indicators (minimum of two required)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): >1 | |
| Water Table Present? | Yes | No x | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | **Wetland Hydrology Present?** **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soils saturated at surface

**VEGETATION** – Use scientific names of plants. Sampling Point: SP22w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Glycine max* | 70 | Yes | UPL |
| 2. *Ranunculus sceleratus* | 50 | Yes | OBL |
| 3. *Cyperus esculentus* | 5 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 125 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 70 | x 5 = | 350 |
| Column Totals: | 125 (A) | | 410 (B) |

Prevalence Index = B/A = 3.28

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Soy is stunted in growth. Ranunculus is surviving not thriving

## SOIL

Sampling Point: SP22w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 3/2 | | | | | | Loamy/Clayey | |
| 8-14 | 10yr 3/2 | 97 | 10yr 5/6 | 3 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
No oxidized roots

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP23w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum: WGS84

Soil Map Unit Name: Rinebeck silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes x No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Visibly an old drainage pattern in an agriculture frield planted with soy beans. Extent of drainage is unknown but drainage tile is present due to current farmers word which could be influinghydrology. Sample point taken in wetter area, Soy is stunted in growth. Based on recent Agency (USACE and DEC) site visits this area is being considered disturbed wetland in an agricultural field.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| X Surface Water (A1) | ___ Water-Stained Leaves (B9) | ___ Surface Soil Cracks (B6) |
| ___ High Water Table (A2) | ___ Aquatic Fauna (B13) | ___ Drainage Patterns (B10) |
| x Saturation (A3) | ___ Marl Deposits (B15) | ___ Moss Trim Lines (B16) |
| ___ Water Marks (B1) | ___ Hydrogen Sulfide Odor (C1) | ___ Dry-Season Water Table (C2) |
| ___ Sediment Deposits (B2) | ___ Oxidized Rhizospheres on Living Roots (C3) | ___ Crayfish Burrows (C8) |
| ___ Drift Deposits (B3) | ___ Presence of Reduced Iron (C4) | ___ Saturation Visible on Aerial Imagery (C9) |
| ___ Algal Mat or Crust (B4) | ___ Recent Iron Reduction in Tilled Soils (C6) | ___ Stunted or Stressed Plants (D1) |
| ___ Iron Deposits (B5) | ___ Thin Muck Surface (C7) | ___ Geomorphic Position (D2) |
| ___ Inundation Visible on Aerial Imagery (B7) | ___ Other (Explain in Remarks) | ___ Shallow Aquitard (D3) |
| ___ Sparsely Vegetated Concave Surface (B8) | | ___ Microtopographic Relief (D4) |
| | | ___ FAC-Neutral Test (D5) |

Secondary Indicators (minimum of two required)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): | <1" |
| Water Table Present? | Yes | No x | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Soils saturated at surface, assuming hydrology is present, drainage tile is present in field

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP23w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: 6 ) | | | |
| 1. *Glycine max* | 70 | Yes | UPL |
| 2. *Ranunculus sceleratus* | 50 | Yes | OBL |
| 3. *Cyperus esculentus* | 5 | No | FACW |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 125 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 70 | x 5 = | 350 |
| Column Totals: | 125 (A) | | 410 (B) |

Prevalence Index = B/A = 3.28

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Soy is stunted in growth. Ranunculus is surviving not thriving

**SOIL**

Sampling Point: SP23w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 3/2 | | | | | | | |
| 8-14 | 10yr 3/2 | 95 | 10yr 5/6 | 5 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
No oxidized roots

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP24w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: Long: Datum: WGS84

Soil Map Unit Name Canandaigua silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features,

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID |

Remarks: (Explain alternative procedures here or in a separate report.)
Visibly an old drainage pattern in an agriculture field planted with soy beans. Drainage is the main drainage feature in this area draining to the main wetland area (not in agriculture to the south). Extent of drainage is unknown but drainage tile is present due to current farmers word which is influing hydrology. Based on recent Agency (USACE and DEC) staff visit to other areas on property this area is being added as a wetland feature within the agricultural field.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| X Surface Water (A1) | ___ Water-Stained Leaves (B9) | ___ Surface Soil Cracks (B6) |
| ___ High Water Table (A2) | ___ Aquatic Fauna (B13) | ___ Drainage Patterns (B10) |
| ___ Saturation (A3) | ___ Marl Deposits (B15) | ___ Moss Trim Lines (B16) |
| ___ Water Marks (B1) | ___ Hydrogen Sulfide Odor (C1) | ___ Dry-Season Water Table (C2) |
| ___ Sediment Deposits (B2) | ___ Oxidized Rhizospheres on Living Roots (C3) | ___ Crayfish Burrows (C8) |
| ___ Drift Deposits (B3) | ___ Presence of Reduced Iron (C4) | ___ Saturation Visible on Aerial Imagery (C9) |
| ___ Algal Mat or Crust (B4) | ___ Recent Iron Reduction in Tilled Soils (C6) | ___ Stunted or Stressed Plants (D1) |
| ___ Iron Deposits (B5) | ___ Thin Muck Surface (C7) | ___ Geomorphic Position (D2) |
| ___ Inundation Visible on Aerial Imagery (B7) | ___ Other (Explain in Remarks) | ___ Shallow Aquitard (D3) |
| ___ Sparsely Vegetated Concave Surface (B8) | | ___ Microtopographic Relief (D4) |
| | | ___ FAC-Neutral Test (D5) |

Secondary Indicators (minimum of two required

**Field Observations:**

Surface Water Present? Yes X No Depth (inches): 1

Water Table Present? Yes No X Depth (inches):

Saturation Present? Yes No X Depth (inches):
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Sample point is in center of drainage with no signs of erosion or rilling. No water in hole nor saturation present within 14" of surface, soils damp.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP24w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 70 | Yes | UPL |
| 2. *Ranunculus sceleratus* | 50 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 120 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 70 | x 5 = | 350 |
| Column Totals | 120 (A) | | 400 (B) |

Prevalence Index = B/A = 3.33

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide support data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Stunted growth in soy. Some Blue/ green algae present in areas.

## SOIL

Sampling Point: SP24w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 3/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 10yr 4/2 | 85 | 7.5yr 4/6 | 15 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
No oxidized roots

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Road City/County: Schroeppel/ Oswego Sampling Date: 10/22/2024

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP25w

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none Concave Slope (%): 1

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.216277 Long: -76.230916 Datum: WGS84

Soil Map Unit Name Canandaigua silt loam NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features,

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID |

Remarks: (Explain alternative procedures here or in a separate report.)
Visibly an old drainage pattern in an agriculture field planted with soy beans. Drainage is a smaller feature off from main drainage feature. Extent of drainage is unknown but drainage tile is present due to current farmers word which is influing hydrology. Based on recent Agency (USACE and DEC) staff visit to other areas on property this area is being added as a wetland feature within the agricultural field.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes X No Depth (inches): 1

Water Table Present? Yes No X Depth (inches):

Saturation Present? Yes No X Depth (inches):
(includes capillary fringe)

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Sample point is 3ft from standing water. No water in hole nor saturation present.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP25w

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Glycine max* | 70 | Yes | UPL |
| 2. *Ranunculus sceleratus* | 50 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 120 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 70 | x 5 = | 350 |
| Column Totals | 120 (A) | | 400 (B) |

Prevalence Index = B/A = 3.33

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide support data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Stunted growth in say. Blue/ green algae present in water

**SOIL**

Sampling Point: SP25w

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 3/2 | 100 | | | | | | |
| 8-14 | 10yr 4/2 | 90 | 7.5yr 4/6 | 10 | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
No oxidized roots

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP14W

Investigator(s): E. Franz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.225363 Long: -76.244018 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested ares. Deep skidder ruts across wetland, with noticable wetland species growing. Sample point was taken on un-disturbed ground adjacent to skidder rut.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| X Surface Water (A1) | X Water-Stained Leaves (B9) | Secondary Indicators (minimum of two required) |
| High Water Table (A2) | Aquatic Fauna (B13) | Surface Soil Cracks (B6) |
| Saturation (A3) | Marl Deposits (B15) | Drainage Patterns (B10) |
| Water Marks (B1) | Hydrogen Sulfide Odor (C1) | Moss Trim Lines (B16) |
| Sediment Deposits (B2) | X Oxidized Rhizospheres on Living Roots (C3) | Dry-Season Water Table (C2) |
| Drift Deposits (B3) | Presence of Reduced Iron (C4) | Crayfish Burrows (C8) |
| X Algal Mat or Crust (B4) | Recent Iron Reduction in Tilled Soils (C6) | Saturation Visible on Aerial Imagery (C9) |
| Iron Deposits (B5) | Thin Muck Surface (C7) | Stunted or Stressed Plants (D1) |
| Inundation Visible on Aerial Imagery (B7) | Other (Explain in Remarks) | Geomorphic Position (D2) |
| Sparsely Vegetated Concave Surface (B8) | | Shallow Aquitard (D3) |
| | | Microtopographic Relief (D4) |
| | | X FAC-Neutral Test (D5) |

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): <3 | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | **Wetland Hydrology Present?** **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Standing water in skidder ruts more than three inches deep, this water is seperate from water table. Algae covering water in skitter ruts. Oxidized root channels present in top soil. Water stained leaved littered across the skitter ruts.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP14W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Salix discolor* | 1 | No | FACW |
| 2. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 6 =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Carex stricta* | 5 | No | OBL |
| 2. *Epilobium coloratum* | 25 | Yes | OBL |
| 3. *Carex spp.* | 40 | Yes | FACW |
| 4. *Juncus effusus* | 25 | Yes | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 95 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 55 | x 1 = | 55 |
| FACW species | 46 | x 2 = | 92 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 101 (A) | | 147 (B) |

Prevalence Index = B/A = 1.46

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% Herbaceous, 5% Shrub. Unknown Aster basal leaves were covering the ground 10%

## SOIL

Sampling Point: SP14W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 3/1 | 97 | 5yr 3/3 | 3 | | | Loamy/Clayey | Clay |
| 10-16 | 10yr 5/3 | 70 | 7.5yr 5/4 | 30 | | | Sandy | Sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

Depleted Matrix due to oxidixed root channels in upper surface

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP26U

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.227952 Long: -43.227952 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No ___ (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No ___

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ___ | No X | **within a Wetland?** | **Yes** ___ | **No** X |
| Wetland Hydrology Present? | Yes ___ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Forested upland with evidence of bush hogging in the past year along an old farm road. Majority of trees are intact, mostly quaking aspen. Old access road disturbs the vegetation.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ | |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ | |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ | **Wetland Hydrology Present?** **Yes** ___ **No** X |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP26U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Populus tremuloides* | 100 | Yes | FACU |
| 2. *Prunus serotina* | 15 | No | FACU |
| 3. *Acer rubrum* | 5 | No | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 120 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Lonicera japonica* | 30 | Yes | FACU |
| 2. *Rosa multiflora* | 50 | Yes | FACU |
| 3. *Prunus serotina* | 5 | No | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 85 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Fragaria vesca* | 5 | Yes | UPL |
| 2. *Carex spp* | 3 | Yes | UPL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 8 | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 200 | x 4 = | 800 |
| UPL species | 8 | x 5 = | 40 |
| Column Totals: | 213 (A) | | 855 (B) |
| Prevalence Index = B/A = | | | 4.01 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
forested understory is bushhogged. We calculated percentages of shrubs based on stumps.

## SOIL

Sampling Point: SP26U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-5 | 7.5yr 3/2 | 100 | | | | | Sandy | Sandy loam |
| 5-11 | 7.5yr 4/4 | 80 | 7.5yr 3/2 | 20 | | | Sandy | Sandy loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP26W

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): convex Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.228333 Long: -76.244684 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation N , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Small depression surrounded by forested upland. Adjacent to a access road along the property line. Evidence of bushhogging in the past.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes Y | No | Depth (inches): | 1 |
| Water Table Present? | Yes Y | No | Depth (inches): | 6 |
| Saturation Present? (includes capillary fringe) | Yes Y | No | Depth (inches): | 0 |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Evidence of water stained leaves. Oxidized root channels in top soil layer

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP26W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 10 | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 10 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 10 (A) | | 30 (B) |

Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Wetland area is 100% open. Surrounded by a red maple (40in DBH) and dead ash. No plants were evident at the time of delineation.

## SOIL

Sampling Point: SP26W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 3/2 | 100 | | | | | Loamy/Clayey | sandy/ clay/ loam |
| 8-12 | 7.5yr 3/2 | 85 | 7.5yr 4/6 | 15 | | | Loamy/Clayey | sandy/ clay/ loam |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/14/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP27U

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.226906 Long: -76.243117 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No ___ (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No ___

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ___ | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes ___ | No X | **within a Wetland?** | **Yes** ___ | **No** X |
| Wetland Hydrology Present? | Yes ___ | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Forested upland dominated by black cherry, aspen, and maple. Sparse understory of honeysuckle and dogwood species.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ___ | No X | Depth (inches): ___ |
| Water Table Present? | Yes ___ | No X | Depth (inches): ___ |
| Saturation Present? (includes capillary fringe) | Yes ___ | No X | Depth (inches): ___ |

**Wetland Hydrology Present?** **Yes** ___ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP27U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. *Acer rubrum* | 50 | Yes | FAC |
| 2. *Prunus serotina* | 25 | Yes | FACU |
| 3. *Populus tremuloides* | 30 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 105 | =Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Lonicera japonica* | 70 | Yes | FACU |
| 2. *Rosa multiflora* | 5 | No | FACU |
| 3. *Acer rubrum* | 10 | No | FAC |
| 4. *Cornus racemosa* | 5 | No | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 90 | =Total Cover | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | | =Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 65 | x 3 = | 195 |
| FACU species | 130 | x 4 = | 520 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 195 (A) | | 715 (B) |

Prevalence Index = B/A = 3.67

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

## SOIL

Sampling Point: SP27U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 3/2 | 100 | | | | | Loamy/Clayey | |
| 8-14 | 7.5yr 5/4 | 95 | 7.5yr 4/3 | 5 | | | Loamy/Clayey | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP28U

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Slope Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.225505 Long: -43.225505 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut. No hydrology indicators which differentiates from the wetland points. Plants and soils are marginal, hydrology will be the indicator of wetland or upland. Point sits 6ft higher than wetland to NE

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP28U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Cornus amomum* | 10 | Yes | FACW |
| 2. *Cornus alba* | 5 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Fragaria vesca* | 20 | Yes | UPL |
| 2. *Juncus tenuis* | 20 | Yes | FAC |
| 3. *Carex gracillima* | 50 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 90 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 50 | x 4 = | 200 |
| UPL species | 20 | x 5 = | 100 |
| Column Totals: | 105 (A) | | 390 (B) |

Prevalence Index = B/A = 3.71

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
15% shrub, 100% herb.

## SOIL

Sampling Point: SP28U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 3/1 | 95 | 7.5yr 4/4 | 5 | | | Loamy/Clayey | |
| 8-12 | 7.5yr 3/1 | 80 | 7.5yr 5/6 | 20 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP29U

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.224706 Long: -43.224706 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut. No hydrology indicators which differentiates from the wetland plots. Plants and soils are marginal, hydrology will be the indicator of wetland or upland.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP29U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Fraxinus pennsylvanica* | 10 | Yes | FACW |
| 2. *Cornus alba* | 15 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 25 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Fragaria vesca* | 5 | Yes | UPL |
| 2. *Aster spp* | 5 | Yes | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 10 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 35 (A) | | 90 (B) |

Prevalence Index = B/A = 2.57

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation was disturbed and scattered

## SOIL

Sampling Point: SP29U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 5/3 | 97 | 7.5yr 5/6 | 3 | | | Loamy/Clayey | |
| 8-12 | 7.5yr 5/3 | 90 | 7.5yr 5/6 | 10 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP30U

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.224514 Long: 43.224514 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut. No hydrology which differentiates from the wetland points. Plants and soils are marginal, hydrology will be the indicator of wetland or upland. Comparison of hydrology and soils were recorded, not vegetation.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP30U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Cornus alba* | 3 | Yes | FACW |
| 2. *Fraxinus pennsylvanica* | 3 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 6 | =Total Cover | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Fragaria vesca* | 25 | Yes | UPL |
| 2. *Solidago rugosa* | 10 | Yes | FAC |
| 3. *Aster Spp.* | 10 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 45 | =Total Cover | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 6 | x 2 = | 12 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 25 | x 5 = | 125 |
| Column Totals: | 51 (A) | | 197 (B) |

Prevalence Index = B/A = 3.86

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
50% herbacious cover. Sparse shrub cover

## SOIL

Sampling Point: SP30U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 4/3 | 97 | 7.5yr 5/6 | 3 | | | Loamy/Clayey | |
| 8-12 | 10yr 6/2 | 70 | 7.5yr 4/6 | 30 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP31

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.223549 Long: -76.24527 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared area on the edge of an agriculture field. Sample point was taken on un-disturbed ground adjacent to skidder rut. No hydrology which differentiates from the wetland points. Plants and soils are marginal, hydrology will be the indicator of wetland or upland.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP31

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Cornus alba* | 10 | Yes | FACW |
| 2. *Fraxinus pennsylvanica* | 2 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 12 =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Agrostis gigantea* | 50 | Yes | FACW |
| 2. *Potentilla norvegica* | 10 | No | FAC |
| 3. *Solidago rugosa* | 20 | Yes | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 80 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 62 | x 2 = | 124 |
| FAC species | 30 | x 3 = | 90 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 92 (A) | | 214 (B) |

Prevalence Index = B/A = 2.33

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
10% shrub, 80% herb. Mature dead ash trees cut and laying near plot. Most of the area cut has recent sprouting cornus alba.

## SOIL

Sampling Point: SP31

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-6 | 7.5yr 4/3 | 93 | 7.5yr 5/6 | 3 | | | Loamy/Clayey | |
| 6-12 | 7.5yr 6/3 | 60 | 7.5yr 4/6 | 40 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/15/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP-32-U

Investigator(s): E. Frantz, M. Herman, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.223812 Long: 43.223812 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut. Plot is sloping towards a forested wetland to the East and adjacent to removed mature stumps to the South. No hydrology which differentiates from wetland points. Plants and soils are marginal, hydrology will be the indicator of wetland or upland.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP-32-U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Cornus amomum* | 5 | Yes | FACW |
| 2. *Fraxinus pennsylvanica* | 2 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 7 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Solidago rugosa* | 50 | Yes | FAC |
| 2. *Carex spp* | 50 | Yes | FAC |
| 3. *Fragaria vesca* | 5 | No | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 105 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 7 | x 2 = | 14 |
| FAC species | 100 | x 3 = | 300 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 5 | x 5 = | 25 |
| Column Totals: | 112 (A) | | 339 (B) |

Prevalence Index = B/A = 3.03

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
100% herb, 5% shrub

## SOIL

Sampling Point: SP-32-U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-4 | 7.5yr 4/2 | 95 | 7.5yr 4/4 | 5 | | | Loamy/Clayey | |
| 4-8 | 7.5yr 4/2 | 85 | 7.5yr 4/4 | 15 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP33U

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.226192 Long: 43.226192 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut. No hydrology which differentiates from the SP33W. Soils are hydric, vegetation and hydrologywill be the indicator of wetland or upland.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP33U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. *Rosa multiflora* | 5 | Yes | FACU |
| 2. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 3. *Lonicera japonica* | 5 | Yes | FACU |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. *Epilobium coloratum* | 30 | Yes | OBL |
| 2. *Potentilla norvegica* | 10 | No | FAC |
| 3. *Solidago rugosa* | 10 | No | FAC |
| 4. *Packera obovata* | 35 | Yes | FACU |
| 5. *Carex spp* | 20 | No | FAC |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 105 =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 30 | x 1 = | 30 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 40 | x 3 = | 120 |
| FACU species | 45 | x 4 = | 180 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 120 (A) | | 340 (B) |

Prevalence Index = B/A = 2.83

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
15% shrub, sprouting from tree stumps. 100% herb cover.

## SOIL

Sampling Point: SP33U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 4/3 | 100 | | | | | Loamy/Clayey | |
| 10-15 | 7.5yr 6/2 | 90 | 7.5yr 5/6 | 10 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:
No water in hole.

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP33W

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.226306 Long: -76.242174 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y , Soil N , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut, with noticable hydropholic vegetation growing. There is water pooling in skitter ruts which differentiates from SP33U. Plants and soils are marginal, hydrology will be the indicator of wetland or upland.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): | 1 |
| Water Table Present? | Yes X | No | Depth (inches): | 8 |
| Saturation Present? (includes capillary fringe) | Yes X | No | Depth (inches): | 8 |

**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Water in sample hole at 8 inches deep. Standing water in skidder ruts up to three inches deep likely due to soil compaction from skdder.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP33W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Cornus amomum* | 5 | Yes | FACW |
| 2. *Fraxinus pennsylvanica* | 10 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Grass Species* | 80 | Yes | FACW |
| 2. *Juncus effusus* | 20 | Yes | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 100 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 20 | x 1 = | 20 |
| FACW species | 95 | x 2 = | 190 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 115 (A) | | 210 (B) |

Prevalence Index = B/A = 1.83

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
10-15% shrub cover. 100% herbacious cover. Grass species was a young unknown species just emerging. Looks like crab grass or Bermuda grass.

## SOIL

Sampling Point: SP33W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 4/2 | 97 | 7.5yr 5/6 | 3 | | | Loamy/Clayey | Heavy clay |
| 10-16 | 7.5yr 5/2 | 60 | 7.5yr 5/6 | 40 | | | Loamy/Clayey | Heavy clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP34U

Investigator(s): Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.224947 Long: 43.224947 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut. No hydrology indicators were observe, which differentiates from the wetland points. Plants and soils are marginal, hydrology will be the indicator of wetland or upland. Evidence of land being shaped into agriculture furrows.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP34U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Cornus alba* | 10 | Yes | FACW |
| 2. *Fraxinus pennsylvanica* | 5 | Yes | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 15 =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Solidago canadensis* | 30 | Yes | FACU |
| 2. *Carex spp* | 15 | Yes | FACU |
| 3. *Fragaria vesca* | 10 | No | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 55 =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 0 | x 3 = | 0 |
| FACU species | 45 | x 4 = | 180 |
| UPL species | 10 | x 5 = | 50 |
| Column Totals: | 70 (A) | | 260 (B) |
| Prevalence Index = B/A = | | | 3.71 |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Unknown carex species. Assuming upland indicator due to surrounding floor veg is upland and no signs of hydrology

## SOIL

Sampling Point: SP34U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 4/2 | 100 | | | | | Loamy/Clayey | |
| 10-16 | 10yr 5/3 | 70 | 7.5yr 5/6 | 30 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP35U

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.223022 Long: -43.223022 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | |
|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes | No X | **Is the Sampled Area** | |
| Hydric Soil Present? | Yes | No X | **within a Wetland?** | **Yes** **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | |

Remarks: (Explain alternative procedures here or in a separate report.)
Plowed agriculture field. Sample point was taken on un-disturbed ground from plow. Agricultured for 70+ years resulting in disturbed soil, vegetation and hydrology.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): |
| Water Table Present? | Yes | No X | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants.

Sampling Point: SP35U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| **Herb Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | =Total Cover | | |
| **Woody Vine Stratum** (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |
| Prevalence Index = B/A = | _____ |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation. Was planted in soy bean in 2024

## SOIL

Sampling Point: SP35U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-10 | 7.5yr 6/3 | 99 | 7.5yr 6/4 | 1 | | | Loamy/Clayey | Small concretions |
| 10-15 | 7.5yr 5/6 | 60 | 7.5yr 5/3 | 40 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP35W

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.222872 Long: 43.222872 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y , Soil Y , or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes N No

Are Vegetation N , Soil N , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** X | **No** |
| Wetland Hydrology Present? | Yes X | No | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Shallow depression in an agriculture field. Adjacent to a wet mature forest. Agricultured for 70+ years resulting in disturbed soil, vegetation and hydrology.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes X | No | Depth (inches): 1 | | |
| Water Table Present? | Yes | No X | Depth (inches): | | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | **Wetland Hydrology Present?** | **Yes** X **No** |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
standing water in deepest part of the basin

**VEGETATION** – Use scientific names of plants. Sampling Point: SP35W

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | =Total Cover | | |
| Herb Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | =Total Cover | | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | =Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species _____ | x 1 = _____ |
| FACW species _____ | x 2 = _____ |
| FAC species _____ | x 3 = _____ |
| FACU species _____ | x 4 = _____ |
| UPL species _____ | x 5 = _____ |
| Column Totals: _____ (A) | _____ (B) |
| Prevalence Index = B/A = | _____ |

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
No vegetation. Planted in soy bean in 2024, likely stressed, we persume that hydrophidic vegetation would be present if not disturbed by agriculture, thus we checked the yes for vegetation

## SOIL

Sampling Point: SP35W

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 7.5yr 4/1 | 70 | 7.5yr 4/4 | 30 | | | Loamy/Clayey | |
| 8-14 | 10yr 4/3 | 70 | 7.5yr 5/6 | 30 | | | Loamy/Clayey | Clay |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

## WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Center Rd, West Field City/County: Schroeppel/ Oswego Sampling Date: 4/18/25

Applicant/Owner: The Wetland Trust State: NY Sampling Point: SP36U

Investigator(s): E. Frantz, K. Hastings Section, Township, Range:

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): convex Slope (%): 2-6

Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 43.223902 Long: -43.223902 Datum: WSG84

Soil Map Unit Name: Rhinebeck silt loam, NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes Y No (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology Y significantly disturbed? Are "Normal Circumstances" present? Yes Y No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

| | | | | | |
|---|---|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No | **Is the Sampled Area** | | |
| Hydric Soil Present? | Yes X | No | **within a Wetland?** | **Yes** | **No** X |
| Wetland Hydrology Present? | Yes | No X | If yes, optional Wetland Site ID: | | |

Remarks: (Explain alternative procedures here or in a separate report.)
Recently cleared (likely 2023) forested areas. Deep skidder ruts across plot. Sample point was taken on un-disturbed ground adjacent to skidder rut.. No hydrology indicators were observed, which differentiates from the wetland points. Plants and soils are marginal, hydrology will be the indicator of wetland or upland. Evidence of land being shaped into agriculture furrows.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes | No X | Depth (inches): | |
| Water Table Present? | Yes | No X | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes | No X | Depth (inches): | |

**Wetland Hydrology Present?** **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology indicators. No oxidized root channels, no saturation, no signs of drainage patterns.

