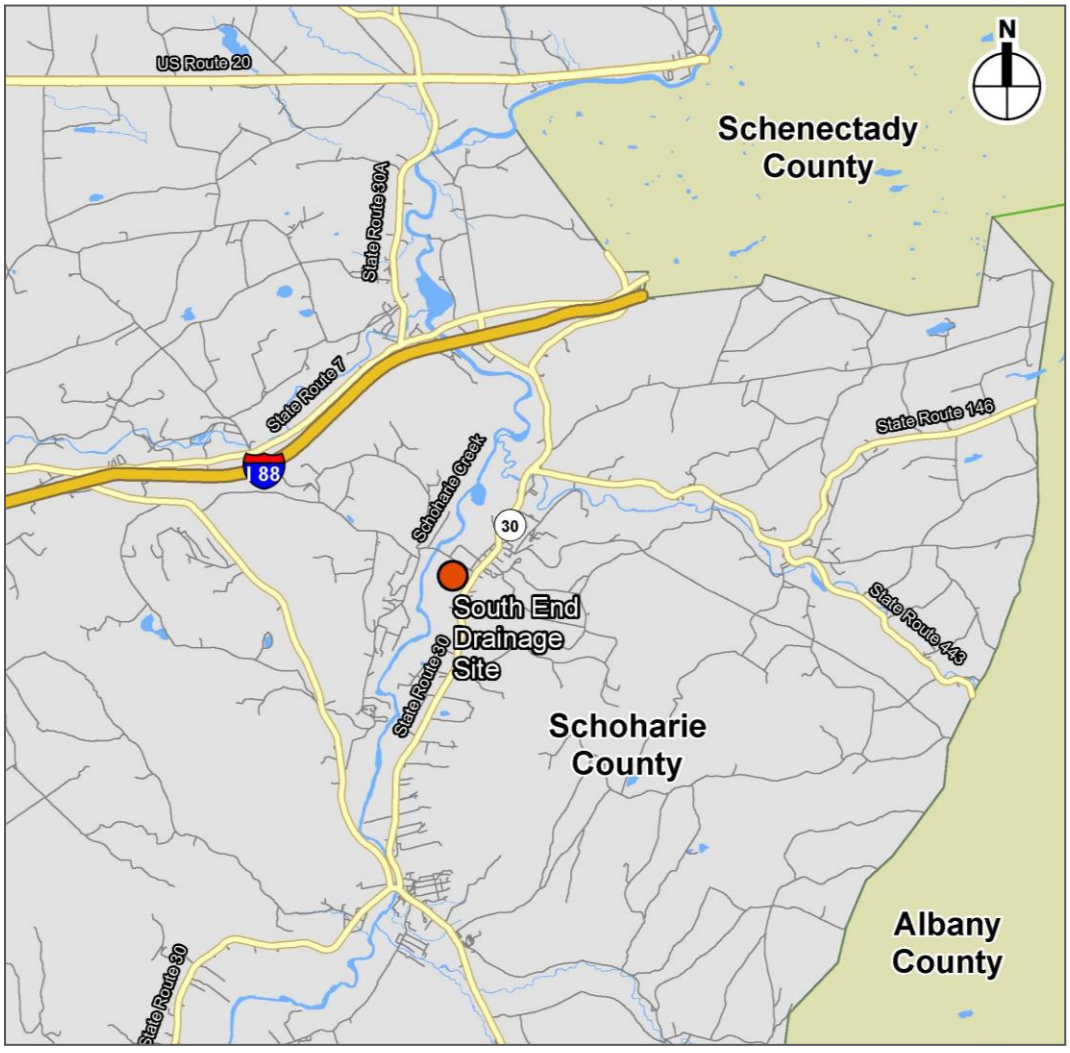
South End Drainage Improvements
Environmental Assessment

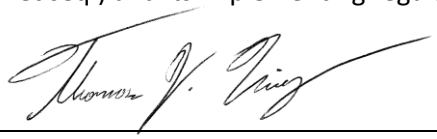
New York Governor's Office of Storm Recovery
Original - July 22, 2016
Revised - August 25, 2016



South End Drainage Improvements

Environmental Assessment

July 22, 2016

Project Name:	South End Drainage Improvements
Project Location:	State Route 30/Main Street/Bridge Street, South End, Village of Schoharie, Schoharie County, NY
Federal Agency:	U.S. Department of Housing and Urban Development
Responsible Entity:	New York State Homes and Community Renewal
Responsible Agency's Certifying Officer:	Thomas J. King, Assistant General Counsel and Certifying Officer
Project Sponsor:	Schoharie County Soil & Water Conservation District
Primary Contact:	Stephen Hoerz, District Field Manager 173 South Grant Street, Suite 3, Cobleskill, NY 12043 district@schohariesoilandwater.org, 518-823-4535
Project NEPA Classification:	24 CFR 58.36 (Environmental Assessment)
Environmental Finding:	☒ Finding of No Significant Impact - The project will not result in a significant impact on the quality of the human environment. ☐ Finding of Significant Impact - The project may significantly affect the quality of the human environment.
Certification	The undersigned hereby certifies that New York State Homes and Community Renewal has conducted an environmental review of the project identified above and prepared the attached environmental review record in compliance with all applicable provisions of the National Environmental Policy Act of 1969, as amended (42 USC Sec. 4321 et seq.) and its implementing regulations at 24 CFR Part 58.
Signature	 Thomas J. King, Assistant General Counsel

Environmental Review Prepared By:	Consultant #1 MJ Engineering and Land Surveying, P.C. 1533 Crescent Road Clifton Park, NY 12065	Consultant #2 AKRF, Inc. 34 South Broadway, Suite 401 White Plains, NY 10601

CERTIFICATION OF NEPA CLASSIFICATION

It is the finding of the New York State Housing Trust Fund Corporation that the activities proposed in its 2016 NYS CDGB-DR project, South End Drainage Improvements are:

Check the applicable classification.

☐ Exempt as defined in 24 CFR 58.34 (a).

☐ Categorically Excluded as defined in 24 CFR 58.35(b).

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and no activities are affected by federal environmental statues and executive orders [i.e., exempt under 58.34(a)(12)].

☐ Categorically Excluded as defined in 24 CFR 58.35(a) and some activities are affected by federal environmental statues and executive orders.

☒ "Other" neither exempt (24 CFR 58.34(a)) nor categorically excluded (24 CFR 58.35).

☒ Part or all of the project is located in an area identified as a floodplain or wetland. For projects located in a floodplain or wetland, evidence of compliance with Executive Orders 11988 and/or 11990 is required.

For activities excluding those classified as "Other," attached is the appropriate Classification Checklist (Exhibit 2-4) that identifies each activity and the corresponding citation.

Signature of Certifying Officer	**Date**
Thomas J. King	Assistant General Counsel and Certifying Officer
Print Name	**Title**

July 22, 2016

CERTIFICATION OF SEQRA CLASSIFICATION

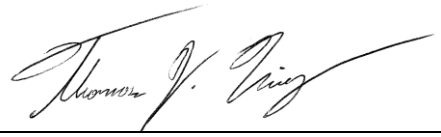
It is the finding of the New York State Housing Trust Fund Corporation that the activity(ies) proposed in its 2016 NYS CDGB-DR project, South End Drainage Improvements are:

Check the applicable classification:

- ☐ Type I Action (6NYCRR Section 617.4)
- ☐ Type II Action (6NYCRR Section 617.5)
- ☒ Unlisted Action (not Type I or Type II Action)

Check if applicable:

- ☐ Environmental Impact Statement (EIS) Prepared
  - ☐ Draft EIS
  - ☐ Final EIS



Signature of Certifying Officer	**Date**
Thomas J. King	Assistant General Counsel and Certifying Officer
Print Name	**Title**

July 22, 2016

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**
The South End Drainage Improvements Project (Proposed Project) includes the design, engineering and construction of improvements to the Village of Schoharie, South End drainage system in Schoharie County, New York (see **Figure 1, "Project Location"** and **Figure 2, "Project Site"**). The project is anticipated to be constructed on existing Village of Schoharie property, where the Village will operate and maintain the improvements. The results of this project are anticipated to reduce the risk of localized flooding when future storm events occur, while preventing isolation of residents and allowing uninterrupted emergency response.

The Proposed Project includes relocating existing utilities, lowering culverts, providing a detention pond to attenuate peak runoff, constructing an outfall to Schoharie Creek, re-establishing swales, providing additional drainage along and across State Route 30/Main Street and Bridge Street, providing backflow gates to prevent Schoharie Creek flood waters from feeding back into the Proposed Project location, and providing streambank stabilization at the Schoharie Creek outfall (see **Appendix A, "Proposed Site Plan"**).

The 20-inch culvert under Route 30 north of Sunset will be replaced with 2 – 36-inch pipes at an elevation 1.3 feet lower than the current elevation. This will allow the area on the east side of Route 30 to drain freely after a rain event. The elevation will be high enough to maintain the level of the wetland. The location of the sanitary sewer limits the extent the culvert can be lowered.

The 24-inch culvert under Sunset Drive will be replaced with 2-24x38-inch elliptical culverts. The elevation will be lowered by 12 inches. This will allow the continued free drainage of runoff from the east of Route 30 and the area north of Sunset Drive. Again the sanitary sewer limits the lowering of the culvert.

A storm sewer system will be constructed along the east side of Route 30. This will consist of 3 catch basins on the east side of Route 30, one on the west side, and outfall piping to the detention pond described below. The piping will be 12-inch and 15-inch PVC and will cross Route 30 at the location of the former Rainbow Road intersection.

A detention pond will be constructed on 2 parcels currently owned by the Village of Schoharie and Shaul Farms. From the pond outlet a 24-inch PVC pipe will convey water to the Schoharie Creek approximately 3,000 feet away. This pipeline will include 12 drainage manholes to allow inspection, maintenance and access. A flap gate will be provided near the outlet keep out debris and rodents.

Grassed swales will be used to convey stormwater in the areas upstream of Route 30, between Route 30 and Sunset Drive, and between Sunset Drive and the new detention pond.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
During Hurricane Irene and Tropical Storm Lee, the Village of Schoharie's storm water drainage systems

in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street. State Route 30 is a primary transportation corridor through the Schoharie Valley used by emergency service vehicles and evacuating residents. The flooding not only resulted in localized damage, but it also created emergency response challenges that had a regional impact. The overall goal of the project is to alleviate flooding and stormwater ponding so that buildings and roadways are less vulnerable. The Proposed Project was identified in the Towns and Villages of Esperance, Schoharie, and Middleburgh's New York Rising Community Reconstruction Plan. Improvements to the drainage system are anticipated to support regional stormwater management efforts, and will contribute to upgrading vital infrastructure in the area.

Existing Conditions and Trends [24 CFR 58.40(a)]:
The current land uses on the approximately 35-acre project site include residential and agricultural uses. Schoharie Creek is located along the western edge of the project site and is classified as a NYSDEC class C stream in this area. A tributary to Schoharie Creek is located along the eastern edge of the project site and is also classified as a NYSDEC class C stream. Neither Schoharie Creek nor the tributary are listed on the New York State Department of Environmental Conservation Wild, Scenic, and Recreational Rivers list (NYSDEC 2015) or on the Nationwide Rivers Inventory (NPS 2011).

Schoharie Creek and the tributary are also mapped as a National Wetlands Inventory (NWI) riverine wetlands with a classification of R5UBH (unknown perennial) (see **Figure 3, "NWI Wetlands"**). No NYSDEC freshwater wetlands are located in the project site (see **Figure 4, "NYSDEC Wetlands"**). Wetland delineations conducted on the project site reported three wetlands making up approximately two acres of the project site (**Appendix B** and **Appendix C**). However, no disturbance is anticipated to occur in these wetlands. The project site is located within the 100-year and 500-year floodplains (see **Figure 5, "FEMA Flood Zone"**).

The Proposed Project will comply with a State Pollution Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activity, and the design will incorporate the NYSDEC Stormwater Management Design Manual and the NYSDOT Chapter 8 Drainage Standards will be utilized, which will ensure protection of these nearby aquatic resources.The Village of Schoharie's South End is home to a growing number of small scale developments according the New York Rising Community Reconstruction Plan. This has created additional stormwater runoff thereby further stressing the existing drainage infrastructure. Upon implementation of the Proposed Project, benefits are anticipated to impact health and social services, housing, and infrastructure.

Funding Information

Estimated Total HUD Funded Amount: $1,015,000

Estimated Total Project Cost
(HUD and non-HUD funds) [24 CFR 58.32(d)]**:** $1,015,000

Compliance with 24 CFR 58.5 and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes ☐ No ☒	Not applicable. Based on guidance provided by HUD in Fact Sheet #D1, the National Plan of Integrated Airport Systems was reviewed for civilian, commercial service airports within the vicinity of the project site. No known civil airports are located within 2,500 feet and no known military airports are located within 15,000 feet of the project site. Therefore, there are no adverse impacts anticipated.
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes ☐ No ☒	Not applicable. According to the Coastal Barrier Resource System maps, the Proposed Project is not located in a Coastal Barrier Resource System. Therefore, there are no adverse impacts anticipated. http://www.fws.gov/cbra/Maps/index.html
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes ☐ No ☒	Not applicable. Portions of the Proposed Project area are located within the 100 year floodplain and within the 500 year floodplain (see **Figure 5**). However, this project contains only drainage improvements, and is exempt from the Flood Insurance requirement. https://msc.fema.gov/portal

STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes ☐ No ☒	Schoharie County is not within the most recent Nonattainment Areas for Criteria Pollutants as defined by the EPA's Green Book for Nonattainment Areas for Criteria Pollutants. The Proposed Project involves making improvements to the existing drainage system. Construction activities associated with the Proposed Project may result in temporary increases in emissions from on-site equipment, construction-related vehicles and non-road engines, and fugitive dust. However, all activities under the Proposed Project would comply with applicable federal, state, and local laws and regulations regarding construction emissions. No significant adverse impacts are anticipated. http://www.epa.gov/airquality/greenbook/ http://www.epa.gov/airquality/greenbook/adden.html
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes ☐ No ☒	Not applicable. State agencies must complete a Coastal Assessment Form (CAF) as soon as the agency contemplates an action that may affect the policies for the coastal area or of an approved LWRP. The project site is not located within the boundaries of the New York State Coastal Area Boundary. The Proposed Project site is located near Schoharie Creek which is a NYS Designated Inland Waterway eligible for the LWRP program. There are currently no adopted LWRPs in the Village of Schoharie. Therefore, no adverse impacts are anticipated. http://www.dos.ny.gov/opd/atlas/ http://www.dos.ny.gov/opd/programs/pdfs/Waterways_List_08-14.pdf http://www.dos.ny.gov/opd/programs/WFRevitalization/LWRP_status.html
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes ☐ No ☒	The Proposed Project location is not listed on a U.S. Environmental Protection Agency (EPA) Superfund National Priorities or CERCLA List, or equivalent State list, located within 3,000 feet of a toxic or solid waste landfill site, does not have an underground storage tank, and is not known or suspected to be contaminated by toxic chemicals or radioactive materials. A review of the NYSDEC Spill Incident Database did not indicate any spills within the vicinity of the Project Site within the last year. The Proposed Project would not result in any significant adverse impacts related to toxic, hazardous, or radioactive materials. http://nepassisttool.epa.gov/nepassist/entry.aspx http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cf

		m?pageid=2
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes ☐ No ☒	The Proposed Project was reviewed using the New York State Department of Environmental Conservation (NYS DEC) Environmental Resource Mapper website. According to the information generated by the Mapper, rare threatened or endangered plant or animal species may be present in the property's vicinity. There are no known significant natural communities present (see **Appendix D**). A consultation letter was submitted to the NYS DEC New York Natural Heritage Program (NYNHP) on May 6, 2016 requesting review and consultation of the Proposed Project and location. This consultation letter requested advisement on whether or not the Proposed Project is likely to adversely affect any rare, threatened, or endangered species. A concurrence letter was received on June 8, 2016 (see **Appendix E**). The Proposed Project was reviewed in April 2016 using the U.S. Fish & Wildlife Service's (USFWS) IPaC website and a Trust Resource Report was generated. According to the IPaC Trust Resource Report, there is one threatened species that is potentially associated with the Proposed Project location (see **Appendix F**). The species is the Northern long-eared bat (NLEB) (*Myotis septentrionalis*). There are currently no roost trees or hibernacula known to be occupied by the NLEB within the Proposed Project boundaries. The closest hibernaculum is 1.8 miles northwest of the Proposed Project location. The Proposed Project will include the clearing of up to one tree located near the proposed Schoharie Creek outfall. This tree is a Shagbark Hickory. This may take place during the active season (April-October); it will most likely occur during September and will take approximately one week. The Proposed Project location consists mainly of open roadside areas, residential yards, and open fields with very few trees. The tree that may be removed would not likely be considered suitable habitat for the NLEB, as discussed in the consultation letter submitted to USFWS on April 14, 2016 (**Appendix E**). Nonetheless, due to the potential for active season tree removal, GOSR determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule. All activities associated with the proposed project will not: 1) disturb hibernating NLEBs in a known

		hibernaculum; 2) alter the entrance or interior environment of a known hibernaculum; 3) remove any trees within 0.25 miles of a known hibernaculum at any time of year; or 4) cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree, during the pup season (June 1 through July 31). http://www.dec.ny.gov/animals/38801.html https://ecos.fws.gov/ipac/
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes ☐ No ☒	This criterion is applicable to HUD-assisted projects that involve new residential construction, conversion of non-residential buildings to residential use, rehabilitation of residential properties that increase the number of units, or restoration of abandoned properties to habitable condition. The Proposed Project consists of the design and construction of improvements to an existing drainage system. Therefore, the criterion does not apply and no adverse impacts are anticipated.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes ☐ No ☒	The Proposed Project is adjacent to Agricultural District 1 within Schoharie County. A substantial portion of the Proposed Project location is comprised of Prime Farmland soils (see **Figure 6**). The Proposed Project consists of the design and construction of drainage improvements within the South End portion of the Village of Schoharie and would not violate the Farmland Protection Policy Act (FPPA). The United States Department of Agriculture (USDA) National Resources Conservation Service (NRCS) has been consulted in order to ensure compliance with the FPPA (see **Appendix E**). Therefore, no adverse impacts are anticipated. http://www.agriculture.ny.gov/ap/agservices/maps/agSCHO2013.pdf http://websoilsurvey.sc.egov.usda.gov/app/WebSoilSurvey.aspx
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes ☐ No ☒	The Proposed Project is anticipated to result in approximately 5 acres of disturbed land, which includes approximately 4.5 acres in the 100-year floodplain and approximately 0.1 acres in the 500-year floodplain (see **Figure 5**). Due to the location of the Proposed Project within a floodplain, a Draft 8-step Floodplain Management & Wetland Protection Plan has been prepared in compliance with Executive Orders 11988 and 11990 and is attached to this EA as **Appendix G**. The

		Proposed Project will be providing drainage improvements and is anticipated to reduce the risk of localized flooding during future storm events, while preventing isolation of residents and allowing uninterrupted emergency response. If the project results in a floodway encroachment, a no-rise certification must be provided. https://msc.fema.gov/portal
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.	Yes ☐ No ☒	The Proposed Project location was reviewed using the State Historic Preservation Office (SHPO) Cultural Resource Information System (CRIS) database in September 2015. Two buildings appeared on within the system's database. One of the buildings listed is "Eligible" for state historic listing while the other building is "Undetermined" for state historic listing (see **Appendix H**). The Proposed Project was reviewed using the National Register of Historic Places in September 2015. There are no properties located within the Proposed Project boundaries that are listed on the National Register. A consultation letter was prepared and sent to SHPO on November 28, 2015. Per comments and direction received by SHPO, a Phase IA/IB Archeological Investigation and a Phase II Archeological Evaluation were completed (see **Appendix I** and **Appendix J**). The Proposed Project was broken into three "sites." Sites 1 and 3 were deemed ineligible for inclusion in the National Register. At Site #2, a significant density of artifacts was recovered. Site #2 drainage improvements were then adjusted to avoid interfering with these artifacts. SHPO issued a No Effect letter dated July 15, 2016 (see **Appendix E**). An Archeological Monitoring Plan will be prepared and submitted to SHPO for review. GOSR will ensure the following measures are undertaken during construction, in accordance with the SHPO letter: • avoid Site #2; • place protective flagging around the site to prevent inadvertent disturbance during construction; and • conduct archeological monitoring during construction for excavations that exceed the depth that was reached by shovel tests conducted during the Phase I and Phase II field testing.

