

FINAL
WETLAND ASSESSMENT AND DELINEATION, ECOLOGICAL
SCREENING & INVASIVE SPECIES REPORT

City of Rochester
Vacuum Oil Brownfield Opportunity Area Program
Monroe County, New York

Prepared for

City of Rochester
and
Bergmann Associates

SCE Project No. 14409

June 2017

Prepared by



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1.0 INTRODUCTION

Bergmann Associates is working with the City of Rochester on the Vacuum Oil Brownfield Opportunity Area (BOA) Step 3 Implementation Strategy in Rochester, NY. The BOA is located along the western shore of the Genesee River on the City of Rochester's south-side. This wetland delineation and ecology screening effort was performed to support the evaluation of redevelopment projects, such as roadway extensions, new building footprints, trails and educational and interpretive signs that are being considered for this area.

Background information and methods used to determine the characteristics of wetlands delineated within the Project Study Area (PSA) are described herein. The report also includes: a discussion of information relevant to the wetland delineation retrieved by reviewing agency resources; a description of the delineation methodology; a general site description; a discussion of hydrologic characteristics and connections; a description of overall site ecology and vegetative communities; a discussion of invasive species coverage within the PSA; a discussion of potential habitat for state and federally protected threatened and endangered species; wetland descriptions; photographs keyed to figures; and a summary of findings. Wetland determination data forms that support the rationale for the positioning of wetland boundaries delineated by Shumaker Consulting Engineering & Land Surveying, D.P.C. (SCE) are provided in Exhibit A.

The PSA, within which the wetland delineation and ecology study was performed, consisted of paved walkways, a city park, mow-maintained areas, a former canal bed, and forested communities. This study focused on the undeveloped areas bound to the east by the Genesee River, and to the west by a steep topographic gradient and urban areas including the eastern ends of Violetta Street, Flint Street, and Riverview Place, The northern limit of the PSA is formed by Ford Street, and the southernmost boundary occurs at the intersection of the Genesee River Trail and S Plymouth Avenue. The total area covered by the PSA for this wetland delineation was approximately 30-acres. The approximate bounds of the PSA are depicted on Figure 1, Project Study Area Location Map.

Site reconnaissance and detailed data collection regarding wetlands, ecology, and invasive species within the PSA was conducted by SCE on October 19th and 20th, 2015.

2.0 AGENCY RESOURCE INFORMATION

Prior to the field survey effort, a number of resources were reviewed to obtain background information relevant to the environment in and around the PSA. These resources included: the Rochester East and West Quadrangle Maps (Figure 1), the Monroe County Soil Survey Maps (Figure 3), aerial photography (Figure 3), the appropriate National Wetlands Inventory (NWI) Map published by the United States Fish and Wildlife Service (USFWS) (Figure 3), and the appropriate New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Map (Figure 3). The information obtained from these resources aided in the initial identification of potential wetland areas and potential threatened and endangered species habitat locations.

3.0 SCE WETLAND DELINEATION METHODOLOGY

Wetland boundaries were delineated using the federal criteria for wetland vegetation, wetland hydrology, and hydric soils (USACE 1987, USACE 2012, Reed 1988, and Lichvar 2014). The selected delineation method depends on the characteristics of the site and the complexity of the required determination. The Routine On-Site Method is a simple rapidly applied method that results in sufficient data for making a wetland determination. The Comprehensive Method is used when the project area is very complex or when the determination requires rigorous documentation. The Atypical Method can be employed at sites where natural conditions do not exist and/or the positive indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology could not be found due to human activities or natural events. All of the wetlands identified under this project were delineated using the Routine On-Site Method.

Test sites were established throughout the PSA where evidence for the presence or absence of indicators of a plant community dominated by hydrophytes, of wetland hydrology, and of hydric soils was gathered and documented to determine whether or not a particular area was a wetland when all three indicators were present. At each test site, the collected data was recorded on a data form (Exhibit A). Test site locations are depicted on Figures JD-1 - JD- 4.

Where a test site tested positive for the presence of all three indicators, another test site was established in the apparent upland, where one or more of the three indicators was absent, such that, if an imaginary line was drawn between the two test sites, it would be perpendicular to the boundary along the wetland/upland interface. Copies of the wetland determination data forms for each test site are contained in Exhibit A.

Vegetation data was collected at each test site. Absolute percent cover by each plant species in each vegetation stratum was visually estimated within a five-foot (5') radius of the test site for the herbaceous stratum, a 15-foot (15') radius for the sapling/shrub stratum, and a 30-foot (30') radius for the tree and woody vine strata. Sampling test plots were altered where a radius did not generate an appropriate representation (i.e. linear areas). At each test site, the dominant

species for each stratum were determined by ranking each species in order of percent cover (by way of the 50/20 Rule) and recording those species, that, when cumulatively totaled, exceeded 50 percent of the total cover of the respective stratum. Additionally, any species that comprised 20 percent or more of the total cover for each stratum was considered to be a dominant species.

The presence of wetland vegetation was determined by applying variations of a dominance test for positive indicators of a plant community dominated by hydrophytes. Determining positive indicators for a plant community dominated by hydrophytes is a “step-wise” procedure, carried out in a particular sequence. The first test applied is the Rapid Test, where all dominant species across all stratum (each individual stratum had to comprise an absolute percent cover of at least five (5) percent to be considered a dominant species) had an indicator status of obligate (OBL) or facultative-wet (FACW). If the plant community passes the rapid test, it is dominated by hydrophytes and further vegetation analysis is not required. If the plant community fails the Rapid Test, the next test in the sequence is applied, which is the Dominance Test.

A plant community passed the Dominance Test when more than 50 percent of the dominant species at an ROP had an indicator status of OBL, FACW, or FAC. If the plant community fails the Dominance Test, but indicators of hydric soil and wetland hydrology are present, the Prevalence Index Test is applied.

A plant community passes the Prevalence Index Test when the weighted-average of the wetland indicator status, which has been assigned numeric values, is determined to be less than or equal to 3.0 (assuming at least eighty percent of the total vegetation cover on the plot has been identified to species).

If the plant community fails the Prevalence Index Test, the Morphological Adaptations Test is applied. A plant community passes the Morphological Adaptations test when: (1) more than 50 percent of the individuals of a facultative-upland (FACU) plant species inhabiting an area where indicators of hydric soil and wetland hydrology are present have developed morphological adaptations that allow them to survive in an anaerobic soil environment, and (2) the plant

community passes either the previously failed Dominance Test or the Prevalence Index Test after the indicator status of the FACU plant species that exhibits specific morphological adaptations is reassigned a FAC indicator status.

Hydrophytic vegetation is deemed present when the Rapid Test, Dominance Test, Prevalence Index or the morphological adaptations criteria have been satisfied. Deviations are noted on the wetland determination data forms (Exhibit A).

The indicator status associated with each dominant species was determined using the National List of Plants that Occur in Wetlands: Northeast (Region 1) (Reed 1988) and The National Wetland Plant List: 2014 Update of Wetland Ratings. For non-indicator (NI) species or species of no known occurrence in the region (NO), the indicator status assigned to the species in the nearest adjacent region (Region 2) was applied, if applicable. If an adjacent regional indicator is not assigned the species was not used to calculate hydrophytic vegetative criteria. For non-listed (NL) species, if the nomenclature for that particular species has not been recently changed along with its indicator status, the indicator status was assumed to be upland based on page nine (9) of Reed (1988), which states that: “If a species does not occur in wetlands in any region, it is not on the *National List*.”

At each test site, a soil test pit was dug to gather evidence for the presence of indicators of hydric soils and evidence for subterranean indicators of wetland hydrology. The soil was visually inspected for characteristics indicative of hydric soils, as documented in the USACE Wetlands Delineation Manual, the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North central and Northeast Region (Version 2.0) (Regional Supplement) and the 1988 New England Hydric Soils Technical Committee (NEHSTC) document. Soil color was determined by comparing a ped of soil to the Munsell soil color chart.

Indicators of hydric soils and subterranean wetland hydrology were analyzed to determine whether or not anaerobic conditions in the soil occur during the growing season. Anaerobic soil conditions develop when, during the growing season, soils are inundated for a week or more, or

are saturated in the upper 12 inches for more than two (2) weeks. At a minimum, wetlands are inundated or saturated at a frequency of five (5) years in ten (10) (i.e., a 50 percent or higher probability) as documented in the 1987 USACE Wetlands Delineation Manual and the Regional Supplement. Additionally, evidence of indicators of wetland hydrology observed above the soil surface was documented.

4.0 RESULTS

4.1 GENERAL SITE DESCRIPTION

The PSA for the resource study included an approximate 30-acre portion of the BOA generally, south of Ford Street, east of S Plymouth Avenue, and adjacent to the Genesee River. The existing Genesee River Trail, which is located on a former railroad bed within the PSA, is raised approximately 20 feet from the natural grade, and a steep gradient is located toward the southern end of the PSA, along its western boundary. The remainder of the PSA is generally flat. The former Genesee Canal bed runs north to south, roughly parallel to the existing Genesee River within the PSA, and an overhead utility line runs along the Genesee River Trail. Approximately 75 percent of the PSA is located within the Genesee River's FEMA designated 100-year Floodplain (See Figure 3). The cumulative area of wetlands that occupy the PSA is 0.82-acres or approximately 2.7 percent of the PSA, and one tributary to the Genesee River totaling 378 linear feet is also present within the PSA. The bounds of the PSA are depicted in Figure 1, Site Location Map; identified water body locations are depicted on Figure 3.

The PSA is situated in the Lower Genesee Watershed (NYS 8 Digit HUC: 04130003) and is part of the Genesee River Drainage Basin, per the USGS Hydrologic Unit Maps.

The average annual precipitation for the project area is estimated to be approximately 32.00 inches of rain and 90.00 inches of snow (http://www.clrsearch.com/Rochester_Demographics/NY/Weather-Forecast-Temperature-Precipitation).

Data retrieved from the NRCS Web Soil Survey revealed that the PSA consisted of one soil type: Urban Land (Ub) (Figure 3). Specific information regarding the soils is provided with the description of each wetland area that was delineated.

The PSA consisted of mostly undeveloped land surrounded by urban land.

4.2 SITE ECOLOGY

Several vegetative communities are present throughout the PSA; each community has been characterized based on Edinger et al. (2014). The communities identified included Mowed Lawn, Mowed Lawn with Trees, Paved Path, Urban Vacant Lot, Brushy Cleared Land, Successional Shrubland, Successional Forest, and Floodplain Forest. Figure 2 depicts the location of each identified community.

The areas characterized as Paved Path consist of the existing Genesee River Trail, and are generally located parallel to the Genesee River. Mowed Lawn communities also occupy multiple areas in close proximity to the Genesee River Trail. The Mowed Path community connects to the Mowed Lawn community and is present between roughly the Church of Love and Flint Street. These mowed areas are dominated by various grasses, dandelion (*Taraxacum officinale*), clover (*Trifolium sp.*), and english plantain (*Plantago lanceolata*). The invasive mugwort (*Artemisia vulgaris*) is common at the edges of the existing paved Genesee River Trail, especially in the areas occupying the former railroad bed.

The community classified as Mowed Lawn with Trees is situated in the northernmost portion of the PSA between Exchange and Ford Streets. This area is currently occupied by a city park, and has a paved path winding through it. Norway maple (*Acer platanoides*), an invasive species, poison ivy (*Toxicodendron radicans*) and various grasses are dominant in the park. Other species including pokeweed (*Phytolacca americana*), grape (*Vitis sp.*), tree of heaven (*Ailanthus altissima*), and the invasive black locust (*Robinia psuedoacacia*) are present around the edges of the park, especially in the southwest corner.

A small area classified as Urban Vacant Lot is situated along the western boundary of the PSA, just north of Flint Street, in the central portion of the study area. The dominant plant species inhabiting this area included tree of heaven, grape, tartarian honeysuckle (*Lonicera tatarica*), sycamore maple (*Acer psuedoplatanus*), and blackberries (*Rubus sp.*).

An area of land classified as Brushy Cleared Land is located along the western boundary, of the PSA near the southwestern corner. This area appears to have been logged in the recent past; stumps and woody debris are prevalent. Dominant plant species in this area included boxelder (*Acer negundo*), tree of heaven, colts foot (*Tussilago farfara*), black raspberry (*Rubus occidentalis*), and the invasive garlic mustard (*Alliaria petiolata*).

Several areas within the PSA were classified as Successional Shrubland; these areas are all located along the east side of the PSA, between the Genesee River Trail and the Genesee River. Staghorn sumac (*Rhus typhina*), grape, dogwoods (*Cornus* sp.), blackberry, crown vetch (*Securigera varia*), and the invasive tartarian honeysuckle were observed as the dominant species in these areas.