**VEGETATION** – Use scientific names of plants. Sampling Point: SP36U

| Tree Stratum (Plot size: ) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | | =Total Cover | |
| Sapling/Shrub Stratum (Plot size: ) | | | |
| 1. *Fraxinus pennsylvanica* | 2 | No | FACW |
| 2. *Cornus alba* | 2 | No | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| | 4 | =Total Cover | |
| Herb Stratum (Plot size: ) | | | |
| 1. *Equisetum arvense* | 5 | No | FAC |
| 2. *Potentilla norvegica* | 20 | No | FAC |
| 3. *Solidago rugosa* | 5 | No | FAC |
| 4. *Agrostis gigantea* | 80 | Yes | FACW |
| 5. *Aster spp* | 20 | No | FAC |
| 6. *Juncus effusus* | 2 | No | OBL |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |
| | 132 | =Total Cover | |
| Woody Vine Stratum (Plot size: ) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | | =Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 2 | x 1 = | 2 |
| FACW species | 84 | x 2 = | 168 |
| FAC species | 50 | x 3 = | 150 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 136 (A) | | 320 (B) |

Prevalence Index = B/A = 2.35

**Hydrophytic Vegetation Indicators:**

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Unknow grass, closely resembles red top. Unknown aster. These species were identified by their dead flowers. 100% herb, 5% shrub

## SOIL

Sampling Point: SP36U

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth | Matrix | | Redox Features | | | | | |
|---|---|---|---|---|---|---|---|---|
| (inches) | Color (moist) | % | Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
| 0-8 | 10yr 4/2 | 100 | | | | | Loamy/Clayey | |
| 8-11 | 10yr 5/2 | 90 | 10yr 5/8 | 10 | | | Loamy/Clayey | |
| 11-15 | 7.5yr 5/2 | 80 | 7.5yr 6/6 | 20 | | | Loamy/Clayey | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

**Indicators for Problematic Hydric Soils[3]:**

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

# Appendix D.

| Common Name | Scientific Name | Conservation Status | Indicator Status | Native | Buxton Creek | Lower Caughdenoy Creek | Oneida River | Fish Creek | Upper Caughdenoy Creek | Sixmile Creek |
|---|---|---|---|---|---|---|---|---|---|---|
| **Amphibian** | | | | | | | | | | |
| American toad | *Anaxyrus americanus* | S5 G5: secure in NYS and globally | - | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | |
| gray treefrog | *Dryophytes versicolor* | S5 G5: secure in NYS and globally | - | Yes | ✓ | ✓ | ✓ | | ✓ | |
| northern green frog | *Lithobates clamitans melanota* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | ✓ | |
| northern leopard frog | *Lithobates pipiens* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | ✓ | ✓ | |
| wood frog | *Lithobates sylvaticus* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| **Reptile** | | | | | | | | | | |
| painted turtle | *Chrysemys picta* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| eastern garter snake | *Thamnophis sirtalis sirtalis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | | ✓ | |
| **Bird** | | | | | | | | | | |
| red-winged blackbird | *Agelaius phoeniceus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| wood duck | *Aix sponsa* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| mallard | *Anas platyrhynchos* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | ✓ |
| American pipit | *Anthus rubescens* | Least concern | - | Yes | | | ✓ | | ✓ | ✓ |
| sandhill crane | *Antigone canadensis* | S1B G5: critically imperiled (breeding) in NYS and secure globally | - | Yes | | | ✓ | | | |
| great blue heron | *Ardea herodias* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| tufted titmouse | *Baeolophus bicolor* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | ✓ | |
| Canada goose | *Branta canadensis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | | ✓ | ✓ |
| red-tailed hawk | *Buteo jamaicensis* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | ✓ |
| green heron | *Butorides virescens* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| northern cardinal | *Cardinalis cardinalis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| turkey vulture | *Cathartes aura* | S4B G5: apparently secure (breeding) in NYS and secure globally | - | Yes | | | ✓ | | | ✓ |
| killdeer | *Charadrius vociferus* | S5 G5: secure in NYS and globally | - | Yes | ✓ | ✓ | ✓ | | ✓ | |
| northern harrier | *Circus hudsonius* | (NYS Threatened Species) S3B, S3N G5: vulnerable (breeding/non-breeding) in NYS and secure globally | - | Yes | | | | ✓ | | ✓ |
| northern flicker | *Colaptes auratus* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| American crow | *Corvus brachyrhynchos* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| blue jay | *Cyanocitta cristata* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | | | |
| pileated woodpecker | *Dryocopus pileatus* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| gray catbird | *Dumetella carolinensis* | S5B G5: secure (breeding) in NYS and globally | - | Yes | ✓ | ✓ | ✓ | | | |
| willow flycatcher | *Empidonax traillii* | S5B G5: secure (breeding) in NYS and globally | - | Yes | ✓ | | | | | |
| rusty blackbird | *Euphagus carolinus* | (NYS High Priority Species of Greatest Conservation Need) S2B G4: imperiled (breeding) in NYS and apparently secure globally | - | Yes | | | ✓ | | | |
| common yellowthroat | *Geothlypis trichas* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| bald eagle | *Haliaeetus leucocephalus* | (NYS Threatened Species) S2S3B, S2N G5: imperiled/vulnerable (breeding) and imperiled (non-breeding) in NYS, secure globally | - | Yes | | | ✓ | | ✓ | ✓ |
| barn swallow | *Hirundo rustica* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |
| wood thrush | *Hylocichla mustelina* | S5B G4: secure (breeding) in NYS and apparently secure globally | - | Yes | | | ✓ | ✓ | | |
| Baltimore oriole | *Icterus galbula* | S5B G5: secure (breeding) in NYS and globally | - | Yes | ✓ | | ✓ | | | |
| belted kingfisher | *Megaceryle alcyon* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | | | | |
| red-bellied woodpecker | *Melanerpes carolinus* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| wild turkey | *Meleagris gallopavo* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| song sparrow | *Melospiza melodia* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| great crested flycatcher | *Myiarchus crinitus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| osprey | *Pandion haliaetus* | (NYS Species of Special Concern) S4B G5: apparently secure (breeding) in NYS and secure globally | - | Yes | | | ✓ | | | |
| rose-breasted grosbeak | *Pheucticus ludovicianus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| eastern towhee | *Pipilo erythrophthalmus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | | | | |
| American woodcock | *Scolopax minor* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |
| yellow warbler | *Setophaga petechia* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| eastern bluebird | *Sialia sialis* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| American goldfinch | *Spinus tristis* | S5 G5: secure in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| European starling | *Sturnus vulgaris* | SNA G5: not applicable in NYS and secure globally | - | No | | | | ✓ | | |
| solitary sandpiper | *Tringa solitaria* | Least concern | - | Yes | | | ✓ | | | |
| American robin | *Turdus migratorius* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | ✓ | ✓ | ✓ | | |
| eastern kingbird | *Tyrannus tyrannus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | | | |
| warbling vireo | *Vireo gilvus* | S5B G5: secure (breeding) in NYS and globally | - | Yes | | | ✓ | ✓ | | |
| mourning dove | *Zenaida macroura* | S5 G5: secure in NYS and globally | - | Yes | | | ✓ | | | |
| **Fish** | | | | | | | | | | |
| brown bullhead | *Ameiurus nebulosus* | Least concern | - | Yes | | ✓ | | | | |
| **Fungi** | | | | | | | | | | |
| morel | *Morchella esculenta* | - | - | Yes | | ✓ | | | | |
| **Mammal** | | | | | | | | | | |
| coyote | *Canis latrans* | Least concern | - | Yes | | ✓ | | ✓ | | |
| North American beaver | *Castor canadensis* | Least concern | - | Yes | | ✓ | | | | |
| North American porcupine | *Erethizon dorsatum* | Least concern | - | Yes | | | | | | ✓ |
| white-tailed deer | *Odocoileus virginianus* | Least concern | - | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| raccoon | *Procyon lotor* | Least concern | - | Yes | | ✓ | | ✓ | ✓ | |
| eastern cottontail | *Sylvilagus floridanus* | Least concern | - | Yes | | | ✓ | ✓ | | |
| **Plant** | | | | | | | | | | |
| box elder | *Acer negundo* | S5, G5, Native, CoC: 1 | FAC | Yes | | | | | | ✓ |
| red maple | *Acer rubrum* | Least Concern, S5, G5, Native, CoC: 4 | FAC | Yes | | ✓ | ✓ | ✓ | ✓ | ✓ |
| silver maple | *Acer saccharinum* | Least Concern, S5, G5, Native, CoC: 6 | FACW | Yes | | ✓ | ✓ | | | |
| sugar maple | *Acer saccharum* | Least Concern, S5, G5, Native, CoC: 7 | FACU | Yes | | | | ✓ | | |
| common yarrow | *Achillea millefolium* | Least Concern, SNR, G5, Native, CoC: 0 | FACU | Yes | | ✓ | | | | |
| sweet flag | *Acorus calamus* | Least Concern, SNR, G4 | OBL | No | | ✓ | ✓ | | | |
| common agrimony | *Agrimonia gryposepala* | S5, Native, CoC: 4 | FACU | Yes | | | ✓ | | ✓ | |
| Rhode Island bentgrass | *Agrostis capillaris* | SNA, GNR, Not native, Naturalized | FAC | No | | | | | ✓ | |
| redtop | *Agrostis gigantea* | SNA, G4G5, Not native, Naturalized | FACW | No | ✓ | ✓ | | | ✓ | ✓ |
| creeping bent | *Agrostis stolonifera* | SNA, Not native, Naturalized | FACW | No | ✓ | | | | ✓ | |
| American water plantain | *Alisma subcordatum* | S5, G5, Native, CoC: 4 | OBL | Yes | | ✓ | | | | |
| speckled alder | *Alnus incana* | S5, G5, Native, CoC: 5 | FACW | Yes | | | ✓ | | | |
| New York fern | *Amauropelta noveboracensis* | S5, G5, Native, CoC: 4 | FAC | Yes | | | ✓ | | | |
| common ragweed | *Ambrosia artemisiifolia* | S5, G5, Native, CoC: 0 | FACU | Yes | | | ✓ | | ✓ | |
| downy serviceberry | *Amelanchier arborea* | S5, G5, Native, CoC: 4 | FACU | Yes | | ✓ | | | | |
| hog peanut | *Amphicarpaea bracteata* | S5, Native, CoC: 5 | FAC | Yes | | ✓ | | | | |
| Canada anemone | *Anemone canadensis* | S5, G5, Native, CoC: 5 | FACW | Yes | | ✓ | | | | |
| sweet vernal grass | *Anthoxanthum odoratum* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | ✓ | ✓ | | ✓ | |
| Indian hemp | *Apocynum cannabinum* | S5, G5, Native, CoC: 2 | FAC | Yes | | | ✓ | | ✓ | |
| swamp milkweed | *Asclepias incarnata* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| common milkweed | *Asclepias syriaca* | S5, G5, Native, CoC: 0 | UPL | Yes | | ✓ | ✓ | | | ✓ |
| yellow birch | *Betula alleghaniensis* | S5, G5, Native, CoC: 7 | FAC | Yes | | | | ✓ | | |
| gray birch | *Betula populifolia* | S5, G5, Native, CoC: 4 | FAC | Yes | | | | | ✓ | |
| nodding beggar ticks | *Bidens cernua* | S5, G5, Native, CoC: 4 | OBL | Yes | | | | | ✓ | |
| devil's beggar ticks | *Bidens frondosa* | S5, Native, CoC: 2 | FACW | Yes | | | ✓ | | ✓ | |
| hairy brome | *Bromus commutatus* | SNA, GNR, Not native, Naturalized | - | No | | | ✓ | | | |
| smooth brome | *Bromus inermis* | SNA, G5, Not native, Naturalized | - | No | | ✓ | ✓ | | | |
| common woodland sedge | *Carex blanda* | S5, G5, Native, CoC: 4 | FAC | Yes | | ✓ | | | | |
| bristly sedge | *Carex comosa* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| fringed sedge | *Carex crinita* | S5, G5, Native, CoC: 3 | OBL | Yes | | ✓ | ✓ | | | |
| large yellow sedge | *Carex flava* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| graceful sedge | *Carex gracillima* | S5, G5, Native, CoC: 3 | FACU | Yes | | | ✓ | | | |
| lake sedge | *Carex lacustris* | S5, G5, Native, CoC: 5 | OBL | Yes | | | | | | ✓ |
| bladder sedge | *Carex intumescens* | S5, G5, Native, CoC: 7 | FACW | Yes | | ✓ | ✓ | | ✓ | |
| hop sedge | *Carex lupulina* | S5, G5, Native, CoC: 7 | OBL | Yes | | ✓ | ✓ | | | |
| sallow sedge | *Carex lurida* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| troublesome sedge | *Carex molesta* | S4, G4, Threatened, Native, CoC: 3 | FAC | Yes | | | ✓ | | | |
| cyperus-like sedge | *Carex pseudocyperus* | S5, G5, Native, CoC: 6 | OBL | Yes | | | | | ✓ | |
| broom sedge | *Carex scoparia* | S5, Native, CoC: 1 | FACW | Yes | | ✓ | ✓ | | | ✓ |
| awl-fruited sedge | *Carex stipata* | S5, G5, Native, CoC: 5 | OBL | Yes | | | ✓ | | ✓ | |
| tussock sedge | *Carex stricta* | S5, G5, Native, CoC: 4 | OBL | Yes | | | | ✓ | ✓ | ✓ |
| fox sedge | *Carex vulpinoidea* | S5, G5, Native, CoC: 2 | OBL | Yes | | ✓ | ✓ | | ✓ | ✓ |
| ironwood | *Carpinus caroliniana* | S5, G5, Native, CoC: 6 | FAC | Yes | | | | ✓ | ✓ | |
| bitternut hickory | *Carya cordiformis* | S5, G5, Native, CoC: 7 | FAC | Yes | | ✓ | | | ✓ | |
| shagbark hickory | *Carya ovata* | S5, Native, CoC: 7 | FACU | Yes | | ✓ | ✓ | ✓ | ✓ | |
| buttonbush | *Cephalanthus occidentalis* | S5, G5, Native, CoC: 7 | OBL | Yes | | ✓ | | | | |
| white turtle head | *Chelone glabra* | S5, G5, Native, CoC: 6 | OBL | Yes | | | ✓ | | ✓ | |
| lamb's quarters | *Chenopodium album* | SNA, G5, Not native, Naturalized | FACU | No | | | | | ✓ | |
| enchanter's nightshade | *Circaea canadensis* | S5, G5, Native,CoC: 5 | FACU | Yes | | ✓ | ✓ | | | |
| bull thistle | *Cirsium vulgare* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| silky dogwood | *Cornus amomum* | S5, G5, Native, CoC: 6 | FACW | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| gray dogwood | *Cornus racemosa* | S5, G5, Native, CoC: 2 | FAC | Yes | | ✓ | ✓ | ✓ | | ✓ |
| red-osier dogwood | *Cornus sericea* | S5, G5, Native, CoC: 6 | FACW | Yes | | | | | | ✓ |
| hawthorn | *Crataegus sp.* | - | - | - | | ✓ | | | | ✓ |
| common yellow nut sedge | *Cyperus esculentus* | SNR, Native, CoC: 1 | FACW | Yes | | | ✓ | | ✓ | |
| false yellow nut sedge | *Cyperus strigosus* | S5, G5, Native, CoC: 3 | FACW | Yes | | | ✓ | | ✓ | |
| orchard grass | *Dactylis glomerata* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | | | | ✓ | |
| wild carrot | *Daucus carota* | SNA, GNR, Not native, Naturalized | UPL | No | | ✓ | | | | |
| water willow | *Decodon verticillatus* | S5, G5, Native, CoC: 7 | OBL | Yes | | | ✓ | | | ✓ |
| tufted hair grass | *Deschampsia cespitosa* | SNR, Native | - | Yes | | | | | ✓ | |
| digit grass | *Digitaria eriantha* | SNA, GNR, Not native, Naturalized | - | No | | ✓ | | | | |
| smooth crab grass | *Digitaria ischaemum* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| tall flat-topped white aster | *Doellingeria umbellata* | S5, G5, Native, CoC: 4 | FACW | Yes | | | | | ✓ | |
| common wood fern | *Dryopteris intermedia* | S5, G5, Native, CoC: 5 | FAC | Yes | | ✓ | | | | ✓ |
| autumn olive | *Elaeagnus umbellata* | SNA, GNR, Not native, Naturalized | - | No | | ✓ | | | | |
| blunt spike rush | *Eleocharis obtusa* | S5, Native, CoC: 2 | OBL | Yes | | ✓ | | | ✓ | ✓ |
| fringed wilowherb | *Epilobium ciliatum* | S5, G5, Native, CoC: 3 | FACW | Yes | | | | | ✓ | |
| purpleleaf willowherb | *Epilobium coloratum* | S5, G5, Native, CoC: 2 | OBL | Yes | | ✓ | ✓ | | ✓ | |
| field horsestail | *Equisetum arvense* | S5, Native, CoC: 2 | FAC | Yes | | | | ✓ | ✓ | ✓ |
| scouringrush horsetail | *Equisetum hyemale* | S5, G5, Native, CoC: 2 | FAC | Yes | ✓ | | | ✓ | | |
| annual daisy fleabane | *Erigeron annuus* | S5, G5, Native, CoC: 0 | FACU | Yes | | | ✓ | | | |
| small daisy fleabane | *Erigeron strigosus* | S5, Native, CoC: 0 | FACU | Yes | | | ✓ | | | |
| yellow trout lily | *Erythronium americanum* | S5, G5, Native, CoC: 5 | - | Yes | | ✓ | | ✓ | | |
| boneset | *Eupatorium perfoliatum* | S5, G5, Native, CoC: 3 | FACW | Yes | | | ✓ | | ✓ | ✓ |
| common flat-topped goldenrod | *Euthamia graminifolia* | S5, G5, Native, CoC: 1 | FAC | Yes | | | | | ✓ | |
| spotted Joe Pye weed | *Eutrochium maculatum* | S5, Native, CoC: 4 | OBL | Yes | ✓ | | | | | |
| American beech | *Fagus grandifolia* | S5, G5, Native, CoC: 8 | FACU | Yes | | | | ✓ | ✓ | |
| common wild strawberry | *Fragaria virginiana* | S5, G5, Native, CoC: 0 | FACU | Yes | | ✓ | | | ✓ | ✓ |
| glossy buckthorn | *Frangula alnus* | SNA, GNR, Not native, Naturalized | FAC | No | | ✓ | | | | |
| white ash | *Fraxinus americana* | S5, G5, Native, CoC: 3 | FACU | Yes | | ✓ | | | | ✓ |
| green ash | *Fraxinus pennsylvanica* | S5, G5, Native, CoC: 4 | FACW | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| hedge bedstraw | *Galium album* | SNA, GNR, Not native, Naturalized | FACU | Yes | ✓ | | ✓ | | ✓ | |
| common marsh bedstraw | *Galium palustre* | S5, G5, Native, CoC: 3 | OBL | Yes | | ✓ | | | ✓ | |
| yellow avens | *Geum aleppicum* | S5, G5, Native, CoC: 3 | FAC | Yes | | ✓ | ✓ | | | |
| white avens | *Geum canadense* | S5, G5, Native, CoC: 5 | FAC | Yes | | | ✓ | | | ✓ |
| town avens | *Geum urbanum* | SNA, G5, Not native, Naturalized | - | No | | ✓ | ✓ | | | |
| American manna grass | *Glyceria maxima* | S5, G5, Native, CoC: 4 | OBL | No | | | ✓ | | ✓ | |
| fowl manna grass | *Glyceria striata* | S5, G5, Native, CoC: 6 | OBL | Yes | | ✓ | ✓ | | ✓ | |
| soybean | *Glycine max* | SNA, GNR, Not native, Naturalized | - | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| marsh cubweed | *Gnaphalium uliginosum* | SNA, G5, Not native, Naturalized | FAC | No | | | ✓ | | | |
| dame's rocket | *Hesperis matronalis* | SNA, Not native, Naturalized | FACU | No | ✓ | | | | | |
| common frogbit | *Hydrocharis morsus-ranae* | SNA, GNR, Not native, Naturalized | OBL | No | | | ✓ | | | |
| Eurasian live forever | *Hylotelephium telephium* | SNA, GNR, Not native, Naturalized | - | No | | | | ✓ | | |
| St. John's wort | *Hypericum sp.* | S5, Native | - | - | | | | | | ✓ |
| spotted jewelweed | *Impatiens capensis* | S5, Native, CoC: 3 | FACW | Yes | ✓ | ✓ | ✓ | | ✓ | |
| blue flag | *Iris versicolor* | S5, G5, Native, CoC: 4 | OBL | Yes | | ✓ | | | | |
| soft rush | *Juncus effusus* | S5, G5, Native, CoC: 2 | OBL | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| path rush | *Juncus tenuis* | S5, G5, Native, CoC: 0 | FAC | Yes | | | ✓ | | | ✓ |
| rice cut grass | Leersia oryzoides | S5, G5, Native, CoC: 4 | OBL | Yes | | | | | ✓ | ✓ |
| spicebush | *Lindera benzoin* | S5, Native, CoC: 6 | FACW | Yes | | ✓ | ✓ | | | |
| tulip poplar | *Liriodendron tulipifera* | S5, G5, Native, CoC: 6 | FACU | Yes | ✓ | | | | ✓ | |
| Indian tobacco | *Lobelia inflata* | S5, G5, Native, CoC: 1 | FACU | Yes | | | ✓ | | | |
| great blue lobelia | *Lobelia siphilitica* | S5, G5, Native, CoC: 5 | FACW | Yes | | | | | | ✓ |
| tall rye grass | *Lolium arundinace* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| Japanese honeysuckle | *Lonicera japonica* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | | |
| honeysuckle | *Lonicera spp.* | - | - | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tatarian honeysuckle | *Lonicera tatarica* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | ✓ | | | ✓ |
| water purslane | *Ludwigia palustris* | S5, G5, Native, CoC: 4 | OBL | Yes | ✓ | | ✓ | | ✓ | |
| water horehound | *Lycopus americanus* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | ✓ | |
| moneywort | *Lysimachia nummularia* | SNA, GNR, Not native, Naturalized | FACW | No | ✓ | ✓ | | ✓ | ✓ | |
| purple loosestrife | *Lythrum salicaria* | SNA, Non native, Naturalized | OBL | No | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Canada mayflower | *Maianthemum canadense* | S5, G5, Native, CoC: 5 | FACU | Yes | | | | ✓ | | |
| ostrich fern | *Matteuccia struthiopteris* | S4, G5, Native, CoC: 5 | FAC | Yes | | | ✓ | | | |
| white sweet clover | *Melilotus albus* | SNA, G5, Not native, Naturalized | FACU | No | | | | | | ✓ |
| Allegheny monkey flower | *Mimulus ringens* | S5, G5, Native, CoC: 6 | OBL | Yes | | | | | ✓ | |
| blackgum | *Nyssa sylvatica* | S5, G5, Native, CoC: 7 | FAC | Yes | | | ✓ | | | |
| sensitive fern | *Onoclea sensibilis* | S5, G5, Native, CoC: 2 | FACW | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| royal fern | *Osmunda regalis* | S5, G5, Native, CoC: 6 | OBL | Yes | | | ✓ | | | |
| cinnamon fern | *Osmundastrum cinnamomeum* | S5, G5, Native, CoC: 6 | FACW | Yes | | | ✓ | | | |
| yellow wood sorrel | *Oxalis dillenii* | S5, Native, CoC: 0 | FACU | Yes | | ✓ | | | ✓ | |
| fall panic grass | *Panicum dichotomiflorum* | S5, G5, Native, CoC: 1 | FACW | Yes | | | | | | ✓ |
| Virginia creeper | *Parthenocissus quinquefolia* | S5, G5, Native, CoC: 4 | FACU | Yes | | ✓ | ✓ | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| green arrow arum | *Peltandra virginica* | S5, G5, Native, CoC: 6 | OBL | Yes | | ✓ | | | | |
| water pepper | *Persicaria hydropiper* | SNA, G5, Not native, Naturalized | OBL | No | | | | | ✓ | |
| lady's thumb | *Persicaria maculosa* | SNA, G5, Not native, Naturalized | FAC | No | | | ✓ | | | |
| arrow-leaved tearthumb | *Persicaria sagittata* | S5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| jumpseed | *Persicaria virginiana* | S5, Native, CoC: 5 | FAC | Yes | | ✓ | ✓ | | ✓ | |
| reed canary grass | *Phalaris arundinacea* | SNR, G5, Native, CoC: 0 | FACW | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| common Timothy | *Phleum pratense* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | ✓ | |
| common reed | *Phragmites australis* | SNA, G5, Not native, Naturalized | FACW | No | ✓ | ✓ | ✓ | | | |
| pokeweed | *Phytolacca americana* | S5, G5, Native, CoC: 0 | FACU | Yes | | | ✓ | | | |
| Norway spruce | *Picea abies* | SNA, G5, Not native, Naturalized | - | No | | ✓ | ✓ | ✓ | | |
| red spruce | *Picea rubens* | S5, G5, Native, CoC: 6 | FACU | Yes | | ✓ | | | | |
| white pine | *Pinus strobus* | S5, G5, Native, CoC: 3 | FACU | Yes | | ✓ | | ✓ | | |
| English plantain | *Plantago lanceolata* | SNA, Not native, Naturalized | FACU | No | ✓ | ✓ | | ✓ | ✓ | |
| common plantain | *Plantago major* | SNA, G5, Not native, Naturalized | FACU | No | ✓ | | | ✓ | ✓ | ✓ |
| northern tubercled orchid | *Platanthera flava* | S4, G4, Native, CoC: 3 | FACW | Yes | | | ✓ | | | |
| annual blue grass | *Poa annua* | SNA, Non native, Naturalized | FACU | No | | | | ✓ | | |
| wood bluegrass | *Poa nemoralias* | | FACU | No | | | ✓ | | | |
| common Kentucky blue grass | *Poa pratensis* | SNA, G5, Not native, Naturalized | FACU | No | | ✓ | | | ✓ | ✓ |
| mayapple | *Podophyllum peltatum* | S5, Native, CoC: 5 | FACU | Yes | | | ✓ | ✓ | | |
| eastern cottonwood | *Populus deltoides* | S5, G5, Native, CoC: 2 | FAC | Yes | | ✓ | | ✓ | | |
| quaking aspen | *Populus tremuloides* | S5, G5, Native, CoC: 3 | FACU | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| oldfield cinquefoil | *Potentilla simplex* | S5, G5, Native, CoC: 0 | FACU | Yes | | ✓ | | | | |
| Eurasian selfheal | *Prunella vulgaris* | SNA, G5, Not native, Naturalized | FAC | No | | | | | ✓ | |
| pin cherry | *Prunus pensylvanica* | S5, Native, CoC: 4 | FACU | Yes | | ✓ | | | | |
| black cherry | *Prunus serotina* | S5, G5, Native, CoC: 4 | FACU | Yes | | ✓ | ✓ | ✓ | ✓ | |
| bracken fern | *Pteridium aquilinum* | S5, G5, Native, CoC: 3 | FACU | Yes | | | ✓ | | | |
| white oak | *Quercus alba* | S5, Native, CoC: 7 | FACU | Yes | | ✓ | | | | |
| red oak | *Quercus rubra* | S5, Native, CoC: 7 | FACU | Yes | | ✓ | ✓ | | | |
| tall buttercup | *Ranunculus acris* | SNA, G5, Not native, Naturalized | FAC | No | ✓ | ✓ | | | ✓ | |
| creeping buttercup | *Ranunculus repens* | SNA, GNR, Not native, Naturalized | FAC | No | | | | | ✓ | |
| cursed crowfoot | *Ranunculus sceleratus* | SNR, Native, CoC: 3 | OBL | Yes | ✓ | | | ✓ | | |
| Japanese knotweed | *Reynoutria japonica* | SNA, Not native, Naturalized | FACU | No | | | | ✓ | | |
| alder buckthorn | *Rhamnus alnifolia* | S4, G5, Native, CoC: 9 | OBL | Yes | | ✓ | | | | |
| buckthorn | *Rhamnus cathartica* | SNA, GNR, Not native, Naturalized | FAC | No | | ✓ | ✓ | | ✓ | ✓ |
| staghorn sumac | *Rhus typhina* | S5, G5, Native, CoC: 1 | - | Yes | | ✓ | | | | |
| multiflora rose | *Rosa multiflora* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| swamp rose | *Rosa palustris* | S5, G5, Native, CoC: 9 | OBL | Yes | | | | ✓ | | ✓ |
| common blackberry | *Rubus allegheniensis* | S5, G5, Native, CoC: 3 | FACU | Yes | | ✓ | ✓ | | | |
| swamp dewberry | *Rubus hispidus* | S5, G5, Native, CoC: 7 | FACW | Yes | | | ✓ | | | |
| red raspberry | *Rubus ideaus* | SNA, G5, Not native, Naturalized | FACU | No | | ✓ | ✓ | | | |
| dwarf raspberry | *Rubus pubescens* | S5, Native, CoC: 8 | FACW | Yes | | | ✓ | | | |
| sheep sorrel | *Rumex acetosella* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| curly dock | *Rumex crispus* | SNA, GNR, Not native, Naturalized | FAC | No | ✓ | ✓ | ✓ | | ✓ | ✓ |
| broad-leaved dock | *Rumex obtusifolius* | SNA, Not native, Naturalized | FAC | No | | ✓ | | | ✓ | |
| swamp dock | *Rumex verticillatus* | S5, G5, Native, CoC: 6 | OBL | Yes | | | ✓ | | | |
| Bebb's willow | *Salix bebbiana* | S5, G5, Native, CoC: 3 | FACW | Yes | | | ✓ | | | |
| pussy willow | *Salix discolor* | S5, G5, Native, CoC: 3 | FACW | Yes | | ✓ | ✓ | ✓ | | |
| black willlow | *Salix nigra* | S5, G5, Native, CoC: 5 | OBL | Yes | | ✓ | | | | |
| basket willow | *Salix purpurea* | SNA, G5, Not native, Naturalized | FACW | No | | | ✓ | | | |
| common elderberry | *Sambucus nigra* | S5, G5, Native, CoC: 4 | FACW | Yes | | | | ✓ | | |
| lizard's tail | *Saururus cernuus* | S5, G5, Native, CoC: 6 | OBL | Yes | | ✓ | | | | |
| soft-stemmed bulrush | *Schoenoplectus tabernaemontani* | S5, G5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| dark-green bulrush | *Scirpus atrovirens* | S5, G5, Native, CoC: 2 | OBL | Yes | | ✓ | ✓ | | | |
| woolgrass | *Scirpus cyperinus* | S5, G5, Native, CoC: 4 | OBL | Yes | | ✓ | | ✓ | ✓ | ✓ |
| mad dog skullcap | *Scutellaria lateriflora* | S5, G5, Native, CoC: 7 | OBL | Yes | | | ✓ | | | |
| horse nettle | *Solanum carolinense* | S5, Native, CoC: 0 | FACU | Yes | | | | | ✓ | |
| bitter-sweet nightshade | *Solanum dulcamara* | SNA, Not native, Naturalized | FAC | No | | ✓ | ✓ | | | |
| tall goldenrod | *Solidago altissima* | S5, Native, CoC: 1 | FACU | Yes | | ✓ | | | | ✓ |
| Canada goldenrod | *Solidago canadensis* | S5, G5, Native, CoC: 0 | FACU | Yes | ✓ | | ✓ | | ✓ | |
| swamp goldenrod | *Solidago gigantea* | S5, G5, Native, CoC: 3 | FACW | Yes | | ✓ | | | ✓ | ✓ |
| common wrinkle-leaved goldenr | *Solidago rugosa* | S5, G5, Native, CoC: 1 | FAC | Yes | ✓ | ✓ | ✓ | | ✓ | ✓ |
| spiny-leaved sow thistle | *Sonchus asper* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | ✓ | | |
| green-fruited bur-reed | *Sparganium chlorocarpum* | S5, Native, CoC: 4 | OBL | Yes | | | ✓ | | | |
| grass-leaved stitchwort | *Stellaria graminea* | SNA, GNR, Not native, Naturalized | UPL | No | | | | | ✓ | |
| white panicle aster | *Symphyotrichum lanceolatum* | S5, G5, Native, CoC: 1 | FACW | Yes | | | ✓ | | ✓ | ✓ |
| calico aster | *Symphyotrichum lateriflorum* | S5, G5, Native, CoC: 0 | FAC | Yes | | ✓ | | | ✓ | |
| new england aster | *Symphyotrichum novae-angliae* | S5, Native, CoC: 1 | FACW | Yes | | | | | | ✓ |
| purple-stemmed aster | *Symphyotrichum puniceum* | S5, G5, Native, CoC: 4 | OBL | Yes | ✓ | | ✓ | | ✓ | ✓ |
| skunk cabbage | *Symplocarpus foetidus* | S5, G5, Native, CoC: 5 | OBL | Yes | | | | ✓ | | |
| common dandelion | *Taraxacum officinale* | SNA, G5, Not native, Naturalized | FACU | No | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| marsh fern | *Thelypteris palustris* | S5, G5, Native, CoC: 4 | FACW | Yes | | ✓ | | | | |
| American basswood | *Tilia americana* | S5, G5, Native, CoC: 7 | FACU | Yes | | | ✓ | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| poison ivy | *Toxicodendron radicans* | S5, Native, CoC: 3 | FAC | Yes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| red clover | *Trifolium pratense* | SNA, Not native, Naturalized | FACU | No | ✓ | | | ✓ | ✓ | ✓ |
| white clover | *Trifolium repens* | SNA, GNR, Not native, Naturalized | FACU | No | ✓ | ✓ | | | ✓ | ✓ |
| red trillium | *Trillium erectum* | S5, G5, Native, CoC: 7 | FACU | Yes | | | | ✓ | | |
| white trillium | *Trillium grandiflorum* | S5, G5, Native, CoC: 7 | - | Yes | | | | ✓ | | |
| eastern hemlock | *Tsuga canadensis* | S5, G5, Native, CoC: 7 | FACU | Yes | | | | ✓ | ✓ | |
| tower mustard | *Turritis glabra* | S5, Native, CoC: 2 | UPL | No | | | ✓ | | | |
| coltsfoot | *Tussilago farfara* | SNA, GNR, Not native, Naturalized | FACU | No | | ✓ | | | | |
| narrowleaf cattail | *Typha angustifolia* | S5, G5, Native, CoC: 1 | OBL | No | | | ✓ | | | ✓ |
| hybrid cattail | *Typha glauca* | SNR, GNR, Native | OBL | No | ✓ | ✓ | ✓ | | | |
| wide-leaved cattail | *Typha latifolia* | S5, G5, Native, CoC: 1 | OBL | Yes | | ✓ | ✓ | | | |
| cattail | *Typha sp.* | - | OBL | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| American elm | *Ulmus americana* | S5, G5, Native, CoC: 4 | FACW | Yes | | ✓ | ✓ | ✓ | | ✓ |
| false hellebore | *Veratrum viride* | S5, G5, Native, CoC: 4 | FACW | Yes | | | | ✓ | | |
| moth mullein | *Verbascum blattaria* | SNA, GNR, Not native, Naturalized | FACU | No | | | ✓ | | | |
| blue vervain | *Verbena hastata* | S5, Native, CoC: 3 | FACW | Yes | ✓ | ✓ | | | ✓ | |
| smooth arrowwood | *Viburnum dentatum* | S5, Native, CoC: 3 | FAC | Yes | ✓ | ✓ | ✓ | | ✓ | ✓ |
| nannyberry | *Viburnum lentago* | S5, G5, Native, CoC: 4 | FAC | Yes | | ✓ | ✓ | | ✓ | ✓ |
| tufted vetch | *Vicia cracca* | SNA, G5, Not native, Naturalized | - | No | | | ✓ | | | ✓ |
| common blue violet | *Viola sororia* | S5, Native, CoC: 3 | FAC | Yes | | ✓ | | | | |
| riverbank grape | *Vitis riparia* | S5, G5, Native, CoC: 3 | FAC | Yes | | ✓ | ✓ | | | ✓ |