		Should any culturally significant artifacts be discovered, all work shall cease and GOSR, SHPO, and any relevant tribal entities shall be contacted immediately. A consultation letter was prepared for and sent to the Saint Regis Mohawk Tribe and Stockbridge-Munsee Community, Band of Mohicans Tribal Offices of Historic Preservation (THPO) on November 18, 2015. Upon initial comments received and advancement of the Phase 1A/1B and Phase 2 archaeological surveys, an updated letter was prepared and sent to the Saint Regis Mohawk Tribe and Stockbridge-Munsee Community, Band of Mohicans THPO offices on April 26, 2016. A No Effect, or concurrence response, was received from these offices on May 19, 2016 and May 2, 2016, respectively (see **Appendix E**). http://www.nationalregisterofhistoricplaces.com/ny/state.html http://parks.ny.gov/shpo/online-tools/ http://egis.hud.gov/tdat/Tribal.aspx
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	The Proposed Project involves the design and construction of improvements for the existing South End drainage system. The Proposed Project is not a noise sensitive use, and furthermore, the policies of 24 CFR 51.101(a)(3) do not apply to any action or emergency assistance under disaster assistance provisions or appropriations which are provided to save lives and protect public health and safety. The Proposed Project would temporarily increase noise levels at nearby residences. These increases would be mitigated by implementing the Construction Impacts Conditions for Approval (see below under Mitigation Measures and Conditions), including outfitting of equipment with mufflers, and compliance with local noise ordinances including time-of-day work limitations. Following these temporary construction activities, noise levels would be similar to pre-storm levels and would not result in any significant increase in ambient noise levels.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes ☐ No ☒	Schoharie County does not contain a sole source aquifer. Therefore, no adverse impacts are anticipated related to sole source aquifers. http://www.epa.gov/region02/water/aquifer/index.html
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes ☐ No ☒	Wetland delineations were conducted in September 2015 and January 2016. These wetland delineations reported three wetlands making up approximately

		two acres of the Proposed Project location (see **Appendix B** and **Appendix C**). However, no disturbance is anticipated to occur in these wetlands. The Proposed Project does not contain any NYSDEC freshwater wetlands (see **Figure** 4). The Proposed Project is adjacent to Schoharie Creek and a tributary to Schoharie Creek, which are mapped by the National Wetlands Inventory as Riverine wetlands with a classification of R5UBH (unknown perennial). The Proposed Project includes providing drainage improvements in to enhance drainage on properties within the Proposed Project location that are adjacent to the Schoharie Creek. The Proposed Project would disturb up to 150 square feet within this NWI riverine wetland through placement of the streambank stabilization at the Schoharie Creek outfall. This work would be conducted in accordance with NYSDEC and USACE permitting guidelines to minimize disturbance of the stream bank (see correspondence from NYSDEC dated March 9, 2016 in **Appendix E**). The Proposed Project would adhere to and be in compliance with the guidelines and regulations of Executive Order 11990, in order to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. A Draft 8-step Floodplain Management & Wetland Protection Plan has been prepared in compliance with Executive Orders 11988 and 11990 and is attached to this EA as **Appendix G**. http://www.fws.gov/wetlands/Data/Mapper.html
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes ☐ No ☒	There are no Wild and Scenic Rivers within Schoharie County, as designated by the U.S. Department of the Interior. There are no National Wild and Scenic Rivers in Schoharie County as designated by the National Wild and Scenic Rivers System. The project is not located along a Wild, Scenic and Recreational Rivers as determined by NYSDEC. Therefore, the Proposed Project would not violate the Wild and Scenic Rivers Act. http://www.nps.gov/ncrc/programs/rtca/nri/states/ny.html http://www.rivers.gov/new-york.php http://www.dec.ny.gov/permits/32739.html
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes ☐ No ☒	The Proposed Project is not located in or adjacent to potential environmental justice areas as indicated by the New York State Department of Environmental

		Conservation. Therefore, no significant adverse impacts are anticipated. http://www.dec.ny.gov/docs/permits_ej_operations_pdf/schoharieej.pdf

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

- **(1)** Minor beneficial impact
- **(2)** No impact anticipated
- **(3)** Minor Adverse Impact – May require mitigation
- **(4)** Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	The Proposed Project would be consistent with the objectives outlined in the March 2014 New York Rising Community Reconstruction Plan for the Towns and Villages of Esperance, Schoharie, and Middleburgh and the 1997 Joint Town and Village of Schoharie Comprehensive Plan. Specifically, the 1997 Joint Comprehensive Plan aims to minimize potential flooding of homes, while providing for the long-range protection of water resources for water quality and quantity, recreation, wildlife habitat and erosion stability. The Proposed Project would address flood issues, and significantly increase the safety of existing roadway crossings to ensure uninterrupted emergency service. The Proposed Project, which would maintain current land uses and be consistent with local zoning, is not anticipated to result in any significant adverse impacts to land use or zoning, and would not have an urbanizing effect on the community.
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	1	The Proposed Project would not change the slope of the existing site. The installation of drainage improvements, such as an outfall pipe to the adjacent Schoharie Creek with maintenance structures every 300 feet, aims to reduce the risk of flooding during storm events. This would result in minor beneficial impacts. During construction, best management practices would be utilized to avoid potential soil erosion.

Hazards and Nuisances including Site Safety and Noise	2	The Proposed Project would include the design and construction of drainage improvements. The Proposed Project does not include any demolition of structures. Impacts such as fugitive dust would be addressed under existing regulations governing construction activity in New York State, Schoharie County, and the Village of Schoharie. The Proposed Project would only temporarily increase noise levels at nearby residences during construction. These increases would be mitigated by implementing the Construction Impacts Conditions for Approval, including outfitting of equipment with mufflers, and compliance with local noise ordinances including time of-day work limitations.
Energy Consumption	2	The Proposed Project would result in energy consumption including the use of fossil fuels, for use of construction equipment and the shipment of materials required for construction activities. However, the Proposed Project would not increase long-term energy consumption.
SOCIOECONOMIC		
Employment and Income Patterns	2	The Proposed Project would create temporary construction jobs. However, these jobs would not significantly increase employment opportunities or impact income patterns. The Proposed Project would not result in the creation of new permanent jobs and therefore would not impact employment and income patterns.
Demographic Character Changes, Displacement	2	The Proposed Project would not result in the creation of new jobs and therefore would not alter the demographic characteristics of the surrounding community. The Proposed Project would not directly or indirectly displace people, businesses, institutions, or community facilities as the drainage improvements would be installed at existing, adjacent, or nearby locations.

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The Proposed Project would not result in the creation of new jobs and therefore would not increase demand on educational facilities. The Proposed Project location contains an area where a high density of artifacts has been recovered. The Proposed Project drainage improvements for this portion of the project site have been modified in order to avoid this high density artifact area. Additionally, the Proposed Project it is not located within or adjacent to a cultural facility and would not impact cultural facilities.
Commercial Facilities	2	The Proposed Project would not result in the creation of new jobs and therefore would not increase demand on commercial facilities.
Health Care and Social Services	2	The Proposed Project would not result in the creation of new jobs and therefore would not increase demand on health care or social services.
Solid Waste Disposal / Recycling	2	Construction of the Proposed Project would result in the generation of waste, primarily unusable soil and/or rock. The amount of solid waste generated from construction would not significantly increase long-term generation of municipal solid waste as the total acreage that is anticipated to be disturbed would not exceed five acres. All waste would be hauled off-site by the selected contractor and would be handled in accordance with the State's solid and hazardous waste rules.
Waste Water / Sanitary Sewers	2	The Proposed Project is the design and construction of drainage improvements in the South End portion of the Village of Schoharie. Construction would not require the relocation or reconstruction of, or impact to, the existing wastewater or sanitary sewer infrastructure.
Water Supply	2	The Proposed Project would not require water supply and would not result in the creation of new jobs and therefore would not increase demand on the water supply.
Public Safety - Police, Fire and Emergency Medical	1	The Proposed Project would not result in the creation of new jobs and therefore would not increase demand for police protection, fire protection, or emergency medical services. It would, however, mitigate potential for interruption and closure of a primary access route (State Route 30/Main Street), resulting in a minor beneficial impact for emergency service providers.
Parks, Open Space and Recreation	2	The Proposed Project would not impact open space or recreation.
Transportation and Accessibility	1	It is anticipated that minor service interruptions and detours would be required during drainage improvement construction.

		In addition, a negligible increase in construction traffic would be expected to occur. However, following the completion of drainage improvement installations, transportation and accessibility are anticipated to feel a minor beneficial impact.
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	There are no NYS DEC Unique Geologic Features or NYS DEC Critical Environmental Areas within the vicinity of the Proposed Project location. There are no Sole Source Aquifers in Schoharie County. The Proposed Project would adhere to and be in compliance with the guidelines and regulations of Executive Order 11990, in order to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. A Draft 8-step Floodplain Management & Wetland Protection Plan has been prepared in compliance with Executive Orders 11988 and 11990 and is attached to this EA as **Appendix G**. Placement of the streambank stabilization at the outfall in Schoharie Creek would be conducted in accordance with in accordance with NYSDEC and USACE permitting guidelines to minimize disturbance of the stream bank. The Proposed Project would not pose a significant threat to water resources.
Vegetation, Wildlife	2	The Proposed Project was reviewed using the New York State Department of Environmental Conservation (NYS DEC) Environmental Resource Mapper website. According to the information generated by the Mapper, rare threatened or endangered plant or animal species may be present in the property's vicinity. There are no known significant natural communities present (see **Appendix D**). A consultation letter was submitted to the NYS DEC New York Natural Heritage Program (NYNHP) on May 6, 2016 requesting review and consultation of the Proposed Project and location. This consultation letter requested advisement on whether or not the Proposed Project is likely to adversely affect any rare, threatened, or endangered species. A concurrence letter was received on June 8, 2016 (see **Appendix E**). The Proposed Project was reviewed in April 2016 using the U.S. Fish & Wildlife Service's (USFWS) IPaC website and a Trust Resource Report was generated. According to the IPaC Trust Resource Report, there is one threatened species that is potentially associated with the Proposed Project location (see **Appendix F**). The species is the Northern long-eared bat (NLEB) (*Myotis septentrionalis*). There are currently no roost trees or hibernacula known to be occupied by the NLEB within the Proposed Project boundaries. The closest hibernaculum is 1.8 miles northwest of the Proposed Project location. The Proposed

		Project will include the clearing of up to one tree located near the proposed Schoharie Creek outfall. This tree is a Shagbark Hickory. This may take place during the active season (April-October); it will most likely occur during September and will take approximately one week. The Proposed Project location consists mainly of open roadside areas, residential yards, and open fields with very few trees. The tree that may be removed would not likely be considered suitable habitat for the NLEB, as discussed in the consultation letter submitted to USFWS on April 14, 2016 (**Appendix E**). Nonetheless, due to the potential for active season tree removal, GOSR determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule. All activities associated with the proposed project will not: 1) disturb hibernating NLEBs in a known hibernaculum; 2) alter the entrance or interior environment of a known hibernaculum; 3) remove any trees within 0.25 miles of a known hibernaculum at any time of year; or 4) cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree, during the pup season (June 1 through July 31). http://www.dec.ny.gov/animals/38801.html https://ecos.fws.gov/ipac/
Other Factors	2	There are no other factors applicable to the Proposed Project.

Additional Studies Performed:

Wetland Delineations in September 2015 and January 2016 (see **Appendix B** and **Appendix C**)
Phase IA/IB Archaeological Investigation (see **Appendix I**)
Phase II Archeological Evaluation (see **Appendix J**)

Field Inspection (Date and completed by)**:**

N/A

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:

Broders, H.G., G.J. Forbes, S. Woodley, and I.D. Thompson. 2006. Range extent and stand selection for forest-dwelling northern long-eared and little brown bats in New Brunswick. Journal of Wildlife Management 70: 1174-1184.

Carter, T.C., and G.A. Feldhamer. 2005. Roost tree use by maternity colonies of Indiana bats and northern long-eared bats in southern Illinois. Forest Ecology and Management 219:259-268.

Federal Aviation Administration (FAA).
http://www.faa.gov/airports/environmental/airport_noise/noise_exposure_maps/
http://www.faa.gov/airports/runway_safety/diagrams/

FAA Runway Protection Zones.
http://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5300-13A-chg1-interactive.pdf

FEMA Coastal Barrier Resource System – New York
https://www.fema.gov/national-floodinsurance-program/coastal-barrier-resource-system-new-york

FEMA Floodplain Map Service Center:
https://msc.fema.gov/portal

Ford, W.M., M.A. Menzel, J.L. Rodrigue, J.M. Menzel, and J.B. Johnson. 2005. Relating bat species presence to simple habitat measures in a central Appalachian forest. Biological Conservation 126: 528-539.

Foster, R.W. and A. Kurta, A. 1999. Roosting ecology of the northern bat (*Myotis septentrionalis*) and comparisons with the endangered Indiana bat (*Myotis sodalis*). Journal of Mammalogy 80: 659-672.

Henderson, L.E., L.J. Farrow, and H.G. Broders. 2008. Intra-specific effects of forest loss on the distribution of the forest-dependent northern long-eared bat (*Myotis septentrionalis*). Biological Conservation 141:1819-1828.

Menzel, M.A., S.F. Owen, W.M. Ford, J.W. Edwards, P.B. Wood, B.R. Chapman, and K.V. Miller. 2002. Roost tree selection by northern long-eared bat (*Myotis septentrionalis*) maternity colonies in an industrial forest of the central Appalachian mountains. Forest Ecology and Management 155:107-114.

Military and Civilian Airports:
https://www.michigan.gov/documents/mshda/mshda_cd_nsp2_air_accident_315724_7.pdf

National Park Service (NPS). 2011. Nationwide Rivers Inventory. Available at http://www.nps.gov/ncrc/programs/rtca/nri/index.html. Accessed February 9, 2015.

National Register of Historic Places – Schoharie County, NY.
http://www.nationalregisterofhistoricplaces.com/ny/schoharie/state.html

New York Rising Communities – NYRCR Towns and Villages of Esperance, Schoharie, and Middleburgh
http://www.schohariecounty-ny.gov/CountyWebSite/Planning/NYRCR%20Towns%20and%20Village%20of%20Esperance,%20Schoharie%20and%20Middleburgh.pdf

New York State Department of Agriculture and Markets:
http://www.agriculture.ny.gov/ap/agservices/agricultural-districts.html

New York State Department of Environmental Conservation (NYSDEC), Coastal Management:
http://www.dec.ny.gov/lands/86541.html

NYSDEC Environmental Remediation Databases.
http://www.dec.ny.gov/chemical/8437.html

NYSDEC Environmental Resource Mapper
http://www.dec.ny.gov/animals/38801.html

NYSDEC Wild, Scenic and Recreational Rivers
http://www.dec.ny.gov/permits/32739.html

NYSDEC Potential Environmental Justice Areas in Schoharie County:
http://www.dec.ny.gov/docs/permits_ej_operations_pdf/schoharieej.pdf

NYSDEC. State Implementation Plan
http://www.dec.ny.gov/chemical/8403.html

NYSDEC. 2015. Wild, Scenic and Recreational Rivers
http://www.dec.ny.gov/permits/32739.html.

New York State Department of State (NYSDOS) – Coastal Boundary Map:
http://www.dos.ny.gov/opd/atlas/
http://appext20.dos.ny.gov/coastal_map_public/map.aspx

NYSDOS – Local Waterfront Revitalization Program – Coastal Waterbodies and Inland Waterways.
http://www.dos.ny.gov/opd/programs/pdfs/Waterways_List_08-14.pdf

Owen, S.F., M.A. Menzel, W.M. Ford, B.R. Chapman, K.V. Miller, J.W. Edwards, and P.B. Wood. 2003. Home-range size and habitat used by the northern myotis (*Myotis septentrionalis*). American Midland Naturalist 150:352-359.

State Register of Historic Places – Cultural Resources Information Systems (CRIS):
http://parks.ny.gov/shpo/online-tools/

Town and Village of Schoharie 1997 Comprehensive Plan
http://www.schohariecounty-ny.gov/townsch/SchoharieCP.pdf

United States Fish and Wildlife Service (USFWS) IPaC, accessed April 2016.
http://ecos.fws.gov/ipac/

United States Department of Agriculture. Natural Resources Conservation Service. Web Soil Survey.
http://websoilsurvey.sc.egov.usda.gov/app/WebSoilSurvey.aspx

United States Department of Housing and Urban Development (HUD). Community Planning and Development. Tribal Directory Assessment Tool (TDAT) V2.0.
http://egis.hud.gov/tdat/Tribal.aspx

U.S. EPA, Greenbook
http://www.epa.gov/oaqps001/greenbk/index.html

U.S. EPA, Greenbook – Federal Register Notices
http://www.epa.gov/oaqps001/greenbk/adden.html

U.S. EPA NEPAssist
http://nepassisttool.epa.gov/nepassist/entry.aspx

U.S. EPA Region 2 Sole Source Aquifers
http://www.epa.gov/region02/water/aquifer/

United States Fish and Wildlife Service (USFWS) Coastal Barrier Resources Act
http://www.fws.gov/cbra/Maps/index.html

USFWS IPaC, accessed April 5, 2016
http://ecos.fws.gov/ipac/

USFWS Wetlands Online Mapper – National Wetlands Inventory Map:
http://www.fws.gov/wetlands/Data/Mapper.html

Wild and Scenic Rivers Act – Sections 3 and 5 (16 USC 1274 and 1276):
http://www.rivers.gov/rivers/delaware-upper.php
http://www.rivers.gov/maps/conus.php

Agencies and Persons:

Nicholas Conrad, New York Natural Heritage Program, letter dated May 6, 2016.

Robyn A. Niver, Endangered Species Biologist, U.S. Fish & Wildlife Service, letter dated April 14, 2016.

USDA Natural Resources Conservation Service, New York State Office, letter dated April 15, 2016.

Kathryn Duncan, USDA Natural Resources Conservation Service, New York State Office, letter dated May 20, 2016.

John Bonafide, Director, Technical Preservation Bureau, New York State Office of Parks, Recreation and Historic Preservation, letter dated November 18, 2015.

Larry K Moss, Historic Preservation Technical Specialist, New York State Office of Parks, Recreation and Historic Preservation, letters dated March 21, 2016 and April 21, 2016.

Andrew Farry, Scientist/Archaeology, New York State Office of Parks, Recreation and Historic Preservation, letter dated July 15, 2016.

Beverly Cook, Paul Thompson, and Ron LaFrance, Jr., Saint Regis Mohawk Tribe, letters dated November 18, 2015 and April 26, 2016.

Arnold Printup, Tribal Historic Preservation Office, letter dated November 18, 2015.

Mohawk Nation Council of Chiefs, Haudenosaunee Six Nations Confederacy, letter dated November 18, 2015.

Shannon Holsey, Stockbridge-Munsee Community, Band of the Mohicans, letter dated April 26, 2016.

List of Appendices:

Appendix A	Proposed Site Plan
Appendix B	Wetland Delineation Report
Appendix C	Wetland Delineation Report – Additional Area of Interest
Appendix D	NYSDEC Environmental Resources Map
Appendix E	Consultations
Appendix F	USFWS IPaC Trust Resources Report
Appendix G	Draft 8-Step Floodplain Management & Wetland Protection Plan
Appendix H	SHPO CRIS Findings
Appendix I	Phase IA/IB Archeological Investigation
Appendix J	Phase II Archeological Evaluation

List of Permits Obtained or Required:

The following permits are required for project implementation:

- New York State Department of Transportation Highway Work Permit
- New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit
- New York State Department of Environmental Conservation Article 15 Protection of Waters Permit and 401 Water Quality Certification
- United States Army Corps of Engineers Section 404 Clean Water Act and Section 10 Rivers and Harbors Act permit
- Local Floodplain Development Permit – Issued by Local Floodplain Administrator

Public Outreach [24 CFR 50.23 & 58.43]:

An "Early Notice and Public Explanation of a Proposed Activity in a 100 and 500-Year Floodplain and Wetland" was published in The Daily Gazette of Schenectady, NY on March 14, 2016 and mailed to agencies on April 22, 2016. Any individual, group, or agency had the opportunity to submit written comments on the proposed action or a request for further information by March 29, 2016 for individuals and groups or by May 9, 2016 for agencies.