Three areas of Successional Forest were identified within the PSA. These areas are linear in nature and appear to be associated with the former Genesee Canal bed. The floor of the Successional Forest communities contains trash and debris, especially within the former canal bed. Dominant plant species within the Successional Forest areas included grape, poison ivy, quaking aspen (*Populus tremuloides*), white willow (*Salix alba*), tree of heaven, staghorn sumac, eastern cottonwood (*Populus deltoides*), and the invasive common buckthorn (*Rhamnus cathartica*), Norway maple, black locust, tartarian honeysuckle, and Japanese honeysuckle (*Lonicera japonica*).

Floodplain Forests comprise the remaining portions of the PSA, occupying the majority of the southern end. The Floodplain Forests were characterized by a dominance of eastern cottonwood, black walnut (*Juglans nigra*), boxelder, poison ivy, and the invasive common buckthorn, tartarian honeysuckle, black locust, and Norway maple.

Wildlife observed while onsite included various sparrows, blue jays, black-capped chickadees, Canada geese, northern cardinals, downy woodpeckers, hairy woodpeckers, great blue herons, American robins, American crows, various gulls, red-tailed hawks, leopard frogs, gray squirrels, groundhogs, and white-tailed deer.

4.3 INVASIVE SPECIES

Invasive species are defined by the NYSDEC as non-native species that can cause harm to the environment, the economy, or to human health. Species included in the Prohibited and Regulated Invasive Species list published September 10, 2014 by the NYSDEC (Exhibit D) were the target species for this study. Identified species are discussed previously in Section 4.2 within each ecological community. Areas with a high percentage of invasive species are depicted on Figure 3.

4.4 STATE AND FEDERALLY-PROTECTED SPECIES

SCE submitted a review request to the NYSDEC regarding the potential for state-listed species to be present within the project area. The NYSDEC response dated November 13, 2015 indicates there office has no records of rare or state listed animals or plants, or significant natural communities at the site or in its immediate vicinity (Exhibit E).

The USFWS preliminary list of federally-protected species identifies the potential for the endangered northern long-eared bat (*Myotis septentrionalis*) and several migratory birds within the project area (Exhibit E). According to the USFWS Fact Sheet, during the summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags (dead trees). Males and non-reproductive females may also roost in cooler places, like caves and mines. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. This bat has also been found rarely roosting in structures, like barns and sheds. In the winter, northern long-eared bats hibernate in caves. Any tree, dead or alive, greater than 3" diameter at breast height (dbh) is generally considered to provide potential roost habitat for this species. Trees greater than 3" dbh, many of which also contain cavities or crevices, were observed in the ecological communities identified as Floodplain Forest, Successional Forest, and Mowed Lawn with Trees. These areas are subsequently considered to harbor potentially suitable habitat for the federally-protected northern long-eared bat.

4.5 WATER RESOURCES DESCRIPTION

A total of six (6) sites investigated within the PSA met the three (3) criteria put forth in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2). There are no NYSDEC Freshwater Wetlands (NYSFWW) mapped within the PSA; therefore, none of the delineated wetlands correspond with New York State Freshwater Wetlands (Figure 3). With the exception of the Genesee River, no streams are mapped within the vicinity of the PSA; however, one tributary to the Genesee River was identified in the field.

The six (6) wetland areas are defined by the boundaries depicted on Figures 3 and 4. Two (2) of the delineated wetlands met the classification of Palustrine Emergent, one (1) met the classification of Palustrine Scrub-Shrub Deciduous, and three (3) met the classification of Palustrine Forested Deciduous per the wetland habitat classification system developed by Cowardin, et al (1979). Each wetland area delineated for this project was designated by a letter code for identification purposes.

Wetlands are considered jurisdictional by the USACE if they are adjacent to a Traditionally Navigable Waterway (TNW) or directly abut a Relatively Permanent Waterway (RPW) that has a hydrologic nexus to a TNW. Wetlands that are hydrologically isolated from or adjacent to a RPW or a non-Relatively Permanent Water need to have a significant nexus determination completed in order to determine whether or not the wetland falls under the jurisdiction of the USACE. Two (2) of the wetlands (Wetlands E and F) identified as part of this wetland delineation effort were assumed to be under the jurisdiction of the USACE, in accordance with Section 404 of the Clean Water Act, because they have apparent hydrologic connections to the Genesee River, a TNW. The remaining four (4) wetlands (Wetlands A, B, C and D) did not appear to possess hydrologic connections; therefore, an Approved Jurisdictional Determination (JD) was requested from the USACE to distinguish between the jurisdictional and potentially

non-jurisdictional resources. During the onsite wetland review effort the USACE initially suggested that Wetlands A, B, C and D would not be jurisdictional; however, during the JD review effort the USACE concluded that Wetlands A, B, C, D E, F and Unnamed non-RPW Trib 1 to the Genesee River are all part of a surface water tributary system to a navigable water of the United States and as such are all regulated by the USACE under Section 404 of the Clean Water Act.

Wetland A

Wetland A is situated entirely within the northern portion of the PSA, just south of Exchange Street, in the Mowed Lawn community (Figure 3). The approximate size of Wetland A is 811 square feet, or 0.019-acre.

The wetland habitat classification is Palustrine Emergent. Wetland A does not correspond with any mapped NYSFWW or NWI wetland areas.

The Wetland A boundary is depicted on Figure 3. Wetland A appeared to be located in an isolated depression; however, per the Jurisdictional Determination from the USACE dated April 28, 2017, the USACE has jurisdiction over this wetland.

The dominant vegetation inhabiting Wetland A at Test Site 1 consisted of: canada rush (*Juncus Canadensis*), fowl bluegrass (*Poa palustris.*), and a third grass that was unidentifiable due to mowing. The Wetland Determination Data Sheet for Test Site 1 is included in Exhibit A.

The Monroe County Soil Survey depicts the soil type as Urban Land (Figure 3), which is not classified as Prime farmland or Farmland of Statewide Importance. A soil sample revealed hydric soil indicator F8, Redox Depressions: a layer that has 5 percent or more prominent redox concentrations occurring as soft masses or pore linings that has a minimum thickness of 2 inches and is entirely within the first 6 inches of the soil. This indicator only applies to soils in closed depressions subject to ponding (NTCHS, 2010 – Version 7.0). See page 3 of the data form for

Test Site 1 in Exhibit A.

Wetland hydrology was indicated by the presence of surface water, saturation, a high water table, an algal mat or crust, oxidized rhizospheres on living roots, and a shallow aquitard. The wetland receives runoff from the surrounding adjacent uplands, and does not appear to possess a permanent or relatively permanent outlet.

Wetland A principally provides flood flow alteration and nutrient removal (Exhibit C).

Wetland B

Wetland B is situated entirely within the PSA, immediately north of Flint Streets' eastern terminus (Figure 3). The approximate size of Wetland B is 1,811 square feet, or 0.043-acre.

The wetland habitat classification is Palustrine Scrub-Shrub Deciduous. Wetland B does not correspond with any mapped NYSFWW or NWI wetland areas.

A drawing depicting the wetland boundary is provided as Figure 3. This wetland is located in a depressional area that has been identified as a former canal bed and appeared to be isolated. The Jurisdictional Determination letter from the USACE dated April 28, 2017 indicates the USACE has jurisdiction over this wetland.

The dominant vegetation inhabiting the wetland area at Test Site 3 consisted of: redosier dogwood (*Cornus alba*), white willow (*Salix alba*), box elder (*Acer negundo*), and the invasive purple loosestrife. The Wetland Determination Data Form for Test Site 3 is included in Exhibit A. The invasive common reed is also present within the wetland, beyond the test site area. Wetland B is located within a Successional Shrubland community, adjacent to a mowed path and a paved road.

The Monroe County Soil Survey depicts the soil type as Urban Land (Figure 3), which is not

classified as Prime farmland or Farmland of Statewide Importance. A soil sample, revealed hydric soil indicator F6, Redox Dark Surface: a layer that is at least 4 inches thick, is entirely within the upper 12 inches of the mineral soil and has: a. Matrix value of 3 or less and a chroma of 1 or less and 2 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings, or b. Matrix value of 3 or less and a chroma of 2 or less and 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings (NTCHS, 2010 – Version 7.0). See page 3 of the data form for Test Site 3 in Exhibit A.

Wetland hydrology was indicated by the geomorphic position and the FAC-neutral test. The wetland receives runoff from the surrounding adjacent uplands.

Wetland B principally provides groundwater recharge, floodflow alteration, and nutrient removal (Exhibit C).

Wetland C

Wetland C is situated near the center of the PSA, immediately south of Flint Street's eastern terminus (Figure 3). The approximate size of Wetland C within the PSA is 15,865 square feet, or 0.364-acre.

The wetland habitat classification is Palustrine Forested. Wetland C does not correspond with any mapped NYSFWW or NWI boundaries.

The wetland boundary is depicted on Figure 3. This wetland is located in a depression area that has been identified as the former Genesee River Canal bed and appeared to be isolated. The Jurisdictional Determination, dated April 28, 2017, indicates the USACE has jurisdiction over this wetland.

The dominant vegetation inhabiting Wetland C at Test Site 5 consisted of black willow (*Salix nigra*), green ash (*Fraxinus pensylvanica*), common buckthorn (*Rhamnus cathartica*), horsetail

(*Equisetum sp.*), poison ivy (*Toxicodendron radicans*), and the invasive purple loosestrife. A copy of the Wetland Determination Data Sheet for Test Site 5 is included in Exhibit A.

The Monroe County Soil Survey depicts the soil type as Urban Land (Figure 3), which is not classified as Prime farmland or Farmland of Statewide Importance. A soil sample, revealed hydric soil indicator F6, Redox Dark Surface: a layer that is at least 4 inches thick, is entirely within the upper 12 inches of the mineral soil and has: a. Matrix value of 3 or less and a chroma of 1 or less and 2 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings, or b. Matrix value of 3 or less and a chroma of 2 or less and 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings (NTCHS, 2010 – Version 7.0). See page 3 of the data form for Test Site 5 in Exhibit A.

Wetland hydrology was indicated by geomorphic position and the FAC-neutral test. The wetland receives runoff from the surrounding uplands.

Wetland C principally provides groundwater recharge, flood flow alteration, and wildlife habitat (Exhibit C).

Wetland D

Wetland D is situated near the southwestern corner of the PSA (Figure 3). The approximate size of Wetland D within the PSA is 11,941 square feet, or 0.274-acre.

The wetland habitat classification of Wetland D was identified as Palustrine Emergent. Wetland D does not correspond with any mapped NYSFWW or NWI wetland areas.

The wetland boundary is provided on Figure 3. This depressional wetland appeared to be isolated. The Jurisdictional Determination dated April 28, 2017 indicates the USACE has jurisdiction over this wetland.

The dominant vegetation inhabiting Wetland D within the test site area consisted of box elder, white grass (*Leersia virginica*), bulrush (*Scirpus sp.*), and cattails (*Typha sp.*). Wetland D is located at the base of a steep slope, and appears to have been logged or cleared within the past several years.

The Monroe County Soil Survey depicts the soil type as being Urban Land (Figure 3), which is not classified as Prime farmland or Farmland of Statewide Importance. A soil sample revealed hydric soil indicator F3, Depleted Matrix: a layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of either 2 inches (if it is entirely within the first 6 inches of the soil) or 6 inches (if it starts within 10 inches of the soil surface). A depleted matrix requires a value of 4 or more and chroma 2 or less (NTCHS, 2010 – Version 7.0). See page 3 of the data form for Test Site 7 in Exhibit A.

Wetland hydrology was indicated by a high water table, saturation, surface water, geomorphic position, and the FAC-neutral test. The wetland receives runoff from the surrounding adjacent uplands and appears to be isolated; a Jurisdictional Determination would be required by the USACE to confirm they would not assert jurisdiction over this wetland.

Wetland D principally provides floodflow alteration, nutrient removal, and wildlife habitat (Exhibit C).

Wetland E

Wetland E is situated near the southeastern portion of the PSA (Figure 3). The approximate size of Wetland E within the PSA is 3,416 square feet, or 0.078-acre.

The wetland habitat classification is Palustrine Forested. Wetland E does not correspond with any mapped NYSFWW or NWI wetland areas.

The wetland boundary is depicted on Figure 3. Wetland E is located adjacent to the existing

Genesee River Trail, and appears to exist in a depressional area that was likely excavated during the construction of a former railroad that the Genesee River Trail now traverses. A culvert is located southwest of the wetland, under the existing paved walkway, and it is anticipated that Wetland E possesses a significant nexus with the Genesee River, a TNW. Wetland E would therefore, be under the jurisdiction of the USACE. The Jurisdictional Determination confirms this wetland is under the jurisdiction of the USACE.