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
Email Address: fw5es_nyfo@fws.gov

In Reply Refer To: 04/11/2025 15:07:39 UTC
Project Code: 2025-0082147
Project Name: Micron Stream and Wetland Mitigation

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

**Migratory Birds**: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New York Ecological Services Field Office**
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

# PROJECT SUMMARY

Project Code: 2025-0082147
Project Name: Micron Stream and Wetland Mitigation
Project Type: Restoration / Enhancement - Wetland
Project Description: This is a stream and wetland mitigation project in which restoration will occur across six sites. On average, one site will be constructed per year, making the construction period a total of six years approximately. All six sites are located in Hastings or Schroeppel in Oswego County, NY. Two of the sites will undergo stream restoration, one for a degraded portion of Buxton Creek, the other for a degraded portion of Fish Creek. Here, the stream restoration will be integrated with wetland restoration to create a functioning stream/wetland complex. The remaining four sites will be for wetland restoration only.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@43.29530445,-76.2730783955508,14z




Counties: Oswego County, New York

# ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

| NAME | STATUS |
|---|---|
| Indiana Bat *Myotis sodalis*<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat *Myotis septentrionalis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9045 | Endangered |
| Tricolored Bat *Perimyotis subflavus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/10515 | Proposed Endangered |

## INSECTS

| NAME | STATUS |
|---|---|
| Bog Buck Moth *Hemileuca maia menyanthevora (=H. iroquois)*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8023 | Endangered |
| Monarch Butterfly *Danaus plexippus*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Proposed Threatened |

# CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# IPAC USER CONTACT INFORMATION

Agency: The Wetland Trust, Inc.
Name: Kirsten Gerhardt
Address: 4729 State Route 414
City: Burdett
State: NY
Zip: 14818
Email kirsten.gerhardt@gmail.com
Phone: 3028242336

# Appendix E.

# Oneida River
# Invasive Species Management Plan (ISMP)

Oswego County, New York

**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**

July 2025

# 1. Introduction

The Wetland Trust, Inc. (TWT), as part of the Permittee Responsible Mitigation (PRM) package on behalf of Micron NY Semiconductor Manufacturing, LLC, is proposing to develop stream and wetland mitigation acres/credits at their Oneida River Site in the Town of Schroeppel, Oswego County, New York. The Mitigation Plan (Plan) at Oneida River will contribute toward the fulfillment of required wetland mitigation for impacts associated with the Micron Semiconductor Fabrication Campus project (Proposed Development) in the town of Clay, Onondaga County, New York. This Plan will incorporate wetland Re-establishment, Rehabilitation, Enhancement, and Preservation, which involves disturbance to soil during grading activities. As part of the Performance Standards for this Mitigation Plan, invasive species-specific standards must be met. The following is the Invasive Species Management Plan (ISMP) for this Site. It contains the practices and procedures TWT proposes to implement to control the presence and spread of invasive species.

This ISMP will improve ecological outcomes by using a combination of mechanical, biological, cultural, and chemical controls to manage invasive species while minimizing environmental disturbance. By prioritizing early detection, habitat restoration, and targeted interventions, this ISMP is designed to reduce reliance on herbicides, lower the risk of non-target impacts, and promote the long-term success of native vegetation. This adaptive approach enhances wetland resilience, supports biodiversity, and ensures compliance with mitigation performance standards in a sustainable and cost-effective manner.

## 1.1 Purpose and Goal

- **Adaptive Management Framework:** This plan operates under an adaptive management strategy, ensuring that invasive species control efforts are adjusted based on monitoring results, site conditions, and evolving regulatory guidance. Preventing the establishment or spread of invasive species at this Site relies upon:
    - Thorough baseline information data collection,
    - Avoiding and/or treating existing invasive species populations,
    - Incorporating construction techniques into the Plan that minimize conditions that are favorable for invasive species colonization, and
    - Implementing thorough monitoring and maintenance practices throughout the life of the Project and beyond.
- **Long-Term Ecological Success:** The presence of invasive plant species can degrade wetland function by outcompeting native vegetation, altering soil and water chemistry, and reducing habitat quality for wildlife. This ISMP aims to restore and sustain native plant communities using minimal environmental disturbance construction techniques per the Mitigation Plan.
- The goal of this ISMP is to minimize presence and prevent expansion of invasive species within the Mitigation Site not only during the monitoring period, but in perpetuity, as TWT is the long-term owner and steward. Invasive species control will be considered successful only if invasive species are kept at or below the threshold outlined in Section 6 of the Mitigation Plan for the work areas and 0% net increase in invasive species found elsewhere at the Site is realized. Annual monitoring will help determine whether goals are being met. If it is determined the Site is not on track with its goals, TWT will submit

a revised Management Plan and implement Adaptive Management strategies that are approved by USACE and NYSDEC.

### 1.2 Regulatory Compliance

This ISMP seeks to meet specific performance standards set by the USACE and NYSDEC as a condition of permit approval. These include thresholds for native plant diversity, invasive species control, and hydrological function.

Invasive species targeted by this ISMP are based on those regulated by NYS Regulation 6 NYCRR Part 575 List of Prohibited and Regulated Invasive Plants, developed by the New York Invasive Species Council and New York Department of Environmental Conservation (NYSDEC) and those with a New York State Natural Heritage Invasiveness ranking of high or very high. Any others identified by NYSDEC or USACE shall be incorporated into this ISMP.

## 2. Identification

Four key invasive plant species regulated by NYCRR Part 575 were identified at the Site during baseline data collection. Key invasive plants include purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), and cattail (*Typha* spp.). These species are highly competitive, forming dense monocultures that outcompete native vegetation, diminish biodiversity, and disrupt wetland functionality. These species are found in most wetland areas on-site and adjacent on wetlands, affecting over 31 acres at the Oneida River Site at the time of data collection. These species, their common characteristics and their typical locations are provided in Table 2-1 below. In addition to these dominant species, other invasive plants present in the area include smooth brome (*Bromus inermis*), American manna grass (*Glyceria maxima*), honeysuckle (*Lonicera spp.*), buckthorn (*Rhamnus cathartica*), multiflora rose *(Rosa multiflora*), bittersweet nightshade (*Solanum dulcamara*), tufted vetch (*Vicia cracca*).
Additional invasive plant species have the potential of occurring at the site, particularly in the post-construction and long-term monitoring phase of this plan. These additional species may require treatment if they meet action thresholds outlined in **Section 6-1**, in which case they will be included in future versions of this plan and treated.

| Table 2-1. Invasive Species at the Oneida River Site 2024 | | | |
|---|---|---|---|
| **Species** | **Common Characteristics** | **Photo ID** | **Typical Location** |
| Common Reed (Phragmites australis) | A perennial grass that can grow over 15 feet tall, forming dense stands with hollow stems and blue-green leaves up to 20 inches long. It spreads through seeds, rhizomes, and stolons, often outcompeting native vegetation in wetlands. |  | Tidal and non-tidal marshes, lakes, swales, and backwater areas of rivers, and streams |
| Reed Canary Grass (Phalaris arundinacea) | A tall, perennial grass that grows 2 to 6 feet high, with rough, flat leaves and dense flower clusters that turn beige as they mature. It thrives in wetlands and spreads aggressively through seeds and rhizomes, forming dense stands that outcompete native vegetation. |  | Wet habitats such as wetlands, moist meadows, and riparian areas |
| Cattail (Typha spp.) | Tall, perennial wetland plants characterized by their long, narrow, sword-like leaves and distinctive brown, cylindrical flower spikes. They thrive in shallow waters of marshes, ponds, and lakes, spreading through both wind-dispersed seeds and extensive rhizome networks, often forming dense stands that can outcompete other vegetation. |  | Wetland habitats, including marshes, river and stream banks, pond edges, lakes, ditches, and reservoirs |
| Purple Loosestrife (Lythrum salicaria) | An erect, branching perennial native to Europe, Asia, and northern Africa, characterized by dense, woody rootstocks that can produce multiple stems, lance-shaped leaves arranged oppositely or alternately, and showy purple flowers with 5-7 petals clustered on tall spikes. This invasive species thrives in wetlands and moist soils, rapidly displacing native vegetation and disrupting local ecosystems. |  | Wetland habitats, including marshes, pond and lakeshores, stream and riverbanks, and ditches. Also spreads in upland soils, allowing it to spread into meadows and pastures. |

# 3. Pre-Construction Phase

### 3.1 Baseline Data Collection

Baseline data collection will identify existing invasive communities within the mitigation site. This process will involve field surveys using GIS mapping, orthoimagery using drones, and photographic documentation to establish the extent and density of invasive species populations. Baseline surveys will include mapping of invasive species distribution with percentage cover estimates. The data collected will be used to inform the site preparation and treatment strategies outlined in later sections of this ISMP. See **Figures 8-1 to 8-4** in **Section 8** for invasive species maps.

### 3.2 Site Preparation & Prevention Measures

Prior to construction, invasive species control measures will be implemented to prevent the spread and establishment of problematic species. These measures will include:

- **Pre-Treatment of Invasives**: Identified invasive species populations will be treated before ground disturbance begins. This may include manual removal, herbicide application, or smothering techniques depending on the species and infestation severity.
- **Equipment Cleaning Protocols:** Any construction equipment arriving on-site or leaving off-site will be inspected and cleaned to remove soil, plant material, or seeds that may introduce invasive species.

# 4. Construction Phase

To minimize the introduction and spread of invasive species during construction activities, the following best practices will be implemented:

- **Minimize Disturbance**: Clearing and grading activities will be restricted to designated project areas, reducing soil disturbance that can facilitate invasive species establishment.
- **Erosion and Sediment Control**: Use of weed-free erosion control materials, such as straw mulch, biodegradable mats, and hydroseeding with native plant mixes, will prevent soil erosion while avoiding the introduction of invasive species.
- **Construction Site Hygiene**: To effectively prevent the introduction or spread of invasive species without disrupting construction activities, the following cleaning protocols will be implemented:
    - **Incoming Equipment:** All equipment entering the site will be visually inspected by onsite construction monitors. If soil, plant material, or debris is observed, equipment will be cleaned prior to entering sensitive work areas using appropriate methods such as manual removal or pressure washing.
    - **Active Monitoring During Construction:** Construction monitors will observe operations and identify equipment that has entered areas with known or suspected invasive species presence, particularly during wet conditions or where vegetative debris is likely to accumulate.

- **Equipment Exit Procedures:** Any equipment identified as having operated in areas with potential for invasive seed or propagule exposure will be cleaned using onsite pressure washing stations before leaving the site or transitioning between sensitive areas. This will help prevent the transfer of invasive material both within and beyond the project boundaries.
- **Seasonal Considerations:** Construction monitors may increase cleaning vigilance during key seed dispersal periods or when conditions increase the likelihood of soil and plant matter transport.
- **Compliance and Documentation:** Construction monitors will document cleaning efforts as part of routine field oversight.

- **Hydrology Management**: The project aims to restore natural hydrological conditions where feasible, as proper hydrology can prevent the establishment of invasive wetland species.
- **Native Plant Seeding**: Following ground disturbance, native plants will be seeded and planted in treated areas to prevent re-colonization by invasive species.

# 5. Post-Construction Phase

## 5.1 Monitoring for Early Detection

To ensure invasive species control measures remain effective, post-construction monitoring will be conducted. Monitoring efforts will include:

- **GPS Mapping and Photo Documentation**: Recording any changes in invasive species distribution.
- **Upstream and Adjacent Area Inspections**: Identifying potential new sources of invasive species propagules.
- **Disturbance Event Tracking**: Observing site conditions after events like flooding or drought, which may encourage invasive species spread.

## 5.2 Long-Term Monitoring & Adaptive Management

- Yearly Assessments: Evaluate treatment effectiveness and native vegetation recovery.
- Implement additional treatment as needed.
- Adjust Control Strategies: Based on monitoring results, refine methods to reduce reliance on chemical treatments (i.e. integrated pest management principles).

# 6. Treatment Thresholds and Control Strategies

## 6.1 Treatment Thresholds

Control measures will be implemented when specific action thresholds are met, ensuring timely intervention to prevent invasive species from undermining mitigation success. The following triggers initiate management actions:

1. **Invasive Species Coverage Threshold**
    - If invasive species exceed **10% of total vegetative cover** within mitigation areas, management efforts (e.g., mechanical, chemical, or biological control) are required.

| **Table 6-1. Invasive Species Coverage Targets** | **Year 1** | **Year 3** | **Year 5** | **Year 7** | **Year 10** |
|---|---|---|---|---|---|
| Non-*Typha* Invasive Species (e.g., purple loosestrife, common reed, reed canarygrass) | ≤ 15% | ≤ 15% | ≤ 12.5% | ≤ 10% | < 5% cover |
| All Invasive Species including *Typha* spp. | ≤ 20% | ≤ 18.5% | ≤ 15% | ≤ 12.5% | < 10% cover |

    - Annual monitoring data, including vegetation surveys and aerial imagery, will be used to determine exceedance.
2. **Failure to Meet Native Vegetation Performance Standards**
    - If native plant cover falls below required thresholds (**90% native cover** standard set in the mitigation plan), corrective action is necessary.

- This includes replanting, selective herbicide application, or modifying site conditions to support native species.

3. **Encroachment of Invasives into Priority Habitat Areas**
   - If invasive species are detected in areas designated for high-value habitat (e.g., scrub-shrub wetlands, emergent wetlands, etc) treatment measures will be implemented to prevent establishment.
4. **New Invasive Species Detection**
   - Any newly introduced invasive species not previously recorded on-site will trigger an immediate assessment and control response to prevent spread.
5. **Regulatory Non-Compliance or Agency Notification**
   - If annual monitoring reports indicate performance standards are not being met or if USACE/NYSDEC identifies deficiencies, corrective action is required to maintain compliance.

By adhering to these action thresholds, this ISMP ensures that invasive species are proactively managed, wetland functions are maintained, and regulatory compliance is achieved.

### 6.2 Summary of Treatment Timing & Methods

A combination of mechanical, cultural, biological, and chemical control methods will be used depending on species, infestation size, and site conditions.

**Table 6-2. Treatment Timing & Methods Summary Table**

| Species | Best Treatment Time | Mechanical | Chemical | Biological | Cultural |
|---|---|---|---|---|---|
| Phragmites | Late summer - fall | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | None approved for use in the US | Planting Natives for Competition |
| Reed Canary Grass | Spring & Fall | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | None available | Planting Natives for Competition, Prescribed burn |
| Cattails | Mid-late summer | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | Muskrat/waterfowl | Planting Natives for Competition |
| Purple Loosestrife | Mid-late summer | Mowing, cutting, hand-pulling | Spot glyphosate or equiv. (if needed) | Loosestrife beetles | Planting Natives for Competition |

### 6.2.1 *Phragmites australis* (Common Reed)

Control Approach:

*Best Time for Treatment:* Late summer to early fall (when carbohydrates are translocating to rhizomes).

1. Mechanical Control:
    - Cutting & Flooding: Cutting stems at water level during late summer combined with water level manipulation can drown rhizomes.
    - Smothering: Small patches can be covered with black plastic or heavy mulch to prevent regrowth.
2. Chemical Control:
    - Glyphosate-basedand/or Imazapyr-Based application (spot treatment):
        - Apply to standing Phragmites in late summer/early fall using backpack sprayers, drones or wicking methods to minimize non-target impacts.
    - Follow-up with mechanical removal of dead stalks in the winter.
3. Cultural & Biological Control:
    - Promote competition by seeding native sedges, rushes, and forbs.
    - Biological control species may be utilized for targeted control.

---

### 6.2.2 *Phalaris arundinacea* (Reed Canary Grass)

Control Approach:

*Best Time for Treatment:* Early spring (before seed set) and late fall (targeting rhizomes).

1. Mechanical Control:
    - Mowing in early spring and late summer to deplete energy reserves.
    - Hand-pulling small infestations before seed set.
    - Covering with tarps or thick mulch to shade out new shoots.
2. Chemical Control: *(Selective use in dense monocultures if needed)*
    - Glyphosate application in fall when nutrients are moving into rhizomes.
    - Use wiping techniques instead of spraying to reduce non-target impact.
3. Cultural & Biological Control:
    - Planting native sedges & rushes to outcompete Phalaris.

- Prescribed fire in late spring can reduce seed production.