A "Final Notice and Public Explanation of a Proposed Activity in a 500- and 100-year Floodplain and Wetland" will be published in The Daily Gazette of Schenectady, NY and mailed to agencies on July 22, 2016.

Cumulative Impact Analysis [24 CFR 58.32]:

The following community reconstruction projects are planned to occur within the vicinity of the Proposed Project.

The Stony Brook Mitigation project, located in Stony Brook following Stony Brook Road for 2.6 miles from west of Frisbieville Road until west of Rack Road in the Town of Schoharie, includes flood protection for nearby roadways through floodplain reconnections, culvert modification or replacement, stream bank repair, channel stabilization, and grade control.

The Parrott House project and the Taylor Block project, both located in the Village of Schoharie, both include acquisition and repair of the Parrott House building and Taylor Block building, respectively.

The Town of Schoharie Highway Garage Replacement project, located in the Town of Schoharie, includes construction of a new Town garage in a location away from the creek.

The Hilgert Parkway Stormwater Pumping Station project, located in the Village of Schoharie, includes the construction of a pumping station to relieve flooding problems.

The Spring Brook Drainage Improvements project, located in the Village of Schoharie, includes improvements to enhance flow capacity into the stream channel and subsequently Schoharie Creek.

The Rebuilding Police Emergency Services project, located in the Village of Schoharie, includes construction of a new shared service facility outside of the floodplain on the Schoharie Central School District Property.

These projects, along with the Proposed Project, are intended to improve the community's emergency response capabilities. The Proposed Project is not anticipated to result in cumulative impacts, including adverse impacts to natural resources, socioeconomic resources, human health, recreation, community facilities, and cultural and historic resources. The scale of the Proposed Project and the other nearby projects are not large enough to contribute significantly to cumulative impacts. As such, no significant adverse cumulative impacts from these improvements are anticipated.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]:

Proposed Project

During Hurricane Irene and Tropical Storm Lee, the Village of Schoharie's storm water drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street. State Route 30 is a primary transportation corridor through the Schoharie Valley used by emergency service vehicles and evacuating residents. The flooding not only resulted in localized damage, but it also created emergency response challenges that had a regional impact. The Proposed Project would alleviate flooding and stormwater ponding so that buildings and roadways are less vulnerable.

As described in this EA, the Proposed Project includes relocating existing utilities, lowering culverts, providing a detention pond to attenuate peak runoff, constructing an outfall to Schoharie Creek, re-establishing swales, providing additional drainage along and across State Route 30/Main Street and Bridge Street, providing backflow gates to prevent Schoharie Creek flood waters from feeding back into the Proposed Project location, and providing streambank stabilization at the Schoharie Creek outfall. The Proposed Project is effectively a composite of portions of some of the alternatives described below.

Alternatives

Option 1 – Detention pond east of NYS Route 30

This alternative included excavating a detention pond on the properties east of NYS Route 30 to

attenuate flow to the west. It included culverts under the Tulytki driveway and an outlet control structure near Route 30. This alternative would attenuate peak flows and shift the flooded area from the Motschmann property along Route 30 to the Tylutki and Manchester properties. However, this alternative would impact the forested area, including approximately two acres of forested wetlands within this location. This alternative was eliminated from further consideration.

Option 2 – Divert part of the existing watershed to the south culvert
This alternative included excavating a ditch to divert runoff from the hill east of Route 30 to the south to the culvert near Quilt Lane. The ditch and culverts would be designed to convey at least the 25-year event. This alternative would have no impact on the flooding along Route 30. By not allowing the runoff to reach the natural detention areas on the Manchester and Tylutki properties, it would actually increase peak flows downstream. This alternative was eliminated from further consideration.

Option 3 – Detention pond north of Sunset
This alternative included constructing a small detention pond on Village buyout properties north of the Sunset Drive intersection. An impoundment up to 40,000 cubic feet could be located in this area. However, the Village intends to use this area as a park and dog walk area which limits the size of a pond to approximately 1/3 of the property or 9,500 cf. This limits the usefulness of this pond, as it is not of sufficient size for flow attenuation. In order to construct this pond without taking up all available park area, it would need to be very close to Sunset Drive. A retaining wall, fence or guide rail may be needed to protect the road. This alternative was eliminated from further consideration.

Option 4 – Replace culverts at Route 30 north of Sunset Drive and at Sunset Drive
This alternative included replacing the culverts at Route 30 north of Sunset Drive and the under Sunset Drive. The culverts would be as large as possible and lowered as far as possible to allow for free drainage of runoff. Lowering of the culverts is limited by the sanitary sewer both on Sunset and along Route 30. A sewage pump station could be installed to eliminate this issue but it would not result in appreciable difference in flow and would create a maintenance issue for the Village. The water mains at each location would need to be lowered to accommodate the culverts and provide 18" of separation required by the Public Health Law between water and storm sewer piping. This alternative was eliminated from further consideration, although a variation of it is included as a component of the Proposed Project.

Option 5 –Storm sewer along Route 30
This alternative included installing storm sewers along the east side of Route 30 with an outlet to a low area near Rainbow Road. The storm sewers would be designed to convey at least the 50-year storm. This alternative is included as a component of the Proposed Project.

Option 6 –Detention pond at end of Rainbow Road
This alternative included constructing a large pond on lands owned by the Village and Shaul Farms at the end of Rainbow Road. The pond outfall would be a piped conveyance directly to Schoharie Creek. The pond will hold approximately 103,000 cubic feet of water conveyed from the east side of Route 30. It will attenuate a peak flow of 16 cubic feet per second to an outflow of 9.6 cubic feet per second in a 100-year storm. The outfall piping would be sized to convey the attenuated flow. The pond would be located in an existing low area to minimize grading and most of the trees would be saved. The outfall would be piped to minimize impact to the prime farmland along Schoharie Creek. The outfall at the creek would be constructed in accordance with NYSDEC and USACE guidelines to minimize disturbance of the stream bank. It is expected that groundwater would be encountered while excavating the pond and temporary dewatering would be required. Construction of the outfall to the creek may also require

dewatering. A portion of the detention pond would be located in an area with a high concentration of cultural artifacts. A variation of this alternative is included as a component of the Proposed Project.

Option 7 –Direct runoff from Bridge Street to storm sewer in field
This alternative included installing storm sewers from Bridge Street near the Guernsey Nursery buildings to the new outfall from the Rainbow Road pond. The new storm sewer would be sized to convey at least the 10-year storm from Bridge Street and the Guernsey yard out to the storm sewer that leads to Schoharie Creek. This alternative is included as a component of the Proposed Project.

No Action Alternative
Under the No Action Alternative, the residents affected by the recurring flooding and ponding are not assured safe and accessible travel, even if outside the 100-year and 500-year floodplains. With a No Action Alternative in place, in the absence of the Proposed Project, the existing drainage infrastructure would remain undersized and the surrounding area would remain vulnerable to flooding and damage, especially during severe storm events.

Summary of Findings and Conclusions:

The Proposed Project involves the design, engineering, and construction of drainage improvements for the South End portion of the Village of Schoharie's drainage system. The construction of these drainage improvements aim to reduce the risk of flooding and ponding, while contributing to safer and more accessible regional roadway conditions.

The Proposed Project will include the clearing of up to one tree located near the proposed Schoharie Creek outfall; however, this tree would not likely be considered suitable habitat for the NLEB. Nonetheless, due to the potential for active season tree removal, GOSR determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

Although a substantial portion of the Proposed Project location is comprised of Prime Farmland soils, only a small portion would be disturbed. The USDA National Resources Conservation Service has been consulted in order to ensure compliance with the Farmland Protection Policy Act.

The Proposed Project will comply with a State Pollution Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activity, and the design will incorporate the NYSDEC Stormwater Management Design Manual and the NYSDOT Chapter 8 Drainage Standards will be utilized, which will ensure protection of nearby aquatic resources. In addition, the Proposed Project will be conducted in accordance with the 8-step Floodplain Management & Wetland Protection Plan prepared in compliance with Executive Orders 11988 and 11990, and in accordance with NYSDEC and USACE permitting guidelines to minimize disturbance of the stream bank during installation of the Schoharie Creek outfall protection.

The proposed project would not result in a significant impact on the quality of the human environment or result in other direct, indirect, or cumulative impacts. The Project would comply with all relevant regulations listed in 24 CFR Part 58.

Any change to the approved scope of work will require re-evaluation by the Certifying Officer for compliance with NEPA and other laws and Executive Orders.

This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

An Archeological Monitoring Plan will be prepared and submitted to SHPO for review. Although archaeological resources are not expected to exist in the immediate project area, unanticipated discoveries may occur. If ground-disturbing activities uncover archeological or historic resources the Subrecipient and their contractor must suspend activities in the vicinity of the discovery, protect the site from any further disturbance, and notify GOSR, SHPO, and any relevant tribal entities. In addition, per recommendation by SHPO, protective flagging will be placed around the site to prevent inadvertent disturbance during construction.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Construction Impacts Conditions for Approval

- Construction equipment would be outfitted with mufflers.
- Construction would comply with local noise ordinances including time-of-day work limitations.
- All solid waste materials would be managed and transported in accordance with Federal, state, and local solid and hazardous waste rules.
- Best management practices would be used to avoid soil erosion.
- Mitigation measures would be implemented to ensure the proper handling of any solid waste generated during construction and demolition to address fugitive dust concerns.

Law, Authority, or Factor	Mitigation Measure
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	The Proposed Project is anticipated to result in approximately 5 acres of disturbed land, which includes approximately 4.5 acres in the 100-year floodplain and approximately 0.1 acres in the 500 year floodplain. A Draft 8-step Floodplain Management & Wetland Protection Plan was prepared in compliance with Executive Order 11988 and Executive Order 11990.
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800; Tribal notification for new ground disturbance.	An Archeological Monitoring Plan will be prepared and submitted to SHPO for review. GOSR will ensure the following measures are undertaken during construction, in accordance with the SHPO letter: • avoid Site #2; • place protective flagging around the site to prevent inadvertent disturbance during construction; and • conduct archeological monitoring during construction for excavations that exceed the depth that was reached by shovel tests conducted during the Phase I and Phase II field testing. Should any culturally significant artifacts be discovered, all work shall cease and GOSR, SHPO, and any relevant tribal entities shall be contacted immediately.
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	The USFWS Information, Planning and Conservation (IPaC) online planning tool Trust Resource List generated for the proposed project on April 5, 2016 (see **Appendix F**) lists the following Federally-listed species as having the potential to occur within the vicinity of the proposed project: northern long-eared bat (NLEB, *Myotis septentrionalis*) - threatened. As discussed in the consultation letter submitted to USFWS on

	April 14, 2016 (see **Appendix E**), due to the potential for active season tree removal, GOSR determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule. All activities associated with the proposed project will not: 1) disturb hibernating NLEBs in a known hibernaculum; 2) alter the entrance or interior environment of a known hibernaculum; 3) remove any trees within 0.25 miles of a known hibernaculum at any time of year; or 4) cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree, during the pup season (June 1 through July 31). (See **Appendix E** for correspondence).
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	Due to the area of disturbance, a stormwater pollution prevention plan will be required. BMPs, such as silt fence and erosion prevention, would be used, if required by permits or agency discretion. State and local permitting requirements would incorporate BMPs to eliminate erosion impacts during construction.
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	All Project activities would comply with applicable federal, state, and local laws and regulations regarding construction emissions, including but not limited to NYCRR, NYSDEC Air Quality Management Plan, and the New York SIP. All necessary measures would be used to minimize fugitive dust emissions during activities, such as demolition of existing structures. The preferred method for dust suppression is water sprinkling. To demonstrate compliance, the following specifications will be incorporated into the contract documents: - *Idling Restriction*. In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted to five minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine. - *Utilization of Newer Equipment.* EPA's Tier 1 through 4 standards for non-road engines regulates the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 hp or greater would meet at least the Tier 2 emissions standard to the extent practicable. - *Best Available Tailpipe Reduction Technologies.* Non-road diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particulate filters (DPFs) have been identified as being the

	tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board (CARB). Active DPFs or other technologies proven to achieve an equivalent reduction may also be used.
Permit Requirements	All permit conditions listed above or otherwise required for activities under the proposed project must be adhered to.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: Gwen Sivirichi Date: July 15, 2016

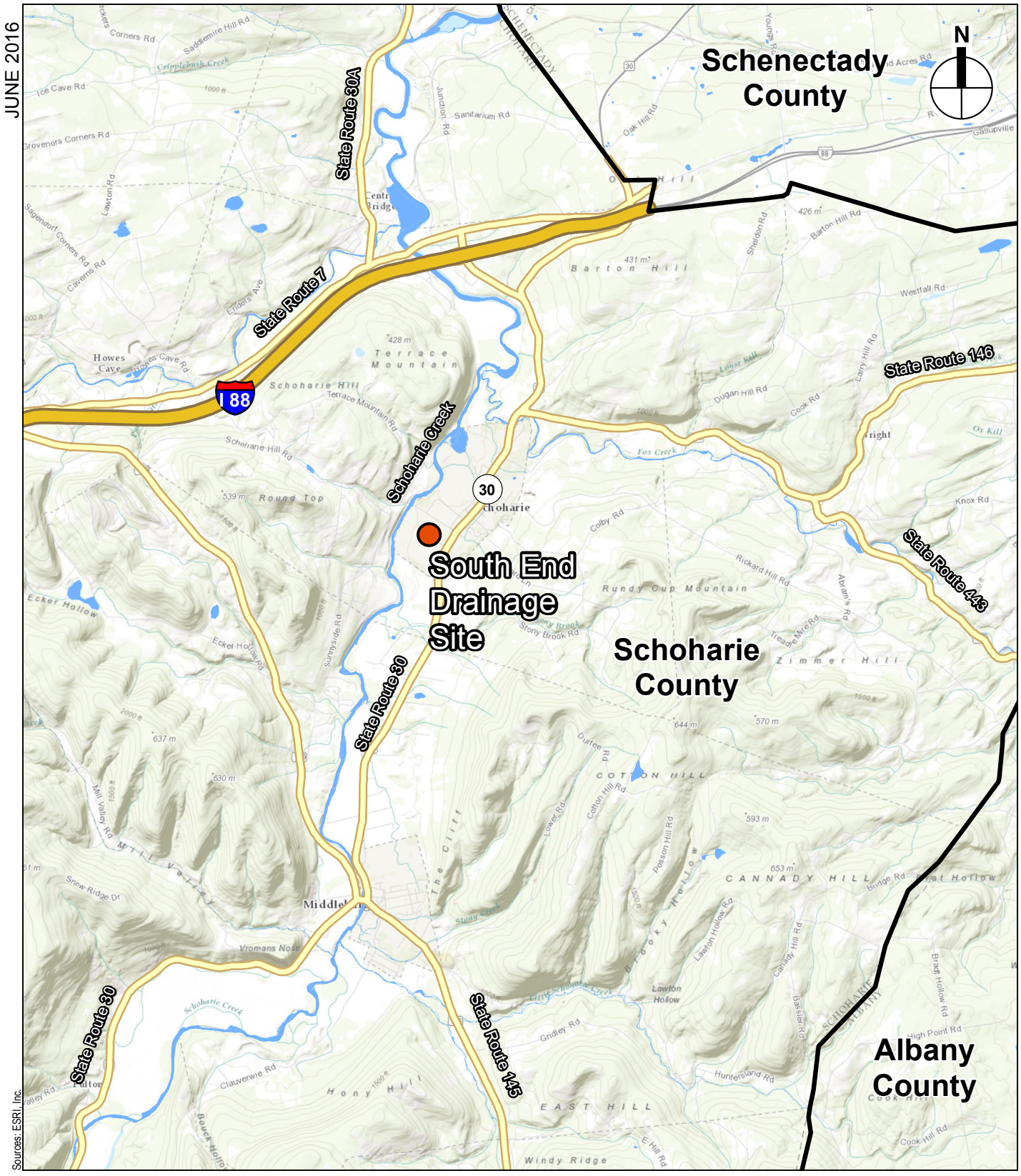
Name/Title/Organization: Gwen Sivirichi, Senior Environmental Scientist, AKRF, Inc.