The dominant vegetation inhabiting the wetland area consisted of eastern cottonwood (*Populus deltoides*), black willow, box elder, redosier dogwood, poison ivy, and grape (*Vitis sp.*).

The Monroe County Soil Survey depicts the soil type as being Urban Land (Figure 3), which is not classified as Prime farmland or Farmland of Statewide Importance. A soil sample revealed hydric soil indicator F3, Depleted Matrix: a layer that has a depleted matrix with 60 percent or more chroma of 2 or less and that has a minimum thickness of either 2 inches (if it is entirely within the first 6 inches of the soil) or 6 inches (if it starts within 10 inches of the soil surface). A depleted matrix requires a value of 4 or more and chroma 2 or less (NTCHS, 2010 – Version 7.0). See page 3 of the data form for Test Site 9 in Exhibit A.

Wetland hydrology was indicated by geomorphic position and the FAC-neutral test. The wetland receives runoff from the surrounding adjacent uplands.

Wetland E principally provides floodflow alteration (Exhibit C).

Wetland F

Wetland F is situated entirely within the southeastern portion of the PSA, north of Wetland E (Figure 3). The approximate size of Wetland F is 1,796 square feet, or 0.041-acre.

The wetland habitat classification is Palustrine Forested. Wetland F does not correspond with any mapped NYSFWW or NWI wetland areas.

The wetland boundary is provided on Figure 3. Wetland F is located adjacent to the existing Genesee River Trail, and appears to exist in a depression area that was likely excavated during the construction of a former railroad that the Genesee River Trail now traverses. A culvert is located southwest of the wetland, under the existing paved walkway, connecting Wetland F to Wetland E. It is anticipated that Wetland F possesses a significant nexus with the Genesee River, a TNW and therefore, under the jurisdiction of the USACE. The Jurisdictional Determination confirms the USACE has jurisdiction over this wetland.

The dominant vegetation inhabiting Wetland F at Test Site 11 consisted of: silver maple (*Acer saccharinum*), green ash, and redosier dogwood. The Wetland Determination Data Sheet for Test Site 11 is included in Exhibit A.

The Monroe County Soil Survey depicts the soil type as being Urban Land (Figure 3), which is not classified as Prime farmland or Farmland of Statewide Importance. A soil sample, revealed hydric soil indicator F6, Redox Dark Surface: a layer that is at least 4 inches thick, is entirely within the upper 12 inches of the mineral soil and has: a. Matrix value of 3 or less and a chroma of 1 or less and 2 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings, or b. Matrix value of 3 or less and a chroma of 2 or less and 5 percent or more distinct or prominent redox concentrations occurring as soft masses or pore linings (NTCHS, 2010 – Version 7.0). See page 3 of the data form for Test Site 11 in Exhibit A

Wetland hydrology was indicated by geomorphic position and the FAC-neutral test. The wetland receives runoff from the surrounding adjacent uplands, and likely drains to the southwest via a culvert towards Wetland E.

Wetland F principally provides floodflow alteration (Exhibit C).

Unnamed Non-RPW Trib 1

Unnamed Non-RPW Trib 1 is an ephemeral channel located near the southern portion of the PSA, southwest of Wetland E (Figure 3). This tributary begins at a culvert outflow connected to Wetland E and serves as a connection between Wetland E and the Genesee River. The substrate of the approximately 378 foot-long channel consists of silt and detritus with scattered woody and emergent vegetation growing within.

5.0 SUMMARY OF FINDINGS

Several invasive species were observed within the project study area. Some species were scattered throughout, and others were particularly dominant at specific locations within the corridor. Invasive species are included in the discussion of ecological communities provided in Section 4.2. Areas with a high percentage of invasive species including black locust, Japanese knotweed, common reed, purple loosestrife and Norway maple are depicted on Figure 3. Specific measures will need to be utilized to minimize the potential spread of invasive species during the construction of proposed improvements. Measures include use of proper erosion and sediment control measures; washing construction equipment before leaving areas of invasive species, and proper removal and disposal of invasive plants. As improvement plans are progressed, SCE can provide input on recommended plant removal and disposal methods.

The USFWS has identified the potential for the Northern long-eared bat and several migratory bird species to be present within the PSA or close proximity. The NYSDEC NHP did not identify any state-protected species within the PSA. Guidance indicates that trees greater than three inches dbh may provide suitable habitat to the Northern long-eared bat. The specific impact on habitat for this species is based on the number of potential roost trees that will be removed. Additionally, clearing shall be limited to trees that need to be removed to support improvements, and conducted during the period of time when the bats are in their hibernacula, which is generally October 31 through March 31. Aside from protected species, the area is also used by small mammals and birds typically found in less developed areas bordering urban neighborhoods.

The PSA included an area of approximately 30-acres. A total of six (6) wetlands investigated within the PSA met the three (3) criteria for USACE regulated wetland areas. The cumulative area of wetlands within the PSA is 0.82-acre or approximately 2.7 percent of the PSA. The wetland areas discussed in this report do not correspond with any mapped NYSFWS or NWI wetlands; wetland boundaries are depicted on Figures 3 and JD-1 – JD -4.

A Jurisdictional Determination (JD) was pursued with the USACE to confirm their jurisdiction over the wetland boundaries. A site visit with the USACE was conducted on August 15, 2016 and a Jurisdictional Determination letter was provided April 28, 2017 indicating that all of the wetlands and the unnamed tributary to the Genesee River are under the jurisdiction of the USACE and therefore regulated under Section 404 of the Clean Water Act. The specific permit authorizations will be dependent on the nature of the work proposed at specific wetland locations and the magnitude of impact. Permit requirements will be discussed further in the draft Generic Environmental Impact Statement.

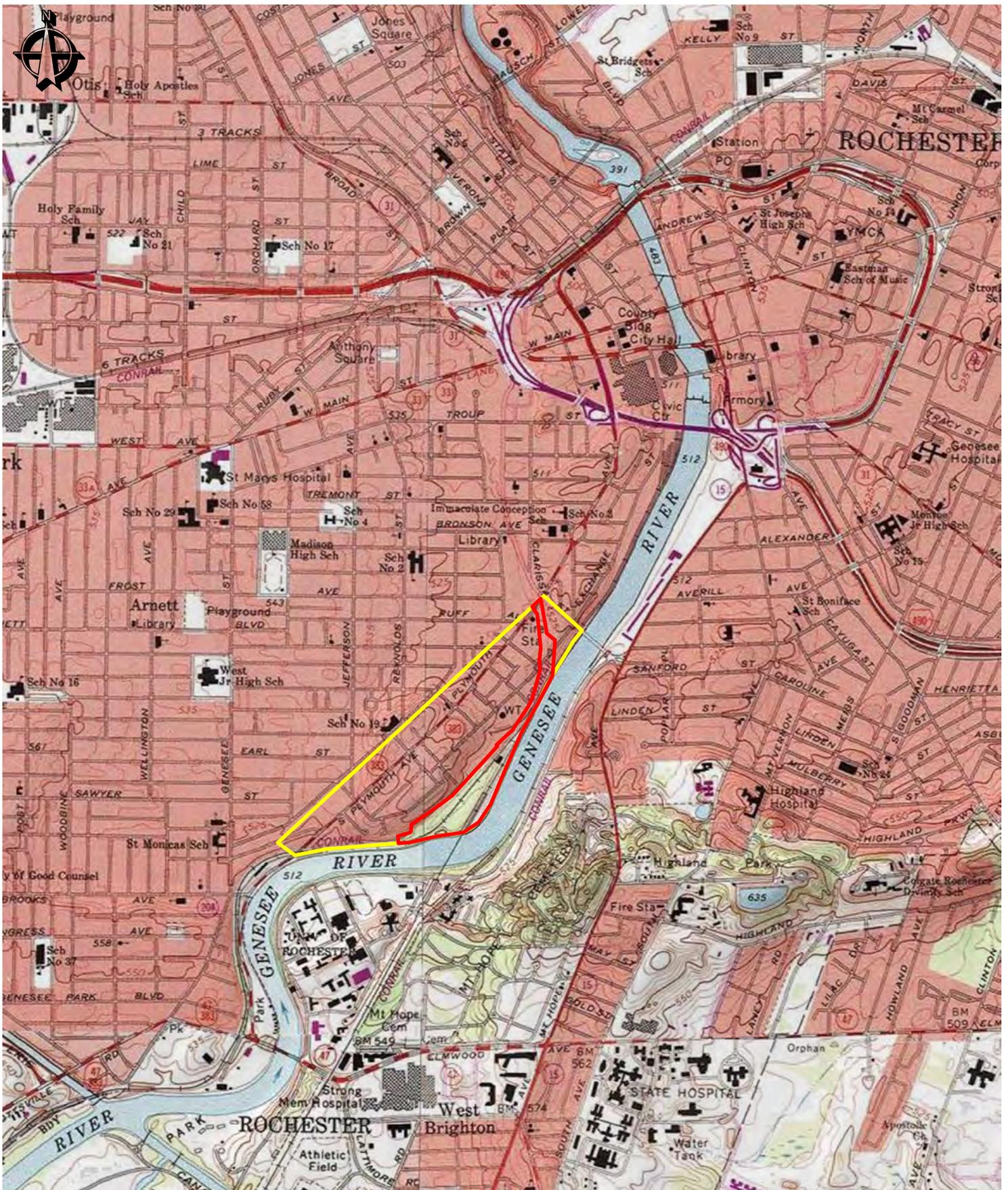
TABLE 1**WATER RESOURCES SUMMARY TABLE**

Water Resources ID	Lat/Long	NYSDEC ID	Jurisdictional (Yes / No)	Cover Type	Cowardin Class	Principal Functions	Area within PSA
							Total (acres)
Wetland A	43° 8' 25.1874" N 77° 38' 52.908"W	N/A	Pending USACE significant nexus Jurisdictional Determination	Wet Meadow	PEM2	Floodflow alteration and Nutrient removal	0.019
Wetland B	43° 8' 15"N 77° N 37' 12.0714" W	N/A	Pending USACE significant nexus Jurisdictional Determination	Shrub Swamp	PSS1	Groundwater recharge, floodflow alteration and Nutrient removal	0.043
Wetland C	43° 8' 12.2994"N 77° 37' 15.2754"W	N/A	Pending USACE significant nexus Jurisdictional Determination	Forested Swamp	PFO1	Groundwater recharge, Floodflow alteration, and wildlife habitat	0.364
Wetland D	43° 8' 4.3794"N 77° 37' 26.832"W	N/A	Pending USACE significant nexus Jurisdictional Determination	Freshwater Marsh	PEM1	Floodflow alteration, Nutrient removal and Wildlife habitat	0.274

Water Resources ID	Lat/Long	NYSDEC ID	Jurisdictional (Yes or No)	Cover Type	Cowardin Class	Principal Functions	Area within PSA
							Total (acres)
Wetland E	43° 8' 6.684"N 77° 37' 16.14"W	N/A	Yes	Forested Swamp	PFO1	Floodflow alteration	0.078
Wetland F	43° 8' 8.628"N 77° 37' 14.88"W	N/A	Yes	Forested Swamp	PFO1	Floodflow alteration	0.041
Non-RPW Trib 1		N/A	Yes	N/A	Ephemeral Stream	Serves as connection of Wetland E to Genesee River	378 linear feet
TOTAL							0.819 acres and 378 linear feet

FIGURE 1

PROJECT STUDY AREA LOCATION MAP



Legend

- Ecology and Wetland Study Area
- BOA Project Area

FIGURE 1
PROJECT STUDY AREA LOCATION MAP

Brownfield Opportunity Area
South Genesee River Corridor
City of Rochester, New York
Monroe County