---

### 6.2.3 *Typha spp.* (Cattails)

Control Approach:

*Best Time for Treatment:* Mid-to-late summer when plants are transporting nutrients downward.

1. Mechanical Control:
    - Cut stems below water level to drown rhizomes.
    - Excavation in high-density areas, followed by native planting.
2. Chemical Control: *(For monocultures in restoration sites if needed)*
    - Glyphosate-based pesticide applied to standing plants in late summer.
    - Follow-up by removing dead biomass to prevent thick mats from suppressing native growth.
3. Cultural & Biological Control:
    - Encourage muskrat or waterfowl activity in natural systems to suppress regrowth.

---

### 6.2.4 *Lythrum salicaria* (Purple Loosestrife)

Control Approach:

*Best Time for Treatment:* Mid-to-late summer before seed dispersal.

1. Mechanical Control: (Preferred Method)
    - Hand-pull small infestations, removing all roots.
    - Cut flower heads before seed drop to prevent spread.
2. Biological Control (Unlikely to be implemented due to abundance of beetles throughout the great lakes region):
    - Galerucella beetles (Loosestrife Leaf Beetles) are effective at suppressing populations.
    - Any releases would be monitored over multiple years to assess impact.
3. Chemical Control:
    - Spot treat with glyphosate-based pesticide in late summer.

---

### 6.3 Pesticide Selection and Application Guidelines

When chemical control is necessary, pesticides will be carefully selected to minimize environmental impact while effectively managing invasive species. The selection and application methods will be determined based on site-specific conditions, regulatory requirements, and best management practices to ensure effective control while reducing unintended ecological impacts.

- **Target-Specific Formulations:** Only herbicides approved for use in wetland environments will be used, with preference given to herbicides that have minimal impact on non-target species.
- **Reduced Persistence and Toxicity:** Herbicides with low residual activity and rapid breakdown in soil and water will be favored to prevent long-term contamination.
- **Application Methods Based on Site Conditions:** Techniques such as cut-stump treatments, wick application, and spot spraying will be prioritized over broadcast spraying, depending on the infestation size, proximity to sensitive habitats, and hydrological conditions.

All pesticides will be applied in accordance with the label and all applicable federal, state, and local regulations to ensure compliance and environmental protection.

All pesticide applications will be conducted by New York State Certified Pesticide Applicators or individuals working under the direct supervision of a certified applicator, in compliance with New York Environmental Conservation Law (ECL) Article 33 and 6 NYCRR Part 325. This ensures that all chemical treatments are applied safely, legally, and in accordance with state regulations governing pesticide use in wetland environments.

## 7.0 Reporting

The Wetland Trust, Inc. will provide an annual wetland restoration monitoring report which details the status of invasive plant species and all control measures. This report will be submitted by December 31st each year to USACE and NYSDEC.

# 8. Maps and Figures

**Figure 8-1.** Purple Loosestrife Percent Cover

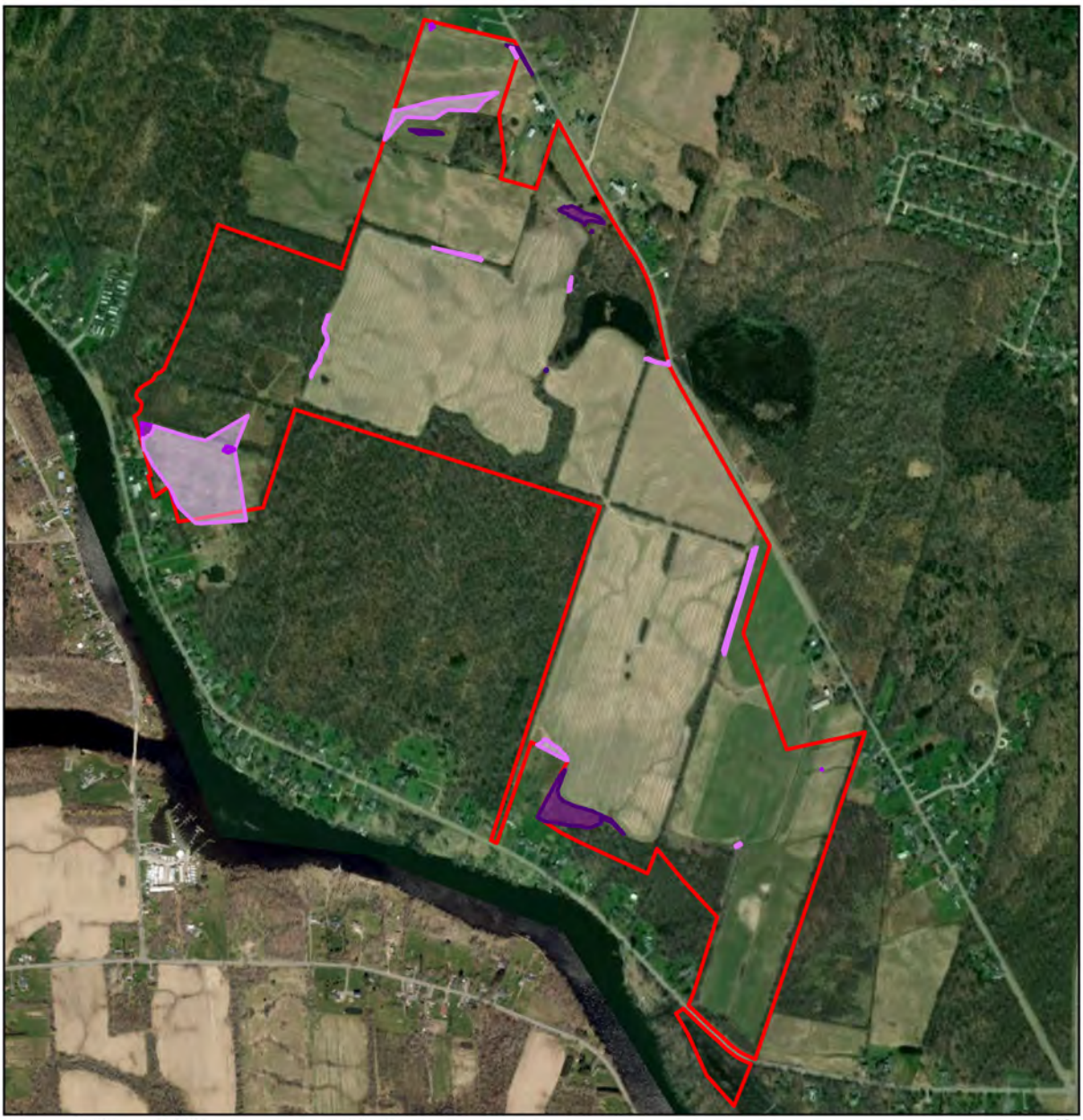


**Figure 8-2.** Reed Canary Grass Percent Cover

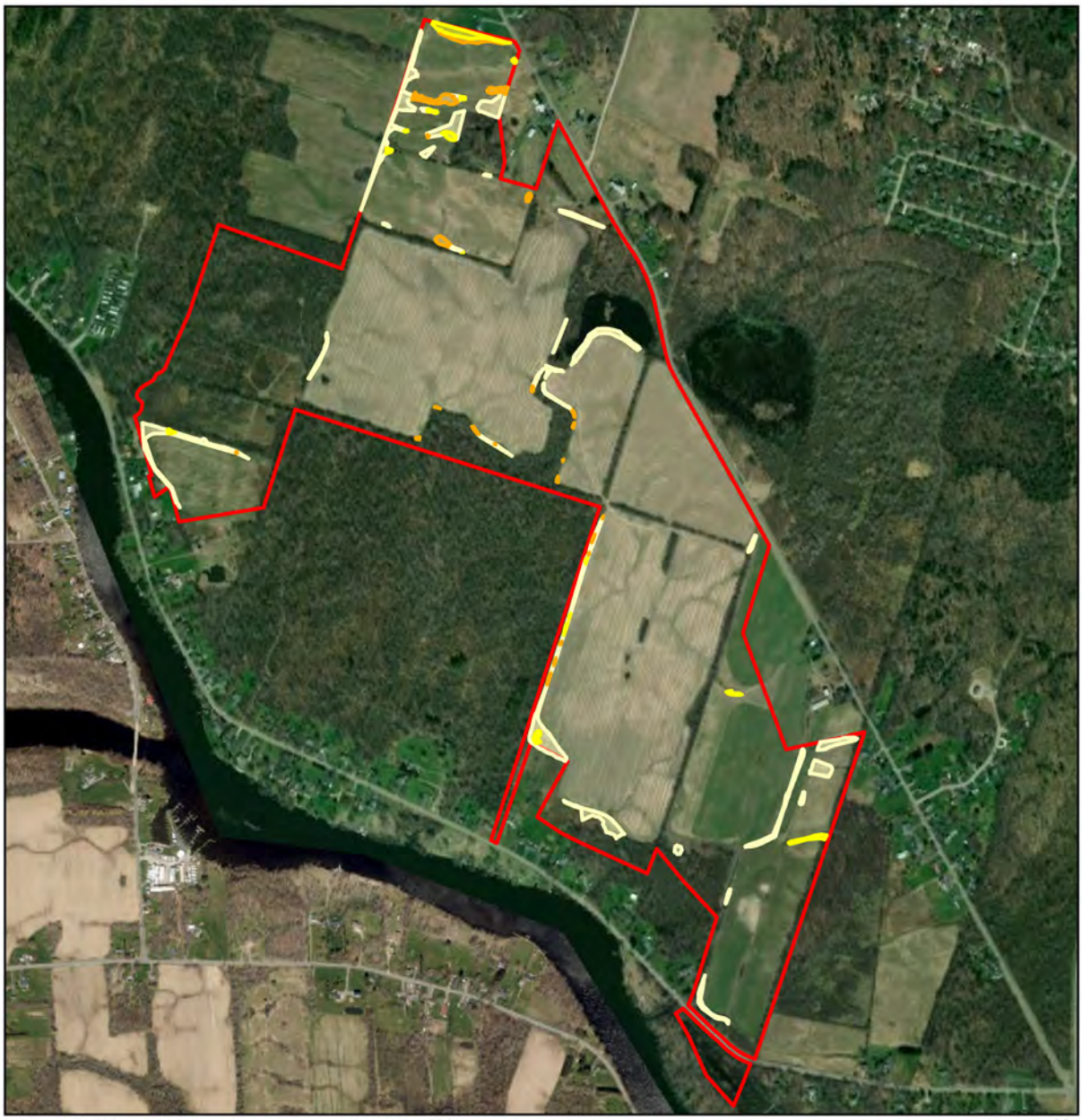


**Figure 8-3.** Phragmites Percent Cover

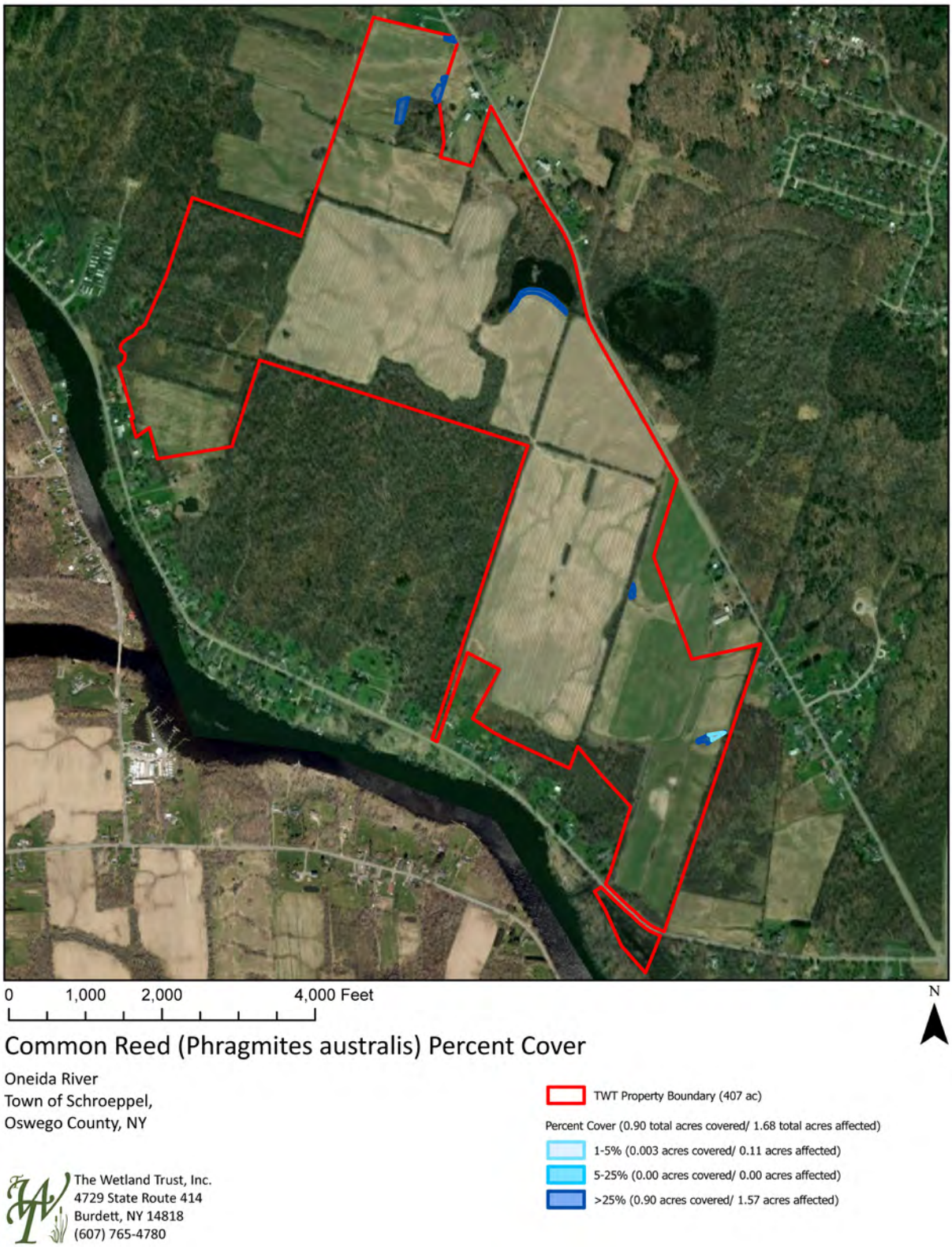


**Figure 8-4.** Cattail Percent Cover



| Table 8-1. Invasive Species at Oneida River | | | | |
|---|---|---|---|---|
| **Invasive Species** | **1-5% Cover (Affected Acres)** | **5-25% Cover (Affected Acres)** | **>25% Cover (Affected Acres)** | **Total Area (Affected Acres)** |
| Common Reed (*Phragmites australis*) | 0.11 | 0.00 | 1.57 | 1.68 |
| Reed Canary Grass (*Phalaris arundinacea*) | 8.04 | 1.10 | 1.15 | 10.29 |
| Purple Loosestrife (*Lythrum salicaria*) | 14.48 | 0.32 | 2.95 | 17.75 |
| Cattail (Typha sp.) | 0.89 | 0.67 | 0.34 | 1.90 |

# Appendix F.

New York State
Parks, Recreation and
Historic Preservation

**KATHY HOCHUL**
Governor

**RANDY SIMONS**
Commissioner *Pro Tempore*

**ARCHAEOLOGY COMMENTS**

**Phase IA/IB Archaeological Survey Recommendation**
**Project: Center Road Wetland Restoration**
**PR#: 24PR07318**
**Date: 08/14/2024**

The project is in an archaeologically sensitive area. Therefore, the State Historic Preservation Office/Office of Parks, Recreation and Historic Preservation (SHPO/OPRHP) recommends a Phase IA/IB archaeological survey for components of the project that will involve ground disturbance, unless substantial prior ground disturbance can be documented. A Phase IA/IB survey is designed to determine the presence or absence of archaeological sites or other cultural resources in the project's Area of Potential Effects (APE).

If you consider the entire project area to be disturbed, documentation of the disturbance will need to be reviewed by SHPO/OPRHP. Examples of disturbance include mining activities and multiple episodes of building construction and demolition. Documentation of ground disturbance typically consists of soil bore logs, photos, or previous project plans. Agricultural activity is not considered to be substantial ground disturbance.

Please note that in areas with alluvial soils or fill archaeological deposits may exist below the depth of superficial disturbances such as pavement or even deeper disturbances, depending on the thickness of the alluvium or fill. Evaluation of the possible impact of prior disturbance on archaeological sites must consider the depth of potentially culture-bearing deposits and the depth of planned disturbance by the proposed project.

Our office does not conduct archaeological surveys. A 36 CFR 61 qualified archaeologist should be retained to conduct the Phase IA/IB survey.

Please also be aware that a Section 233 permit from the New York State Education Department (SED) may be necessary before archaeological fieldwork is conducted on State-owned land. If any portion of the project includes the lands of New York State, you should contact the SED before initiating survey activities. The SED contact is Christina Rieth and she can be reached at (518) 402-5975 or christina.rieth@nysed.gov. Section 233 permits are not required for projects on private land.

If you have any questions concerning archaeology, please contact Bradley Russell at Bradley.Russell@parks.ny.gov

# Appendix G.

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-01** | **Date: 05-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 20-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.227369°N 76.233913°W**<br>**Soil texture: 0-7-inches = topsoil, 7-48 = sand**<br>**Test Hole 2 Location: 43.226910°N 76.233984°W**<br>**Soil Texture = 0-6-inches= topsoil, 6-18-inches = silt loam, 18-48-inches = clay**<br>**Sand layers are present. It may not be possible to build a groundwater dam.** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and stage piles of wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-01



CNY-Center 1

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-02** | **Date: 05-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 20-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226194°N 76.234553°W**<br>**Soil texture: 0-8-inches = topsoil, 8-48-inches = alternating layers of clay and silt loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and stage piles of wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-02



CNY-Center-02

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-03** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 9-inches below the surface, following heavy rains.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.227954°N 76.234377°W**<br>**Soil texture: 0-7-inches = topsoil, 7-48-inches = alternating layers of clay and silt loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Fill and block the ditch in the center of the planned wetland. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-03



CNY-Center-03 (water in test hole following heavy rains

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-04** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 9-inches below the surface, following heavy rains.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226820°N 76.235193°W**<br>**Soil texture: 0-11-inches = topsoil, 11-48-inches = clay loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Fill and block the ditch in the center of the planned wetland. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-04



CNY-Center-04 (water in ruts following heavy rains

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-05** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 40-inches below the surface, following heavy rains.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226765°N 76.236003°W**<br>**Soil texture: 0-10-inches = topsoil, 10-23-inches = silt loam, 23-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Fill and block the ditch in the center of the planned wetland. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-05



CNY-Center-05

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-06** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 40-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.227278°N 76.236361°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-06 (photo taken after significant rainfall



CNY-Center-06

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-07** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 40-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.227501°N 76.237009°W**<br>**Soil texture: 0-8-inches = topsoil, 8-20-inches = silt loam, 20-48-inches = clay.** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Fill and block the ditch that bisects the area. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-07



CNY-Center-07

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-08** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 40-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.227628°N 76.238041°W**<br>**Soil texture: 0-14-inches = topsoil high in clay, 14-48-inches = clay.** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-08



CNY-Center-08

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-09** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 33-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.227444°N 76.239058°W**<br>**Soil texture: 0-9-inches = topsoil, 9-48-inches = clay.** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. Use an excavator to collect and temporarily pile wood for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. Build an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-09



CNY-Center-09

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-10** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 33-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-10



CNY-Center-10

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-11** | **Date: 05-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill the ditch that passes through the center of this area. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-11



CNY-Center-11

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-12** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill the ditch that passes through the center of this area. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-12



CNY-Center-12

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-13** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 12-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-13



CNY-Center-13

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-14** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 10-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-14



CNY-Center-14

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-15** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 7-inches** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.8-feet** |
| **Test Hole location: 43.224448°N 76.239297°W**<br>**Soil texture: 0-8-inches = topsoil, 8-inches – 120-inches = clay, 120-126-inches= mixed gravel and clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 10-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-15 (8-inch-long thin ribbon formed from clay in test hole)



CNY-Center-15 (Digging a test hole 10.5-feet deep)

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-16** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained wetland basin. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.2-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than 9-inches. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-16



CNY-Center-16

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-17** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-17



CNY-Center-17

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-18** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-18



CNY-Center-18

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-19** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-19



CNY-Center-19

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-20** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-20



CNY-Center-20

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-21** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-21



CNY-Center-21

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-22** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 50-feet long x 1.0-feet deep = 600 feet$^3$/27 feet$^3$/yard$^3$ = 22 yards$^3$ x 1.5 tons/yard$^3$ = 33 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 83 tons/24 tons/dump truck = 3.5 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope and armor with rock to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-22



CNY-Center-22

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-23** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 41-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.225210°N 76.235738°W**<br>**Soil texture: 0-9-inches = topsoil, 9-26-inches = clay, 26-31-inches = fine gravel, 26-48-inches = silt loam** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 50-feet long x 1.0-feet deep = 600 feet$^3$/27 feet$^3$/yard$^3$ = 22 yards$^3$ x 1.5 tons/yard$^3$ = 33 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 83 tons/24 tons/dump truck = 3.5 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope and armor with rock to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-23



CNY-Center-23

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-24** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 22-inches below 35-inches below, average = 29-inches below surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole 1 location:43.223850°N 76.234917°W**<br>**Soil texture: 0-9-inches = topsoil, 9-48-inches = clay**<br>**Test Hole 2 location: 43.224247°N 76.235064°W**<br>**Soil texture: 0-9-inches = topsoil, 9-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Place spillway on the Southeast corner. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-24



CNY-Center-24

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-25** | **Date: 05-06-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 22-inches below 35-inches below, average = 29-inches below surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location:43.224320°N 76.235446°W<br>Soil texture: 0-9-inches = topsoil, 9-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-25



CNY-Center-25

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-26** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-26



CNY-Center-26

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-27** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-27



CNY-Center-27

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-28** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 50-feet long x 1.0-feet deep = 600 feet$^3$/27 feet$^3$/yard$^3$ = 22 yards$^3$ x 1.5 tons/yard$^3$ = 33 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 83 tons/24 tons/dump truck = 3.5 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope and armor with rock to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-28



CNY-Center-28

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-29** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo.** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: The field was planted to corn in 2023. It's now planted to soybeans.** |
| **Evidence of historic drainage or filling: This is a drained shallow basin that has been filled, leveled, and drained to dry ground for raising row crops. Ditches border the edges of the field. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? 24-inches below.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location:43.224277°N 76.238784°W**<br>**Soil texture: 0-9-inches = topsoil, 9-24-inches = silt loam, 24-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built. An above ground dam may be built that is approximately 1-foot high (1/2 the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built). Generally, spread soil downhill. Build a wide spillway on a gradual slope to prevent erosion. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-29



CNY-Center-29

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-30** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain a farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not observed** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.224725°N 76.242388°W**<br>**Soil texture: 0-9-inches = topsoil, 9-26-inches = silt loam, 26-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a Forested Wetland that involves constructing a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread excess soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-30



CNY-Center-30

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-31** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain a farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? 28-inches below the surface** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.225346°N 76.242907°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = silt-clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread excess soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CNY-Center-31



CNY-Center-31

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-32** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain a farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt-clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into over adjacent areas.** | |



CNY-Center-32



CNY-Center-32

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-33** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain a farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt-clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into over adjacent areas.** | |



CNY-Center-33



CNY-Center-33

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-34** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain a farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt-clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into over adjacent areas.** | |



CNY-Center-34



CNY-Center-34

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-35** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain a farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt-clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into over adjacent areas.** | |



CNY-Center-35



CNY-Center-35

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-36** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Now planted to soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? 40-inches below surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.224269°N 76.243810°W**<br>**Soil texture: 0-8-inches = topsoil, 8-48-inches silt clay loam with some fine gravel** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-36



CNY-Center-36

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-37** | **Date: 05-07-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Was goldenrod, dandelion, and grasses. Now planted to soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not measured** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt clay loam with some fine gravel** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Fill and disable the ditch. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-37



CNY-Center-37

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-38** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? 14-inches below the surface** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: 43.224436°N 76.244435°W**<br>**Soil texture: 0-15-inches = topsoil, 15-24-inches = silt clay loam, 24-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-38



CNY-Center-38

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-39** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-39



CNY-Center-39

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-40** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The shrubs and trees on the site were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-40



CNY-Center-40

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-41** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Rehab a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-41



CNY-Center-41

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-42** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed. This is a damaged forested wetland.** |
| **Evidence of historic drainage or filling: A drainage ditch bisects the area. Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill the ditch that bisects the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-42



CNY-Center-42

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-43** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed. This is a damaged forested wetland.** |
| **Evidence of historic drainage or filling: A drainage ditch bisects the area. Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill the ditch that bisects the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-43



CNY-Center-43

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-44** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed. This is a damaged forested wetland.** |
| **Evidence of historic drainage or filling: A drainage ditch bisects the area. Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-44



CNY-Center-44

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-45** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: A drainage ditch bisects the area. Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-45



CNY-Center-45

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-46** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed. This is a damaged forested wetland.** |
| **Evidence of historic drainage or filling: A drainage ditch bisects the area. Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-46



CNY-Center-46

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-47** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-47



CNY-Center-47

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-48** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-48



CNY-Center-48

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-49** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-49



CNY-Center-49

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-50** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-50



CNY-Center-50

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-51** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-51



CNY-Center-51

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-52** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed. This is a damaged forested wetland.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-52



CNY-Center-52

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-53** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed. This is a damaged forested wetland.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-53



CNY-Center-53

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-54** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-54



CNY-Center-54

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-55** | **Date: 05-08-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Do not build an above ground dam or rock will be needed to armor the inlet and outlet. Remove ruts left by heavy equipment. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading over adjacent areas.** | |



CNY-Center-55



CNY-Center-55

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-56** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Silt Clay Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-56



CNY-Center-56

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-57** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: 43.223219°N 76.244656°W**<br>**Soil texture: 0-7-inches = topsoil, 7-48-inches = clay (4-inch-long thin ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-57



CNY-Center-57

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-58** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None observed** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 1.7-feet** |
| **Test Hole location: No test hole dug**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-58



CNY-Center-58

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-59** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: 43.222555°N 76.244540°W**<br>**Soil texture: 0-7-inches = topsoil, 7-48-inches = clay (4-inch-long thin ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-59