Certifying Officer Signature: Thomas J. King Date: July 22, 2016

Name/Title: Thomas J. King, Assistant General Counsel and Certifying Officer

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

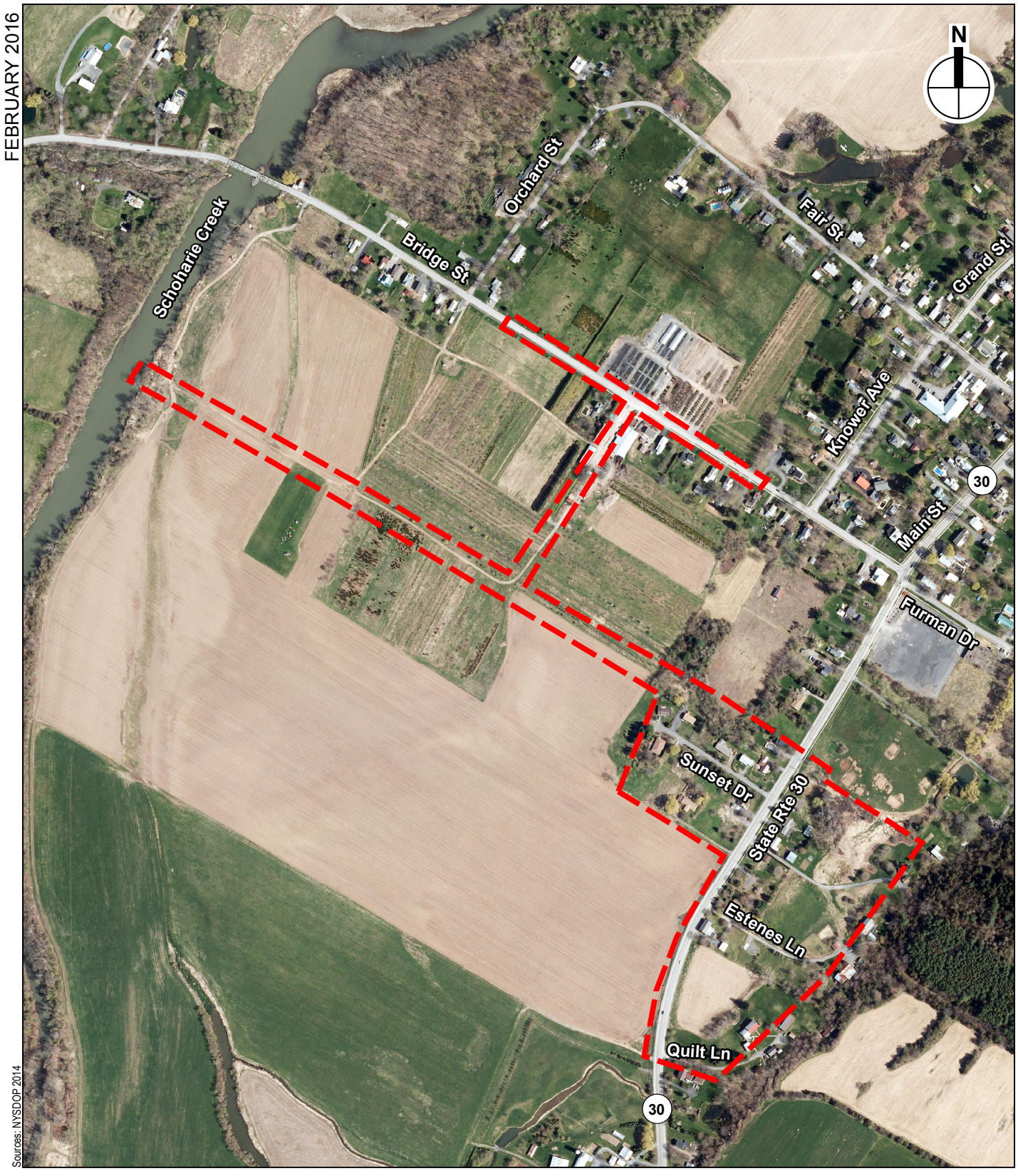
Figures



Project Location Map

South End Drainage Improvements, Village of Schoharie

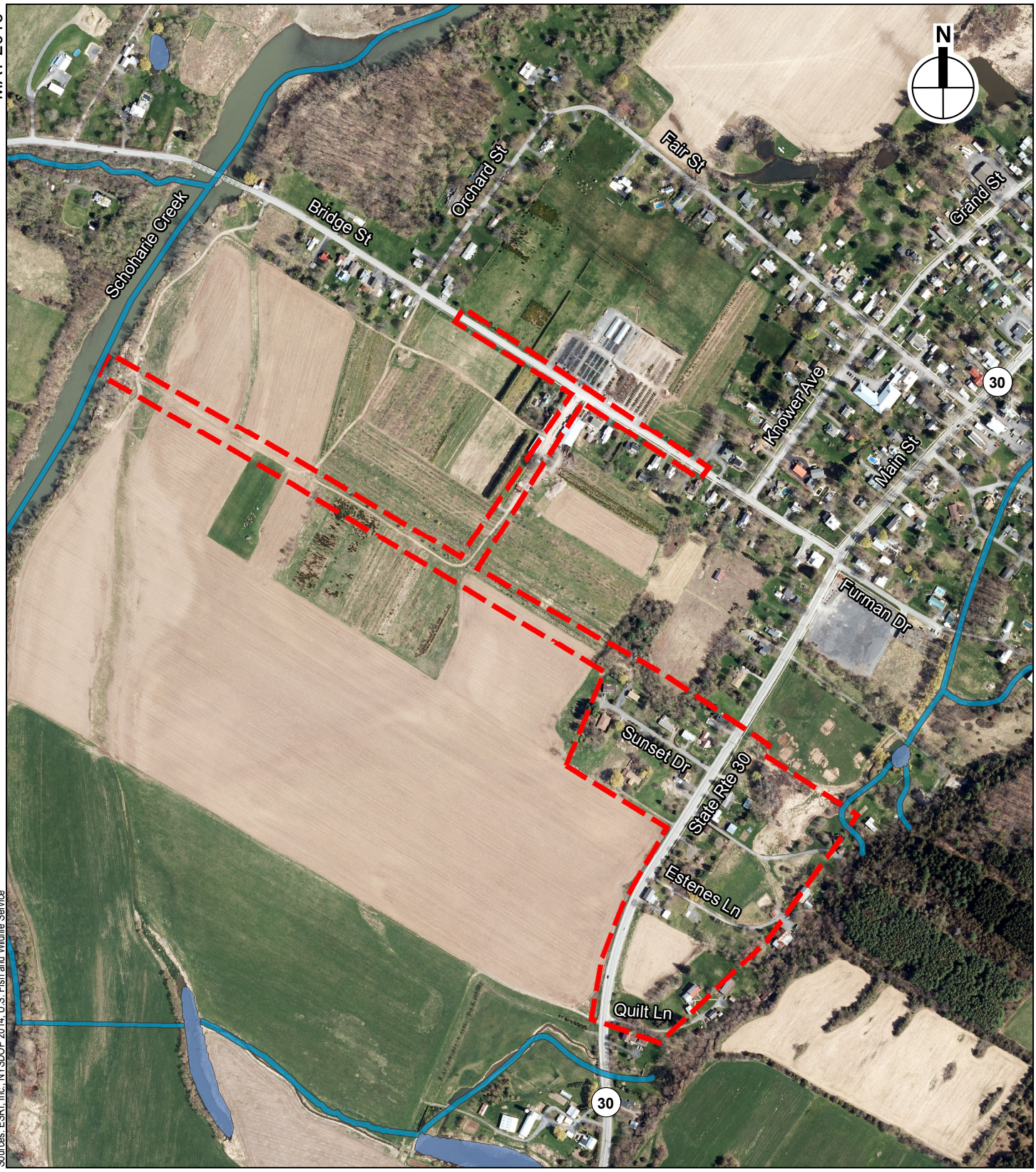
Figure 1



Project Site Map

South End Drainage Improvements, Village of Schoharie

Figure 2



Site Location

0 0.2 Mile

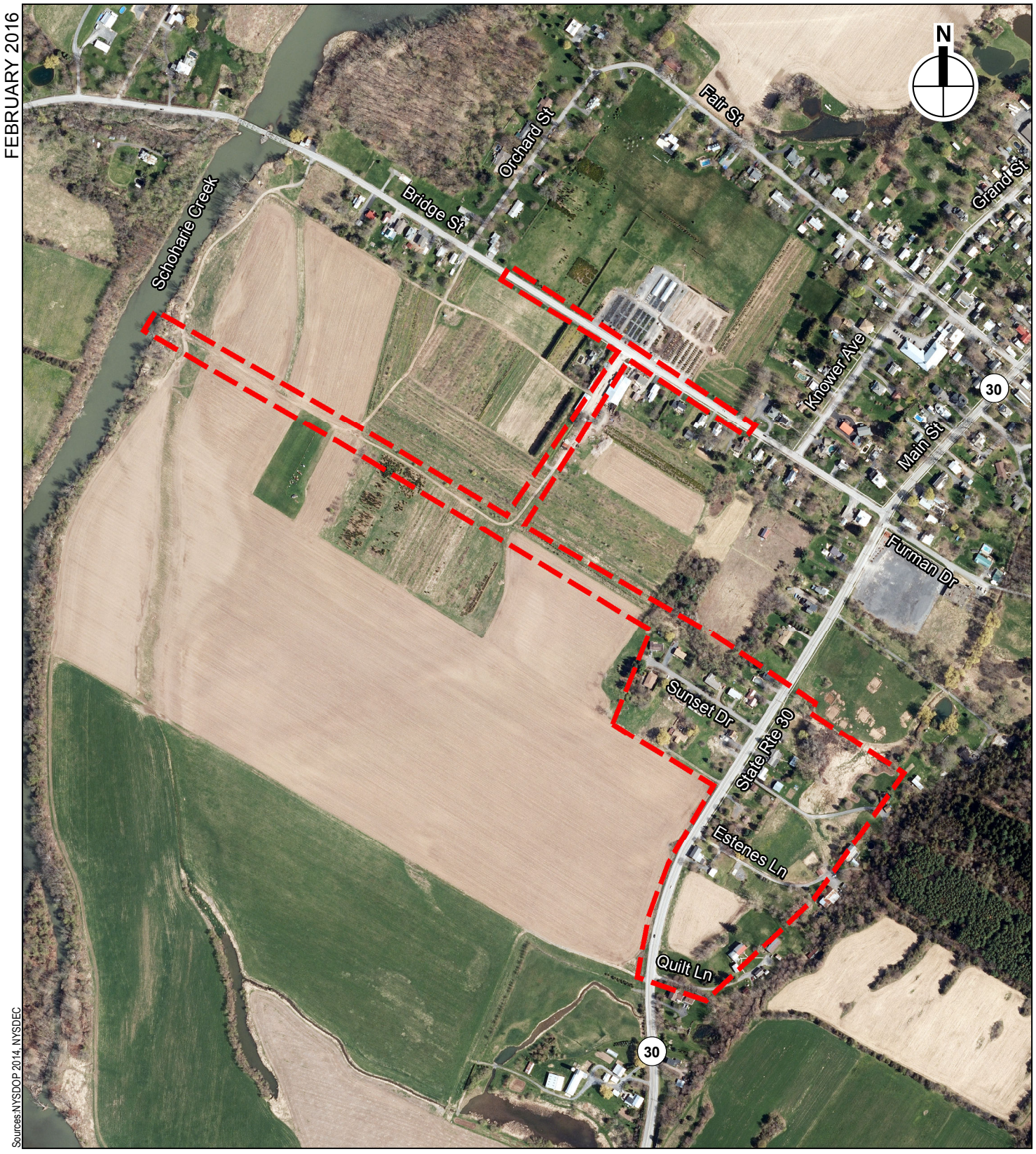
National Wetlands Inventory

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Other

South End Drainage Improvements, Village of Schoharie

NWI Wetlands

Figure 3

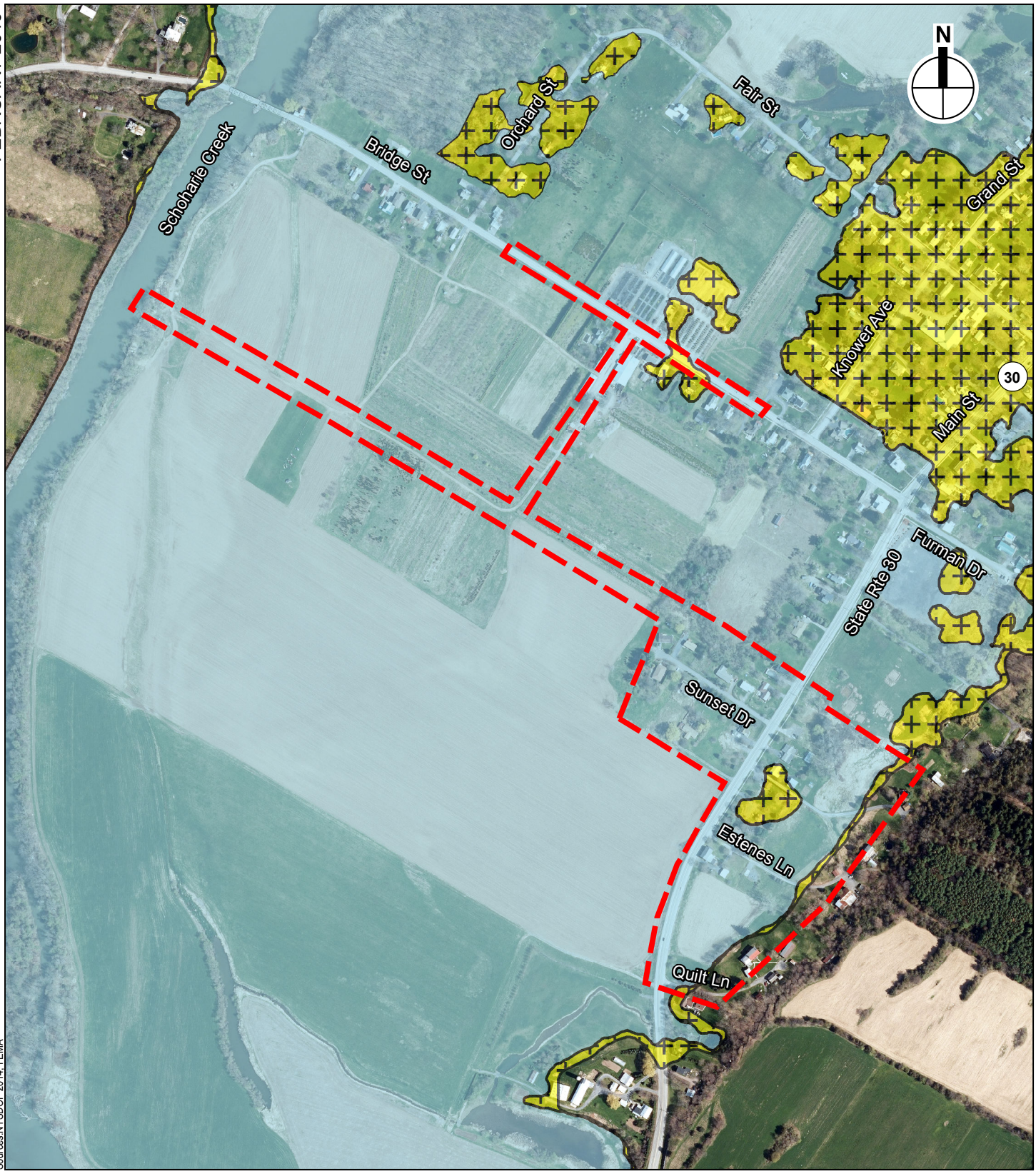


NYSDEC Freshwater Wetlands

South End Drainage Improvements, Village of Schoharie

Figure 4

FEBRUARY 2016



Sources:NYSDOP 2014, FEMA

Site Location

FEMA Flood Zone

100-Year Flood Zone

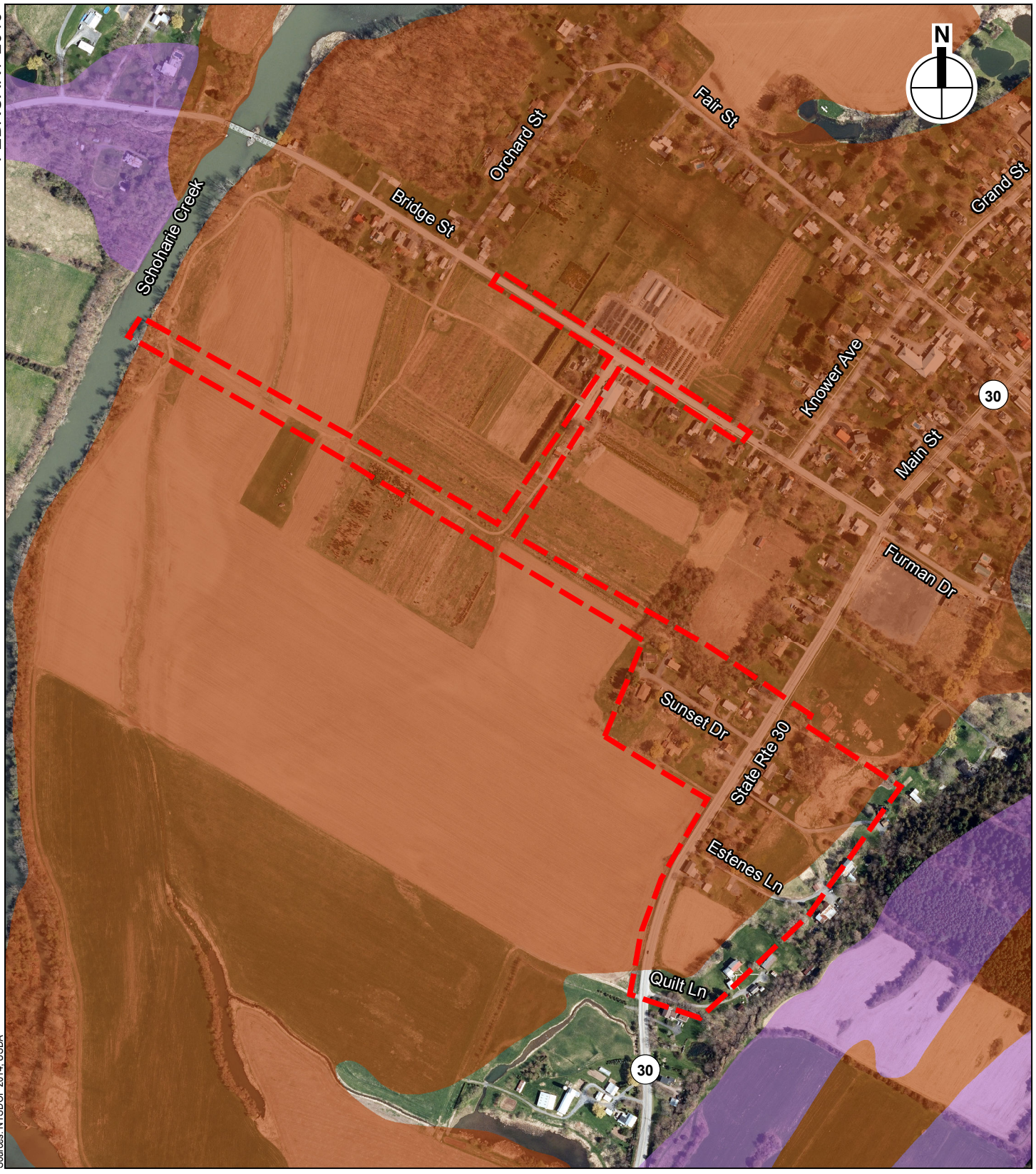
500-Year Flood Zone

0 0.2 Mile

FEMA Flood Zone

South End Drainage Improvements, Village of Schoharie

Figure 5

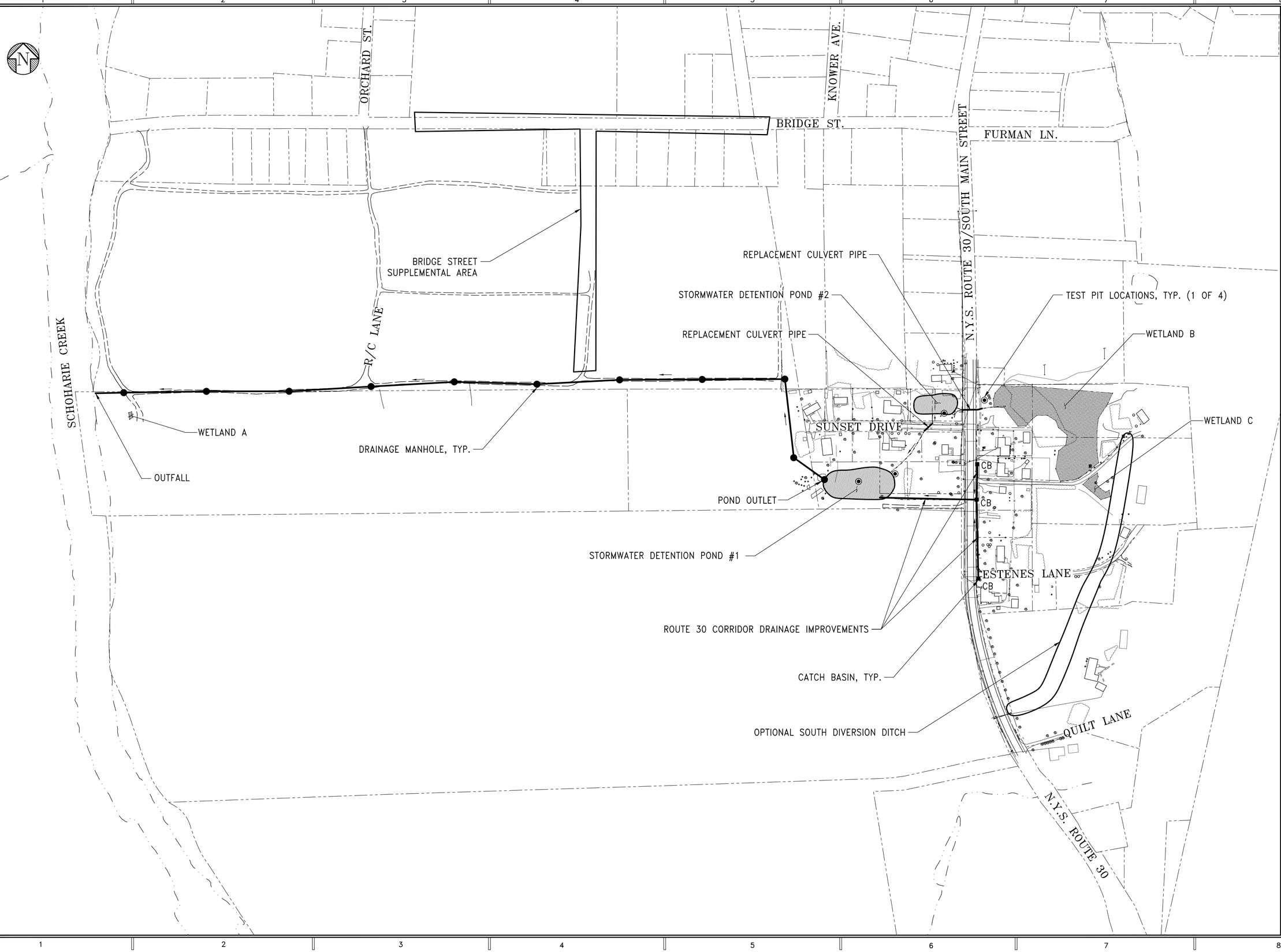


USDA Farmland Soils

South End Drainage Improvements, Village of Schoharie

Figure 6

Appendix A: Proposed Site Plan



Lamont Engineers
ENGINEERS - PLANNERS
FACILITY OPERATIONS
548 MAIN ST., COBLESKILL, NY 12043
(518) 234-4028
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Consultant

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
VILLAGE OF SCHOHARIE
SOUTH END DRAINAGE IMPROVEMENTS
SCHOHARIE COUNTY NEW YORK STATE

Stamp

Issue Rev.	Date	Remarks

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	11/03/15
Scale	1"=150'
File Name	BM_SCHO SOUTH END

Sheet Title

GENERAL PLAN

Sheet No.