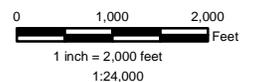
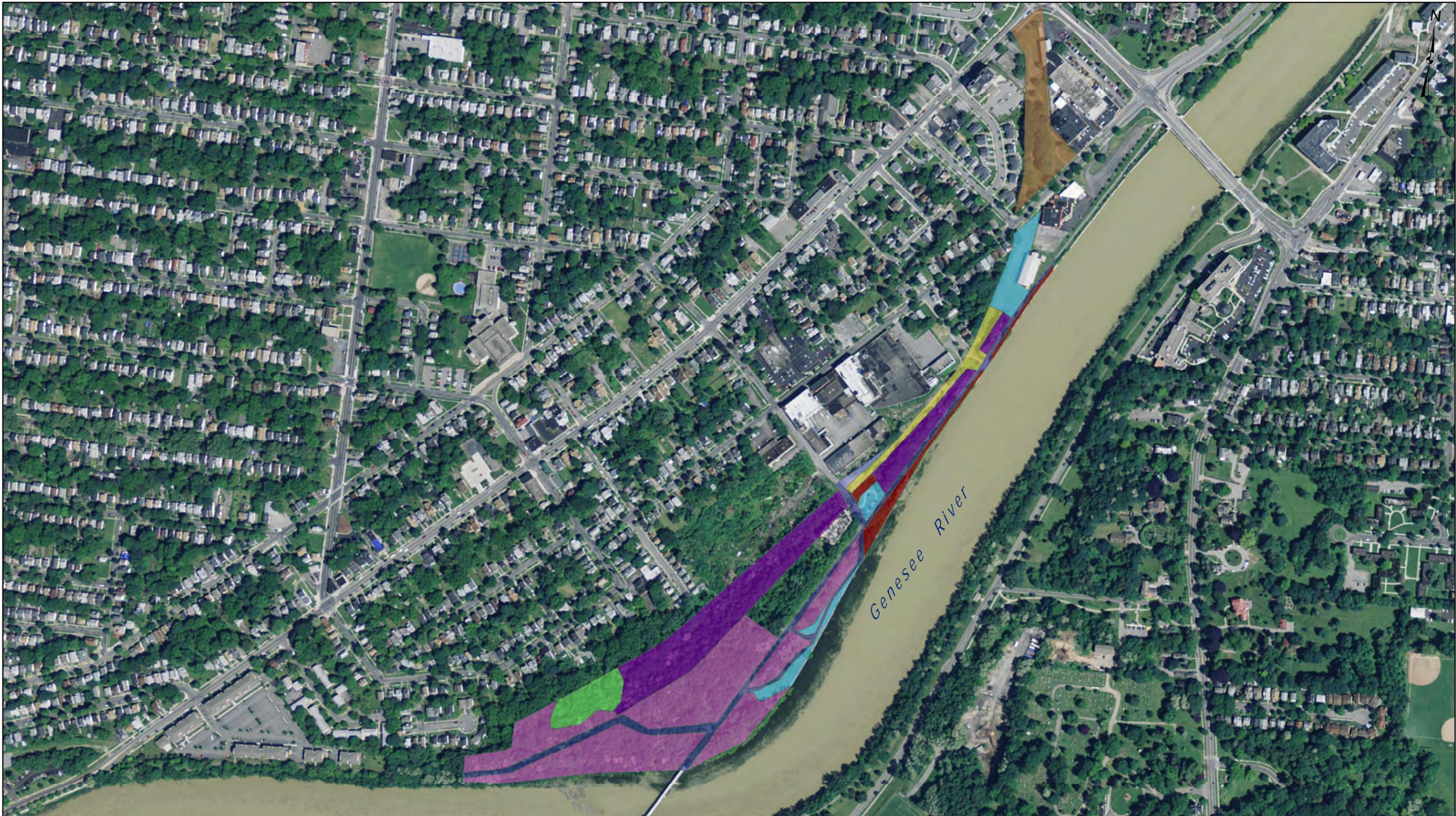


FIGURE 2

ECOLOGICAL COMMUNITIES MAP



Legend			
Parcel Boundaries	Floodplain Forest	Mowed Path	Successional Shrubland
Ecological Communities	Mowed Lawn	Paved Path	Urban Vacant Lot
Brushy Cleared Land	Mowed Lawn with Trees	Successional Forest	

FIGURE 2
ECOLOGICAL COMMUNITIES MAP
 Vacuum Oil Brownfield Opportunity Area
 City of Rochester
 Monroe County, NY

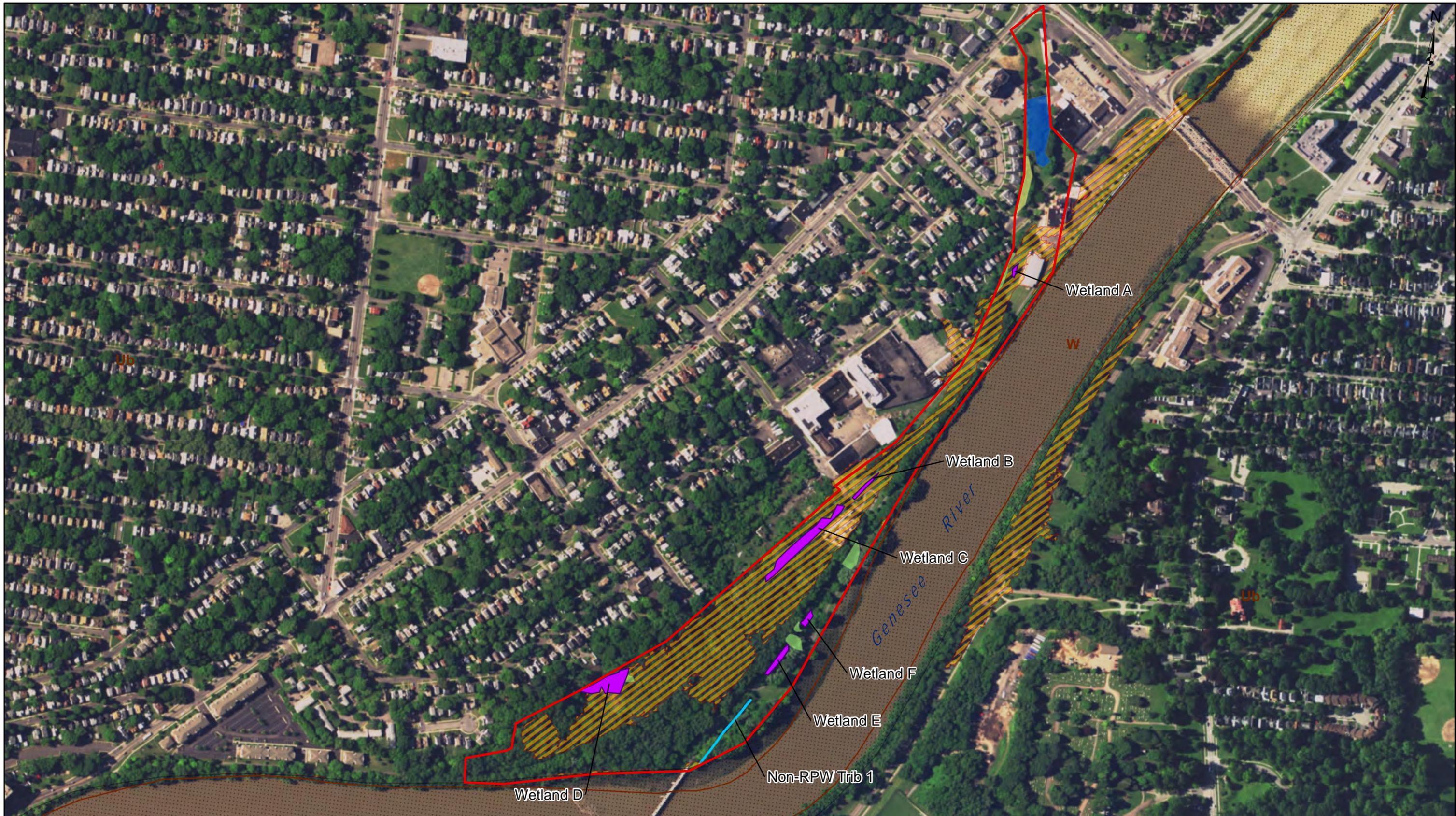
1:4,800 400 200 0 400
 1 inch = 400 feet Ft

County Coverage: Monroe

Client Name: City of Rochester

FIGURE 3

WETLANDS AND INVASIVE SPECIES MAP



Legend			
	Ecology and Wetland Study Area		Black Locust
	Wetlands		Japanese Knotweed
	100-Year Flood Zone		Ephemeral Tributary
	Floodway		Norway Maple
	Soil Map Unit		

FIGURE 3
WETLANDS AND INVASIVE SPECIES MAP
 Vacuum Oil Brownfield Opportunity Area
 City of Rochester
 Monroe County, NY

Consulting Engineering & Land Surveying, LLC.

1:4,800 400 200 0 400
 1 inch = 400 feet Ft

County Coverage: Monroe

Client Name: City of Rochester

FIGURES JD-1_JD-4

WETLAND DELINEATION OVERVIEW MAP & WETLAND DELINEATION MAPS

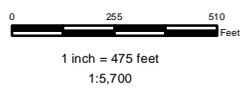


Legend

- Test Sites
- Ephemeral Tributary
- Project Study Area
- NWI Wetlands
- SCE Wetlands
- NYSDEC Wetlands

Figure JD-1
Wetland Overview Map

Brownfield Opportunity Area
South Genesee River Corridor
City of Rochester, New York
Monroe County



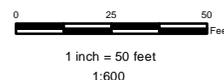


Legend

- Test Sites
- Project Study Area
- SCE Wetlands
- NWI Wetlands
- NYSDEC Wetlands
- ① Photo Location

**Figure JD-2
Wetland A Delineation Map**

**Brownfield Opportunity Area
South Genesee River Corridor
City of Rochester, New York
Monroe County**



County Coverage: Monroe

Quad Coverage: Rochester East and Rochester West

Client Name: City of Rochester



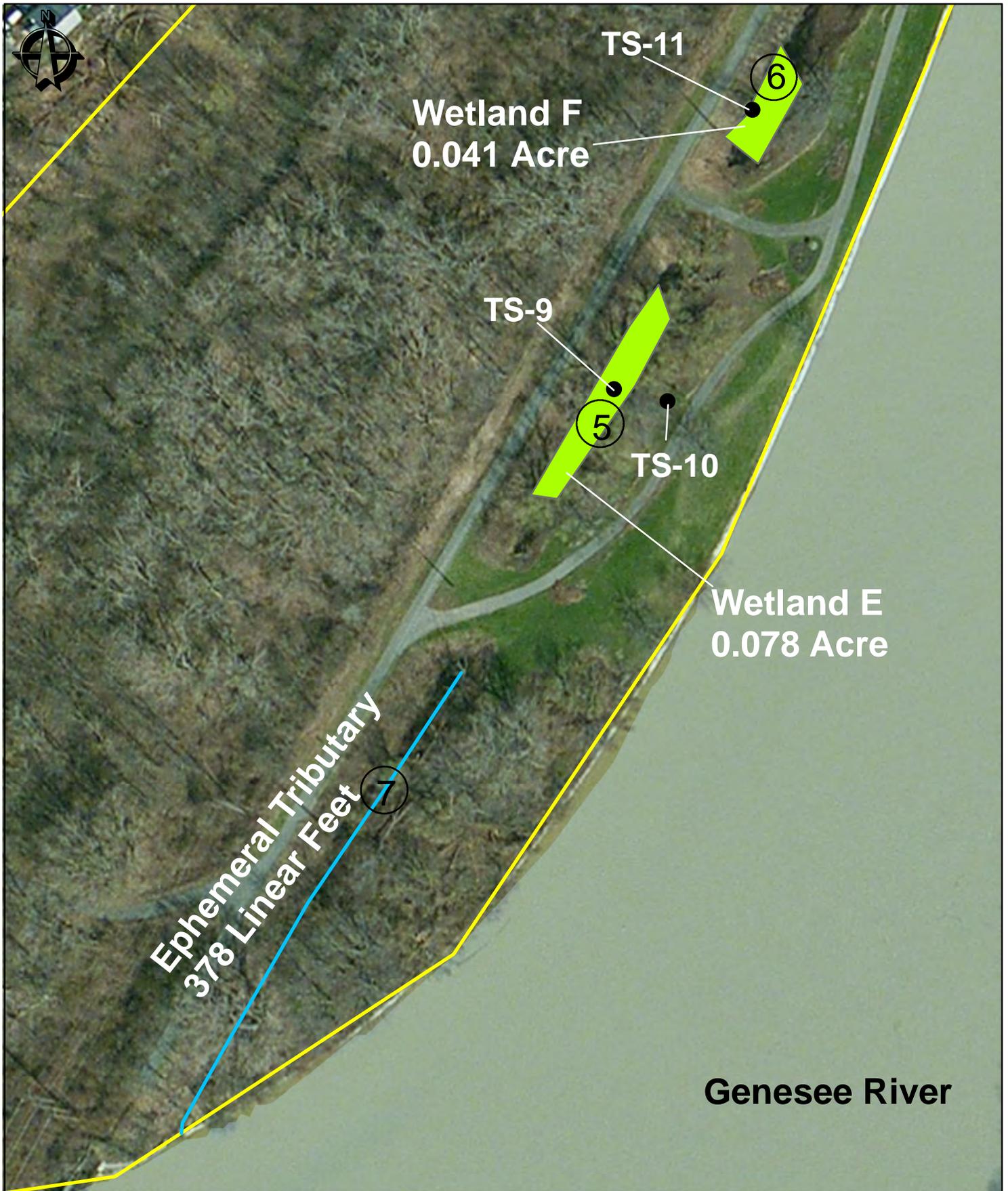
Legend		Figure JD-3 Wetlands B and C Delineation Map	 Consulting Engineering & Land Surveying, P.C.
● Test Sites	□ NWI Wetlands	Brownfield Opportunity Area South Genesee River Corridor City of Rochester, New York Monroe County	 1 inch = 75 feet 1:900
□ Project Study Area	□ NYSDEC Wetlands		
■ SCE Wetlands	Ⓝ Photo Location		