CNY-Center-59

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-60** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole dug**<br>**Soil texture: clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-60



CNY-Center-60

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-61** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole dug**<br>**Soil texture: clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-61



CNY-Center-61

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-62** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole dug**<br>**Soil texture: clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-62



CNY-Center-62

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-63** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-63



CNY-Center-63

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-64** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: 43.223473°N 76.245692°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay (4-inch-long thin ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-64



CNY-Center-64

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-65** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? Not** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: 43.223035°N 76.245651°W**<br>**Soil texture: 0-11-inches = topsoil, 11-48-inches = clay (3-inch-long thin ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-65



CNY-Center-65

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road C-66** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Michelle Herman, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old agricultural field and dry-ridgetop fence row where shrubs and trees were recently removed.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Trees and shrubs have been recently cleared to maintain the farm field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, dandelion, and grasses.** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Sweet vernal grass, reed canary grass** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? Not** | **Elevation-change upper to lower edge of designed wetland = 2-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Block and fill ditches in the area. Build a groundwater dam along the lower edge of the area. Acceptable to build an above ground dam if needed. The maximum dam elevation should be no more than ½ the difference in elevation between the upper and lower edge of the marked perimeter of the wetland being built. Form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that may be planted to wetland trees and shrubs.** | |



CNY-Center-66



CNY-Center-66

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-67** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: white wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.0-feet** |
| **Test Hole location: 224930°N 76.232227°W**<br>**Soil texture: 0-8-inches = topsoil (clay), 8-48-inches = clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-67



CNY-Center-67

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-68** | **Date: 05-09-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 38-inches below surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-68



CNY-Center-68

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-69** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-69



CNY-Center-69

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-70** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-70



CNY-Center-70

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-71** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.224259°N 76.232338°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-71



CNY-Center-71

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-72** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-72



CNY-Center-72

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-73** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-73



CNY-Center-73

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-74** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-74



CNY-Center-74

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-75** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-75



CNY-Center-75

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-76** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-76



CNY-Center-76

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-77** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5-feet** |
| **Test Hole location: No test hole**<br>**Soil texture: clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-77



CNY-Center-77

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-80** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An old field with a drainage ditch.** |
| **Evidence of historic drainage or filling: The old field was drained by the construction of a deep ditch.** | |
| **Plant species: Goldenrod and aster** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Velvet grass and Reed canary grass** | **Groundwater elevation in test hole? 31-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.228316°N 76.232794°W**<br>**Soil texture: 0-8-inches = topsoil, 8-inches-48-inches = sand** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the Groundwater technique to re-establish an Emergent wetland on this site. This involves filling the ditch, restoring the natural rim on the wetland basin, and digging a depression that is deepest in the center of the marked perimeter. An above ground dam will be built blocking the ditch using soil that is removed from restoring the wetland basin. Heavy equipment is used to form a series of naturally appearing ridges and mounds that are planted to wetland trees and shrubs.** | |



CNY-Center-80



CNY-Center-80

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center Road W-81** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 31-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.2-feet** |
| **Test Hole location: 43.228203°N 76.233590°W**<br>**Soil texture: 0-9-inches = topsoil (sandy loam), 9-39-inches = silt loam, 39-inches-48-inches = clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: A ridge is located along the upper edge of the area which is soil piled from digging the ditch. Remove this soil to make the wetland larger. Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CNY-Center-81



CNY-Center-81

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-5 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.220939°N 76.228741°W**<br>**Soil texture: 0-9-inches = topsoil, 9-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-5



CS-5

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-6 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.220428°N 76.228598°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-6



CS-6

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-7 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.220815°N 76.229374°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-7



CS-7

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-8 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.2-feet** |
| **Test Hole location: 43.220831°N 76.230075°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-8



CS-8

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-9 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.221457°N 76.230001°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-9



CS-9

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-12 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A drained wetland basin.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.220915°N 76.232325°W**<br>**Soil texture: 0-12-inches = topsoil, 12-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-12



CS-12

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-13 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A drained wetland basin.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.221384°N 76.231329°W**<br>**Soil texture: 0-8-inches = topsoil, 8-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-13



CS-13

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-14 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A convex shaped ridge that will be changed to a concave basin. The site includes a large brush pile that may be placed in the finished wetland.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.0-feet** |
| **Test Hole location: 43.220918°N 76.230681°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = silt-clay (2-inch-long ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-14



CS-14

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-15 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.5-feet** |
| **Test Hole location: 43.220037°N 76.231229°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = silt-clay (2-inch-long ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-15



CS-15

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-16 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5-feet** |
| **Test Hole location: 43.219361°N 76.231773°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = silt-clay (2-inch-long ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-16



CS-16

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-17 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226303°N 76.240052°W**<br>**Soil texture: 0-15-inches = topsoil (clay), 15-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-17



CS-17

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-18 (Rectangle Parcel South of Gabor Triangle)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226115°N 76.239248°W**<br>**Soil texture: 0-10-inches = topsoil (clay), 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-18



CS-18

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-19 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226796°N 76.237146°W**<br>**Soil texture: 0-14-inches = topsoil (clay), 14-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-19



CS-19

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-20 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.226059°N 76.236689°W**<br>**Soil texture: 0-10-inches = topsoil (clay), 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-20



CS-20

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-21 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.225525°N 76.236989°W**<br>**Soil texture: 0-11-inches = topsoil (clay), 11-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-21



CS-21

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-22 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: white wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.225113°N 76.2355062°W**<br>**Soil texture: 0-2-inches = topsoil (clay), 12-48-inches = clay (3-inch-long ribbons)** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-22



CS-22

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-23 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.225210°N 76.235738°W**<br>**Soil texture: 0-11-inches = topsoil (clay), 11-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-23



CS-23

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-24 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: yellow wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.218868°N 76.229832°W**<br>**Soil texture: 0-11-inches = topsoil (clay), 11-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-24



CS-24

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-25 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.218381°N 76.231040°W**<br>**Soil texture: 0-12-inches = topsoil (clay), 12-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread excess soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-25



CS-25

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-26 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.5-feet** |
| **Test Hole location: 43.219447°N 76.233120°W**<br>**Soil texture: 0-8-inches = topsoil (clay), 12-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Armor with rock the inlet and outlet to control erosion. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-26



CS-26

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-27 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.217264°N 76.234261°W**<br>**Soil texture: 0-11-inches = topsoil (clay), 11-27-inches = silt loam, 27-48-inches = clay,** | |
| **Rock armor the inlet and outlet of the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge if buried drain structures are present. Level the area and excavate shallow scrapes, pits, mounds, and ridges for planting trees and shrubs. Work to maintain most of the soil on the site to maximize wetland area.** | |



CS-27



CS-27

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-28 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: white wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 18-inches below surface** |
| **Hydric soil present near the surface? Yes** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.217264°N 76.234261°W**<br>**Soil texture: 0-12-inches = topsoil (clay), 12-16-inches = silt loam, 16-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread excess soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



CS-28



CS-28 (The elevation of groundwater was measured in each soil test hole)

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-29 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: white wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.218189°N 76.233808°W**<br>**Soil texture: 0-12-inches = topsoil (clay), 12-16-inches = silt loam, 16-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. The inlet and outlet will be armored with rock to control erosion. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-29



CS-29

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-30 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A ditch bisects the area.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.218825°N 76.233530°W**<br>**Soil texture: 0-11-inches = topsoil (clay), 11-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. The inlet and outlet will be armored with rock to control erosion. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-30



CS-30

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-31 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-01-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. Located on the side of a ridge.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.218716°N 76.232461°W**<br>**Soil texture: 0-12-inches = topsoil (silt loam), 12-48-inches = clay** | |
| **Rock armor the inlet and outlet. Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling any ditches that are present and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-31



CS-31

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-32 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A ditch bisects the area.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.217830°N 76.229674°W**<br>**Soil texture: 0-8-inches = topsoil (silt loam), 8-21-inches = Silt clay, 21-52-inches = Sandy Clay** | |
| **Rock armor the inlet and outlet. Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling any ditches that are present and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-32



CS-32

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-33 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A ditch bisects the area.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.216913°N 76.230424°W**<br>**Soil texture: 0-8-inches = topsoil (silt loam), 8-21-inches = Silt clay, 21-52-inches = Sandy Clay** | |
| **Rock armor the inlet and outlet. Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling any ditches that are present and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-33



CS-33

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-34 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. A ditch bisects the area.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.216045°N 76.230497°W**<br>**Soil texture: 0-12-inches = topsoil (clay loam), 12-48-inches = Clay Loam** | |
| **Rock armor the inlet and outlet. Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling any ditches that are present and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-34



CS-34

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-35 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans. The wetland area is bisected by a fence row.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.215532°N 76.230689°W**<br>**Soil texture: 0-12-inches = topsoil (clay loam), 12-48-inches = Clay** | |
| **Rock armor the inlet and outlet. Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling any ditches that are present and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-35



CS-35

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-36 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.216302°N 76.231621°W**<br>**Soil texture: 0-12-inches = topsoil (clay loam), 12-48-inches = Clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. The inlet and outlet will be armored with rock to control erosion. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-36



CS-36

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-37 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Kendall Hastings, Gabby Deyo** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.214865°N 76.231538°W**<br>**Soil texture: 0-12-inches = topsoil (clay), 12-48-inches = Clay** | |
| **Rock armoring: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling any ditches that are present and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



CS-37



CS-37

**Wetland Design Form**

| | |
|---|---|
| **Site Name: CNY Center South CS-38 (Rectangle Parcel South of Gabor Triangle)** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design:** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: not marked** |
| **Invasive species:** | **Groundwater elevation in test hole?** |
| **Hydric soil present near the surface?** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: No Test Hole. This site should be examined on the ground**<br>**Soil texture:** | |
| **Rock armoring: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: This area was not examined on the ground. The area appears to be suitable for building a wetland based on an office review of the site.** | |


CS-38

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-1 Gabor Center Road South** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field managed for hay production. There is a ditch adjacent to this designed wetland.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Orchard grass, alfalfa, timothy, red clover, red top, crown vetch** | **How the planned wetland is marked on the ground: Orange ribbons.** |
| **Invasive species: Velvet grass, KY 31 Fescue** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.219000°N 76.228589°W**<br>**Soil texture: 0-12-inches = topsoil (silt loam), 12-24-inches = silt loam, 24-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Wood would need to be hauled into the site.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-1



GS-1

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-2 Gabor Center Road South** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field managed for hay production. There is a ditch adjacent to this designed wetland.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Orchard grass, alfalfa, timothy, red clover, red top, crown vetch** | **How the planned wetland is marked on the ground: Neon green ribbons.** |
| **Invasive species: KY 31 Fescue** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.218537°N 76.228519°W**<br>**Soil texture: 0-15-inches = topsoil (silt loam), 15-20-inches = silt loam, 20-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Wood would need to be hauled into the site.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-2



GS-2

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-3 Gabor Center Road South** | **Date: 07-02-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field managed that was recently plowed and seeded.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Bare ground** | **How the planned wetland is marked on the ground: Yellow wire flags.** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.5-feet** |
| **Test Hole location: 43.217499°N 76.229229°W**<br>**Soil texture: 0-13-inches = topsoil (clay), 13-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-3



GS-3

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-4 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. Was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: timothy, fescue, clover (all sprayed)** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.217663°N 76.228027°W**<br>**Soil texture: 0-13-inches = topsoil (clay), 13-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil uphill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-4



GS-4

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-5 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. Was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: timothy, fescue, clover (all sprayed)** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5 feet** |
| **Test Hole location: 43.217219°N 76.228504°W**<br>**Soil texture: 0-12-inches = topsoil (silt clay), 12-23-inches = silt clay, 23-48-inches = Silt Loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil to Southwest. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-5



GS-5

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-6 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. Was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: timothy, fescue, clover (all sprayed)** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.216649°N 76.228039°W**<br>**Soil texture: 0-11-inches = topsoil (silt clay), 11-17-inches = silt loam, 17-48-inches = Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil to downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-6



GS-6

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-7 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. One-half of the field was plowed, the other half was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: timothy, fescue, clover (all sprayed)** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.216800°N 76.229033°W**<br>**Soil texture: 0-11-inches = topsoil (clay-loam), 10-15-inches = clay loam, 15-16-ash, 16-48-inches = Clay loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Cover the area with the soil removed from building GE-5 and GE-6. Use this soil to build a low dam with gradual slopes for this wetland. Place spillway on undisturbed ground at the north side near the trees. Remove buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-7



GS-7

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-8 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. One-half of the field was plowed, the other half was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, buttercup, clover, dandelion** | **How the planned wetland is marked on the ground: Yellow wire flags.** |
| **Invasive species: Alfalfa, birds foot trefoil** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.216058°N 76.228682°W**<br>**Soil texture: 0-10-inches = topsoil (silt-loam), 10-45-inches = silt loam, 45-48-inches = Silt Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-8



GS-8

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-9 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. One-half of the field was plowed, the other half was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, buttercup, clover, dandelion** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: Alfalfa, birds foot trefoil** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.215555°N 76.229926°W**<br>**Soil texture: 0-12-inches = topsoil (clay), 12-30-inches = clay, 30-34-inches = Silt loam, 34-48-inches = Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available. Would need to be hauled into the site.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-9



GS-9

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-10 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. One-half of the field was plowed, the other half was recently sprayed with chemicals and seeded with a no-till drill to soybeans. Site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, buttercup, clover, dandelion** | **How the planned wetland is marked on the ground: Yellow wire flags.** |
| **Invasive species: Alfalfa, birds foot trefoil** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.214967°N 76.230189°W**<br>**Soil texture: 0-14-inches = topsoil (silt clay), 14-48-inches = Silt Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Obtain from wood piled along the lower edge of the field.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-10



GS-10

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-11 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. The site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, buttercup, clover, dandelion** | **How the planned wetland is marked on the ground: White wire flags.** |
| **Invasive species: Alfalfa, birds foot trefoil** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.214730°N 76.228910°W**<br>**Soil texture: 0-14-inches = topsoil (silt clay), 14-48-inches = Silt Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Obtain from wood piled along the lower edge of the field.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-11



GS-11 (buried drainage pipes are in the field

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-12 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. The site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, buttercup, clover, dandelion** | **How the planned wetland is marked on the ground: White wire flags.** |
| **Invasive species: Alfalfa, birds foot trefoil** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.215422°N 76.228735°W**<br>**Soil texture: 0-20-inches = topsoil (silt loam), 20-34-inches = Silt Loam, 34-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Obtain from wood piled along the lower edge of the field.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-12



GS-12 (buried drainpipe in the field

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-13 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. The site contains buried plastic drainpipes.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, buttercup, clover, dandelion** | **How the planned wetland is marked on the ground: White wire flags.** |
| **Invasive species: Alfalfa, birds foot trefoil** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.215128°N 76.229189°W**<br>**Soil texture: 0-13-inches = topsoil, 13-22-inches = Silt Loam, 22-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Obtain from wood piled along the lower edge of the field.** | |
| **Construction notes: Remove know buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-13



GS-13

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-14 Gabor Center Road South** | **Date: 07-03-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field. The field has been sprayed and planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: None** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: None** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.216367°N 76.229658°W**<br>**Soil texture: 0-14-inches = topsoil, 14-48-inches = silt clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Obtain from wood piled along the lower edge of the field.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-14



GS-14

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-15 Gabor Center Road South** | **Date: 07-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange and yellow wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 28-inches below surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.6 feet** |
| **Test Hole location: 43.210534°N 76.228493°W**<br>**Soil texture: 0-10-inches = sand, 10-38-inches = sand, 38-60-inches = silt loam** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Transport clay from the wetlands being built to the north and replace the sand removed from the core trench. Level the area without building a dam. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-15



GS-15

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-16 Gabor Center Road South** | **Date: 07-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange and yellow wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? None** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.0 feet** |
| **Test Hole location: 43.211033°N 76.228726°W**<br>**Soil texture: 0-15-inches = silt loam, 15-32-inches = silt loam, 32-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. If needed, transport clay from the wetlands being built to the north and replace the sand removed from the core trench. Level the area without building a dam. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-16



GS-16

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-17 Gabor Center Road South** | **Date: 07-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 35-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.0 feet** |
| **Test Hole location: 43.212161°N 76.228241°W**<br>**Soil texture: 0-16-inches = silt loam, 16-27-inches = sand, 27-62-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Transport clay from the wetlands being built to the north and replace the sand removed from the core trench. Level the area without building a dam. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-17



GS-17

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-18 Gabor Center Road South** | **Date: 07-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 35-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.212885°N 76.228446°W**<br>**Soil texture: 0-16-inches = silt loam, 16-27-inches = sand, 27-62-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Transport clay from the wetlands being built to the north and replace the sand removed from the core trench. Build a low dam no higher than 12-inches along the lower edge. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-18



GS-18

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-19 Gabor Center Road South** | **Date: 07-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? None** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.211951°N 76.227230°W**<br>**Soil texture: 0-12-inches = 12-48-inches = silt clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Use the silt loam and clay removed from building this wetland to fill the core trenches in the nearby wetlands where sand is present. If there is enough soil, then build a low dam no higher than 12-inches along the lower edge. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-19



GS-19

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-20 Gabor Center Road South** | **Date: 07-04-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? None** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.211541°N 76.227404°W**<br>**Soil texture: 0-13-inches = 13-48-inches = silt clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Use the silt loam and clay removed from building this wetland to fill the core trenches in the nearby wetlands where sand is present. If there is enough soil, then build a low dam no higher than 12-inches along the lower edge. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-20



GS-20

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-21 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 44-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.213957°N 76.227894°W**<br>**Soil texture: 0-22-clay loam, 22-42-inches = clay, 42-50-inches – silt loam, 50-58-inches = clay** | |
| **Rock armoring of inlet or outlet not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Not available.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Use the silt loam and clay removed from building this wetland to fill the core trenches in the nearby wetlands where sand is present. If there is enough soil, then build a low dam no higher than 12-inches along the lower edge. Work to keep the soil that is removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-21



GS-21

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-22 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 40-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.213886°N 76.226429°W**<br>**Soil texture: 0-22-inches = clay loam, 22-42-inches = Silt clay loam, 42-58-inches = clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Use the silt loam and clay removed from building this wetland to fill the core trenches in the nearby wetlands where sand is present. If there is enough soil, then build a low dam no higher than 12-inches along the lower edge. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-22



GS-22

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-23 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that was planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? none** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.213224°N 76.226773°W**<br>**Soil texture: 0-14-inches =topsoil and silt loam, 14-20-inches = Silt loam, 20-44-inches = silt clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Construction notes: Fill ditches that are present with silt loam or clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Use the silt loam and clay removed from building this wetland to fill the core trenches in the nearby wetlands where sand is present. If there is enough soil, then build a low dam no higher than 12-inches along the lower edge. Work to keep soil removed within the area. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-23



GS-23

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-24 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that is managed for hay.** |
| **Evidence of historic drainage or filling: Two deep ditches bisect the area. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, timothy** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: St. Johns's wort, birds foot trefoil** | **Groundwater elevation in test hole? none** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 3.0 feet** |
| **Test Hole location: 43.215252°N 76.227252°W**<br>**Soil texture: 0-14-inches =topsoil and loam, 14-20-inches = Clay, 20-41= silt loam, 41-60-inches = clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Construction notes: Fill the two ditches that are present with silt loam and clay using the long and high ridge of soil along the banks of the deepest ditch. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Build an above ground dam along the lower perimeter with gradual slopes. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-24



GS-24

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-25 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that is managed for hay.** |
| **Evidence of historic drainage or filling: A deep ditch bisects the area. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, timothy** | **How the planned wetland is marked on the ground: Pink wire flags.** |
| **Invasive species: St. Johns's wort, birds foot trefoil** | **Groundwater elevation in test hole? none** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 3.0 feet** |
| **Test Hole location: 43.215252°N 76.227252°W**<br>**Soil texture: 0-14-inches =topsoil and loam, 14-20-inches = Clay, 20-41= silt loam, 41-60-inches = clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Construction notes: Fill the ditch that is present with silt loam and clay. Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Build an above ground dam along the lower perimeter with gradual slopes. The maximum elevation of water in the wetland must not be higher than the elevation of land where the buffer is located near Don Gabor's land. The maximum elevation of water must not be higher than 2.5-feet above the bottom of the ditch where the core trench is located. This will be the same as the spillway elevation. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-25



GS-25

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-26 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that is managed for hay.** |
| **Evidence of historic drainage or filling: A deep ditch bisects the area. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, timothy** | **How the planned wetland is marked on the ground: Yellow wire flags.** |
| **Invasive species: Reed Canary Grass** | **Groundwater elevation in test hole? none** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.216207°N 76.225589°W**<br>**Soil texture: 0-13-inches =clay topsoil, 13-60-inches = clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Construction notes: Dig a core trench and build a groundwater dam around the lower 2/3 perimeter of the area. Avoid building an above ground dam so wet-meadow wetland may develop in the spillway. Protect the spillway from ground disturbance to prevent erosion. Create pits, mounds, and scrapes. Loosen compacted soil and plant trees and shrubs on the mounds.** | |



GS-26



GS-26

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-27 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large level agricultural field that is managed for hay.** |
| **Evidence of historic drainage or filling: Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, timothy** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: KY 31 fescue** | **Groundwater elevation in test hole? none** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.215596°N 76.225638°W**<br>**Soil texture: 0-10-inches =clay topsoil, 10-60-inches = silty clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Remove buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-27



GS-27

**Wetland Design Form**

| | |
|---|---|
| **Site Name: GS-28 Gabor Center Road South** | **Date: 07-05-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A large agricultural field that is managed for hay.** |
| **Evidence of historic drainage or filling: Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Fescue, timothy** | **How the planned wetland is marked on the ground: Orange wire flags.** |
| **Invasive species: KY 31 fescue, Birds foot trefoil** | **Groundwater elevation in test hole? none** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.216200°N 76.227179°W**<br>**Soil texture: 0-13-inches =loam topsoil, 13-48-inches = clay** | |
| **Rock armoring of the inlet and outlet: Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Available in the piles located along the edge of the field.** | |
| **Remove buried drainage structures. Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



GS-28



GS-28

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor Center Road G-01 (Gabor Triangle Parcel)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.223106°N 76.231688°W**<br>**Soil texture: 0-12-inches = topsoil, 12-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



G-01



G-01

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor Center Road G-02 (Gabor Triangle Parcel)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.5-feet** |
| **Test Hole location: 43.222574°N 76.232071°W**<br>**Soil texture: 0-10-inches = topsoil, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



G-02



G-02

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor Center Road G-03 (Gabor Triangle Parcel)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.222419°N 76.230323°W**<br>**Soil texture: 0-12-inches = topsoil, 12-48-inches = silty clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



G-03



G-03

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor Center Road G-04 (Gabor Triangle Parcel)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Pink wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.221636°N 76.229345°W**<br>**Soil texture: 0-15-inches = topsoil, 15-21-inches = carbon deposit, 21-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



G-04



G-04

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor Center Road G-10 (Gabor Triangle Parcel)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Yellow wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.222219°N 76.230870°W**<br>**Soil texture: 0-12-inches = topsoil, 12-48-inches = Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



G-10



G-10

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor Center Road G-11 (Gabor Triangle Parcel)** | **Date: 06-30-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present. Lands and dead furrows are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.222179°N 76.231853°W**<br>**Soil texture: 0-12-inches = topsoil, 12-48-inches = Clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower perimeter of the wetland being built and an above ground dam that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter of the wetland being built. Spread soil downhill. Add pits, scrapes, and mounds and plant with native trees and shrubs.** | |



G-11



G-11

**Wetland Design Form**

| | |
|---|---|
| **Site Name: G-78**<br>**Gabor Triangle** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn. The field is now planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: Orange wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 35-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5-feet** |
| **Test Hole location: 43.223658°N 76.230401°W**<br>**Soil texture: 0-10-inches = topsoil, 10-38-inches = silt loam, 38-48-inches = clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment may be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



Gabor-78



Gabor-78

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Gabor-79**<br>**Gabor Triangle** | **Date: 05-10-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Dan Kwasnowski, Michelle Herman** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An agricultural field that was planted to corn. The field is now planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures are present.** | |
| **Plant species: Planted soybeans** | **How the planned wetland is marked on the ground: White wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? 45-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.222276°N 76.228915°W**<br>**Soil texture: 0-10-inches = topsoil, 10-23-inches = silt loam, 23-48-inches = clay** | |
| **Rock armoring is not needed at the inlet or outlet.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction Notes: Take extra steps to compact due to the presence of silt loam on the surface of the ground. Use the surface water technique to re-establish a wetland on this site. This involves filling ditches and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment may be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



G-79



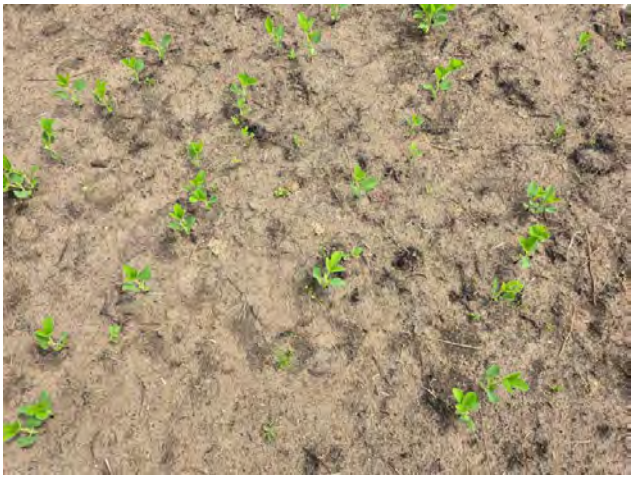
G -79

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-1** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Yellow color wire flags** |
| **Invasive species: Chufa. Reed canary grass growing in ditches outside of the designed** | **Groundwater elevation in test hole? 10-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.228985°N 76.235198°W**<br>**Soil texture: 0-7 inches = topsoil (sandy), 7-48-inches = sand** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the groundwater technique to re-establish a wetland on this site. This involves excavating a depression that is deepest in the middle, and not building a groundwater dam or an above ground dam. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs.** | |