C11

Appendix B: Wetland Delineation Report

SHUMAKER
Consulting Engineering & Land Surveying, D.P.C.

November 5, 2015

Mr. Mike Harrington
Principal Engineer
Lamont Engineers, P.C.
P.O. Box 610
Cobleskill, NY 12043

Re: Wetland Delineation
Schoharie County Soil and Water Conservation District
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Dear Mr. Harrington:

In accordance with our Scope of Services, Shumaker Consulting Engineering & Land Surveying, D.P.C. (SCE) performed wetland delineations on several properties located at the southern end of the Village of Schoharie, Schoharie County, New York. The delineation effort was performed Wednesday September 23, 2015 on behalf of Lamont Engineers, P.C. The intent of the visit was to identify and delineate the boundaries of wetlands within the area of interest for the proposed South End Drainage Improvements project.

Prior to the field survey effort, a number of sources were consulted to obtain background information. These sources included: the NYSDEC Environmental Resource Mapper (ERM), the NWI Map published by the United States Fish and Wildlife Service (USFWS), the Schoharie County Soil Survey Map, and aerial photography.

The area targeted for the delineation and site diligence effort consisted of approximately 30 acres spanning multiple properties. The area of the delineation will henceforth be referred to as the Review Area and is depicted on the attached Figure 1. The Site is currently predominantly single family residential with some agricultural and forested areas. Several residential lots are vacant and the structures demolished as a result of flooding and subsequent condemning.

The area of interest is at the south end of the Village of Schoharie. Residential parcels on both sides of State Hwy 30 are included. The area extends northwest through agricultural fields to Schoharie Creek.

The NWI map does not depict any wetlands within the Site. Likewise, the map obtained from the NYSDEC ERM does not depict any wetlands or streams within the Review Area.

The county soil survey shows that the Review Area contains soils that have been classified as Barbour and Tioga loams (Bg), Basher and Middlebury silt loams (Bm), Schoharie and Hudson silty clay loams (SnD3), and Wayland soils complex (Wa) (Figure 1). All soils except Wayland soils complex are listed as predominantly nonhydric. Wayland soils complex are classified as predominantly hydric.

The wetland delineation effort resulted in the identification of two palustrine emergent wetlands and one palustrine emergent/scrub-shrub/forested wetland complex. The wetland boundaries are included in the basemapping file transmitted by our survey and mapping department. Wetland boundaries, as included in the CADD file, were determined based on a combination of GPS points, the presence of hydric soil indicators, and a prevalence of hydrophytic vegetation. As a general note, the delineations were performed at the end of summer, the driest time of year, and indicators of hydrology were scarce. Primary indicators of hydrology were not observed in the Review Area, even in wetlands.

Wetland A is a depressional emergent wetland located far northwestern end of the Review Area (reference Figure 1). It is a small depression within the floodplain of Schoharie Creek. The area was observed to be dominated by the hydrophytic reed canary grass (*Phalaris arundinacea*), creeping yellowcress (*Rorippa sylvestris*), and devil's-pitchfork (*Bidens frondosa*). This wetland contains hydric sandy loam soils, and exhibited indicators of wetland hydrology including geomorphic position, surface soil cracks, and the FAC-neutral test. The Wetland Delineation Data Form for test site TS-1 that pertains to Wetland A is attached. Wetland A connects to Schoharie Creek via a short drainage channel. Wetland A would therefore be considered jurisdictional by the U.S. Army Corps of Engineers (USACE).

Wetland B is a combination emergent/scrub-shrub/forested wetland located toward the northeastern corner of the Review Area (reference Figure 1). The wetland was observed to be dominated by hydrophytic vegetation including reed canary grass, broad-leaf cat-tail (*Typha latifolia*), devil's-pitchfork, redosier dogwood (*Cornus sericea*), and silver maple (*Acer saccharinum*). This wetland contains hydric silty loam and silt clay loam soils; indicators of wetland hydrology included geomorphic position, sparely–vegetated concave surface, and the FAC-neutral test. The Wetland Delineation Data Forms for test sites TS-6, TS-7 and TS-8 and TS-10 that pertain to Wetland B are attached. Wetland B continues off-site to the northeast and is anticipated to possess a hydrologic connection off-site, and thus be under the jurisdiction of the USACE.

Wetland C is a depressional slope wetland situated toward the eastern side of the Review Area, near Wetland B and south of Estenes Lane (Reference Figure 1). Historically, Wetland C was likely part of Wetland B, but is now divided by a driveway. The wetland was observed to be dominated solely by reed canary grass. This wetland contains hydric clay loam soils; indicators of wetland hydrology included geomorphic position, oxidized rhizospheres on living roots, and the FAC-neutral test. The Wetland Delineation Data Form for test site TS-9 that pertains to Wetland C is attached. Wetland C appears isolated; a significant nexus determination would need to be made by the USACE to determine whether they would assert jurisdiction over the wetland.

A Jurisdictional Determination (JD) would need to be requested from the USACE if development is pursued. A Preliminary JD appears appropriate since the only potential impact is within a jurisdictional wetland, rather than an area that is potentially non-jurisdictional. The Conceptual Plan dated 4/2/15 identifies re-establishing the swale and driveway culverts at a location east of NYS Route 30, in the vicinity of Estenes Lane. Additional detail regarding the proposed improvement at this location is necessary to evaluate the impact on Wetland B and determine USACE permit requirements. If the outfall to Schoharie Creek will require work below the ordinary high water elevation of the creek, this work will also require authorization under a USACE permit. There are no NYSDEC wetlands on or adjacent to the Site; therefore, an article 24 permit would not be required. Our Scope of Services includes preparing the USACE Preliminary JD request package. Upon authorization to do so, SCE will prepare a package for your review and submit to the USACE.

If you have any questions or require additional information please do not hesitate to contact me.

Very truly yours,

SHUMAKER CONSULTING ENGINEERING
& LAND SURVEYING, D.P.C.

Kelly J. Saladis
Environmental Scientist IV

NWI Wetlands
NYSDEC Wetlands
Schoharie South End Wetlands
Review Area
Soil Map Unit
10 Photograph Location

FIGURE 1
WETLAND DELINEATION AND PHOTOGRAPH LOCATION MAP

Proposed Drainage Improvements
NYS Route 30
Sschoarie, New York
Schoharie County

SHUMAKER
Consulting Engineering & Land Surveying, D.P.C.

0 125 250 Feet
1 inch = 250 feet
1:3,000

County Coverage: Schoharie

Client Name: Lamont Engineers

Path: E:\2015\15131 Schoharie South End Drainage\15131.00 Environmetal\Graphics\Environmental\GIS\Fig_1_Wetland_Delineation.mxd

Photo No. 1 Photo Date: 9/22/15

Description: Approximate location of proposed outfall to Schoharie Creek, viewed north.

Photo Locations are depicted on Figure 1

Photo No. 2 Photo Date: 9/22/15

Description: Approximate location of proposed outfall to Schoharie Creek, viewed south.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Photo No. 3 Photo Date: 9/22/15

Description: Wetland A within floodplain of Schoharie Creek, viewed northeast.

Photo Locations are depicted on Figure 1

Photo No. 4 Photo Date: 9/22/15

Description: Upland field between Schoharie Creek and corn fields, viewed south.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Photo No. 5 Photo Date: 9/22/15

Description: Upland woods behind residences on Sunset Drive, viewed northwest.

Photo Locations are depicted on Figure 1

Photo No. 6 Photo Date: 9/22/15

Description: Upland woods behind residences on Sunset Drive, viewed northwest.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Photo No. 7 Photo Date: 9/22/15

Description: Nursery stock along proposed outfall, viewed east.

Photo Locations are depicted on Figure 1

Photo No. 8 Photo Date: 9/22/15

Description: Nursery stock along proposed outfall, viewed southeast.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Photo No. 9 Photo Date: 9/22/15

Description: Upland stormwater retention area in vacant lot on Sunset Drive, viewed northwest

Photo Locations are depicted on Figure 1

Photo No. 10 Photo Date: 9/22/15

Description: Wetland B within emergent stormwater retention area in residential neighborhood on NY State Route 30, viewed northwest.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Photo No. 11 Photo Date: 9/22/15

Description: Wetland B within forested portion behind homes on NY State Route 30, viewed north.

Photo Locations are depicted on Figure 1

Photo No. 12 Photo Date: 9/22/15

Description: Wetland B within scrub-shrub portion behind homes on NY State Route 30, viewed southeast.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Photo No. 13 Photo Date: 9/22/15

Description: Wetland C adjacent to driveway off NY State Route 30, viewed northeast.

Photo Locations are depicted on Figure 1

Photo No. 14 Photo Date: 9/22/15

Description: Wetland B within large emergent portion behind residences on NY State Route 30, viewed southwest.

Photo Locations are depicted on Figure 1

Schoharie County Soil and Water Conservation District
Lamont Engineers, P.C.
South End Drainage Improvements
Village of Schoharie, Schoharie County, NY

Appendix C: Wetland Delineation Report – Additional Area of Interest

FRESHWATER WETLANDS/WATERCOURSE SCREENING
SCHOHAIRE SOUTH END DRAINAGE
(ADDITIONAL AREA OF INETEREST)
W.O. #7463.19

SCHOHAIRE, NY
SCHOHAIRE COUNTY
(N 42.65938˚; W -74.32397˚)

PREPARED FOR:

GOVERNOR'S OFFICE OF STORM RECOVERY
99 WASHINGTON AVENUE
SUITE 1224
ALBANY, NEW YORK 12260

PREPARED BY:

TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C.
70 PLEASANT HILL ROAD
MOUNTAINVILLE, NEW YORK 10953

PUBLICATION DATE: February 8, 2016

TECTONIC

Practical Solutions, Exceptional Service

FRESHWATER WETLANDS/WATERCOURSE SCREENING
SCHOHAIRE SOUTH END DRAINAGE
(ADDITIONAL AREA OF INETEREST)
W.O. #7463.19
SCHOHAIRE, NY
SCHOHAIRE COUNTY
(N 42.65938˚; W -74.32397˚)

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Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, New York 12260

Regulatory Contact(s):
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Region 3
21 South Putt Corners Road
New Paltz, NY 12561-1620
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U.S. Army Corps of Engineers
NY District
26 Federal Plaza, Room 1937
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CITATIONS:

Cowardin, L.M., V. Carte, F.C. Gocet and E.T. Laroe. December 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. USFWS Office of Biological Service, FWS/IOBL-79/31.

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1.0 INTRODUCTION

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) was retained by the Governor's Office of Storm Recovery (GOSR) to perform a formal wetland screening for the Guernsey Property and a portion of Bridge Street located in Schoharie, New York 12157, herein called the Site. The Site is a portion of Bridge Street between NYS Route 30 and the Schoharie Creek, and also along the driveway of the Guernsey Nursery located at 149 Bridge Street (See Appendix A for location map with approximate project boundaries marked).

Details of the Site provided by GOSR indicate that runoff from Bridge Street drains into the main driveway of Guernsey Nurseries on the south side of the street. The runoff includes drainage from the Nursey yard on the north side of the street, causing flooding of Bridge Street and the driveway between the nursery office and equipment sheds. A shallow channel located behind the Nursery sheds disperse the water into the farm fields south of the Guernsey Nursery.

The proposed project consists of drainage improvements to include construction along the Guernsey Nursery Driveway in a southern direction to connect with proposed new storm piping along an existing field road that will drain runoff directly to the Schoharie Creek.

On January 20, 2016, a formal wetlands screening was performed by Tectonic at the above referenced Site in accordance with current U.S. Army Corps of Engineers (USACE) Section 404 and New York State Department of Environmental Conservation (NYSDEC) wetland regulations. This formal wetland screening was performed in order to determine whether the completed and proposed improvements at the Site would be a regulated activity.

The USACE and NYSDEC are the regulatory agencies associated with freshwater wetlands protection and permitting in New York. These agencies typically require positive evidence of wetland criterion based upon a multi-parameter approach, including the presence of hydrophytic vegetation, hydric soils, and hydrology to determine whether the Site contains wetlands. The following is a brief descriptive summary of Tectonic's preliminary Site review, field delineation methodologies, findings, and conclusions.

2.0 PRELIMINARY SITE REVIEW

The preliminary Site review included a thorough evaluation of reasonably obtainable U.S. Geological Survey (USGS) Topographic Quadrangle maps, Natural Resource Conservation Service (NRCS) Web Soil Survey maps, NRCS Soils Data, U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, New York State Department of Environmental Conservation (NYSDEC) Maps, aerial photographs, and FEMA Flood Insurance Rate Maps (FIRMs) (see Appendix A for associated mapping).

The following includes a summary description of Tectonic's preliminary Site review findings:

2.1 USGS Topographic Map:

According to the USGS Topographic map [Schoharie, NY (1994) Quadrangle], the Site is located within a flat valley surrounded by gently sloping terrain. Schoharie Creek intersect Bridge Street to the west of the Site. Schoharie Creek flows in a generally south to north direction at this location. There are no mapped watercourses within the project site according to the USGC topographic map.

2.2 NRCS Soils Map and Supplemental Information:

According to the NRCS Web Soils Survey map for the Site, soils within the Site are mapped primarily as Barbour and Tioga Loams (Bg).

The Bg series consist of 40% Tioga and similar soils, 40% Barbour and similar soils, and 20% minor components. Tioga are well drained soils and are described as having a depth to water table of about 36" to 72", and a depth to restrictive feature of more than 80". Parent material includes loamy alluvium. Barbour are a well-drained soil that is described as having a depth to water table of about 36" to 72", and has a depth to a restricting layer of more than 80". Parent material includes loamy over sandy and gravelly alluvium derived mainly of areas of acid, reddish sandstone, siltstone, and shale.

2.3 USFWS National Wetland Inventory (NWI) Map:

According to the USFWS NWI map, the Site is not located within a mapped wetland. The closest mapped wetland appears to be approximately 3,000 feet south of the Site.

Aerial Images:

Aerial imagery was reviewed for the years 1997, 2006, 2008, 2009, October of 2011, November of 2011, 2013, and 2015 for visual evidence of wetland hydrology, including transitions in vegetation, drainage patterns, and ponding. This review revealed that the Site and surrounding area appeared to be utilized as farmland and nursery during the years reviewed, and that it generally consists of very flat terrain. Residential structures are also shown adjacent to the nursery along Bridge Street. The Schoharie Creek is visible to the west of the site in the aerial images. Visual evidence of wetland hydrology was not observed within the Site for any of the aerial images reviewed.

2.4 FEMA Flood Insurance Rate Map (FIRM):

According to the FEMA FIRM Community Number 36095C0187E, the Site is within the boundaries of a mapped floodplain (Zone AE – 100-year floodplain). A small

portion of the Site is located in Zone X. The floodplain map is included in Appendix A.

3.0 FIELD DELINEATION METHODOLOGY

On-Site assessment was undertaken to determine if wetlands existed on-Site. Wetlands are delineated and assessed using the multi-parameter approaches of the *1989 Federal Manual for Identification and Delineation of Jurisdictional Wetlands* (the 1989 Federal Manual), the USACE 1987 *Corps of Engineers Wetlands Delineation Manual* (the 1987 Manual), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region.* The 1989 Federal Manual, the 1987 Manual, and the associated Regional Supplement provide technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of Clean Water Act or Section 10 of the Rivers and Harbors Act. The 1989 Federal Manual describes the methodologies employed by the NYSDEC to delineate the boundaries of regulated freshwater wetlands in New York under the Freshwater Wetlands Protection Act. Generally, both the NYSDEC and USACE require positive evidence of wetlands criterion, including the presence of hydric soils, hydrophytic vegetation, and hydrology.

4.0 WETLAND DELINEATION/SCREENING

The proposed improvements are anticipated to remain within the area on Bridge Street between Knower Avenue and Orchard Street and within the Guernsey Nurseries property. Dominant plants identified at the Site were not hydric. The formal wetland screening revealed the absence of wetlands within the Site. The project area had no standing water and soils were not hydric. No wetlands were observed within the project Site and therefore, a delineation of boundaries was not necessary.

A shallow drainage feature was observed to be approximately 3 ft x 2 ft, but the drainage feature lacked a water table near the ground surface during the time of the field investiagation. This area was observed to have two *Bidens* sp and Reed canary grass plants, which are hydric plants. However, non-hydric species dominated this area. This area also lacked hydric soils. Therefore, the drainage feature was determined to be non-wetland.

A map showing approximate locations of proposed Site improvements is included as **Appendix A**.

4.1 Soils:

Soils were analyzed to a depth of 0-18” below the “A” Horizon, when possible. Soil samples were collected using a hand-held auger and then visually compared to a Munsell Soil Color Chart to determine their official color designation. Samples with Chroma colors of 2 or less determine whether a soil is hydric.

Soil sample characteristics were documented at eight locations labeled SB1 through SB8 and were also verified by the field biologist in multiple other locations (see

Appendix B for data sheets). Soils sampled did not meet hydric criteria at any of the locations sampled. No hydric soils were identified within the Site.

SB1

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-8" were loamy clay and had a dominant matrix of 5YR 3/4. From 8" and beyond, the samples were clay loam and dominant matrix of 5YR 4/3

SB2

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-10" were clay loam and had a dominant matrix of 5YR 3/3. Between 10"-24", the samples were clay loam and dominant matrix of 5YR 4/4.

SB3

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-10" were clay loam and had a dominant matrix of 5YR 3/3. From 10" and beyond, the samples were loam and dominant matrix of 5YR 5/4.

SB4

Soil samples taken in this area did not meet the criteria for hydric soils. This area had appeared to have a 3 ft x 2 ft shallow drainage feature. Samples taken from 0-8" were loam and had a dominant matrix of 5YR 3/3. Between 8-15" the samples were loam and dominant matrix of 5YR 4/4. At 15" the auger met refusal to possibly a tile drain associated with the drainage feature in this area.

SB5

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-8" were loam and had a dominant matrix of 5YR 3/3 containing some gravel. From 8-12", the samples were loam and dominant matrix of 5YR 4/4 containing gravel. At 12" the auger met refusal to gravel.

SB6

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-10" were clay loam and had a dominant matrix of 5YR 4/4. From 10-18" the samples were loam and dominant matrix of 5YR 4/4.

SB7

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-10" were loam and had a dominant matrix of 5YR 4/4 containing little gravel. At 10" the auger met refusal to gravel. No water table or saturated soils were encountered.

SB8

Soil samples taken in this area did not meet the criteria for hydric soils. Samples taken from 0-6" were loam and had a dominant matrix of 5YR 3/3. From 6-10" the samples were loam and dominant matrix of 5YR 4/4. At 12" the auger met refusal. No water table or saturated soils were encountered.

It appeared that red parent material was present throughout the Site, but the soils lacked hydric indicators. Therefore, these soils would not be classified as a hydric soil. The water table and saturated soils were not encountered at any of the soil sample locations.

4.2 Vegetation:

Vegetation identified within the Site consisted mostly of manicured grass and nonnative vegetation due to the fact that the site is a Nursery Operation. Trees observed appeared to be mostly planted trees and shrubs from the Nursery business. Wetland indicator plants were not observed or dominant at the project Site during the wetland screening.

SB1

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Queen Anne's lace (*Daucus carota*) and Spotted Knapweed (*Centaurea maculosa).* Canada goldenrod (*Solidago canadensis*) was also observed but not dominant. Saplings observed consisted of White pine (*Pinus strobus)* and birch species although birch species was planted as part of the Nursery operation. Wetland indicator plants were not observed or dominant.