County Coverage: Monroe Quad Coverage: Rochester East and Rochester West Client Name: City of Rochester



Legend		Figure JD-4 Wetland D Delineation Map	 Consulting Engineering & Land Surveying, P.E.C.
 Test Sites	 NWI Wetlands	Brownfield Opportunity Area South Genesee River Corridor City of Rochester, New York Monroe County	 1 inch = 50 feet 1:600
 Project Study Area	 NYSDEC Wetlands		
 SCE Wetlands	 Photo Location		

County Coverage: Monroe Quad Coverage: Rochester East and Rochester West Client Name: City of Rochester



● Test Sites	■ NYSDEC Wetlands
▭ Project Study Area	— Ephemeral Tributary
■ SCE Wetlands	Ⓜ Photo Location
■ NWI Wetlands	

Figure JD-5
Wetlands E and F Delineation Map

Brownfield Opportunity Area
 South Genesee River Corridor
 City of Rochester, New York
 Monroe County

0 45 90
 Feet
 1 inch = 90 feet
 1:1,080

EXHIBIT A

WETLAND DETERMINATION DATA SHEETS

EXHIBIT B

HYDRIC SOILS LIST OF MONROE COUNTY

Monroe County NY
Hydric Soils List

Area_Name	Mapunit_Symbol	Mapunit_Name	Component_Name_and_phase	Component_Landform
Monroe County, New York	Al	Alluvial land	Fluvaquents	flood plains
Monroe County, New York	Al	Alluvial land	Wayland	flood plains
Monroe County, New York	Al	Alluvial land	Sun	depressions
Monroe County, New York	Al	Alluvial land	Unnamed soils	bogs
Monroe County, New York	Al	Alluvial land	Halsey	depressions
Monroe County, New York	ApA	Appleton loam, 0 to 3 percent slopes	Canandaigua	depressions
Monroe County, New York	ApA	Appleton loam, 0 to 3 percent slopes	Lyons	depressions
Monroe County, New York	BrA	Brockport silty clay loam, 0 to 2 percent slopes	Lakemont	depressions
Monroe County, New York	Ca	Canandaigua silt loam	Canandaigua	depressions
Monroe County, New York	Ca	Canandaigua silt loam	Unnamed soils	
Monroe County, New York	Ca	Canandaigua silt loam	Madalin	depressions
Monroe County, New York	Ca	Canandaigua silt loam	Lamson	depressions
Monroe County, New York	ChA	Churchville silt loam, 0 to 2 percent slopes	Lakemont	depressions
Monroe County, New York	ChB	Churchville silt loam, 2 to 6 percent slopes	Lakemont	depressions
Monroe County, New York	Cu	Cosad loamy fine sand	Unnamed soils	depressions
Monroe County, New York	Cw	Cut and fill land	Lyons	depressions
Monroe County, New York	Ed	Edwards muck	Edwards	marshes
Monroe County, New York	Ed	Edwards muck	Canandaigua	depressions
Monroe County, New York	Ed	Edwards muck	Muck, deep	swamps
Monroe County, New York	Ed	Edwards muck	Muck, shallow	marshes
Monroe County, New York	Ed	Edwards muck	Sun	depressions
Monroe County, New York	Ee	Eel silt loam	Wayland	flood plains
Monroe County, New York	Fw	Fresh water marsh	Aquents	flood plains
Monroe County, New York	Fw	Fresh water marsh	Sapristis	depressions
Monroe County, New York	Fw	Fresh water marsh	Fluvaquents	flood plains
Monroe County, New York	Fw	Fresh water marsh	Palms	marshes
Monroe County, New York	Fw	Fresh water marsh	Wayland	flood plains
Monroe County, New York	Fw	Fresh water marsh	Carlisle	swamps
Monroe County, New York	Ge	Genesee silt loam	Wayland	flood plains
Monroe County, New York	Ha	Halsey gravelly loam	Halsey	depressions
Monroe County, New York	Ha	Halsey gravelly loam	Lamson	depressions
Monroe County, New York	Ha	Halsey gravelly loam	Edwards	marshes
Monroe County, New York	Ha	Halsey gravelly loam	Muck	marshes
Monroe County, New York	Lb	Lake beaches	Lamson	depressions
Monroe County, New York	Le	Lakemont silt loam	Lakemont	depressions
Monroe County, New York	Le	Lakemont silt loam	Unnamed soils	depressions
Monroe County, New York	Le	Lakemont silt loam	Canandaigua	depressions
Monroe County, New York	Le	Lakemont silt loam	Muck	swamps
Monroe County, New York	Lk	Lakemont silt loam, loamy subsoil variant	Lakemont variant, loamy substratum	depressions
Monroe County, New York	Lk	Lakemont silt loam, loamy subsoil variant	Lakemont	depressions
Monroe County, New York	Lk	Lakemont silt loam, loamy subsoil variant	Canandaigua	depressions
Monroe County, New York	Lm	Lamson very fine sandy loam	Lamson	depressions
Monroe County, New York	Lm	Lamson very fine sandy loam	Muck, shallow	swamps
Monroe County, New York	Lm	Lamson very fine sandy loam	Canandaigua	depressions
Monroe County, New York	Lm	Lamson very fine sandy loam	Sun	depressions

Monroe County NY
Hydric Soils List

Area_Name	Mapunit_Symbol	Mapunit_Name	Component_Name_and_phase	Component_Landform
Monroe County, New York	LoB	Lima and Cazenovia silt loams, limestone substratum, 0 to 6 percent	Sun, moderately shallow variant	depressions
Monroe County, New York	Lp	Lockport silty clay loam	Lakemont	depressions
Monroe County, New York	Ly	Lyons silt loam	Lyons	depressions
Monroe County, New York	Ly	Lyons silt loam	Canandaigua	depressions
Monroe County, New York	Ly	Lyons silt loam	Sun	depressions
Monroe County, New York	Ly	Lyons silt loam	Unnamed soils	depressions
Monroe County, New York	Ma	Madalin silty clay loam	Madalin	depressions
Monroe County, New York	Ma	Madalin silty clay loam	Muck, shallow	marshes
Monroe County, New York	Ma	Madalin silty clay loam	Canandaigua	depressions
Monroe County, New York	Ma	Madalin silty clay loam	Lamson	depressions
Monroe County, New York	Mb	Made land	Canandaigua	depressions
Monroe County, New York	Mf	Massena fine sandy loam	Massena, poorly drained	drumlinoid ridges
Monroe County, New York	Mf	Massena fine sandy loam	Sun	depressions
Monroe County, New York	Mf	Massena fine sandy loam	Lamson	depressions
Monroe County, New York	Mf	Massena fine sandy loam	Muck, deep	swamps
Monroe County, New York	Mf	Massena fine sandy loam	Muck, shallow	swamps
Monroe County, New York	Mf	Massena fine sandy loam	Canandaigua	depressions
Monroe County, New York	Mn	Minoa very fine sandy loam	Lamson	depressions
Monroe County, New York	Mr	Muck, deep	Muck, deep	marshes
Monroe County, New York	Mr	Muck, deep	Muck, shallow	swamps
Monroe County, New York	Mr	Muck, deep	Edwards	swamps
Monroe County, New York	Mr	Muck, deep	Canandaigua	depressions
Monroe County, New York	Mr	Muck, deep	Lamson	depressions
Monroe County, New York	Mr	Muck, deep	Lyons	depressions
Monroe County, New York	Mr	Muck, deep	Sun	depressions
Monroe County, New York	Ms	Muck, shallow	Muck, shallow	marshes
Monroe County, New York	Ms	Muck, shallow	Unnamed soils	
Monroe County, New York	Ms	Muck, shallow	Canandaigua	depressions
Monroe County, New York	Ms	Muck, shallow	Lyons	depressions
Monroe County, New York	Ms	Muck, shallow	Sun	depressions
Monroe County, New York	Ms	Muck, shallow	Lamson	depressions
Monroe County, New York	Ng	Niagara silt loam	Canandaigua	depressions
Monroe County, New York	Nr	Niagara silt loam, loamy subsoil variant	Canandaigua	depressions
Monroe County, New York	OdA	Odessa silt loam, 0 to 2 percent slopes	Lakemont	depressions
Monroe County, New York	OdB	Odessa silt loam, 2 to 6 percent slopes	Lakemont	depressions
Monroe County, New York	Ov	Ovid silt loam	Lakemont, loamy subsoil variant	depressions
Monroe County, New York	Ow	Ovid and Appleton silt loams, limestone substratum	Sun, moderately shallow variant	depressions
Monroe County, New York	PaA	Palmyra gravelly fine sandy loam, 0 to 3 percent slopes	Halsey	depressions
Monroe County, New York	PhA	Phelps gravelly fine sandy loam, 0 to 3 percent slopes	Halsey	depressions
Monroe County, New York	PhB	Phelps gravelly fine sandy loam, 3 to 8 percent slopes	Halsey	depressions
Monroe County, New York	Pu	Pits and quarries	Halsey	depressions
Monroe County, New York	Rb	Rhinebeck silt loam	Madalin	depressions
Monroe County, New York	SeA	Schoharie silt loam, 0 to 2 percent slopes	Lakemont	depressions
Monroe County, New York	Ss	Sun fine sandy loam	Sun	depressions
Monroe County, New York	Ss	Sun fine sandy loam	Canandaigua	depressions

Monroe County NY
Hydric Soils List

Area_Name	Mapunit_Symbol	Mapunit_Name	Component_Name_and_phase	Component_Landform
Monroe County, New York	Ss	Sun fine sandy loam	Lyons	depressions
Monroe County, New York	Ss	Sun fine sandy loam	Lamson	depressions
Monroe County, New York	Ss	Sun fine sandy loam	Sun, moderately shallow variant	depressions
Monroe County, New York	Ss	Sun fine sandy loam	Unnamed soils	
Monroe County, New York	St	Sun loam, moderately shallow variant	Sun, moderately shallow	depressions
Monroe County, New York	St	Sun loam, moderately shallow variant	Unnamed soils	depressions
Monroe County, New York	St	Sun loam, moderately shallow variant	Canandaigua	depressions
Monroe County, New York	St	Sun loam, moderately shallow variant	Lyons	depressions
Monroe County, New York	Ub	Urban land	Sun	depressions
Monroe County, New York	WfA	Wassaic fine sandy loam, 0 to 4 percent slopes	Sun, moderately shallow variant	depressions
Monroe County, New York	Wg	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	Wayland	flood plains
Monroe County, New York	Wg	Wayland soils complex, 0 to 3 percent slopes, frequently flooded	Wayland, very poorly drained	flood plains

EXHIBIT C

FUNCTION-SERVICE EVALUATION SHEETS

Supporting Document for Wetland Functions/ Values Evaluation

Below is a numbered list of considerations and qualifiers taken from the 1995 ACOE Highway Methodology Workbook Supplement that were used in the functional evaluation of the wetlands delineated in support of the City of Rochester Vacuum Oil Brownfield Cleanup Program, Monroe County, NY. Application of considerations/qualifiers was based on best professional judgment.

GROUNDWATER RECHARGE/ DISCHARGE – This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of size or importance of either.

CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetlands.
2. Potential exists for public or private wells downstream of wetlands.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetlands.
5. Fragipan does not occur in the wetlands.
6. Fragipan, impervious soils, or bedrock, does occur in the wetlands.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse, but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with wetland is high.
13. Signs of groundwater discharge are present (e.g. springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Gravel or sandy soils present in or adjacent to wetlands.
17. Piezometer – data demonstrates discharge.
18. Other.

FLOODFLOW ALTERATION (Storage & Desynchronization)- This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high degree of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.

8. During flood events this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive floodwater from a nearby watercourse.
11. Valuable properties, structures or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other.

FISH AND SHELLFISH HABITAT – This function considers the effectiveness of seasonal or permanent watercourse associated with the wetland in question for fish and shellfish habitat.

CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
2. Abundance of cover objects present.

STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

3. Size of this wetland is able to support large fish/shellfish populations.
4. Wetland is part of a larger, contiguous watercourse.
5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retains some open water during winter.
6. Stream width (bank to bank) is more than 50 feet.
7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
8. Streamside vegetation provides shade for the watercourse.
9. Spawning areas are present (submerged vegetation or gravel beds).
10. Food is available to fish/shellfish populations within this wetland.
11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.
12. Evidence of fish is present.
13. Wetland is stocked with fish.
14. The watercourse is persistent.
15. Man-made streams are absent.
16. Water velocities are not too excessive for fish usage.
17. Defined stream channel is present.
18. Other.

SEDIMENT/TOXICANT/PATHOGEN RETENTION - This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments,

toxicants, or pathogens in runoff water from surrounding uplands, or upstream eroding wetland areas.

CONSIDERATIONS/QUALIFIERS

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Mineral, fine grained, or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

10. Wetland is associated with an intermittent or perennial stream, or lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation are present.
17. Other.

NUTRIENT REMOVAL/RETENTION/TRANSFORMATION – This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands, and, the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers or estuaries.

CONSIDERATION/QUALIFIERS

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.
4. Potential sources of excess nutrients present in the watershed above the wetland.
5. Wetland saturated for most of the season. Pondered water is present in the wetland.
6. Deep organic/sediment deposits are present.
7. Slowly drained mineral, fine grained, or organic soils, are present.
8. Dense vegetation is present.
9. Emergent vegetation and/or dense woody stems are dominant.
10. Aquatic diversity/abundance sufficient to utilize nutrients.
11. Opportunity for nutrient attenuation exists.
12. Vegetation diversity/abundance sufficient to utilize nutrients.

STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE

13. Water flow through this wetland is diffuse.
14. Water retention/detention time in this wetland is increase by constricted outlet or thick vegetation.
15. Water moves slowly through this wetland.
16. Other.

PRODUCTION EXPORT (Nutrient) – This function evaluates the effectiveness of the wetland to produce food or usable products for man or other living organisms.

CONSIDERATIONS/QUALIFIERS

1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland.
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are using this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plan community structure/species diversity.
9. High aquatic diversity/abundance is present.
10. Nutrients exported in wetland watercourse (permanent outlet present).
11. “Flushing” of relatively large amounts of organic plan material occurs from this wetland.
12. Wetland contains flowering plants which are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other.

SEDIMENT/Shoreline Stabilization – This function considers the effectiveness of a wetland to stabilize stream banks and shoreline against erosion.

CONSIDERATIONS/QUALIFIERS

1. Indications of erosion, siltation present.
2. Topographical gradient is present in wetlands.
3. Potential sediment sources are present upslope.
4. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
5. A distinct step between the open waterbody or stream and the adjacent land exists (i.e. sharp bank) with dense roots throughout.
6. Wide wetland (>10') bordering watercourse, lake or pond.
7. High flow velocities in the wetland
8. Potential sediment sources present upstream.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy absorbing emergents and/or shrubs bordering watercourse, lake or pond.

14. Vegetation comprised of large trees and shrubs, which withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet)
15. Vegetation comprised of dense resilient herbaceous layer, which stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other.

WILDLIFE HABITAT – This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge. Both resident and/or migrating species must be considered.

CONSIDERATIONS/QUALIFIERS

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g. brushland, woodland, active farmland, or idle lands) at least 500 feet in width.
6. Wetland contiguous with other wetland systems connected by watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or nearby.
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 ft deep), including streams in or adjacent to wetland are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree or diversity in plant community structure (e.g. tree/shrub/vine/grass/moss, etc.)
16. Plant/animal indicator species present.
17. Animal signs observed (tracks, scats, nesting areas, etc.).
18. Seasonal uses vary for wildlife, and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species present.
23. Signs of wildlife enhancement present (birdhouses, nesting boxes, food sources, etc).
24. Other.

RECREATION (Consumptive and Non-Consumptive) – This value considers the suitability of the wetland and associated watercourse to provide recreational opportunities such as hiking canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, and other resources that are

intrinsic to the wetland. Non-Consumptive opportunities do not consume or diminish these resources of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or had potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at this potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other.

EDUCATIONAL/SCIENTIFIC VALUE – This value considers the suitability of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.

CONSIDERATIONS/QUALIFICATIONS

1. Wetland contains or is known to contain threatened, rare or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains diversity of wetland classes, which are accessible or potentially accessible.
4. Potential education site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc).
8. Off-road parking at potential educational site suitable for school bus access in or near wetlands.
9. Potential educational site is within safe walking distance or short drive to schools.
10. Potential educational site within safe distance to other plant communities.
11. Direct access to perennial stream at potential educational site available.
12. Direct access to pond or lake at potential educational site available.
13. No known safety hazards within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other.

UNIQUENESS/HERITAGE – This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland primarily urban.
2. Upland surrounding wetland developing rapidly.
3. More than 3 acres of shallow permanent open water occur in wetlands (less than 6.6 ft deep) including streams.
4. Three or more wetland classes present.
5. Deep and/or shallow marsh, or wooded swamp dominate.
6. High degree of interspersion of vegetation and/or open water occurring in this wetland.
7. Well-vegetated stream corridor (15 ft on each side of the stream) occurs in this wetland.
8. Potential education site is within a short drive or safe walk from schools.
9. Off-road parking at potential educational site.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake at potential educational site.
12. Two or more wetland classes visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub/shrub, bogs, open water) visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants, or plants, which turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings occur near the wetlands.
21. Presence of a pond or pond site and remains of a dam occur within the wetlands.
22. Wetland within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures or associated features occur within the wetlands.
24. Wetland contains critical habitat for a state or federally listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.
28. Wetland has local significance because it has biological, geological or other features, which are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other.

VISUAL QUALITY/AESTHETICS – This value considers the visual and aesthetic quality or usefulness of the wetland.

CONSIDERATIONS/QUALIFIERS

1. Multiple wetland classes visible from primary viewing locations.
2. Emergent marsh and/or open water visible from primary viewing locations.
3. Diversity of vegetation species visible from primary viewing locations.
4. Wetland dominated by flowering plants, or plants which turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use from contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other.

ENDANGERED SPECIES HABITAT – This value considers the suitability of the wetland to support threatened or endangered species.

CONSIDERATIONS/QUALIFIERS

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.
3. Other.

FISH AND SHELLFISH HABITAT – This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources, such as fish, shellfish, marine mammals and sea turtles.

CONSIDERATIONS/QUALIFIERS (Marine)

1. Special aquatic site are present.
2. Suitable spawning habitat is present at this site or in the area.
3. Commercially or recreationally important species are present, or suitable habitat exists.
4. The wetland/ waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Other.

Function-Value Evaluation Form - Wetland A

Total area of wetland? 0.019 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island" ? No

Adjacent land use? Mowed Lawn, Urban Distance to nearest roadway or other development? 115 ft to Exchange Street

Dominant wetland systems present? Emergent

Contiguous undeveloped buffer zone present? No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? Zero

Prepared by: CAB Date: October 30, 2015

Wetland Impact: TBD
 Type: Area:

Evaluation based on:
 Office: Field: X

Corps manual wetland delineation completed? Yes

Function/Value	Occurrence		Rationale (Condition/Qualifier*)	Principal Function/Value	Comments
	Y	N			
Groundwater Recharge/Discharge	X		6		
Floodflow Alteration	X		5, 6, 9, 11	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1		
Nutrient Removal	X		4, 5, 9	X	
Production Export		X			
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other		X			

*Refer to attached list of numbered considerations and qualifiers

Function-Value Evaluation Form - Wetland B

Total area of wetland? 0.043 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island" ? No

Adjacent land use? Successional Forest, Mowed Path, Urban Distance to nearest roadway or other development? 3 ft to Flint Street

Dominant wetland systems present? Scrub-shrub

Contiguous undeveloped buffer zone present? No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? Zero

Prepared by: CAB Date: November 9, 2015

Wetland Impact: TBD
 Type: Area:

Evaluation based on:
 Office: Field: X

Corps manual wetland delineation completed? Yes

Function/Value	Occurrence		Rationale (Condition/Qualifier*)	Principal Function/Value	Comments
	Y	N			
Groundwater Recharge/Discharge	X		4, 15, 16	X	
Floodflow Alteration	X		4, 6, 8, 9, 15, 18	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1		
Nutrient Removal	X		4, 8, 9	X	
Production Export	X		7		
Sediment/Shoreline Stabilization		X			
Wildlife Habitat		X			
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other		X			

*Refer to attached list of numbered considerations and qualifiers

Function-Value Evaluation Form - Wetland C

Total area of wetland? 0.364 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island" ? No

Adjacent land use? Successional Forest, Urban Distance to nearest roadway or other development? 3 ft to Flint Street

Dominant wetland systems present? Forested

Contiguous undeveloped buffer zone present? No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? Zero

Prepared by: CAB Date: November 9, 2015

Wetland Impact: TBD
 Type: Area:

Evaluation based on:
 Office: Field: X

Corps manual wetland delineation completed? Yes

Function/Value	Occurrence		Rationale (Condition/Qualifier*)	Principal Function/Value	Comments
	Y	N			
Groundwater Recharge/Discharge	X		4, 15, 16	X	
Floodflow Alteration	X		4, 5, 6, 9, 15	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1, 4		
Nutrient Removal	X		3, 4		
Production Export	X		4		White tailed deer observed in wetland
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X		7, 8, 17	X	White tailed deer observed in wetland
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other		X			

*Refer to attached list of numbered considerations and qualifiers

Function-Value Evaluation Form - Wetland D

Total area of wetland? 0.274 ac Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island" ? No

Adjacent land use? Brushy Cleared Land, Successional Forest, Floodplain Forest, Urban Distance to nearest roadway or other development? 260 ft to Cottage St

Dominant wetland systems present? Emergent

Contiguous undeveloped buffer zone present? No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? Zero

Prepared by: CAB Date: November 9, 2015

Wetland Impact: TBD
 Type: Area:

Evaluation based on:
 Office: Field: X

Corps manual wetland delineation completed? Yes

Function/Value	Occurrence		Rationale (Condition/Qualifier*)	Principal Function/Value	Comments
	Y	N			
Groundwater Recharge/Discharge	X		15		
Floodflow Alteration	X		4, 5, 6, 9, 15	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1, 4		
Nutrient Removal	X		3, 4, 5, 7	X	
Production Export	X		4		Pickerel frogs observed
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X		4, 5, 7, 8, 17	X	Pickerel frogs observed in wetland
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other		X			

*Refer to attached list of numbered considerations and qualifiers

Function-Value Evaluation Form - Wetland E

Total area of wetland? 0.078 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island" ? No

Adjacent land use? Floodplain Forest, Mowed Lawn, Paved Path Distance to nearest roadway or other development? 20 ft to Genesee River Trail

Dominant wetland systems present? Forested

Contiguous undeveloped buffer zone present? No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? Zero

Prepared by: CAB Date: November 9, 2015

Wetland Impact: TBD
 Type: Area:

Evaluation based on:
 Office: Field: X

Corps manual wetland delineation completed? Yes

Function/Value	Occurrence		Rationale (Condition/Qualifier*)	Principal Function/Value	Comments
	Y	N			
Groundwater Recharge/Discharge	X		15		
Floodflow Alteration	X		4, 5, 6, 9	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1		
Nutrient Removal	X		3		
Production Export	X		4		
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X		8		
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other		X			

*Refer to attached list of numbered considerations and qualifiers

Function-Value Evaluation Form - Wetland F

Total area of wetland? 0.041 ac Human made? No Is wetland part of a wildlife corridor? No or a "habitat island" ? No

Adjacent land use? Floodplain Forest, Mowed Lawn, Paved Path Distance to nearest roadway or other development? 20 ft to Genesee River Trail

Dominant wetland systems present? Forested

Contiguous undeveloped buffer zone present? No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? Zero

Prepared by: CAB Date: November 9, 2015

Wetland Impact: TBD
 Type: Area:

Evaluation based on:
 Office: Field: X

Corps manual wetland delineation completed? Yes

Function/Value	Occurrence		Rationale (Condition/Qualifier*)	Principal Function/Value	Comments
	Y	N			
Groundwater Recharge/Discharge	X		15		
Floodflow Alteration	X		4, 5, 6, 9	X	
Fish and Shellfish Habitat		X			
Sediment/Toxicant Retention	X		1		
Nutrient Removal	X		3		
Production Export	X		4		
Sediment/Shoreline Stabilization		X			
Wildlife Habitat	X		8		
Recreation		X			
Educational/Scientific Value		X			
Uniqueness/Heritage		X			
Visual Quality/Aesthetics		X			
Endangered Species Habitat		X			
Other		X			