Murray 1



Murray 1

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-2 (Combined with CNY Center C-02)** | **Date: 06-26-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? None.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.228159°N 76.235493°W**<br>**Soil texture: 0-10 inches = clay, 10-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



C- 2



C- 2

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-3 )** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted in soybeans. A fence row was removed, and ditch maintained prior to acquisition by The Wetland Trust** |
| **Evidence of historic drainage or filling: A ditch bisects the area. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? 20-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.5 feet** |
| **Test Hole location: 43.227879°N 76.236332°W**<br>**Soil texture: 0-16 inches = clay, 16-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator may be used to collect felled trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



Murray 3



Murray 3

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-4 )** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted in soybeans. A fence row was removed, and ditch maintained prior to acquisition by The Wetland Trust** |
| **Evidence of historic drainage or filling: A ditch bisects the area. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Yellow color wire flags** |
| **Invasive species: Chufa, reed canary grass in ditch** | **Groundwater elevation in test hole? 15-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.228582°N 76.237600°W**<br>**Soil texture: 0-17 inches = clay, 17-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator may be used to collect felled trees for placement in and around each finished wetland.** | |
| **Construction notes: Build the spillway to carry overflow into Murray Wetland 9. Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



Murray 4



Murray 4

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-5 )** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted in soybeans. A fence row was removed, and ditch maintained prior to acquisition by The Wetland Trust** |
| **Evidence of historic drainage or filling: A ditch bisects the area. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange color wire flags** |
| **Invasive species: Chufa, reed canary grass in ditch** | **Groundwater elevation in test hole? Not determined** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 3.0 feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator may be used to collect felled trees for placement in and around each finished wetland.** | |
| **Construction notes: Wait to build this wetland until after Murray 3 and Murray 4 are built. Build the spillway to carry overflow into Murray Wetland 4. Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



Murray 5



Murray 5

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-6** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? None** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.228376°N 76.236230°W**<br>**Soil texture: 0-13 inches = topsoil (clay), 13-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. Build a groundwater dam along the lower edge, and possibly an above ground dam that is no higher than ½ the change in elevation from the upper to lower edge of the marked perimeter. Use heavy equipment to form a series of shallow depressions and pits of various sizes, shapes, and depths. Plant wetland trees and shrubs on the mounds.** | |



Murray 6




Murray 6 (the long and thin ribbon shows high clay content)

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-7** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? 19-inches below surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 3.1-feet** |
| **Test Hole location: 43.228791°N 76.236094°W**<br>**Soil texture: 0-16 inches = topsoil (clay), 16-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. Build a groundwater dam along the lower edge, and possibly an above ground dam that is no higher than ½ the change in elevation from the upper to lower edge of the marked perimeter. Use heavy equipment to form a series of shallow depressions and pits of various sizes, shapes, and depths. Plant wetland trees and shrubs on the mounds.** | |



Murray 7



Murray 7

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-8** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? 25-inches below surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.5-feet** |
| **Test Hole location: 43.229359°N 76.237382°W**<br>**Soil texture: 0-12 inches = topsoil (clay), 12-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. Build a groundwater dam along the lower edge, and possibly an above ground dam that is no higher than ½ the change in elevation from the upper to lower edge of the marked perimeter. Use heavy equipment to form a series of shallow depressions and pits of various sizes, shapes, and depths. Plant wetland trees and shrubs on the mounds.** | |



Murray 8



Murray 8

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-9** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.2-feet** |
| **Test Hole location: 43.229400°N 76.238216°W**<br>**Soil texture: 0-12 inches = topsoil (clay), 12-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. Build a groundwater dam along the lower edge, and possibly an above ground dam that is no higher than ½ the change in elevation from the upper to lower edge of the marked perimeter. Use heavy equipment to form a series of shallow depressions and pits of various sizes, shapes, and depths. Plant wetland trees and shrubs on the mounds.** | |



Murray 9



Murray 9

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-10** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Buried drainage structures are likely lowering the elevation of groundwater.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Yellow color wire flags** |
| **Invasive species: Chufa.** | **Groundwater elevation in test hole? 36-inches below the surface.** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.229559°N 76.236616°W**<br>**Soil texture: 0-10 inches = topsoil (sandy loam), 10-48-inches = sand** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the groundwater technique to re-establish a wetland on this site. This involves excavating a depression that is deepest in the middle, and not building a groundwater dam or an above ground dam. Spread soil uphill. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs.** | |



Murray 10



Murray 10 Elevations were recorded for each wetland that was designed)

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-11** | **Date: 06-27-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted in soybeans. A fence row was removed, and ditch maintained prior to acquisition by The Wetland Trust** |
| **Evidence of historic drainage or filling: A ditch bisects the area. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Yellow color wire flags** |
| **Invasive species: Chufa, reed canary grass in ditch** | **Groundwater elevation in test hole? 36-inches below the surface** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.228740°N 76.239583°W**<br>**Soil texture: 0-17 inches = clay, 17-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator may be used to collect felled trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



Murray 11



Murray 11

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-12** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted in soybeans. A fence row was removed, and ditch maintained prior to acquisition by The Wetland Trust** |
| **Evidence of historic drainage or filling: A ditch bisects the area. Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Pink color wire flags** |
| **Invasive species: Chufa, reed canary grass in ditch** | **Groundwater elevation in test hole? Not present** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0 feet** |
| **Test Hole location: 43.228524°N 76.238586°W**<br>**Soil texture: 0-12 inches = topsoil (silt loam), 12-48-inches = clay** | |
| **Rock armoring is needed at the inlet and outlet due to high erosion potential.**<br>**Inlet: 12-feet wide x 60-feet long x 1.0-feet deep = 720 feet$^3$/27 feet$^3$/yard$^3$ = 27 yards$^3$ x 1.5 tons/yard$^3$ = 40 tons**<br>**Outlet: 12-feet wide x 75-feet long x 1.0-feet deep = 900 feet$^3$/27 feet$^3$/yard$^3$ = 33 yards$^3$ x 1.5 tons/yard$^3$ = 50 tons**<br>**Total = 90 tons/24 tons/dump truck = 4 dump truck loads of rock needed** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator may be used to collect felled trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. This involves filling the ditch and building a groundwater dam along the lower edge of the planned wetland area. An above ground dam may also be built that is no higher than ½ the change in elevation from the upper to the lower edge of the marked perimeter. Heavy equipment will be used to form a series of shallow depressions and pits of various sizes, shapes, and depths. A series of naturally appearing ridges and mounds will be formed that are planted to wetland trees and shrubs.** | |



Murray 12



Murray 12

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-13** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: White color wire flags** |
| **Invasive species: Chufa, Cow Vetch** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.228995°N 76.239187°W**<br>**Soil texture: 0-11 inches = topsoil (silt loam), 11-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. Build a groundwater dam along the lower edge, and possibly an above ground dam that is no higher than ½ the change in elevation from the upper to lower edge of the marked perimeter. Use heavy equipment to form a series of shallow depressions and pits of various sizes, shapes, and depths. Plant wetland trees and shrubs on the mounds.** | |



Murray 13



Murray 13

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-14** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: An intensively managed agricultural field that has been planted to soybeans.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for growing row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Soybeans** | **How the planned wetland is marked on the ground: Orange color wire flags** |
| **Invasive species: Chufa** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.229878°N 76.239069°W**<br>**Soil texture: 0-8 inches = topsoil (silt loam), 8-48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Use the surface water technique to re-establish a wetland on this site. Build a groundwater dam along the lower edge, and possibly an above ground dam that is no higher than ½ the change in elevation from the upper to lower edge of the marked perimeter. Use heavy equipment to form a series of shallow depressions and pits of various sizes, shapes, and depths. Plant wetland trees and shrubs on the mounds.** | |



Murray 14



Murray 14

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-15** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230486°N 76.238578°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 15



M- 15

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-16** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-13-inches = sandy loam topsoil, 13-22-inches = silt loam, 22-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 16



M- 16

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-17** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230486°N 76.238578°W (same test hole as for M- 15)**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 17



M- 17

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-18** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 18-inches = silt loam, 18-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 18



M- 18

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-19** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 18-inches = silt loam, 18-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 19



M- 19

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-20** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 18-inches = silt loam, 18-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 20



M- 20

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-21** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 18-inches = silt loam, 18-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 21



M- 21

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-22** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 18-inches = silt loam, 18-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 22



M- 22

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-23** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.230989°N 76.238402°W**<br>**Soil texture: 0-10-inches = topsoil, 10-inches – 18-inches = silt loam, 18-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 23



M- 23

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-24** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 24



M- 24

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-25** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: 43.231750°N 76.237904°W**<br>**Soil texture: 0-9-inches = topsoil, 9-inches – 17-inches = silt loam, 17-inches – 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 25



M- 25

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-26** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 26



M- 26

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-27** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 27



M- 27

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-28** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass, Canadian thistle** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 28



M- 28

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-29** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands. Deep ruts are present from where a tractor tried to drive through the field in early spring.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass, Canadian thistle** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 29



M- 29

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-30** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands. Deep ruts are present from where a tractor tried to drive through the field in early spring.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass, Canadian thistle** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 30



M- 30

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-31** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands. Deep ruts are present from where a tractor tried to drive through the field in early spring.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass, Canadian thistle** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 31



M- 31

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-32** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands. Deep ruts are present from where a tractor tried to drive through the field in early spring.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass, Canadian thistle** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 32



M- 32 (Deep ruts created by a large heavy tractor filled with water during spring rains

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-33** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands. Deep ruts are present from where a tractor tried to drive through the field in early spring.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass, Canadian thistle** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 33



M- 33

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-34** | **Date: 06-29-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kirsten Gerhardt** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: A managed hayfield. The area is a ridge or "land" bordered by "dead-furrows" which have been delineated as wetlands. Deep ruts are present from where a tractor tried to drive through the field in early spring.** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present. Lands and dead furrows are present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 2.0-feet** |
| **Test Hole location: Test hole not dug**<br>**Soil texture: Silt loam over clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area if buried drainage structures are present. Do not build an above ground dam. Use heavy equipment to level the area and then to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs. Keep all the soil onsite, not spreading into adjacent delineated wetlands.** | |



M- 34



M- 34

**Wetland Design Form**

| | |
|---|---|
| **Site Name: Murray Farm M-35 (Formally M-19)** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: Located in a hayfield surround by trees** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 3.0-feet** |
| **Test Hole location: 43.229866°N 76.236254°W**<br>**Soil texture: 0-7-inches = topsoil, 7– 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area. Build an above ground dam no higher than 16-inches. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs.** | |



Murray 35



Murray 35

**Wetland Design Form**

| | |
|---|---|
| **Murray Farm M-36<br>(Formally M-20)** | **Date: 06-28-2024** |
| **Landowner: The Wetland Trust** | **Designer Name: Thomas R. Biebighauser** |
| **The Wetland Trust Employees assisting with the design: Kendall Hastings, Dylan Johnson-Jordan** | |
| **Objectives: Build a naturally appearing and functioning wetland for mitigation.** | **Site Description: Located in a hayfield surround by trees** |
| **Evidence of historic drainage or filling: Ditches border all sides of the field. Natural basins have been filled, leveled, and drained to dry ground for raising row crops. The surface of the ground has been sloped for drainage. Buried drainage structures may be present.** | |
| **Plant species: Goldenrod, fescue, orchard grass** | **How the planned wetland is marked on the ground: Not marked** |
| **Invasive species: Velvet grass, multiflora rose, reed canary grass** | **Groundwater elevation in test hole? Not found** |
| **Hydric soil present near the surface? No** | **Elevation-change upper to lower edge of designed wetland: 1.5-feet** |
| **Test Hole location: 43.230012°N 76.236622°W<br>Soil texture: 0-10-inches = topsoil (silt loam), 10-30-inches = Silt loam, 30– 48-inches = clay** | |
| **Rock armor the inlet and outlet for the wetland? Not needed.** | |
| **Head-cuts located uphill or downhill of the planned wetland. None.** | |
| **Woody debris source: Large piles of treetops and some tree trunks are available for use. An excavator should be used to collect trees for placement in and around each finished wetland.** | |
| **Construction notes: Build a groundwater dam along the lower edge of the area. Build an above ground dam no higher than 10-inches. Use heavy equipment to form a series of shallow depressions (vernal pools) of various sizes, shapes, and depths. Place the soil removed in naturally appearing ridges and mounds that are planted to wetland trees and shrubs.** | |

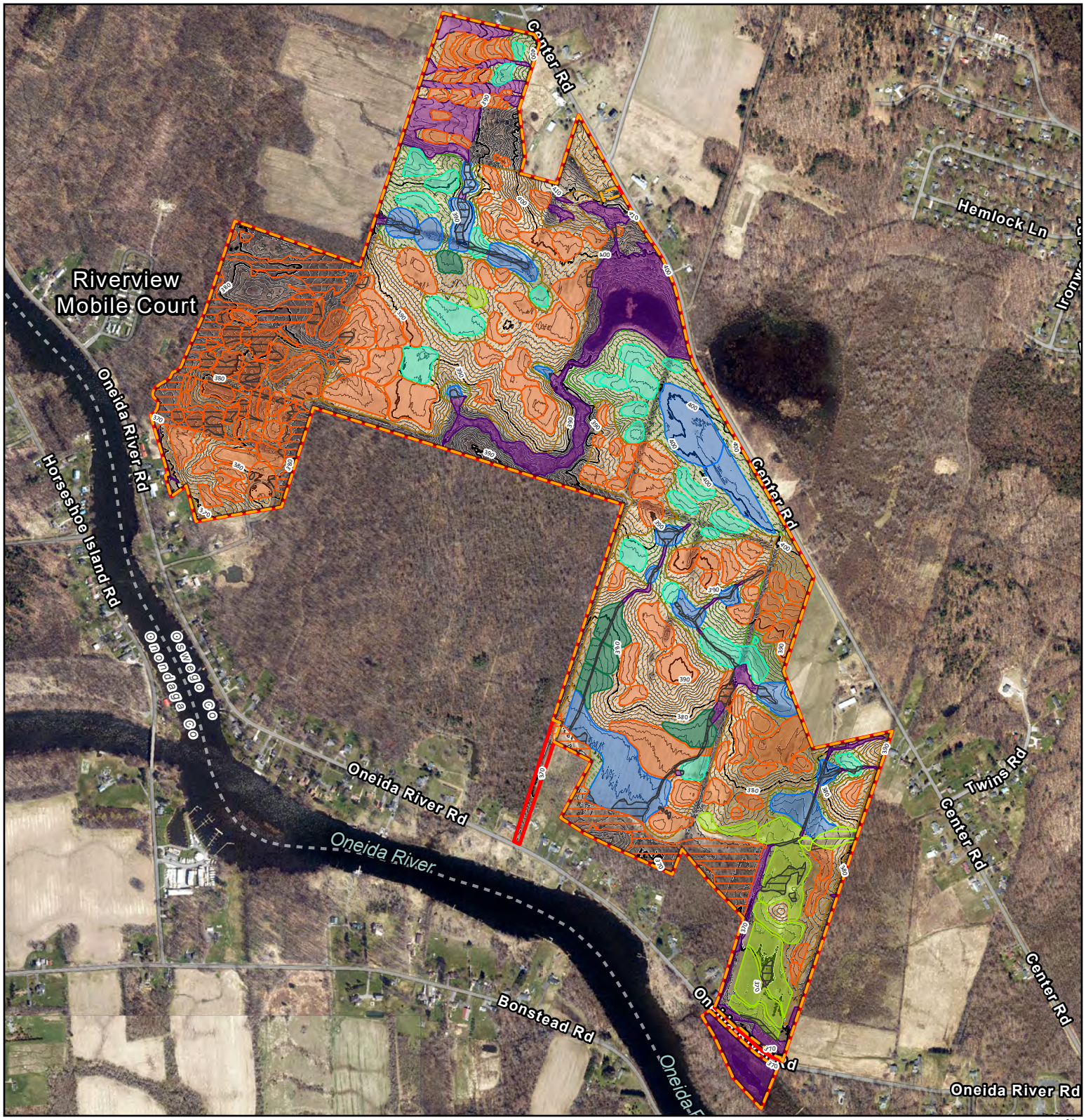


Murray 36



Murray 36

# Appendix H.




0 1,000 2,000 4,000 US Feet

N

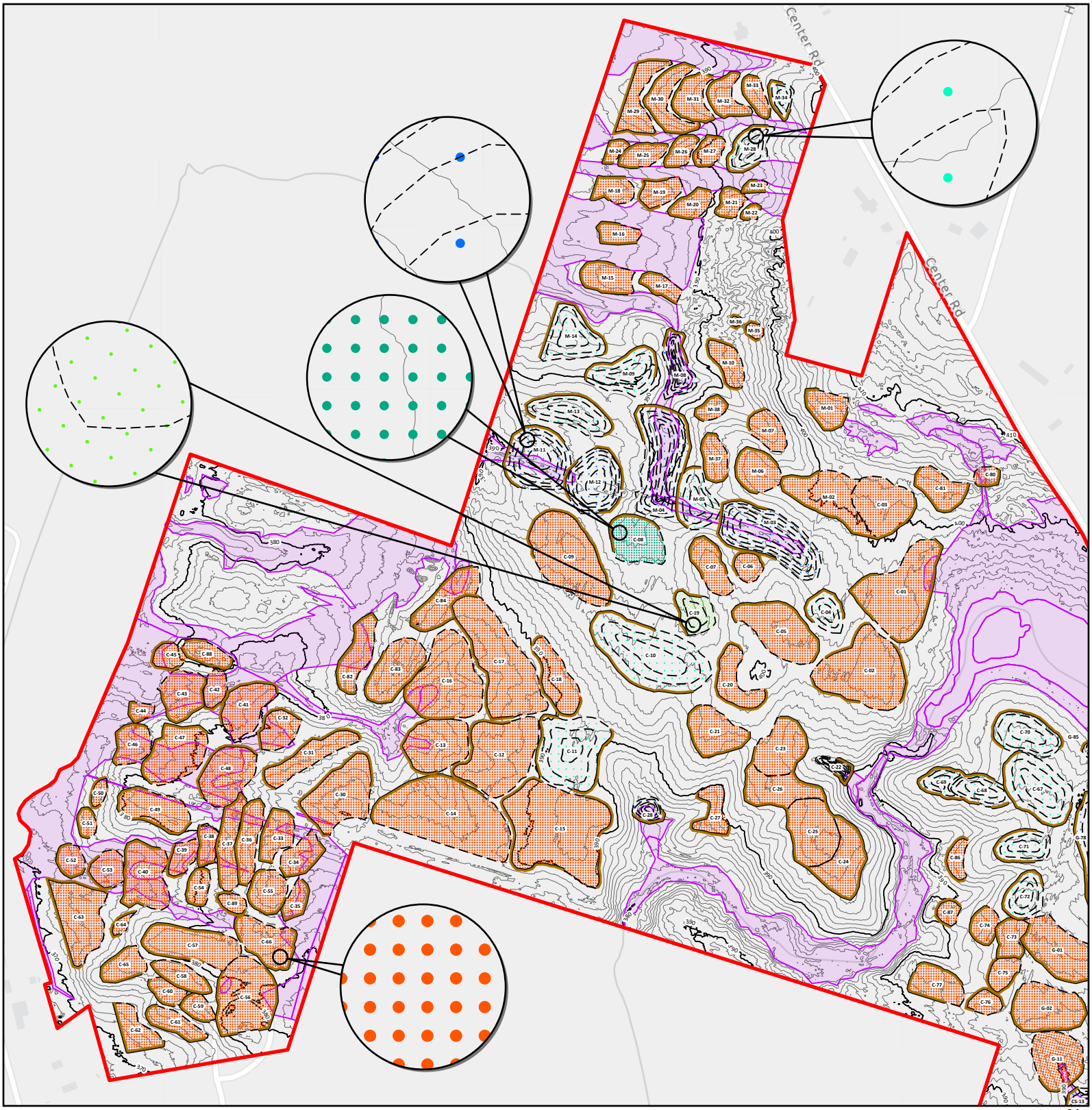
- Existing Wetland Preservation (34.8 ac)
- Existing Wetland Rehabilitation (41.3 ac Total)
  - Incidental (13.3 ac)
  - Additional: PSS - Scrub Shrub (1.2 ac)
  - Additional: PFO - Red Maple Hardwood Swamp (26.8 ac)
- Mitigation Wetlands (163.4 ac Total / 150.1 ac Reestablishment / 13.3 ac Incidental Rehabilitation)
  - PEM - Shallow Emergent Marsh (19.8 ac Total / 19.4 ac Reest. / 0.4 ac Incidental Rehab)
  - PEM - Deep Emergent Marsh (30.3 ac Total / 26.4 ac Reest. / 3.9 ac Incidental Rehab)
  - PSS - Scrub Shrub (14.2 ac Total / 12.8 ac Reest. / 1.4 ac Incidental Rehab)
  - PFO - Red Maple Hardwood Swamp (92.3 ac Total / 85.1 ac Reest. / 7.2 ac Incidental Rehab)
  - PFO - Hemlock Hardwood Swamp (6.8 ac Total / 6.4 ac Reest. / 0.4 ac Incidental Rehab)
- Upland Buffer (137.3 ac Total)
  - Herbaceous (40.5 ac)
  - Shrub / Forest (96.8 ac)
- Contour Line (1 ft)
- Conservation Easement Boundary DRAFT (409 ac)
- TWT Property Boundary (411.1 ac)

# Site Plan

Oneida River
Town of Schroeppel,
Oswego County, NY

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 2 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




# Wetland Grading Plan - Northwest

Oneida River
Town of Schroeppel,
Oswego County, NY

- Mitigation Wetland Core Trenches (Not to Scale; will not Exceed 3 ft H)

Mitigation Wetland Pit and Mound Specifications (Average)

- PEM Shallow Emergent Marsh: 24 in H x 36 in Dia, 30 ft Spacing
- PEM Deep Emergent Marsh: 30 in H x 36 in Dia, 30 ft Spacing
- PSS Scrub Shrub: 4 in H x 12 in Dia, 10 ft Spacing
- PFO Red Maple Hardwood Swamp: 6 in H x 48 in Dia, 10 ft Spacing
- PFO Hemlock Hardwood Swamp: 12 in H x 36 in Dia, 10 ft Spacing

- Existing Wetlands (76.9 ac)
- Mitigation Wetland Contours (0.5 ft)
- Existing Contours (1 ft)
- TWT Property Boundary (411.1 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

Cartographer: Michelle Herman | Date: 8 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse




0 400 800 1,600 US Feet

N

# Wetland Grading Plan - Southeast

Oneida River
Town of Schroeppel,
Oswego County, NY

- Mitigation Wetland Core Trenches (Not to Scale; will not Exceed 3 ft H)

Mitigation Wetland Pit and Mound Specifications (Average)

- PEM Shallow Emergent Marsh: 24 in H x 36 in Dia, 30 ft Spacing
- PEM Deep Emergent Marsh: 30 in H x 36 in Dia, 30 ft Spacing
- PSS Scrub Shrub: 4 in H x 12 in Dia, 10 ft Spacing
- PFO Red Maple Hardwood Swamp: 6 in H x 48 in Dia, 10 ft Spacing
- PFO Hemlock Hardwood Swamp: 12 in H x 36 in Dia, 10 ft Spacing

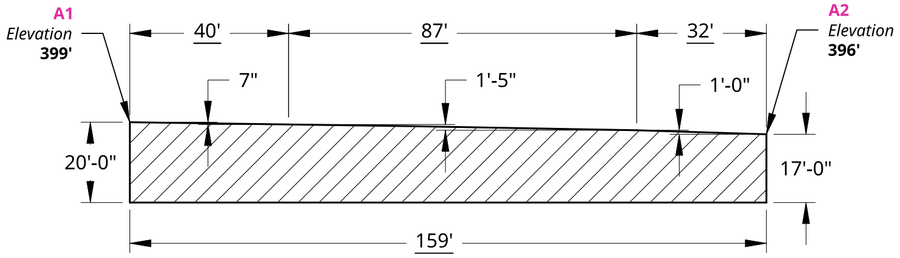
- Existing Wetlands (76.9 ac)
- Mitigation Wetland Contours (0.5 ft)
- Existing Contours (1 ft)
- TWT Property Boundary (411.1 ac)

The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
(607) 765-4780

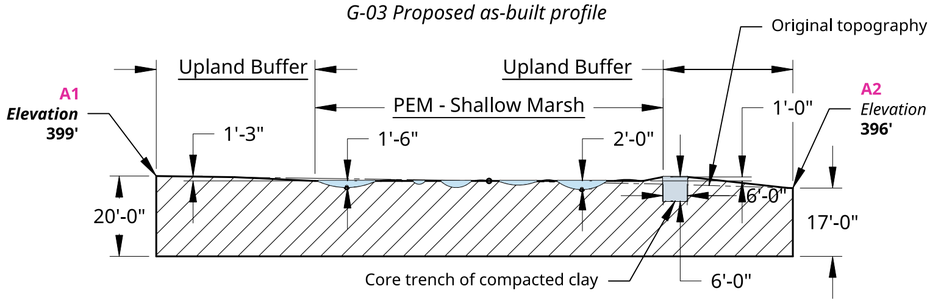
Cartographer: Michelle Herman | Date: 8 July 2025 | Projection: NAD 1983 (2011) State Plane New York Central | References: NYS GIS Clearinghouse