SB2

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Queen Anne's lace and Spotted Knapweed. Canada goldenrod and manicured grass was also observed but not dominant. Saplings observed consisted of blackberry or raspberry (*Rubus* sp.) and Multiflora Rose (*Rosa multiflora*). Dominant tree species observed consists of a cultivar of Honey locust (*Gleditsia triacantos*) which was part of the nursery operations plantings. Wetland indicator plants were not observed or dominant.

SB3

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Queen Anne's lace. Spotted Knapweed was also observed but not dominant. Saplings/shrubs observed consisted of Spirea (*Spirea sp*.), blackberry or raspberry, and Multiflora Rose. Wetland indicator plants were not observed or dominant.

SB4

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Queen Anne's lace and Spotted Knapweed. Beggartick (*Bidens* sp.) and Reed canary grass (*Phalaris arundinacea*) was also observed but not dominant. Tree species observed consists of cultivar of Japanese maple (*Acer sp.*) and Honey locust planted in rows. This area appeared to be within a shallow drainage feature approximately 3ft x 3 ft. Two beggartick plants were growing in the deepest part, however, non-hydric species were observed as dominant species. Wetland indicator plants were not dominant.

SB5

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Queen Anne's lace, Spotted Knapweed, and Aster *(Aster sp).* Rough Avens (*Geum laciniatum),* and Evening primrose (*Oenothera* sp.) was also observed but not dominant. Saplings observed consisted of blackberry or raspberry and Multiflora Rose. Wetland indicator plants were not observed or dominant.

SB6

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Bluegrass (*Poa* sp.) and Fescue (*Festuca* sp.). Wetland indicator plants were not observed or dominant.

SB7

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Fescue (*Festuca* sp.) and Hairy crabgrass (*Digitaria sanguinalis*). Wetland indicator plants were not observed or dominant.

SB8

Vegetation observed at this area did not meet the criteria for hydrophytic vegetation. Dominant herbs identified at this area consisted of Fescue and

Hairy crabgrass. Trees observed in this area consisted of Sugar maple (*Acer saccharum*), Honey locust, Shagbark hickory (*Carya ovata*), and White oak (*Quercus alba*). Wetland indicator plants were not observed or dominant.

4.3 Hydrology:

A 3ft x 3ft drainage area was observed at the site. However, there was no presence of wetland hydrology observed within the limits of the Site. There was no standing water or water table within the 12" of the ground surface, and nor was there soil saturation or other hydrologic wetland indicators within the Site.

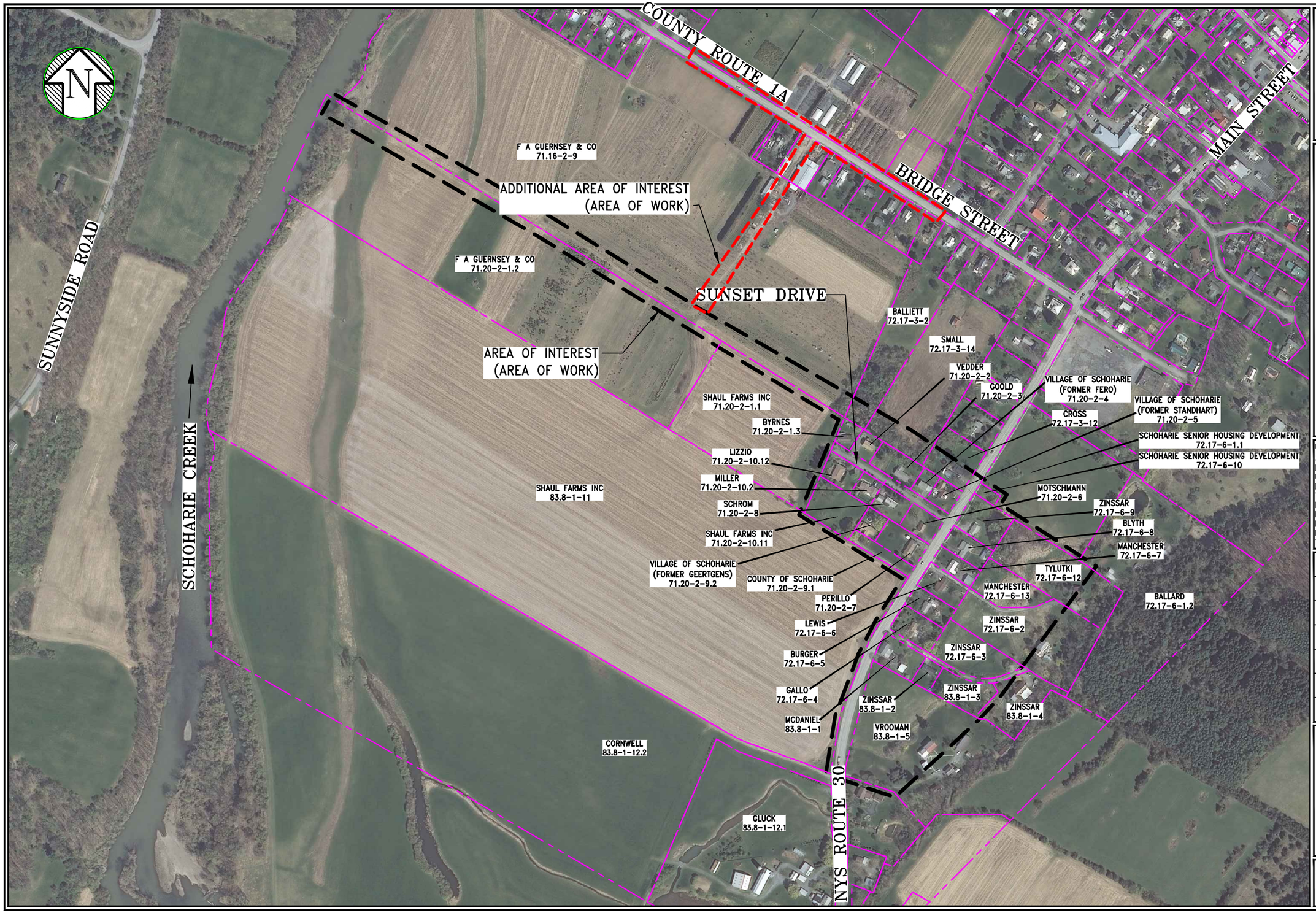
5.0 CONCLUSIONS & RECOMMENDATIONS

Based on the information reviewed and a formal wetland screening performed on January 20, 2016, no wetlands were identified on the project Site. No federally or state regulated wetlands were observed or delineated on the project Site during the January 20, 2016 screening.

A review of soil maps indicates that hydric soils are not present at the Site, and a review of the NWI maps indicates that the Site is not situated within a wetland. The DEC Environmental Resource Mapper indicates that the entire Site and immediately adjacent areas are not located within a state-regulated wetland or wetland checkzone. There was no standing water observed during the site visit and no wetland hydrology was observed in aerial photos of the property. Hydric soils were not observed within the boundaries of the Site. Finally, no dominant wetland plants were observed within the Site.

Our investigation revealed no evidence of any freshwater wetlands within the proposed improvement areas. Since no freshwater wetlands were identified, no delineation of boundaries was necessary.

If any changes to the planned project locations occur, re-evaluation of wetland impacts could be necessary.



Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	5/14/15
Scale	1"=400'
File Name	R/2015037

Sheet Title

AREA OF INTEREST

Sheet No.

R:\2015037\Mktg\dwg\AERIAL_11x17.dwg, 12/10/2015 10:30:40 AM, DWG To PDF.pc3

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70 Pleasant Hill Road,
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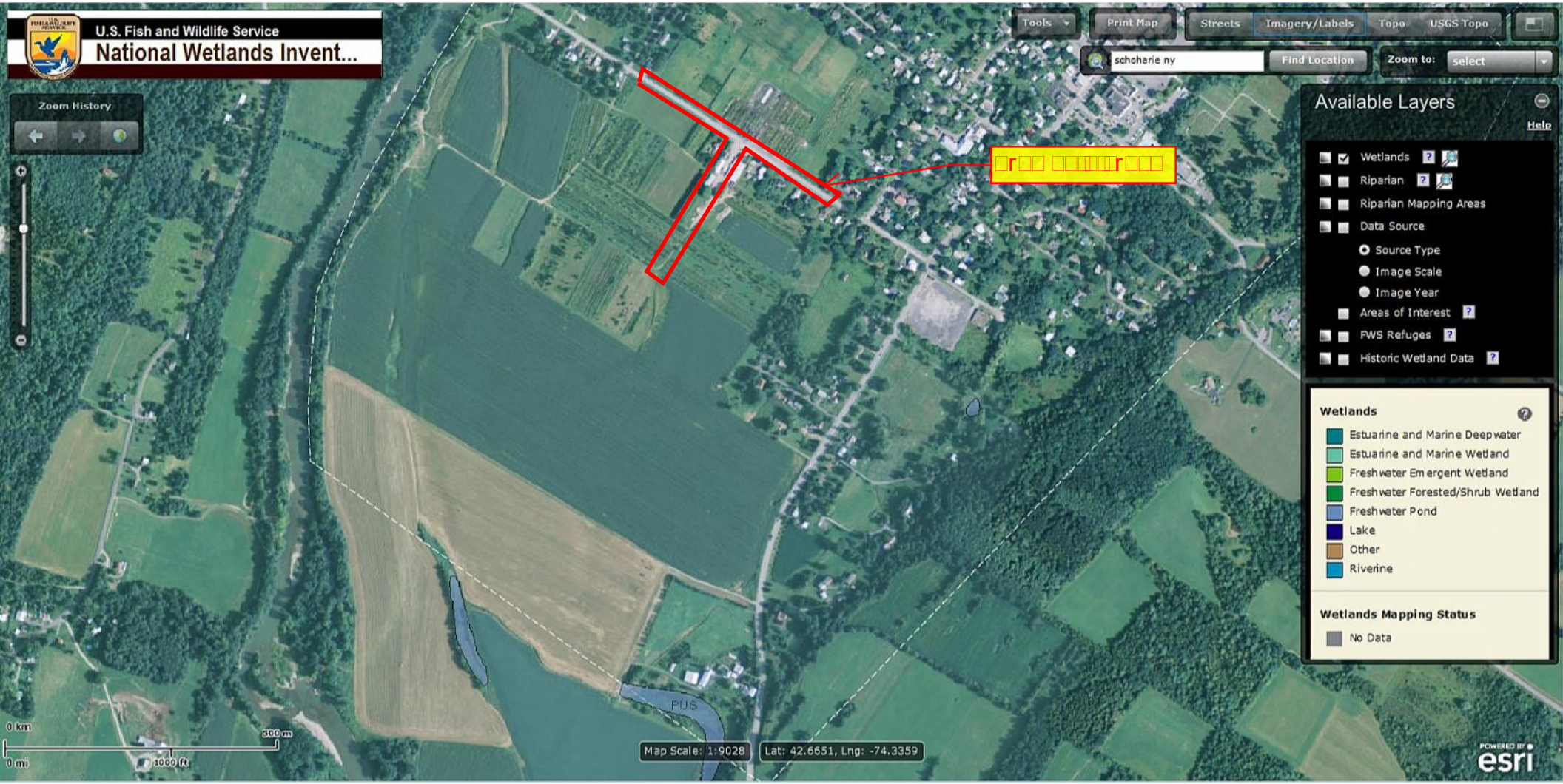
845.534.5959 voice
845.534.5999 fax
www.tectonicengineering.com

0 250 500 1,000
Feet

1 inch equals 500 feet


U.S. Fish and Wildlife Service
National Wetlands Invent...
Tools
Print Map
Streets
Imagery/Labels
Topo
USGS Topo
schoharie ny
Find Location
Zoom to:
select
Zoom History
Available Layers
Help
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Refuges
Historic Wetland Data
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
Wetlands Mapping Status
No Data
PUS
0 km
0 mi
500 m
1000 ft
Map Scale: 1:9028
Lat: 42.6651, Lng: -74.3359
esri

NEW YORK STATE - DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

Environmental Resource Mapper

Search | Layers & Legend | Tell Me More...
Need a Permit? | Contacts | Help

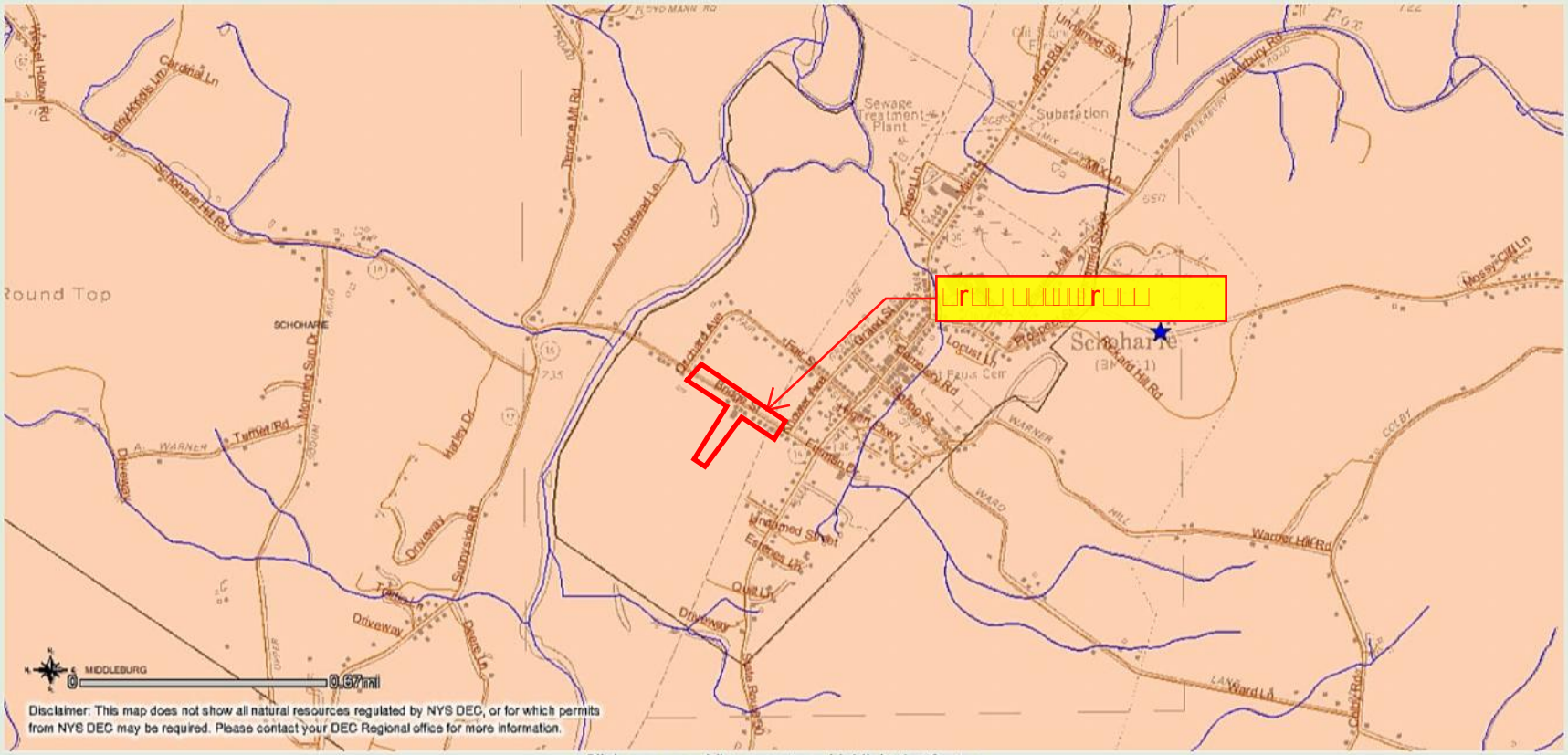
Map Layers & Legend

More layers appear as you zoom in.

- Classified Water Bodies
- Unique Geological Features
- Classified Water Bodies
- State-Regulated Freshwater Wetlands
- Wetland Checkzone ?
- Rare Plants and Rare Animals
- Significant Natural Communities
- Natural Communities Vicinity ?
- Background Map
- Adirondack Park Boundary
- Counties

Click "Refresh Layers" to activate and deactivate layers.

Refresh Layers



Click on a record # to zoom to or highlight that feature

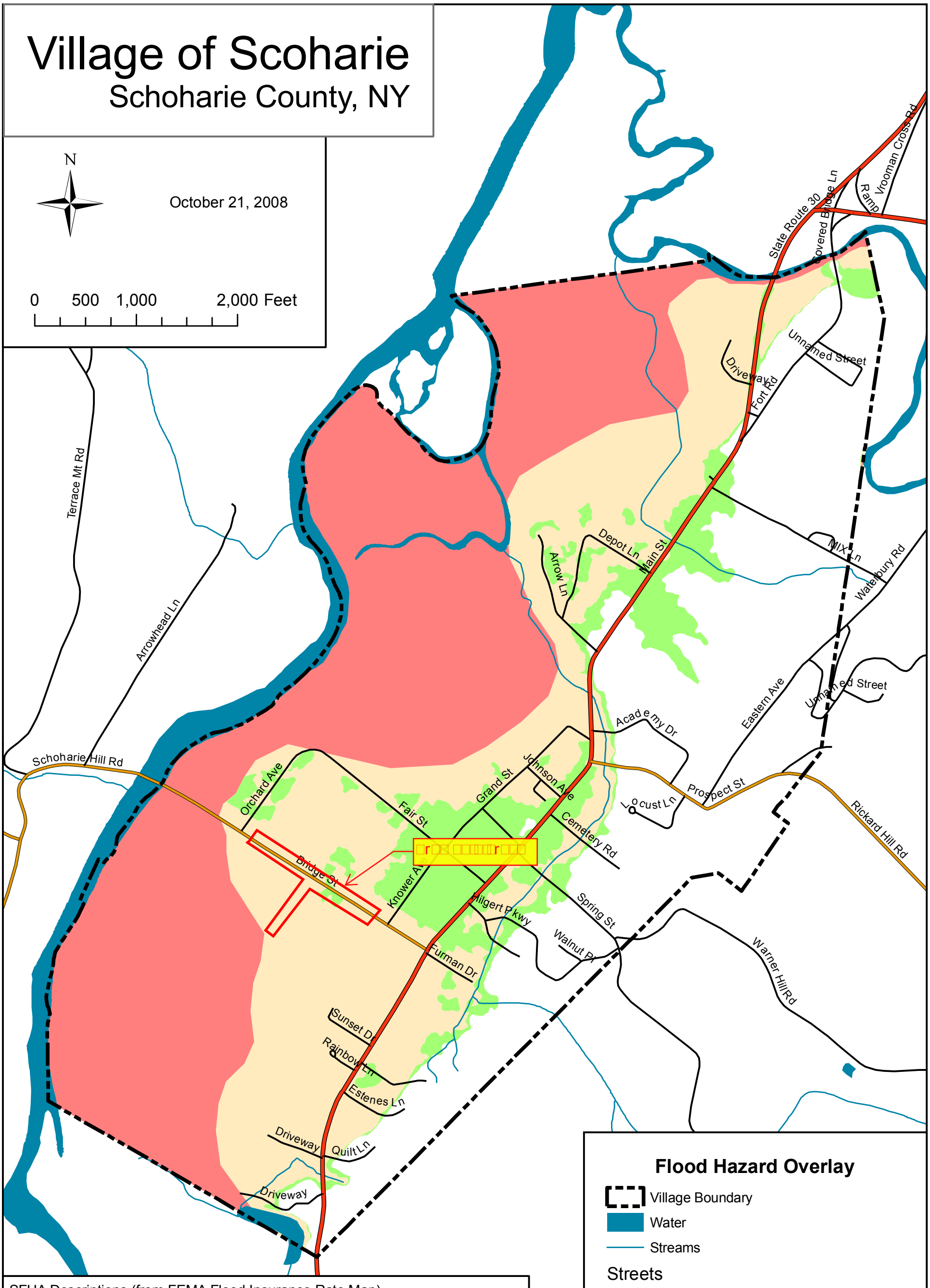
Towns
Record #
1
2

Village of Scoharie
Schoharie County, NY

N

October 21, 2008

0 500 1,000 2,000 Feet



SFHA Descriptions (from FEMA Flood Insurance Rate Map)

Floodway - Areas in the AE Zone that is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood height.