*Refer to attached list of numbered considerations and qualifiers

EXHIBIT D

PROHIBITED AND REGULATED INVASIVE SPECIES LIST

6 NYCRR Part 575
Prohibited and Regulated Invasive Species
September 10, 2014

ALGAE AND CYANOBACTERIA

Prohibited:

Caulerpa taxifolia, Killer Green Algae
Didymosphenia geminata, Didymo
Prymnesium parvum, Golden Algae

Regulated:

Cylindrospermopsis raciborskii, Cylindro
Grateloupia turuturu, Red Algae

PLANTS

Prohibited:

Acer pseudoplatanus, Sycamore Maple
Achyranthes japonica, Japanese Chaff Flower
Alliaria petiolata, Garlic Mustard
Ampelopsis brevipedunculata, Porcelain Berry
Anthriscus sylvestris, Wild Chervil
Aralia elata, Japanese Angelica Tree
Artemisia vulgaris, Mugwort
Arthraxon hispidus, Small Carpet Grass
Berberis thunbergii, Japanese Barberry
Brachypodium sylvaticum, Slender False Brome
Cabomba caroliniana, Fanwort
Cardamine impatiens, Narrowleaf Bittercress
Celastrus orbiculatus, Oriental Bittersweet
Centaurea stoebe (*C. biebersteinii*, *C. diffusa*, *C. maculosa misapplied*, *C. xpsammogena*), Spotted Knapweed
Cirsium arvense (*C. setosum*, *C. incanum*, *Serratula arvensis*), Canada Thistle
Cynanchum louiseae (*C. nigrum*, *Vincetoxicum nigrum*), Black Swallow-wort
Cynanchum rossicum (*C. medium*, *Vincetoxicum medium*, *V. rossicum*), Pale Swallow-wort
Dioscorea polystachya (*D. batatas*), Chinese Yam
Dipsacus laciniatus, Cut-leaf Teasel
Egeria densa, Brazilian Waterweed
Elaeagnus umbellata, Autumn Olive
Euphorbia cyparissias, Cypress Spurge
Euphorbia esula, Leafy Spurge
Ficaria verna (*Ranunculus ficaria*), Lesser Celandine
Frangula alnus (*Rhamnus frangula*), Smooth Buckthorn
Glyceria maxima, Reed Manna Grass
Heracleum mantegazzianum, Giant Hogweed
Humulus japonicus, Japanese Hops
Hydrilla verticillata, Hydrilla/ Water Thyme
Hydrocharis morsus-ranae, European Frogbit
Imperata cylindrica (*I. arundinacea*, *Lagurus cylindricus*), Cogon Grass
Iris pseudacorus, Yellow Iris

Lepidium latifolium, Broad-leaved Pepper-grass
Lespedeza cuneata, Chinese Lespedeza
Ligustrum obtusifolium, Border Privet
Lonicera japonica, Japanese Honeysuckle
Lonicera maackii, Amur Honeysuckle
Lonicera morrowii, Morrow's Honeysuckle
Lonicera tatarica, Tartarian Honeysuckle
Lonicera x bella, Fly Honeysuckle
Ludwigia hexapetala (*L. grandiflora*), Uruguayan Primrose Willow
Ludwigia peploides, Floating Primrose Willow
Lysimachia vulgaris, Garden Loosestrife
Lythrum salicaria, Purple Loosestrife
Microstegium vimineum, Japanese Stilt Grass
Murdannia keisak, Marsh Dewflower
Myriophyllum aquaticum, Parrot-feather
Myriophyllum heterophyllum, Broadleaf Water-milfoil
Myriophyllum heterophyllum x M. laxum, Broadleaf Water-milfoil Hybrid
Myriophyllum spicatum, Eurasian Water-milfoil
Nymphoides peltata, Yellow Floating Heart
Oplismenus hirtellus, Wavyleaf Basketgrass
Persicaria perfoliata (*Polygonum perfoliatum*), Mile-a-minute Weed
Phellodendron amurense, Amur Cork Tree
Phragmites australis, Common Reed Grass
Phyllostachys aurea, Golden Bamboo
Phyllostachys aureosulcata, Yellow Groove Bamboo
Potamogeton crispus, Curly Pondweed
Pueraria montana, Kudzu
Reynoutria japonica (*Fallopia japonica*, *Polygonum cuspidatum*), Japanese Knotweed
Reynoutria sachalinensis (*Fallopia sachalinensis*, *Polygonum sachalinensis*), Giant Knotweed
Reynoutria x bohemica (*Fallopia x bohemica*, *Polygonum x bohemica*), Bohemian Knotweed
Rhamnus cathartica, Common Buckthorn
Rosa multiflora, Multiflora Rose
Rubus phoenicolasius, Wineberry
Salix atrocinerea, Gray Florist's Willow
Silphium perfoliatum, Cup-plant
Trapa natans, Water Chestnut
Vitex rotundifolia, Beach Vitex

Regulated:

Acer platanoides, Norway Maple
Clematis terniflora, Japanese Virgin's Bower
Euonymus alatus, Burning Bush
Euonymus fortunei, Winter Creeper
Miscanthus sinensis, Chinese Silver Grass
Robinia pseudoacacia, Black Locust

FISH

Prohibited:

Channa argus, Northern Snakehead

Channa marulius, Bullseye Snakehead
Channa micropeltes, Giant Snakehead
Clarias batrachus, Walking Catfish
Gambusia affinis, Western Mosquitofish
Gambusia holbrooki, Eastern Mosquitofish
Hypophthalmichthys harmandi, Largescale Silver Carp
Hypophthalmichthys molitrix, Silver Carp
Hypophthalmichthys nobilis, Bighead Carp
Misgurnus anguillicaudatus, Oriental Weatherfish
Mylopharyngodon piceus, Black Carp
Neogobius melanostomus, Round Goby
Petromyzon marinus, Sea Lamprey
Proterorhinus semilunaris (*P. marmoratus*), Tubenose Goby
Tinca tinca, Tench

Regulated:

Carassius auratus, Goldfish
Cyprinella lutrensis, Red Shiner
Cyprinus carpio, Common Carp/ Koi
Gymnocephalus cernuus, Ruffe
Monopterus albus, Asian Swamp Eel
Oreochromis aureus, Blue Tilapia
Oreochromis niloticus, Nile Tilapia
Pterois miles, Common Lionfish
Pterois volitans, Red Lionfish
Sander lucioperca (*Stizostedion lucioperca*), Zander
Scardinius erythrophthalmus, Rudd

AQUATIC INVERTEBRATES

Prohibited:

Bellamyia chinensis (*Cipangopaludina chinensis*), Chinese Mystery Snail
Bellamyia japonica, Japanese Mystery Snail
Bithynia tentaculata, Faucet Snail
Bythotrephes longimanus (*B. cederstroemi*), Spiny Water Flea
Cercopagis pengoi, Fishhook Water Flea
Corbicula fluminea, Asian Clam
Crassostrea ariakensis, Suminoe Oyster
Didemnum spp., Carpet Tunicate
Dreissena polymorpha, Zebra Mussel
Dreissena rostriformis bugensis, Quagga Mussel
Eriocheir sinensi, Chinese Mitten Crab
Hemigrapsus sanguineus, Asian Shore Crab
Hemimysis anomala, Bloody Red Shrimp
Orconectes rusticus, Rusty Crayfish
Potamopyrgus antipodarum, New Zealand Mud Snail
Rapana venosa, Veined Rapa Whelk
Styela plicata, Asian Sea Squirt

Regulated:

Carcinus maenas, European Green Crab
Daphnia lumholtzi, Water Flea
Hemigrapsus takanoi (*H. penicillatus*), Brush-clawed Shore Crab/ Grapsid Crab

TERRESTRIAL INVERTEBRATES

Prohibited:

Achatina achatina, Giant Ghana Snail
Achatina fulica (*Lissachatina fulica*), Giant African Land Snail
Adelges tsugae, Hemlock Woolly Adelgid
Agrilus planipennis, Emerald Ash Borer
Amyntas spp., Asian Earthworms
Anoplophora glabripennis, Asian Longhorn Beetle
Apis mellifera scutellata x A. mellifera ligustica/ A. mellifera iberiensis, Africanized Honey Bee
Archachatina marginata, Giant West African Snail
Cryptococcus fagisuga, Beech Scale
Lymantria dispar, Asian and European Gypsy Moth
Monochamus alternatus, Japanese Pine Sawyer
Pityophthorus juglandis, Walnut Twig Beetle
Sirex noctilio, Sirex Woodwasp

TERRESTRIAL AND AQUATIC VERTEBRATES

Prohibited:

Cygnus olor, Mute Swan
Lepus europaeus, European Hare
Myocastor coypus, Nutria
Nyctereutes procyonoides, Asian Raccoon Dog
Sus scrofa (excluding *Sus scrofa domestica*), Eurasian Boar

Regulated:

Alopochen aegyptiacus, Egyptian Goose
Cairina moschata, Muscovy Duck
Myiopsitta monachus, Monk Parakeet
Oryctolagus cuniculus, European Rabbit
Trachemys scripta elegans, Red-eared Slider
Xenopus laevis, African Clawed Frog

FUNGI

Prohibited:

Amylostereum areolatum, Sirex Wasp Fungus
Geomyces destructans, White-nose Syndrome
Geosmithia morbida, Thousand Canker Disease
Phytophthora ramorum, Sudden Oak Death

For the official regulations and species lists please see: <http://www.dec.ny.gov/animals/265.html>.

**New York State Department of Environmental Conservation
Part 575 Invasive Species Regulations
Questions and Answers**

What are invasive species?

Invasive species means a species that is non-native to the ecosystem under consideration; and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Why are invasive species a problem?

Invasive species have a detrimental effect upon the State's natural communities and systems by out-competing native species, diminishing biological diversity, altering community structure and, in some cases, changing ecosystem processes. They can even harm human health.

How will these regulations help?

The regulations were developed by the Department of Environmental Conservation, in cooperation with the Department of Agriculture and Markets. These regulations, once implemented, are expected to help control invasive species by reducing the introduction and spread of invasive species populations by limiting commerce in such species, thereby having a positive impact on the environment.

How were the lists of species in the regulations developed?

The lists of prohibited and regulated species were developed using the standardized species assessment and listing process outlined in the 2010 report "A Regulatory System for Non-native Species". Lists of candidate non-native invasive species were compiled by reviewing other state regulations, reports, lists and consulting with agency experts. A rapid assessment was conducted to determine if the species warranted listing and was already federally regulated. Ecological invasiveness assessments were conducted on each potential invasive species followed by a socio-economic assessment for those ranking High or Very High. The assessment team then placed the species in the appropriate regulatory classification of Prohibited or Regulated. The initial recommendations were submitted to the Invasive Species Advisory Committee (25 Non-Government Organizations) and Council (9 State Agencies) for review and comment. The lists were then incorporated into the regulations.

Why isn't a particular species included on the prohibited or regulated lists?

Due to staffing limitations and time constraints, the initial list of prohibited and regulated species is not all-encompassing. We anticipate that the regulations will be updated on a regular basis. The regulations include language for petitioning for addition or removal of species from the prohibited and regulated lists. Some species were assessed, but do not meet the criteria for prohibition or regulation.

Aren't some of the species listed as either prohibited or regulated already established?

Yes, however, there are areas of the State in which they have not yet established populations and these regulations are intended to slow the spread by reducing the number of individuals of a species released into a region, to which they are not native, associated with the sale and introduction of such species.

When did the regulation become final?

The part 575 invasive species regulations were proposed, and a 60 day to public comment held between October and December 2013. During this time, four public hearings were scheduled across the State. All comments received were reviewed and a summary of public comments and agency responses was compiled. Required changes were made to the final regulations. A summary of the final regulations was published in the State Register September 10, 2014 and the full express terms were published on the Department's website.

Once finalized, when will the regulations become implemented?

A summary of the final regulations was published in the State Register September 10, 2014. The part 575 regulations take effect 6 months later (March 10, 2015).

What is the difference between prohibited and regulated invasive species?

Prohibited invasive species cannot be knowingly possessed with the intent to sell, import, purchase, transport or introduce. In addition, no person shall sell, import, purchase, transport, introduce or propagate prohibited invasive species. Regulated invasive species, on the other hand, are species which cannot be knowingly introduced into a free-living state, or introduced by a means that one should have known would lead to such an introduction, although such species shall be legal to possess, sell, buy, propagate and transport.

What is considered a free-living state?

A species is considered in a free-living state if it is introduced to public lands or lands connected to public lands, natural areas, and public waters or waters connected to public waters.

Are there any exceptions to the definition of a free-living state?