# Oneida River Wetland Cross Sections: Shallow and Deep Marsh PEM

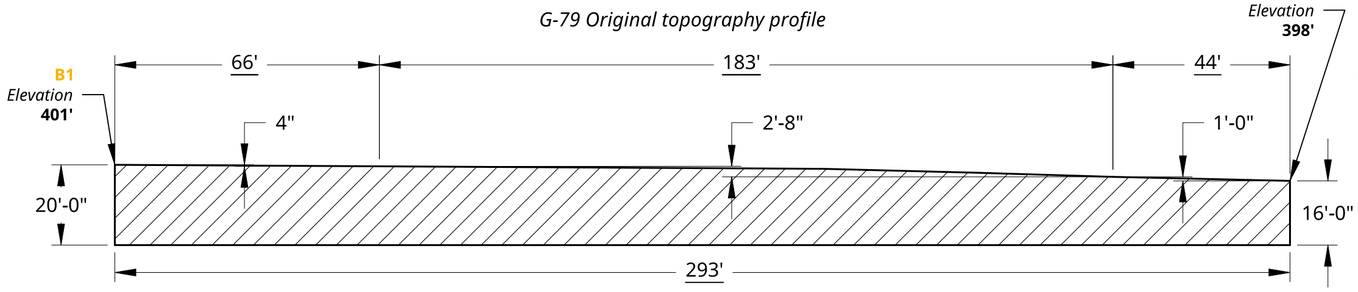
*G-03 Original topography profile*



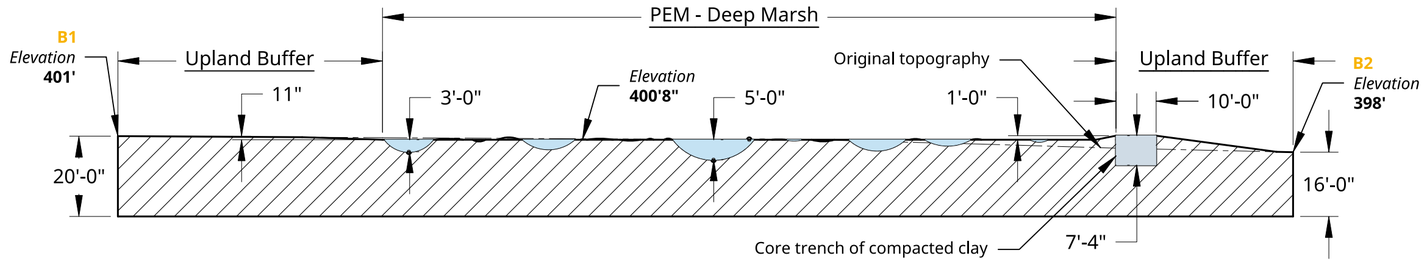

*G-03 Proposed as-built profile*

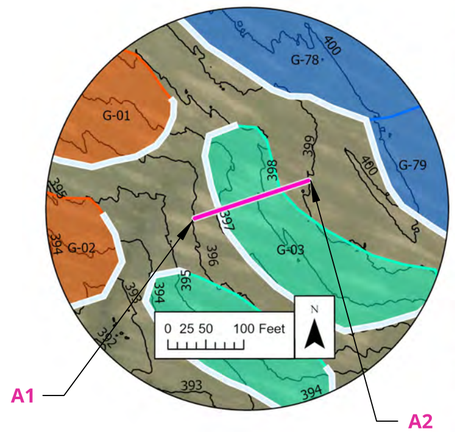


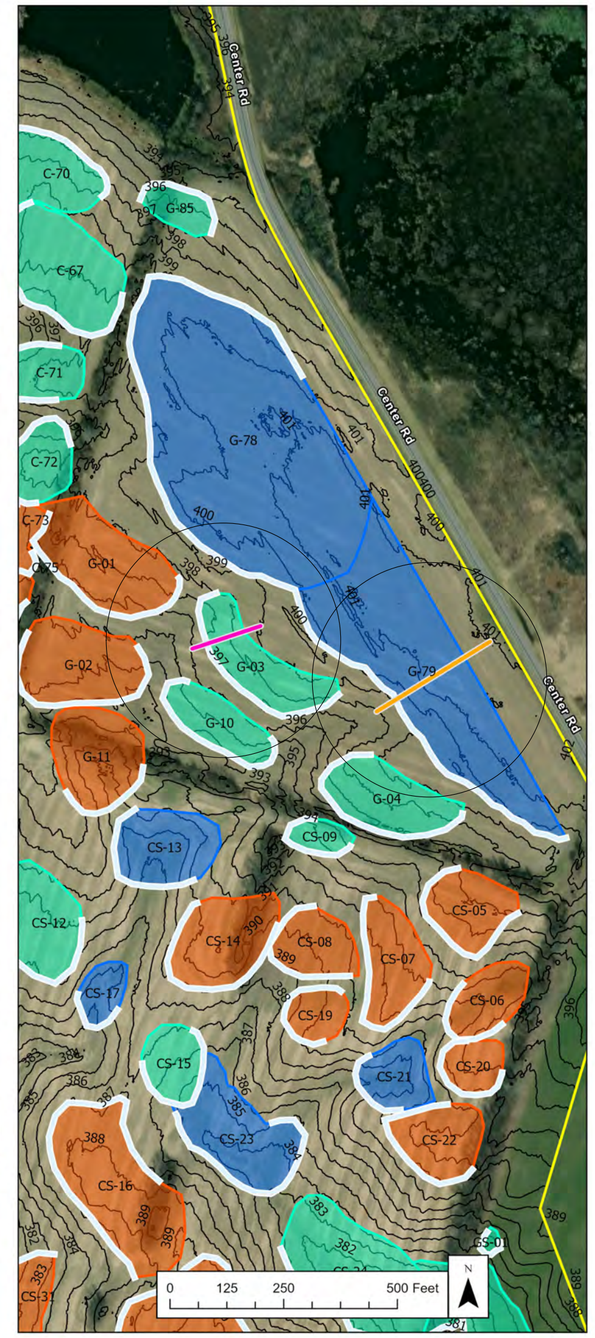

*G-79 Original topography profile*

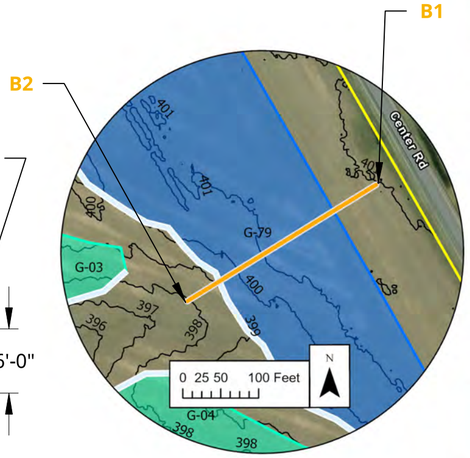



*G-79 Proposed as-built profile*




TWT Property Boundaries
Contour Line (1 ft)
Oneida River Berms/Core Trenches
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
PSS - Scrub Shrub
Oneida River Designed Wetlands
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
PSS - Scrub Shrub

| | | | |
|---|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET. Maps and drawings are at different scales. Berm/Core Trenches in maps are not to scale | | NAME | DATE |
| | DRAWN | DYLAN JOHNSTON-JORDAN | 06/06/2025 |
| | CHECKED | | |
| | APPROVED | | |
| | MATERIAL | FINISH | |

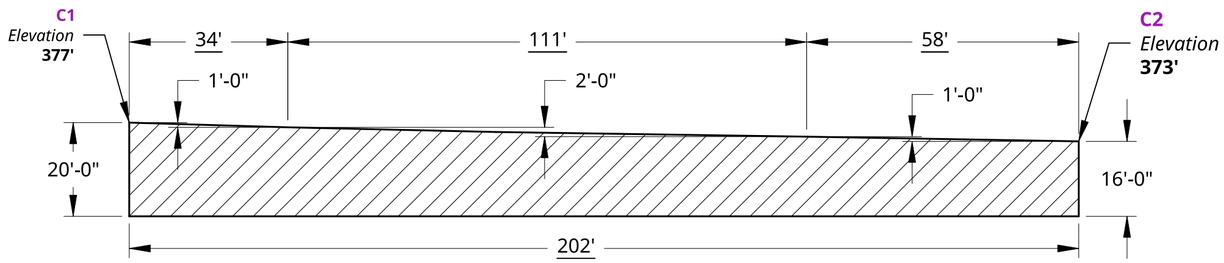
TITLE: **Oneida River Wetland Cross Sections: Shallow and Deep PEM**

The Wetland Trust

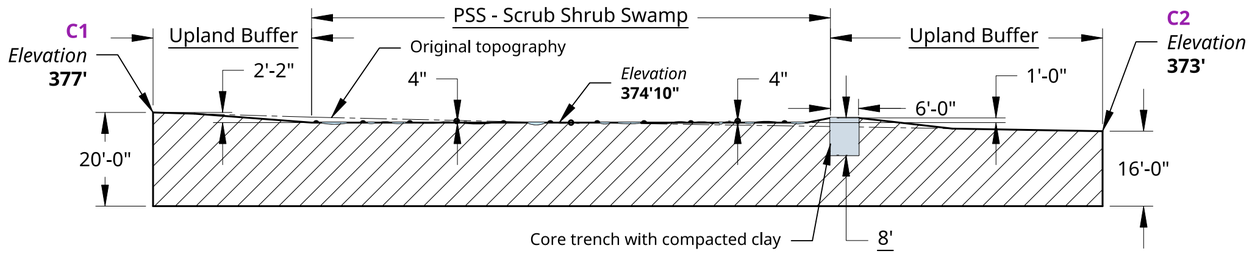
| | | |
|---|---|---|
| SIZE C | DWG NO. | REV. |
| SCALE 1:350 | WEIGHT | SHEET 1 of 1 |

# Oneida River Wetland Cross Sections: PSS - Shrub Scrub Swamp and PFO Red-Maple Hardwood Swamp

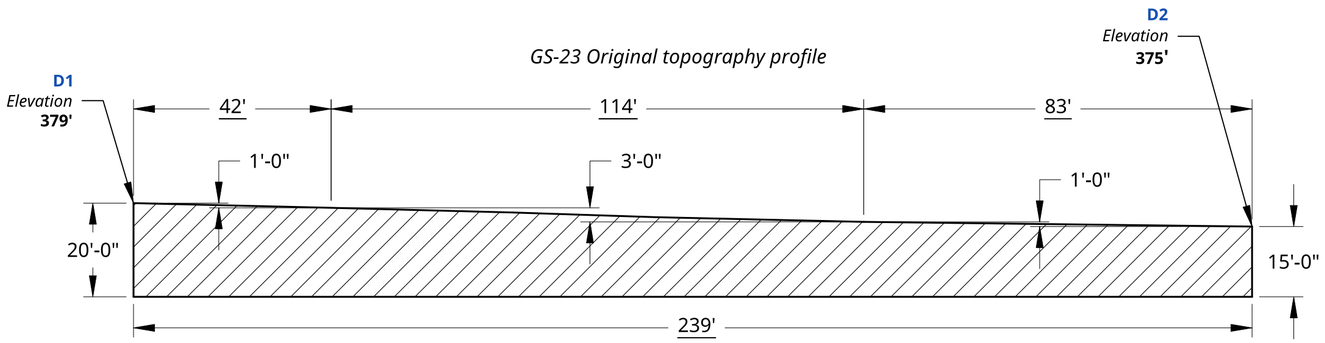
*GS-11 Original topography profile*



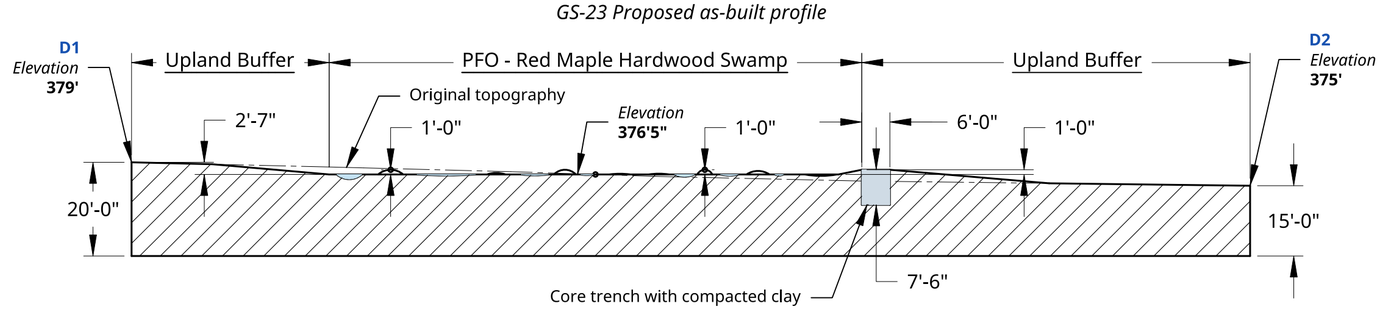

*GS-11 Proposed as-built profile*

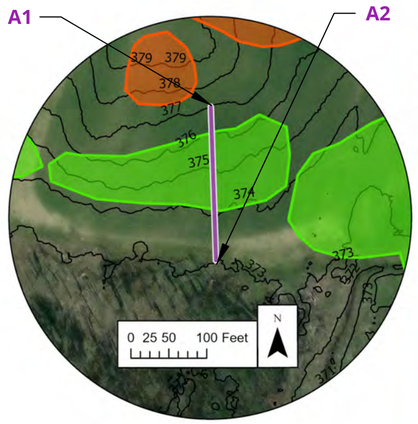


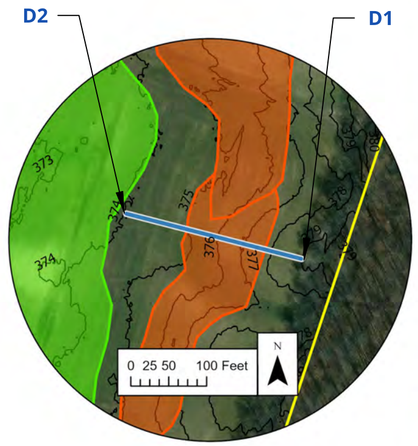

*GS-23 Original topography profile*

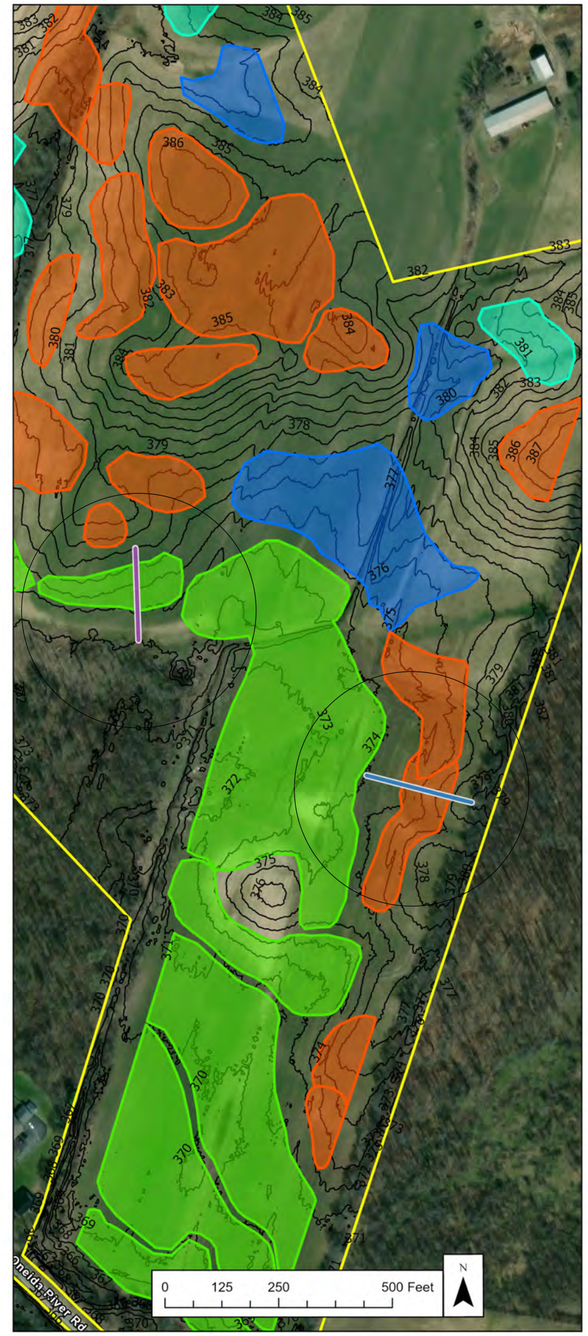



*GS-23 Proposed as-built profile*




TWT Property Boundaries
Contour Line (1 ft)
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
PSS - Scrub Shrub

Oneida River Designed Wetlands
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
PSS - Scrub Shrub

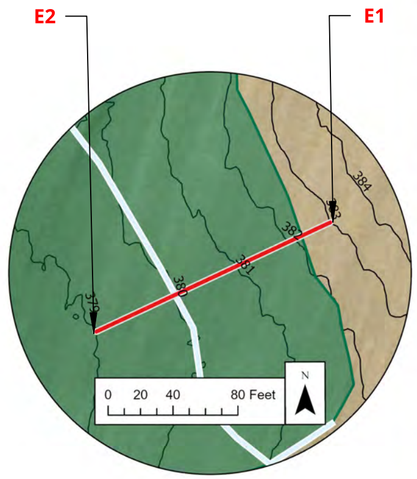
| | | | |
|---|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET. Maps and drawings are at different scales. Berm/Core Trenches in maps are not to scale | | NAME | DATE |
| | DRAWN | DYLAN JOHNSTON-JORDAN | 06/06/2025 |
| | CHECKED | | |
| | APPROVED | | |
| | MATERIAL | FINISH | |

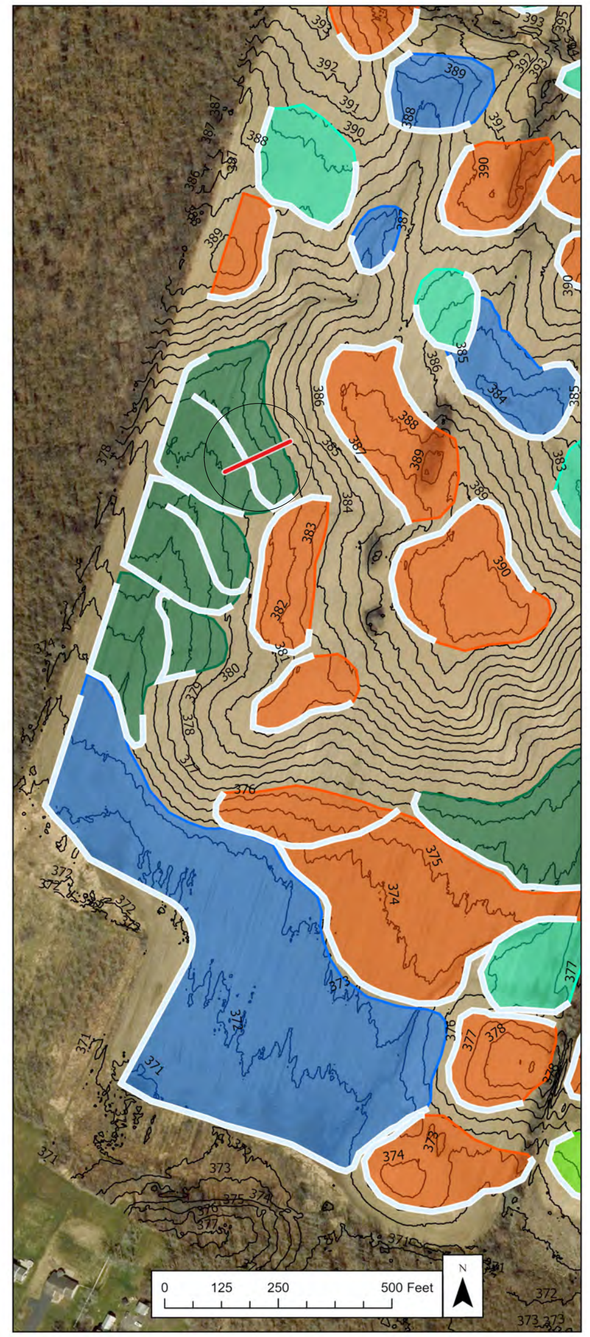
TITLE: **Oneida River Wetland Cross Sections: PSS - Shrub Scrub Swamp and PFO Red-Maple Hardwood Swamp**

The Wetland Trust

| SIZE | DWG NO. | REV. |
|---|---|---|
| C | | |
| SCALE 1:300 | WEIGHT | SHEET 1 of 1 |

# Oneida River Wetland Cross Sections: PFO - Hemlock Hardwood Swamp

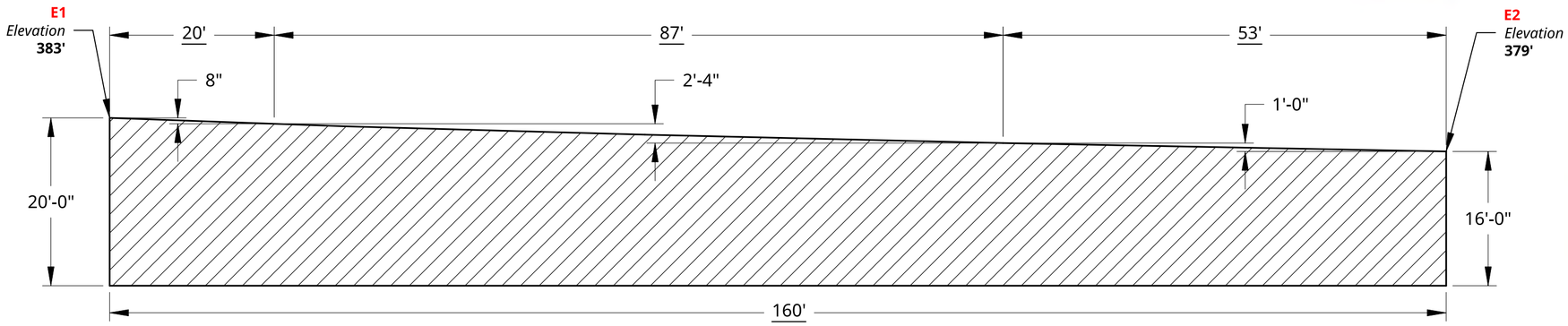


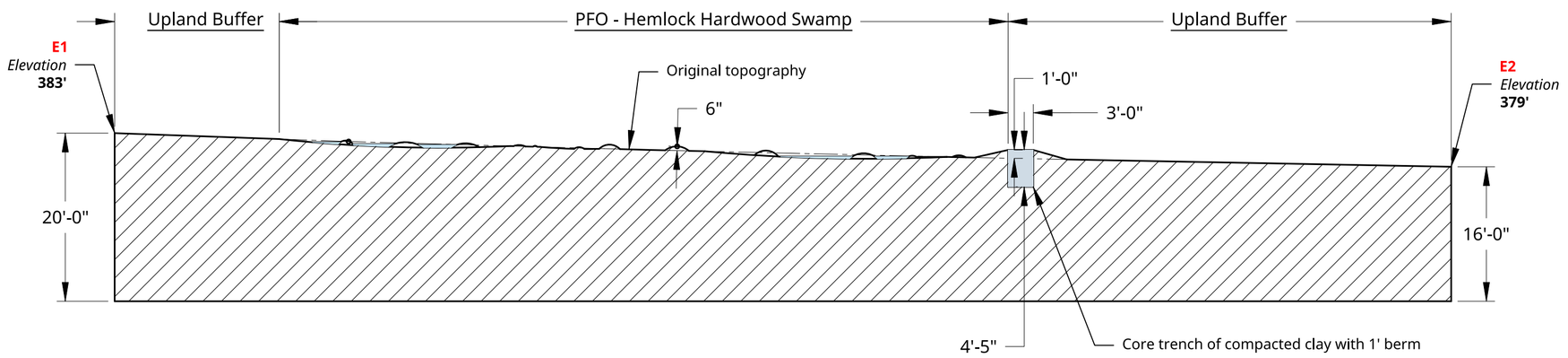

Contour Line (1 ft)
Oneida River Berms/Core Trenches
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
PSS - Scrub Shrub

Type
PEM - Deep Emergent Marsh
PEM - Shallow Emergent Marsh
PFO - Hemlock Hardwood Swamp
PFO - Red Maple Hardwood Swamp
PSS - Scrub Shrub
<all other values>

*CS-26 Original topography profile*




*CS-26 Proposed as-built profile*




| | | |
|---|---|---|
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN FEET. Maps and drawings are at different scales. Berm/Core Trenches in maps are not to scale | NAME | DATE |
| DRAWN | DYLAN JOHNSTON-JORDAN | 07/07/2025 |
| CHECKED | | |
| APPROVED | | |
| MATERIAL | FINISH | |