Zone AE - The 1% annual chance flood (100-year flood), also known as the base flood that has a 1% chance of being equaled or exceeded in any given year.

Zone X (shaded) - Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1% annual chance flood.

Flood Hazard Overlay

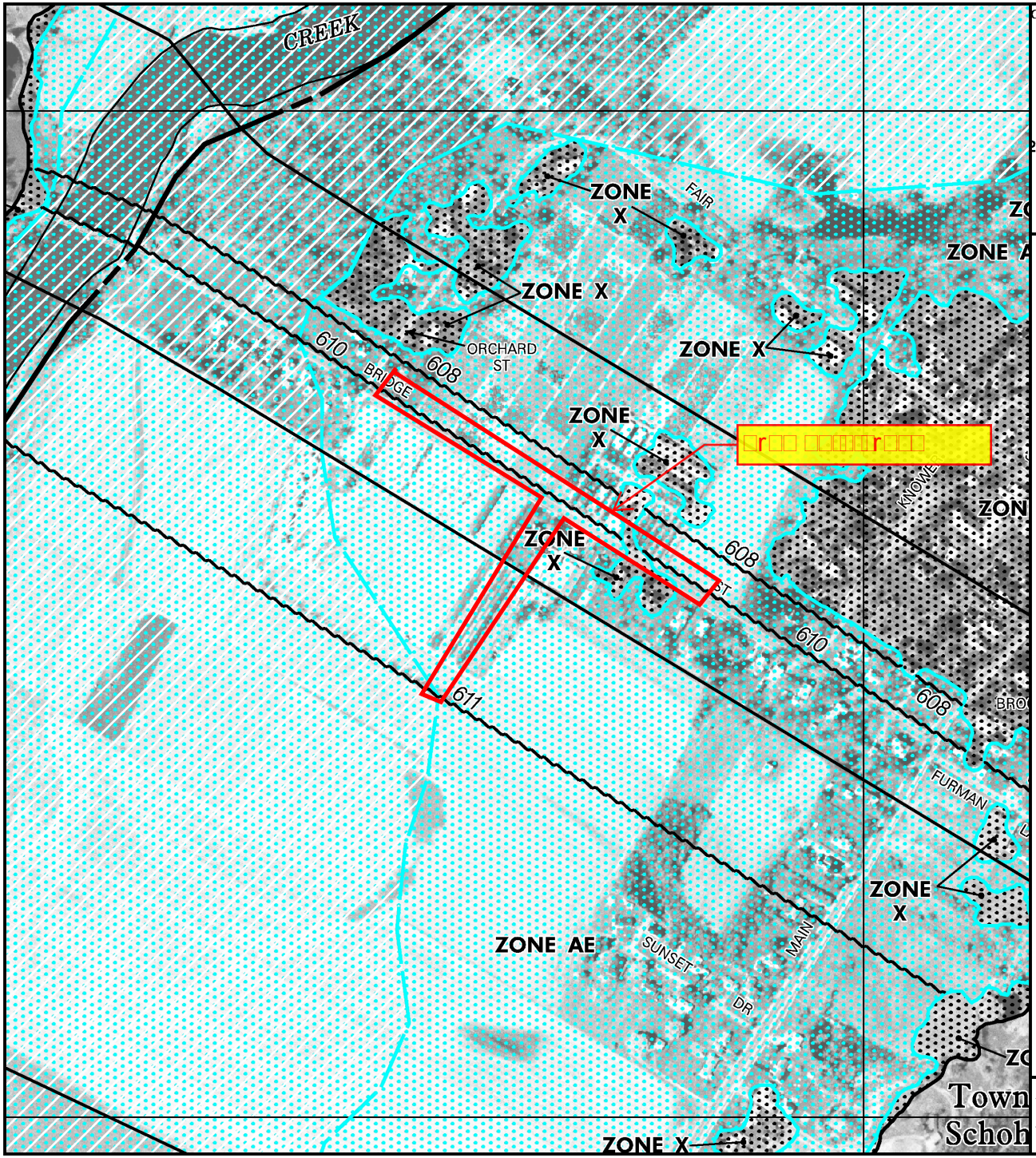
- Village Boundary
- Water
- Streams

Streets

- State Route
- County Road
- Local Road

Special Flood Hazard Areas (SFHA's)

- Floodway
- Zone AE
- Zone X (shaded)



onal Flood Insurance Program at 1–800–638–6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0187E

FIRM

FLOOD INSURANCE RATE MAP

for Schoharie County, New York
All Jurisdictions

CONTAINS:

COMMUNITY	NUMBER
SCHOHARIE, TOWN OF	361198
SCHOHARIE, VILLAGE OF	361061

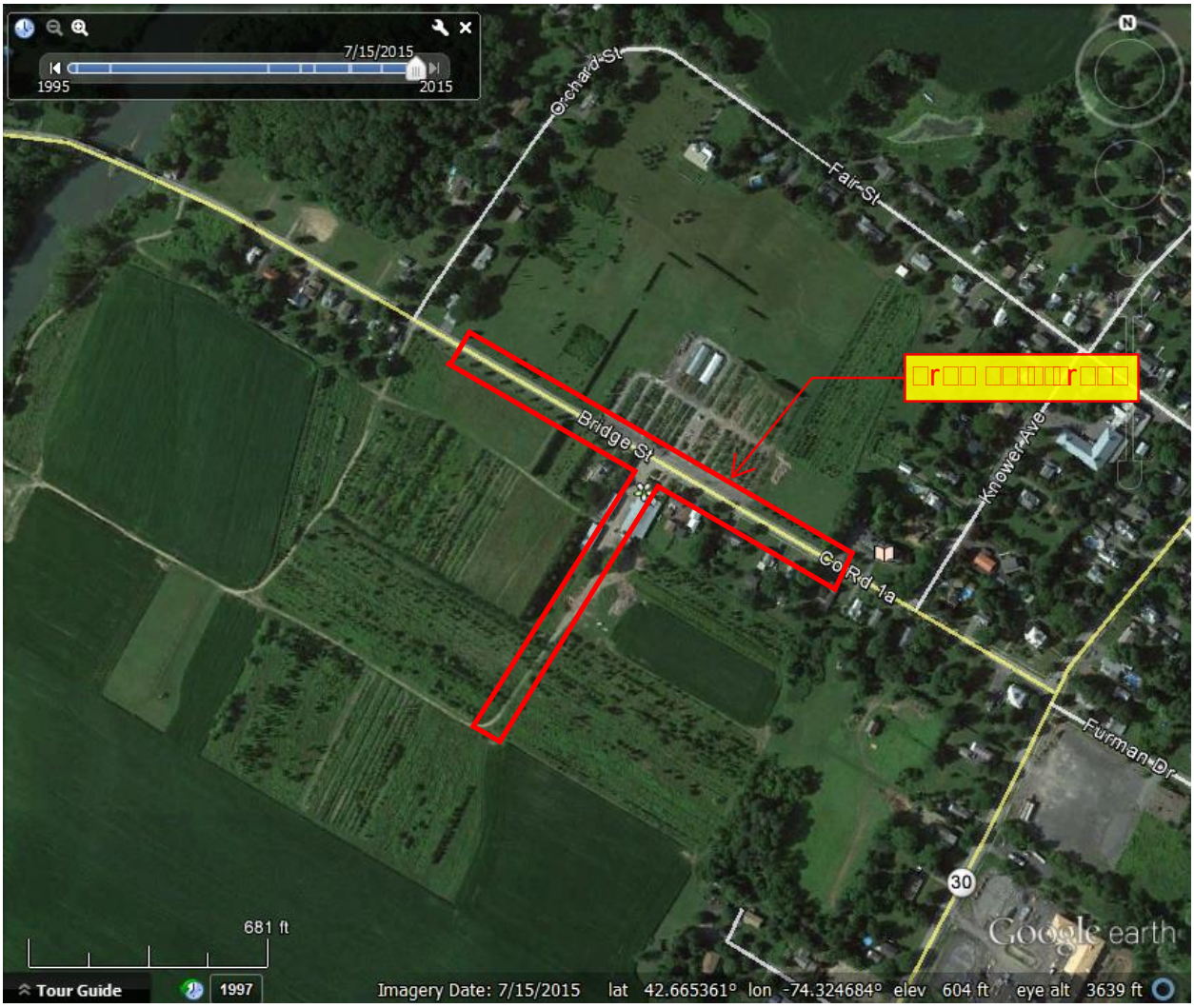
PANEL 187 OF 510
MAP SUFFIX: E
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

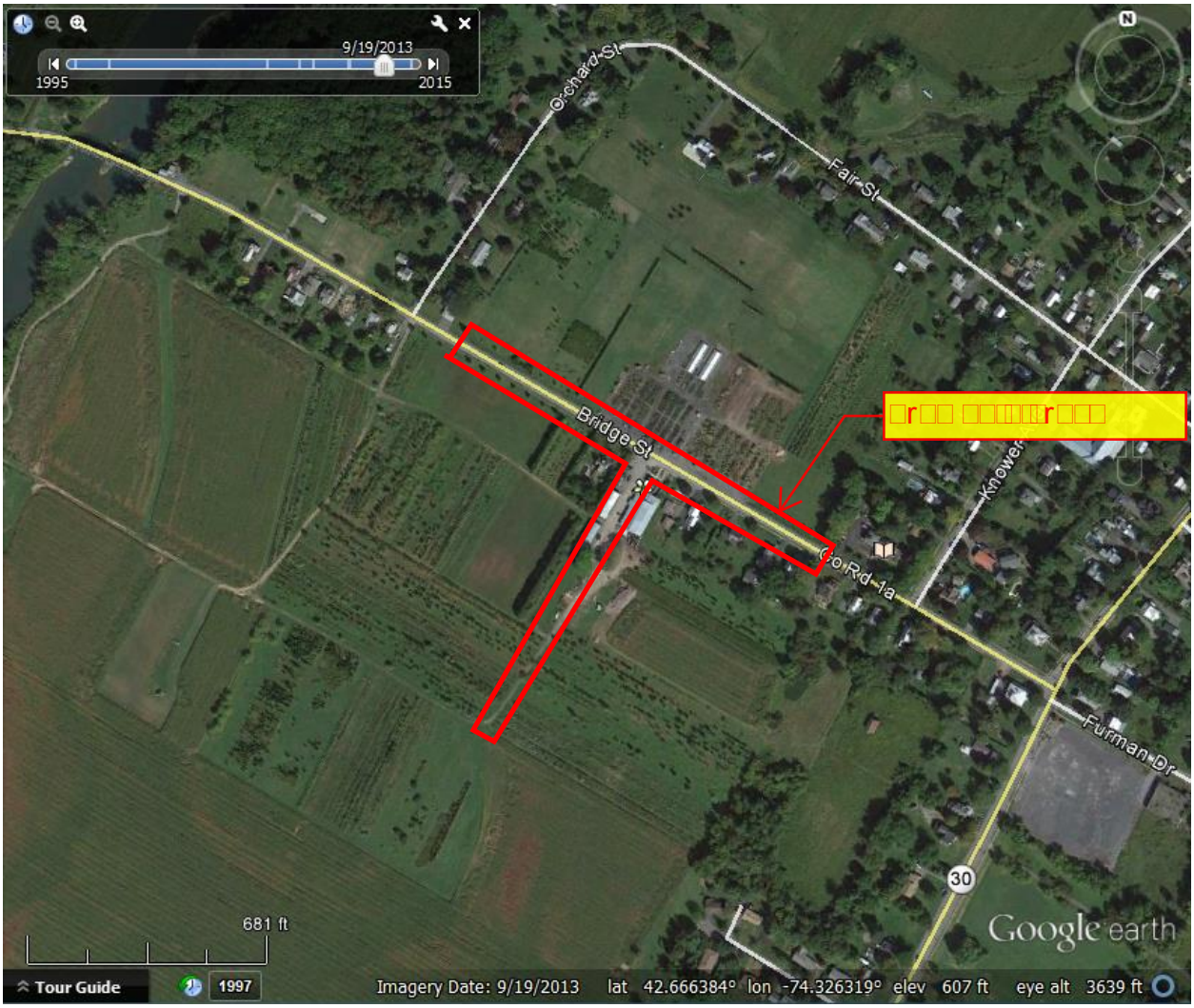
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
36095C0187E

EFFECTIVE DATE
APRIL 2, 2004

Federal Emergency Management Agency


7/15/2015
1995
2015
Orchard St
Fair St
Bridge St
Co Rd 1a
Furman Dr
30
681 ft
Google earth
Tour Guide
1997
Imagery Date: 7/15/2015 lat 42.665361° lon -74.324684° elev 604 ft eye alt 3639 ft


9/19/2013
1995
2015
Orchard St
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Bridge St
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Furman Dr
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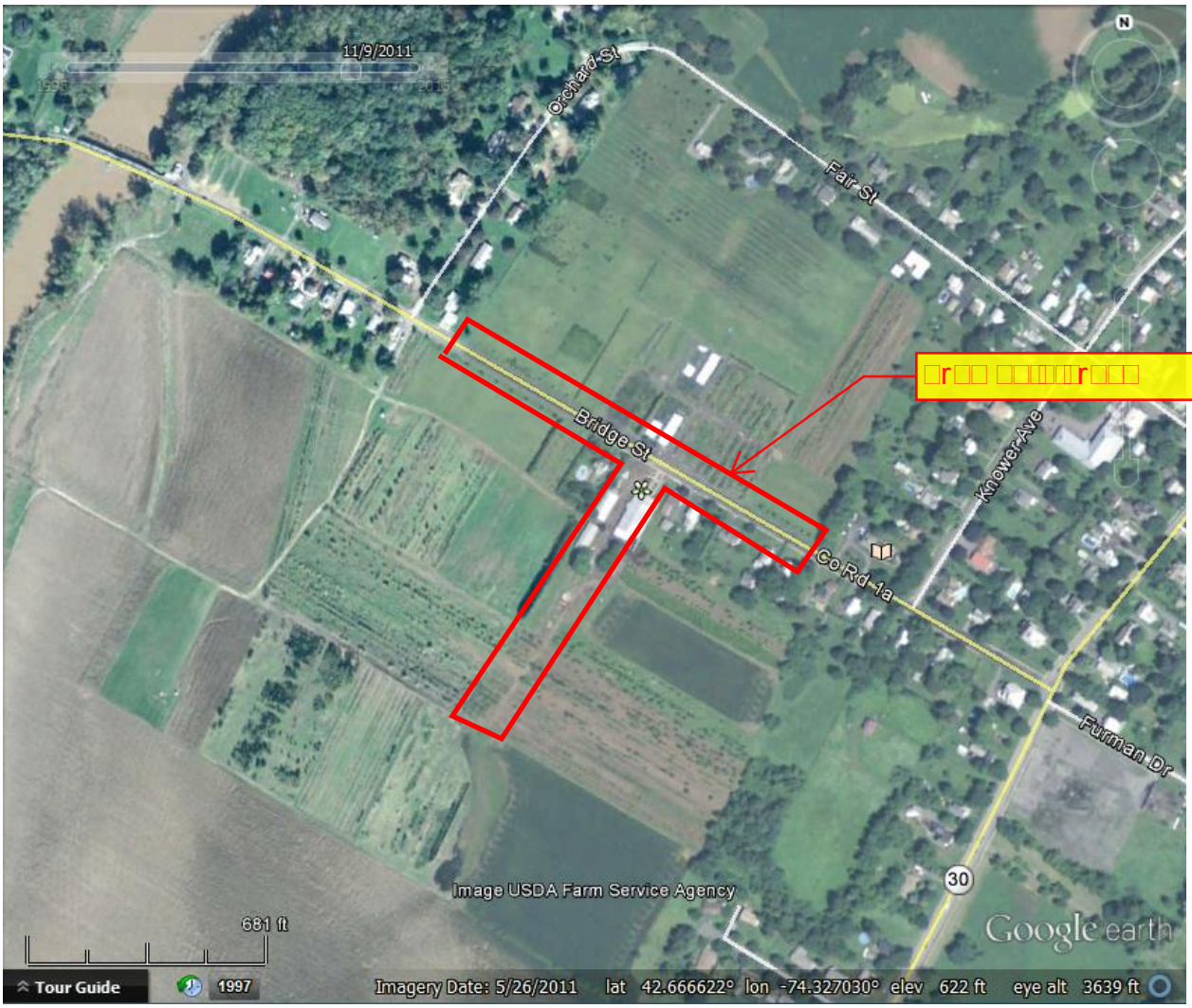
Google earth
Tour Guide
1997
Imagery Date: 9/19/2013 lat 42.666384° lon -74.326319° elev 607 ft eye alt 3639 ft


11/9/2011
Orchard St
Fair St
Bridge St
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Knower Ave
Furman Dr
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Image USDA Farm Service Agency
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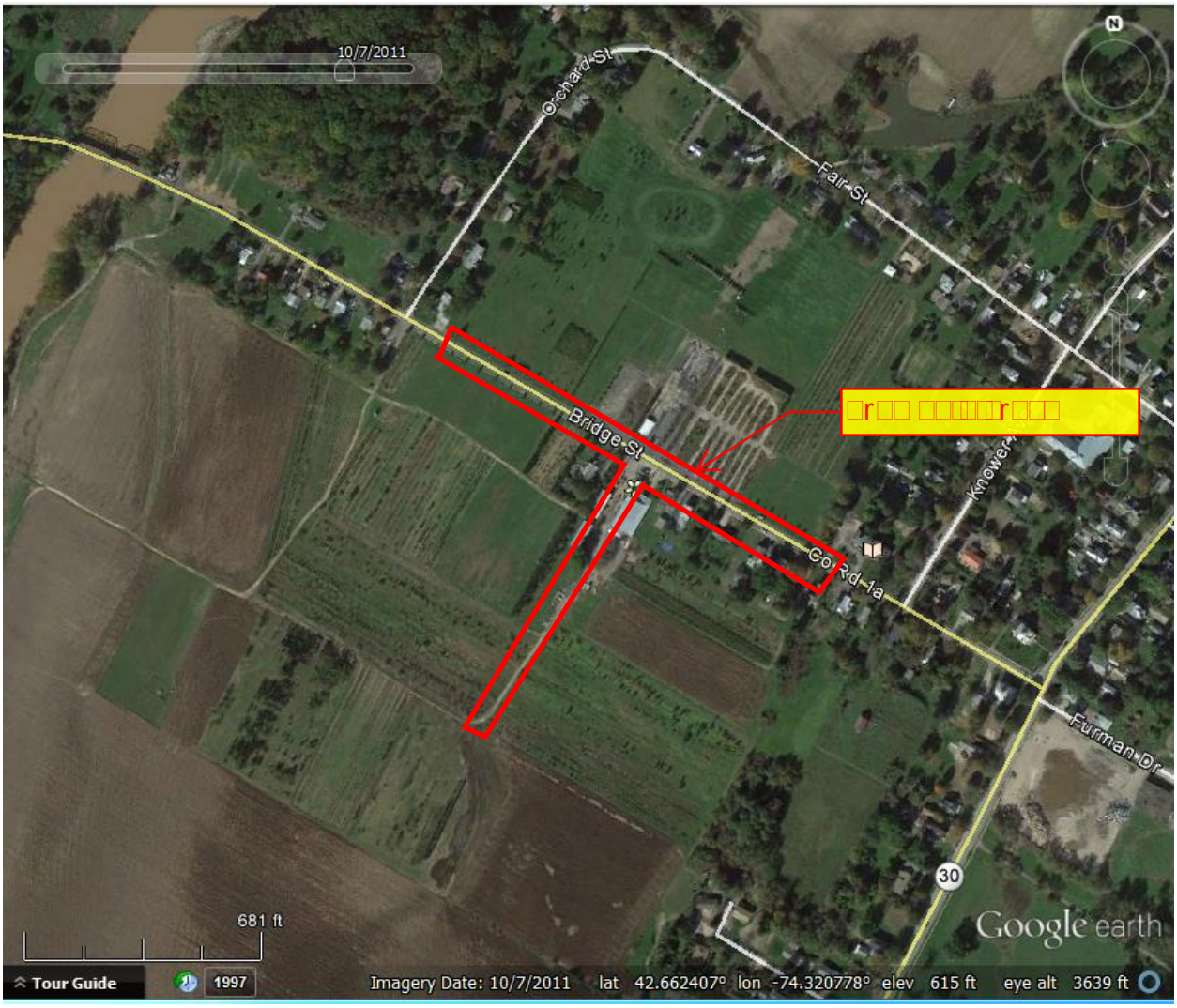
Google earth
Tour Guide
1997
Imagery Date: 5/26/2011 lat 42.666622° lon -74.327030° elev 622 ft eye alt 3639 ft