Yes, such exceptions include artificial ponds and water gardens with no outlet to public waters, waters entirely within private land not connected to public waters, and water-use facilities with outflows not providing access to public waters.

Do the regulations require existing populations of species on the prohibited and regulated lists be managed or destroyed by the land-owner?

No, existing populations of non-native invasive species listed as prohibited or regulated and established prior to the implementation of the final part 575 regulations do not require management by the owner. However, once implemented, the final regulations do prohibit commerce involving those species listed as prohibited species and the release of regulated species into a free-living state.

What species have grace periods established in the regulations?

A one year grace period is included in the regulations for Japanese Barberry (*Berberis thunbergii*), during which existing stock of this species may be sold. In addition, a person may possess, sell, offer for sale, distribute, transport, or otherwise market or trade live Eurasian boars (*Sus scrofa*) until September 1, 2015. No person shall knowingly import, propagate or introduce Eurasian boars into a free-living state.

Will there be a fee for permits? No fee is anticipated for permits issued for research, education or other approved activity.

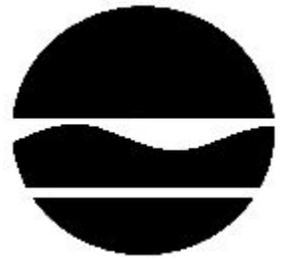
Who will enforce the final regulations?

The regulations will be enforced by the Department of Environmental Conservation, with assistance from the Department of Agriculture and Markets.

EXHIBIT E

AGENCY CORRESPONDENCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife and Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • Fax: (518) 402-8925
Website: www.dec.ny.gov



November 13, 2015

Kelly J. Saladis
Shumaker Consulting Engineering & Land Surveying, D.P.C.
143 Court Street
Binghamton, NY 13901

Re: Brownfield Opportunity Area - South Genesee River Corridor Project
Town/City: City Of Rochester. County: Monroe.

Dear Kelly J. Saladis:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities at your site or in its immediate vicinity.

The absence of data does not necessarily mean that rare or state-listed species, significant natural communities, or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information that indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities, and other significant habitats maintained in the Natural Heritage database. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

A handwritten signature in cursive script that reads "Andrea Chaloux".

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

IPaC

My project Monroe County, New York

U.S. Fish & Wildlife Service

This project potentially impacts **17 resources** managed or regulated by the U.S. Fish & Wildlife Service

Endangered species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

Mammals

Northern Long-eared Bat *Myotis septentrionalis*

Threatened (A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range)

Critical habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

THERE IS NO CRITICAL HABITAT WITHIN THIS PROJECT AREA

Migratory birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1).

There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

American Bittern *Botaurus lentiginosus*
Season: Breeding

Bald Eagle *Haliaeetus leucocephalus*
Year-round

Black Tern *Chlidonias niger*
Season: Breeding

Black-billed Cuckoo *Coccyzus erythrophthalmus*
Season: Breeding

Black-crowned Night-heron *Nycticorax nycticorax*
Season: Breeding

Blue-winged Warbler *Vermivora pinus*
Season: Breeding

Canada Warbler *Wilsonia canadensis*
Season: Breeding

Cerulean Warbler *Dendroica cerulea*
Season: Breeding

Common Tern *Sterna hirundo*
Season: Breeding

Golden-winged Warbler *Vermivora chrysoptera*
Season: Breeding

Least Bittern *Ixobrychus exilis*
Season: Breeding

Pied-billed Grebe *Podilymbus podiceps*
Season: Breeding

Red-headed Woodpecker *Melanerpes erythrocephalus*
Season: Breeding

Short-eared Owl *Asio flammeus*
Season: Wintering

Upland Sandpiper *Bartramia longicauda*
Season: Breeding

Wood Thrush *Hylocichla mustelina*
Season: Breeding

Wildlife refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process.

THERE ARE NO REFUGES WITHIN THIS PROJECT AREA

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

THERE ARE NO WETLANDS IDENTIFIED IN THIS PROJECT AREA

EXHIBIT F

PHOTOGRAPHS



Photo No. 001 Photo Date: 19 October 2015

Description: View of Wetland A looking southwest.



Photo No. 002 Photo Date: 19 October 2015

Description: View of Wetland B looking north.

Wetland Assessment and Delineation, Ecological Screening and Invasive Species Report
Vacuum Oil Brownfield Opportunity Area
City of Rochester
Monroe County, New York



Photo No. 003 Photo Date: 19 October 2015

Description: View of Wetland C looking north.



Photo No. 004 Photo Date: 20 October 2015

Description: View of Wetland D looking northeast.

Wetland Assessment and Delineation, Ecological Screening and Invasive Species Report
Vacuum Oil Brownfield Opportunity Area
City of Rochester
Monroe County, New York



Photo No. 005 Photo Date: 20 October 2015

Description: View of Wetland E looking northeast.



Photo No. 006 Photo Date: 20 October 2015

Description: View of Wetland F looking south.

Wetland Assessment and Delineation, Ecological Screening and Invasive Species Report
Vacuum Oil Brownfield Opportunity Area
City of Rochester
Monroe County, New York

EXHIBIT G

REFERENCES

REFERENCES

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EXHIBIT H

RESUMES

KELLY J. SALADIS

Senior Environmental Scientist

Education

B.S., Chemistry/Environmental Science, Binghamton University-1999

Additional Training and Certification

Stormwater Management Program FSH-004, Syracuse University

40 Hour OSHA Hazardous Material Training-2000

Advanced ARCVIEW GIS Certification

Army Corps of Engineers Wetlands Delineation & Management Training

Planning, Site Selection, and Hydrology Models for Constructed Wetlands

Northeast Regional Supplement Training - 2010

Years of Experience **15**

Ms. Saladis has 15 years of experience performing and managing environmental reviews, report preparation and permitting in accordance with federal and state requirements and guidance. Project work has included identifying social and economic concerns as well as existing environmental conditions, impacts, and mitigation. Project-related tasks include, but are not limited to wetland delineations and mitigation design, agency coordination, habitat assessments, hazardous waste screenings, surface water studies and USACE, NYSDEC, NYSDOS, and USCG permitting.

Ms. Saladis has obtained Nationwide and Individual permits for a wide range of projects affecting wetlands and streams, including lock/dam rehabilitation projects, bridge rehabilitation and replacements, stream stabilizations/realignments, and utility projects.

Lewiston at Clinton Street Wetland Investigation, Town of Kirkland, Oneida County, NY - SCE provided wetland investigation services, wetland delineation tasks, obtained a jurisdictional determination, designed a wetland mitigation area, and provided support during the construction phase of the mitigation site. Post construction wetland monitoring tasks are ongoing in support of the Lewiston housing development project at Clinton Street in the Town of Kirkland, County of Oneida, NY. As Environmental Scientist, Ms. Saladis was responsible for completing this project assignment. Ms. Saladis is currently providing oversight for the post construction Wetland Monitoring task.

D008528 PIN 1804.42, Glenridge Road (Route 50 to Route 146) Wetlands, City of Clifton Park, Schenectady and Saratoga Counties, NY – As Environmental Scientist, Ms. Saladis managed or performed the General Ecology and Endangered Species tasks, delineation of federal wetlands, the preparation of the Wetland Delineation Report and wetland mitigation design. Ms. Saladis also coordinated with the USACE and NYSDEC to obtain Jurisdictional Determinations and prepared the permit application package to obtain authorization for stream and wetland impacts.

D010116 PIN 8006.72 NYS Route 17 and I-86 Exit 122 Reconstruction, Town of Walkill, Orange County, NY – The scope of this ongoing project is to address operation and capacity improvements to Exit 122 on Route 17. Ms. Saladis was responsible for the delineation of approximately 25 wetlands, a hazardous waste screening, general ecology/endangered species review, surface water identification/evaluation, and the design of several wetland mitigation sites. The following reports were prepared as appendices to the Environmental Impact Statement: Wetland Delineation Report, Hazardous Waste Assessment Report, and a Biological Assessment for the Indiana bat (*Myotis sodalis*) and the Bog turtle (*Clemmys muhlenbergii*). Ms. Saladis also coordinated with the USACE for a jurisdictional determination for the site and assisted with the development of the Individual Permit Application Package.

D010293 PIN 4040.38 NYR 390 from I-490 Interchange to NYR 104, Towns of Greece and Gates, Monroe County, NY – This roadway project includes a bicycle/pedestrian trail link between the Route 390 multi-use trail and the Erie Canal Trailway. Ms. Saladis was responsible for providing the General Ecology/Endangered Species Review, the Surface Water Identification and Evaluation, the delineation of federal wetlands, and preparation of the Wetland Delineation Report.

D015382 I-81 to Fort Drum Construction and Rehabilitation of Interstate Interchange, Fort Drum Military Reservation, Jefferson County, NY – This ongoing project is providing an Environmental Impact Statement and other environmental design services for a federally funded project for construction and rehabilitation of a 6.5 to 8.0 km transportation link between I-81 and the Main Gate of Fort Drum under PIN 7804.26. Ms. Saladis has performed a screening of the Project Study Area (PSA), which is approximately 25 square miles, for the presence of federal/state wetlands and surface water bodies and generated electronic files to assist the NYSDOT with their initial design efforts. Ms. Saladis supervised the field delineation effort, which involved 37 wetlands, assisted with the development of the delineation report, coordinated with involved agencies, and assisted with the identification/design of a 7-acre wetland mitigation site. Project deliverables included a Wetland Delineation Report and contract documents for the Wetland Mitigation Design.

CHRISTOPHER A. BORNE *Environmental Scientist II*

Education

B.S., Biology: Ecology, Evolution, and Behavior, Binghamton University-2010

A.A., Liberal Arts, Broome Community College-2007

Additional Training and Certification

USACE Wetland Delineation Training Program, Richard Chinn Environmental Training, Inc.

Field Indicators of Hydric Soils, Wetland Training Institute, Inc.

Advanced Hydric Soils, Wetland Training Institute, Inc.

Years of Experience

3

Mr. Borne has approximately three years of field and office experience on projects in New York, Pennsylvania, Ohio, and West Virginia. He has regularly performed investigations and data collection on wetlands and streams. His field experience is focused on wetland delineations, wetland assessments, stream assessments, and benthic sampling. Chris has experience in writing and preparing Chapter 105 General Permit applications for the Pennsylvania Department of Environmental Protection as well as U.S. Army Corps of Engineers Section 404 Permit applications. He also has experience dealing with mitigation projects, rare plant surveys, and endangered bat surveys.

2.0 MW Solar Array Projects, City of Rome, County of Oneida, NY - Four 2.0 MW solar photovoltaic projects are currently being pursued in the City of Rome. SCE is responsible for survey and mapping, environmental review in accordance with SEQRA and completion of full Environmental Assessment Forms, Phase I Environmental Site Assessment, agency coordination, and Wetland Delineation and permitting. Mr. Borne was responsible for the field tasks, which included the identification of approximately a dozen wetlands and several streams to support the development of a 79-acre parcel. Additionally, Mr. Borne was responsible for the delineation of seven wetlands and preparation of a Wetland Delineation Report for another 43-acre parcel.

2.0MW Solar Array Project, County of Jefferson, NY – A solar photovoltaic project is being pursued in Jefferson County. SCE is responsible for providing preliminary mapping support and wetland delineation services. Mr. Borne is responsible for the delineation of state and federally-jurisdictional wetlands and corresponding documentation for the approximately 120-acre site.

Previous Experience Prior to SCE Employment

Appalachia Midstream Services, Inc. Pipeline Projects; Counties of Sullivan, Susquehanna, Potter, McKean, Wyoming, and Bradford, PA – This network of natural gas pipelines was being developed to service the numerous Marcellus Shale gas wells in the northern tier of Pennsylvania. Mr. Borne's tasks included: Wetland Delineations, determining wetlands and wetland boundaries using plant identification, hydrologic indicators, and soil chromas, stream biomonitoring where water quality, benthic macro invertebrates, fish, and stream physical characteristics were surveyed, and route development site walks identifying construction and environmental constraints. These services were performed on over 100 miles of proposed pipeline projects. Mr. Borne assisted with rare plant surveys and the delineation of mitigation areas. Furthermore, Mr. Borne has written and prepared Pennsylvania Water Obstruction and Encroachment Permit applications and U.S. Army Corps of Engineers Section 404 Permit applications on behalf of Appalachia Midstream Services.

Bluegrass Pipeline Project; Counties of Fairfield, Guernsey, Noble, and Perry, OH & County of Marshall, WV – Mr. Borne's tasks on this natural gas pipeline project included wetland delineations and stream assessments and classifications. Stream and wetland habitats were assessed via ORAM, HHEI, and QHEI methods.