TITLE: **Oneida River Wetland Cross Sections: PFO - Hemlock Hardwood Forest**

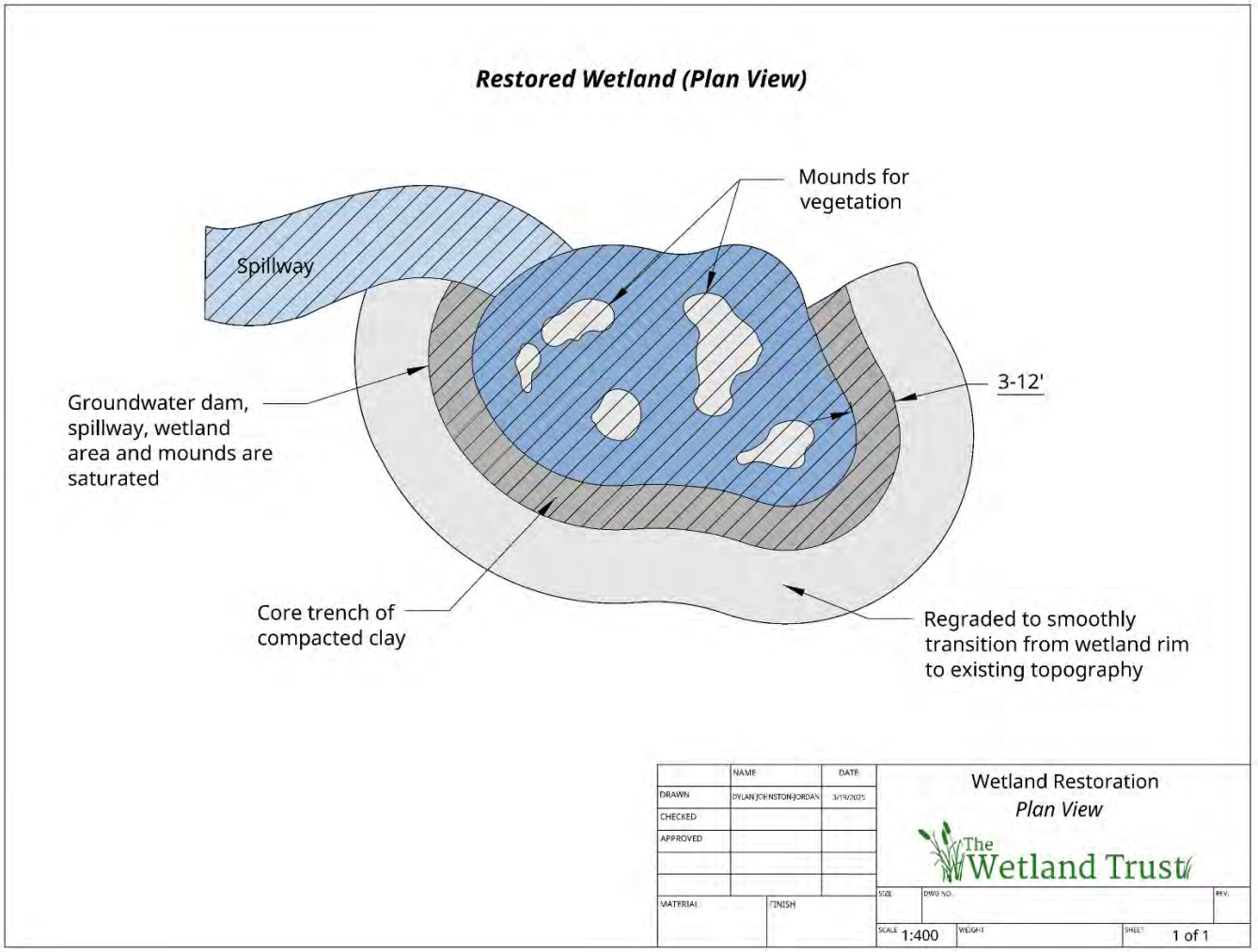
The Wetland Trust

| SIZE | DWG NO. | REV. |
|---|---|---|
| C | | |

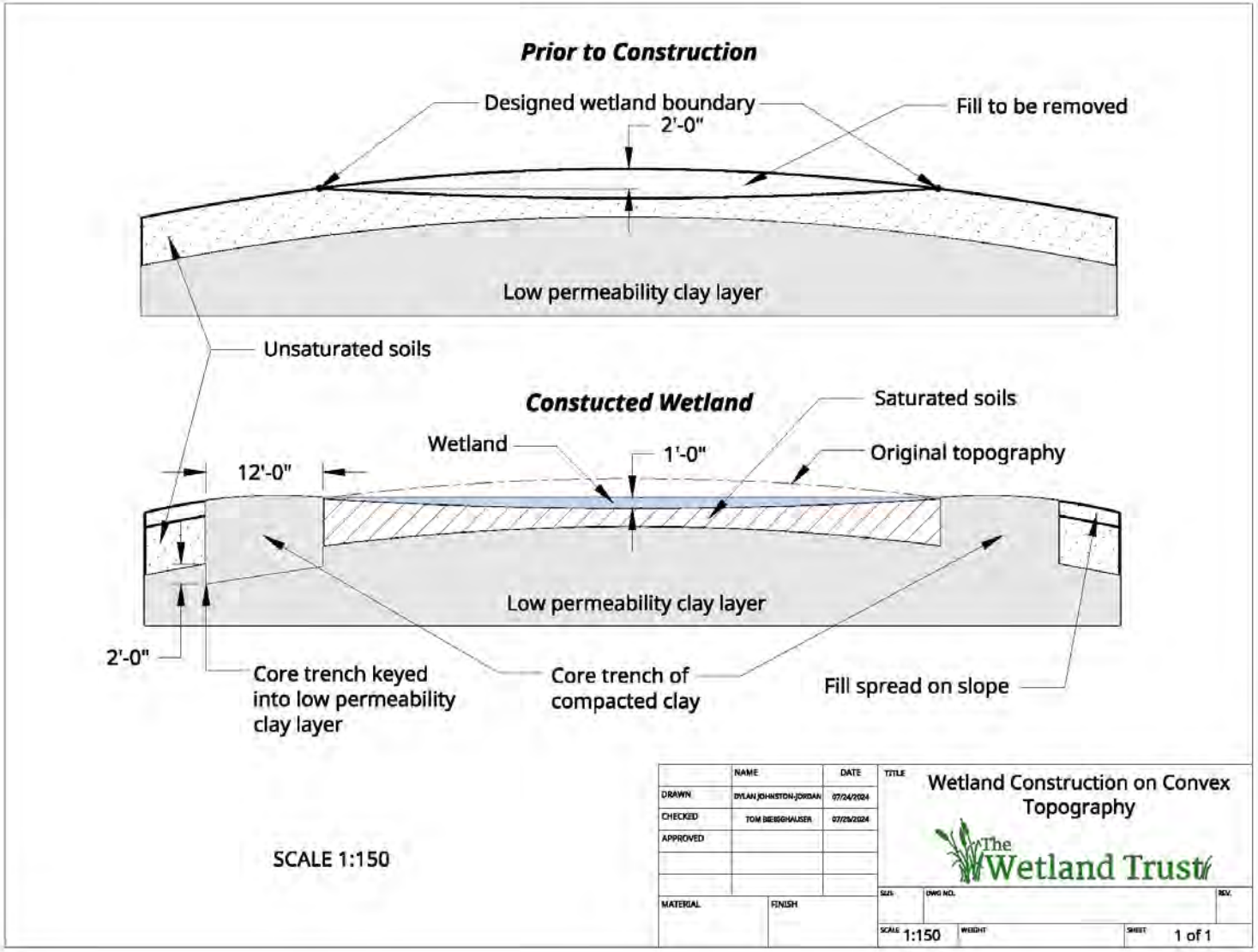
| SCALE | WEIGHT | SHEET |
|---|---|---|
| 1:150 | | 1 of 1 |

## Construction Typical Drawings

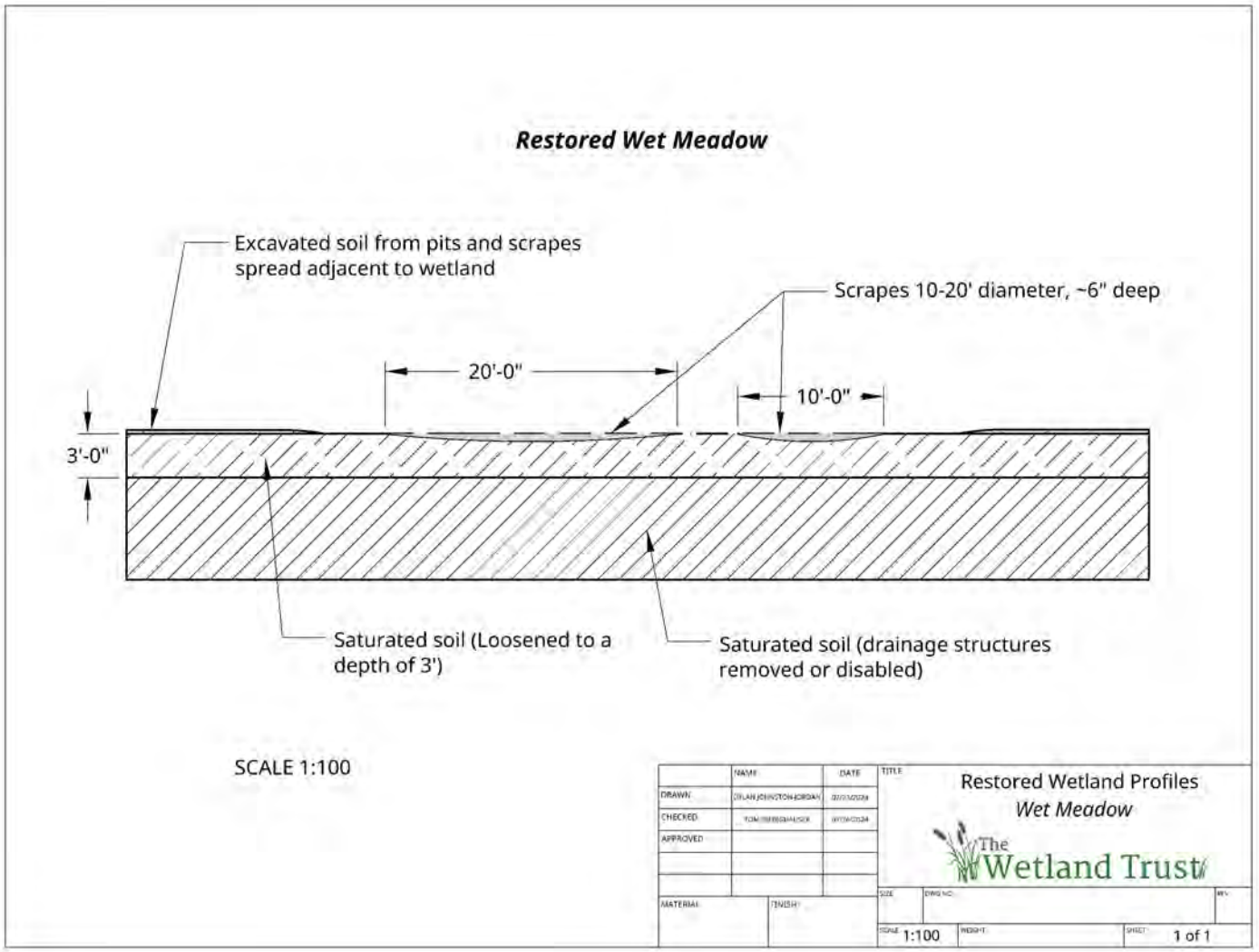
**A.** Typical Restored Wetland (Plan View)



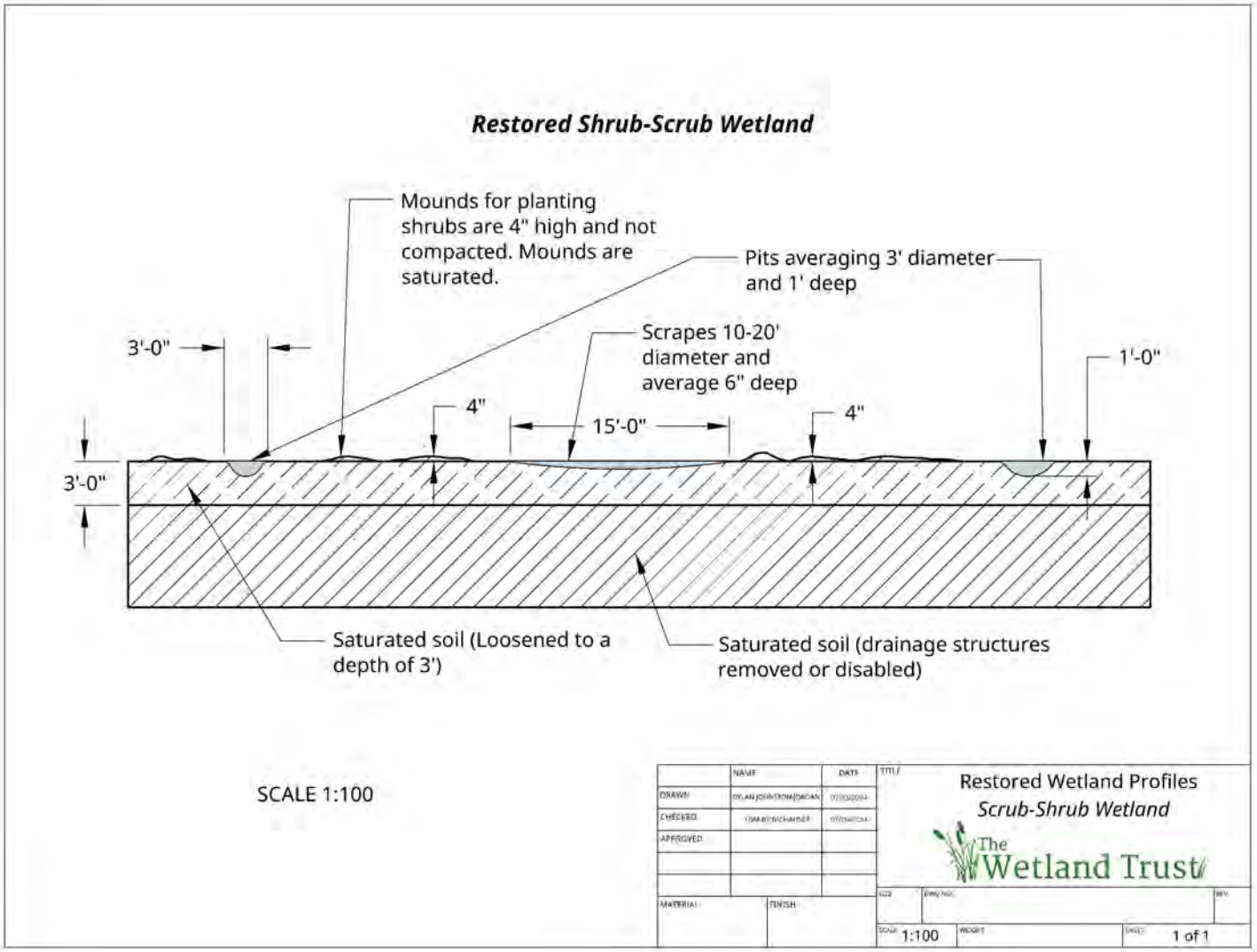
**B.** Wetland Construction on Convex Topography



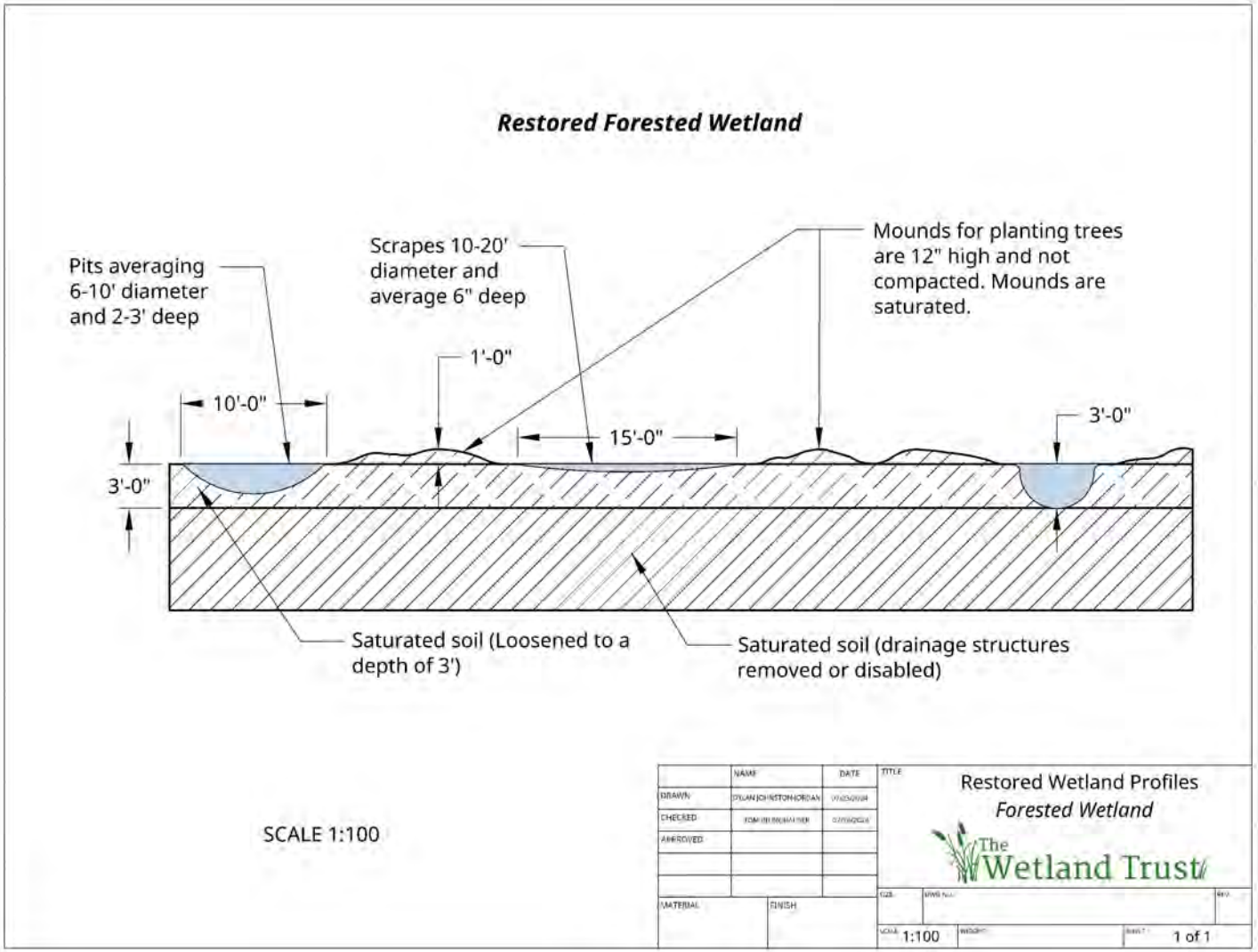
**C.** Restored Wet Meadow



**D.** Restored Scrub-Shrub Wetland

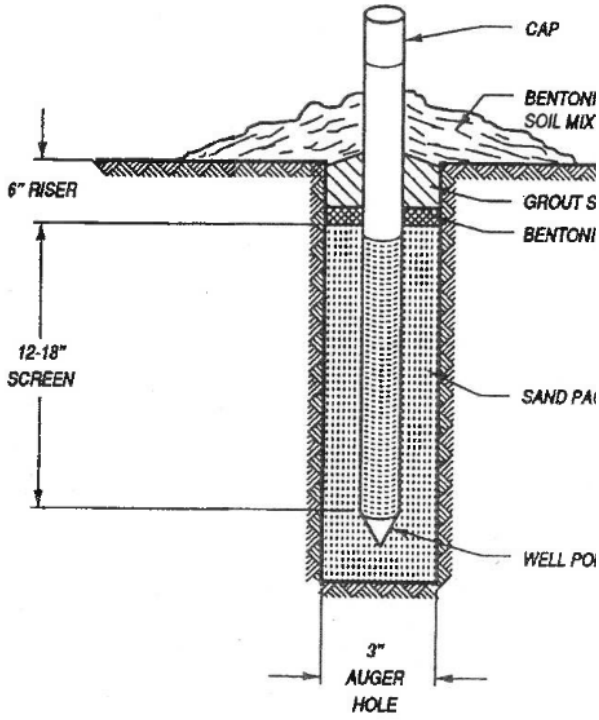


**E.** Restored Forested Wetland

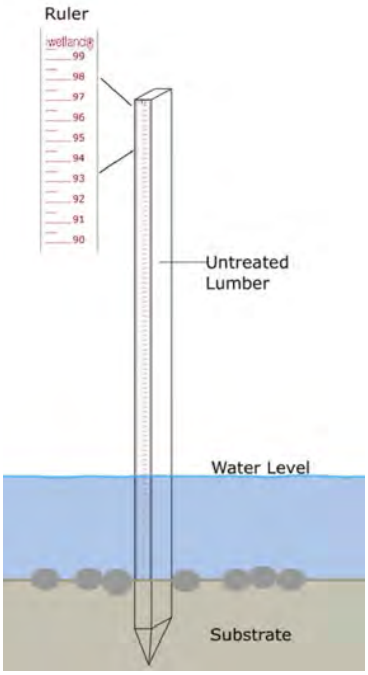


# Hydrology Monitoring Structure Typicals

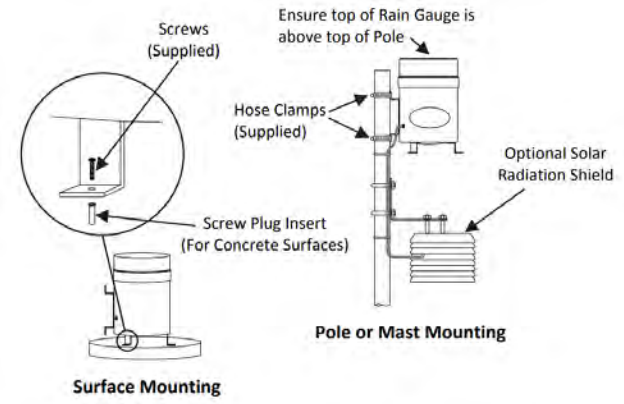
## F. Groundwater Monitoring Well




## G. Staff Gauge




## H. HOBO Rain Gauge Typical



# Appendix I.

(left intentionally blank)

# Appendix J.

# Oneida River
# Long Term Management Plan (LTMP)

Oswego County, New York

**PREPARED BY:**

**The Wetland Trust, Inc.**

**4729 State Route 414**

**Burdett, NY 14818**

**www.thewetlandtrust.org**

May 2025

# 1.0 Introduction

The Wetland Trust, Inc. (TWT), as part of the Permittee Responsible Offsite Compensatory Mitigation Project (Project) on behalf of Micron NY Semiconductor Manufacturing, LLC (Micron), has developed a mitigation plan at the Oneida River Site, town of Schroeppel, Oswego County, New York (Mitigation Site) to develop wetland acreage that will contribute to the total compensation needs for the construction of a semiconductor fabrication complex in the town of Clay, Onondaga County, NY. This Long-Term Management Plan (LTMP) has been developed based on anticipated monitoring and management activities for the Mitigation Site. Additional details are to be provided, if necessary, throughout the monitoring period and amended or revised as needed and approved by the USACE and NYSDEC. The purpose of the Long-Term Management Plan (LTMP) is to ensure the long-term sustainability of the protected and restored resources after mitigation performance standards have been achieved.

# 2.0 Responsible Party and Long-Term Steward

Micron is the Responsible Party for all phases of this Permittee Responsible mitigation through monitoring and final acceptance when a Certificate of Completion (or equivalent) will be provided by the agencies. Once the mitigation is complete Micron will transfer long-term management to TWT. As the fee simple owners of the Oneida River Site, TWT will be the long-term steward and responsible for long-term management of the wetland mitigation site including identification of needs, development of recommendations, review with regulatory agencies as required, implementation, and efficacy measures. TWT shall implement this LTMP to preserve the habitat and conservation values in accordance with the approved Mitigation Plan, site protection instrument, and this LTMP. Long-term management tasks shall be funded through the Long-Term Management Fund.

# 3.0 Property Description

## 3.1 Conservation Values

The Mitigation Site provides an opportunity for restoration of a large stream/wetland complex with approximately 137 acres of wetland re-establishment, and 13 acres of rehabilitation in a previously drained and cultivated landscape. The permanent restoration and subsequent protection of this property has several site-specific conservation values that can be enhanced and maintained.

- ***Hydrologic Function***- Restoring the wetlands will improve surface water retention, infiltration, and seasonal saturation of soils. Removal of artificial drainage and regrading will help reestablish groundwater-surface water interactions, essential for wetland hydrology.
- ***Water Quality***- Conversion of cropland to wetlands and vegetated buffers will reduce nutrient runoff, sedimentation, and agrochemical inputs into Oneida River and downstream waters.

## 3.2 Site Improvements

*Summary of site improvements including construction and restoration as per the Mitigation Plan. As-built report should be attached as an Appendix to this LTMP.*

# 4.0 Baseline Conditions

*Baseline conditions will be provided here with the as-built and final 10-year report referenced and attached. Conditions will be updated throughout the life of the project.*

# 5.0 Management Activities

The Oneida River long-term management strategy will ensure the long-term sustainability and ecological performance of the restored and protected aquatic, upland and biological resources long after the active monitoring period has closed. Upon approval of the Mitigation Plan, the proposed wetland restoration will be completed. This restoration will restore or rehabilitate approximately 178 acres of diverse, native wetland vegetation communities to support wetland wildlife populations and connectivity to adjacent preserved wetlands. If monitoring finds it necessary, the anticipated long-term management activities include:

- ***Invasive Species Management-*** At the conclusion of the ecological monitoring period, performance standards will be met and native vegetative communities well established. Long-term management will ensure that conservation values are not significantly threatened by invasive vegetation. If warranted, mechanical or chemical management of invasive species will be implemented (see Invasive Species Management Plan).
- ***Spillways and Groundwater Dams-*** The constructed spillways and groundwater dams will be monitored and maintained as needed to maintain structural integrity and contribution toward site-specific conservation values.
- ***Access-*** The main access and parking area will be maintained as needed via mowing or replenishing gravel in appropriate areas. Gates, padlocks, and fences will receive upkeep as needed.
- ***Security and Safety-*** The Oneida River site will not be open to the public to minimize impacts from human activity and the parcel will be posted for protection against trespassing. Signage posting and unauthorized access will be monitored and appropriately maintained. Trash will be collected on a yearly basis and security increased as warranted in the form of additional gates/locks, cameras, and contact with local authorities.

Any long-term management activities performed will be recorded in an annual report along with any recommendations for future management activities or proposed changes to the LTMP, if warranted.

# 6.0 Funding

To ensure long-term financial assurance TWT will continue to own the site fee simple in perpetuity. As a 501(c)(3) nonprofit, TWT has received tax-exempt status for the site, which helps assure its long-term protection. TWT has a director-controlled Stewardship Management Investment Account specifically established for the Micron Compensatory Mitigation project with funds provided by Micron Semiconductor Manufacturing LLC. Funds will be deposited into this account with the investment income (investment instruments are low risk and broad-based) used to support permanent long-term management and maintenance. These funds are sufficient to sustain long-term management as outlined in **Table 1**, in which the budget covers long-term management for all six sites combined.

**Table 1.** Budget estimate for potential long-term management and maintenance tasks, all six Micron Wetland/Stream mitigation sites, a total of 1,328 acres.

| Category | Task | Frequency | Estimated Cost per acre | Annualized Cost |
|---|---|---|---|---|
| Adaptive Management | Replanting | 5 | $1,800 | $7466 |
| | Reshaping terrain | 5 | $600 | $2489 |
| | Invasive species removal | 2 | $2,100 | $21777 |
| Maintenance | Site manipulation | 10 | $1500 | $3111 |
| | Boundary posting | 10 | $600 | $6244 |
| | Other practices | 3 | $1,320 | $9,126 |
| Long-Term Management | Other corrective adaptive management actions to ensure natural stability of site | 5 | $4,800 | $19,910 |
| Monitoring | To determine implementation tasks | 1 | $18 | $25,398 |
| Administration | For all tasks above including tax exempt status | 1 | $600 | $12,444 |
| Total annual budget* | | | | 102,500 |
| **Total Stewardship investment**** | | | | **$4,100,000** |
| ***Note: This table is an estimate based on 400 wetland credits @ $8,000 or (equivalent DEC Acres) and 13,500 stream ft @ $60*** | | | | |