10/7/2011
Orchard St
Fair St
Bridge St
Co Rd 1a
Furman Dr
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Google earth
Tour Guide
1997
Imagery Date: 10/7/2011 lat 42.662407° lon -74.320778° elev 615 ft eye alt 3639 ft


9/5/2009
Orchard St
Fair St
Bridge St
Co Rd 1a
Furman Dr
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Image USDA Farm Service Agency
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Google earth
Tour Guide
1997
Imagery Date: 5/3/2009 lat 42.662407° lon -74.320778° elev 615 ft eye alt 3639 ft

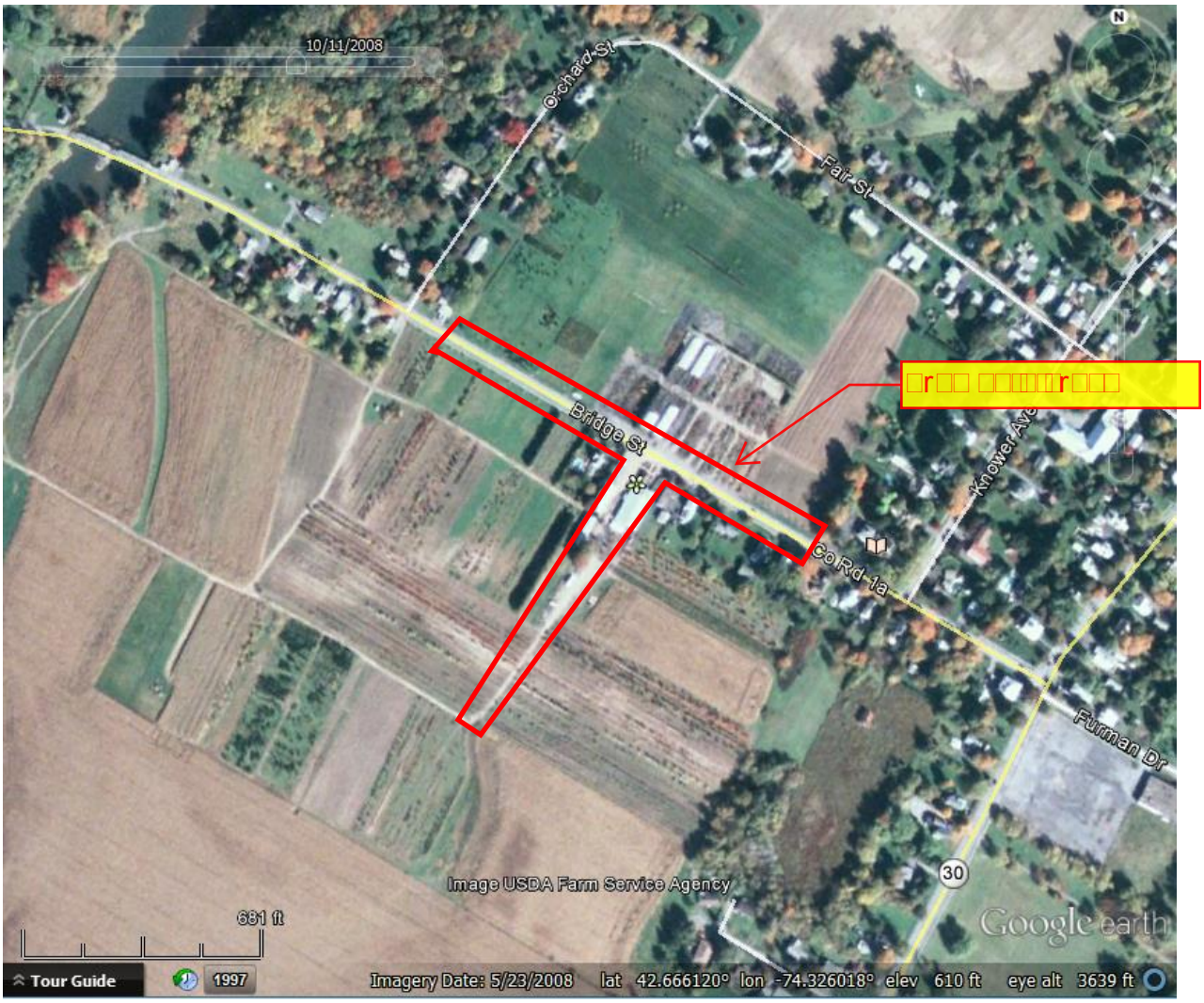
10/11/2008
Orchard St
Fair St
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Image USDA Farm Service Agency
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Tour Guide
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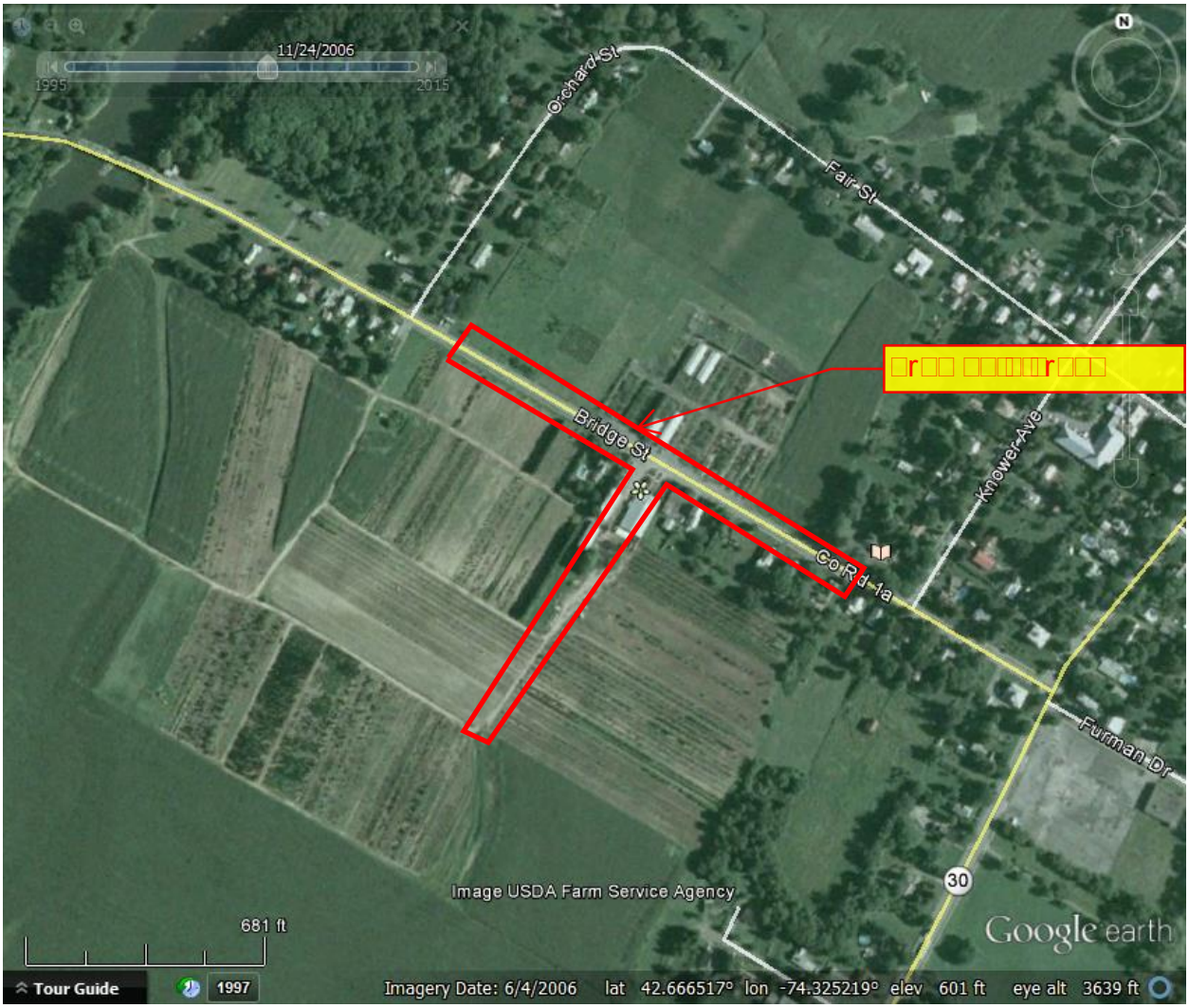
Imagery Date: 5/23/2008 lat 42.666120° lon -74.326018° elev 610 ft eye alt 3639 ft


11/24/2006
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Knower Ave
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Image USDA Farm Service Agency
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Tour Guide
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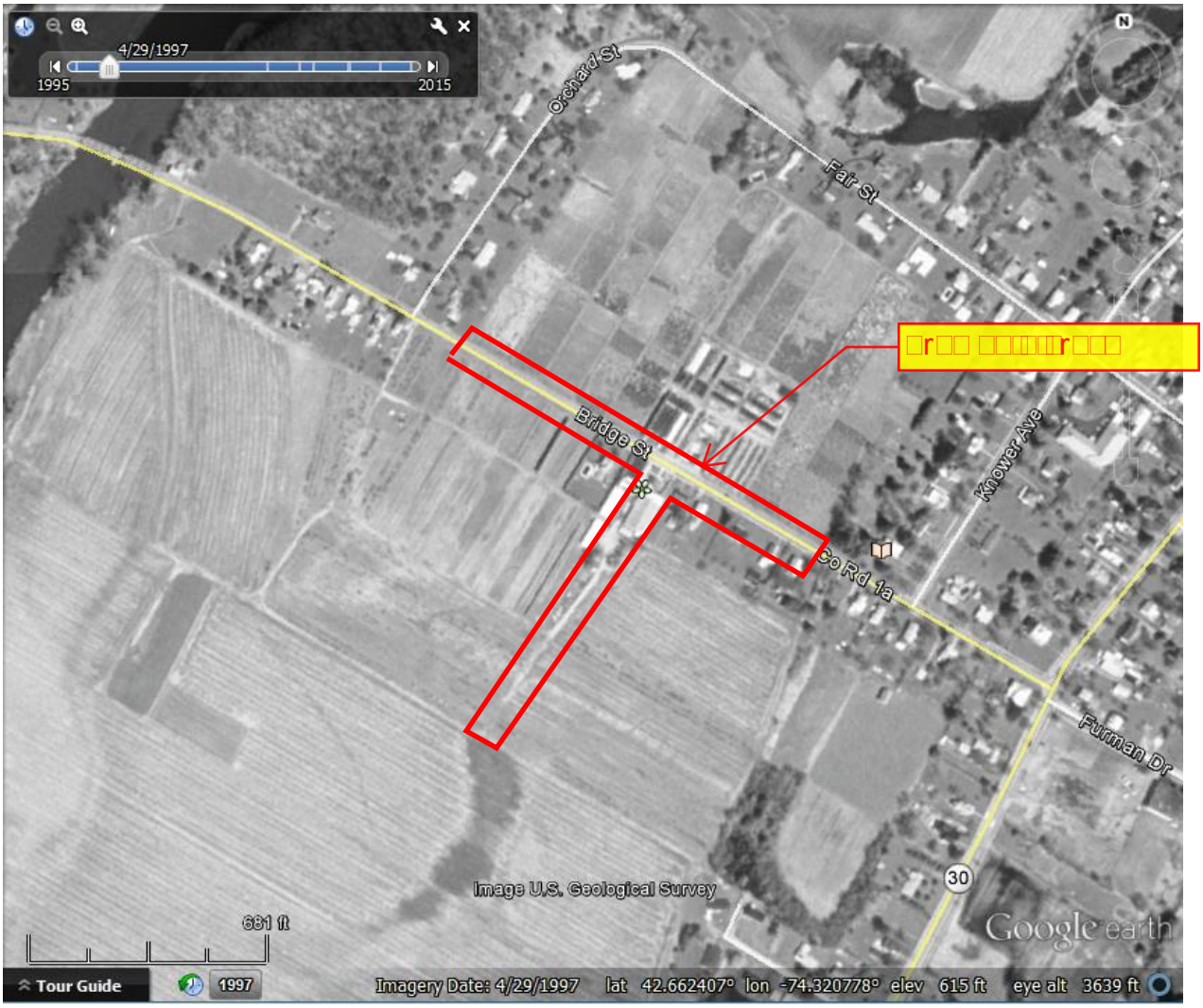
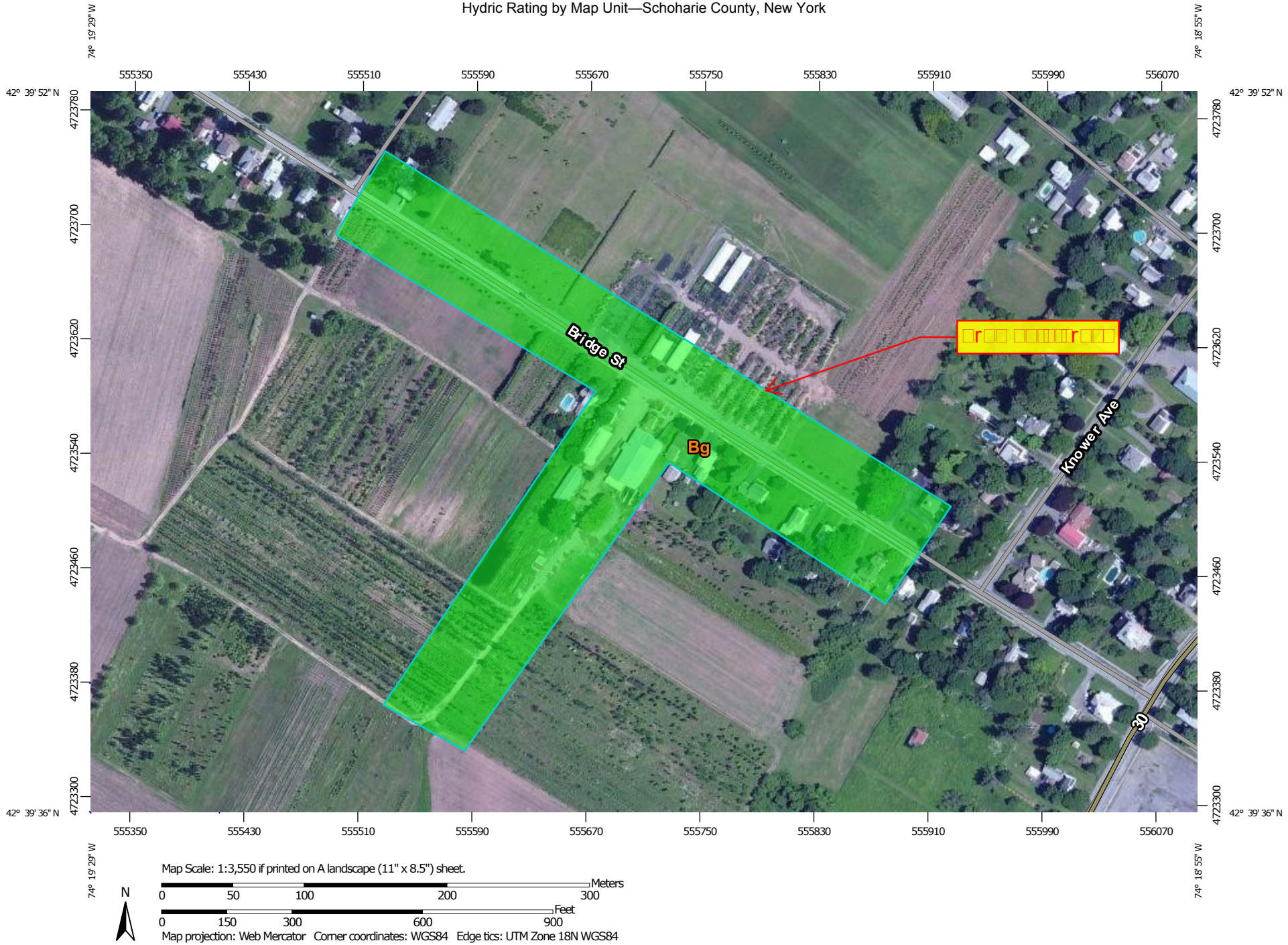
Imagery Date: 6/4/2006 lat 42.666517° lon -74.325219° elev 601 ft eye alt 3639 ft


4/29/1997
1995
2015
Orchard St
Fair St
Bridge St
Co Rd 1a
Knower Ave
Furman Dr
30
Image U.S. Geological Survey
681 ft
Google earth
Tour Guide
1997
Imagery Date: 4/29/1997 lat 42.662407° lon -74.320778° elev 615 ft eye alt 3639 ft


74° 19' 29" W
74° 18' 55" W
555350
555430
555510
555590
555670
555750
555830
555910
555990
556070
42° 39' 52" N
42° 39' 36" N
4723780
4723700
4723620
4723540
4723460
4723380
4723300
Bridge St
Bg
Knower Ave
30
Map Scale: 1:3,550 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 50 100 200 300
Feet
0 150 300 600 900
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Schoharie County, New York
Survey Area Data: Version 11, Sep 24, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2010—Oct 9, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit — Schoharie County, New York (NY095)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Bg	Barbour and Tioga loams	0	12.7	100.0%
Totals for Area of Interest			**12.7**	**100.0%**

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

Schoharie County, New York

Bg—Barbour and Tioga loams

Map Unit Setting

National map unit symbol: 9wdh
Elevation: 250 to 1,800 feet
Mean annual precipitation: 34 to 43 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 100 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Tioga and similar soils: 40 percent
Barbour and similar soils: 40 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Barbour

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy over sandy and gravelly alluvium derived mainly from areas of acid, reddish sandstone, siltstone, and shale

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 24 inches: loam
H3 - 24 to 65 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B

Description of Tioga

Setting

Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy alluvium

Typical profile

H1 - 0 to 9 inches: loam
H2 - 9 to 18 inches: loam
H3 - 18 to 27 inches: very gravelly loam
H4 - 27 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A

Minor Components

Middlebury

Percent of map unit: 5 percent

Tunkhannock

Percent of map unit: 5 percent

Basher

Percent of map unit: 5 percent

Scio

Percent of map unit: 5 percent

Data Source Information

Soil Survey Area: Schoharie County, New York
Survey Area Data: Version 11, Sep 24, 2015

□ □□□ □□r□ □ □□□□□□□ M□□

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16

Applicant/Owner: NY RISING State: NY Sampling Point: SB1

Investigator(s): S. Angus Section, Township, Range: —

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): None Slope (%): _____

Subregion (LRR or MLRA): LRR L Lat: 42.659938° Long: -74.32397° Datum: _____

Soil Map Unit Name: Bg Barbor and Tioga loams NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil _____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	(No)	**Is the Sampled Area within a Wetland?** Yes _____ (No)
Hydric Soil Present?	Yes _____	(No)	
Wetland Hydrology Present?	Yes _____	(No)	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ (No)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. White Pine			FACU
2. Birch sp. (Silvaculture)			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: _____)			
1. Queen Anns Lace		Y	UPL
2. Spotted Knapweed		Y	NL
3. Canada Goldenrod			FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ (No)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SO1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/4						loamy Clay	
8+	5YR 4/3						Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes ____ No ✓

Remarks:

Although there was red parent material the soils were too bright to be hydric and lacked other indicators.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16

Applicant/Owner: NY RISING State: NY Sampling Point: SB 2

Investigator(s): S. Angus Section, Township, Range: —

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): _____

Subregion (LRR or MLRA): LRR L Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Bg Barbar and Tioga loams NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil _____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No (circled)

Hydric Soil Present? Yes _____ No (circled)

Wetland Hydrology Present? Yes _____ No (circled)

Is the Sampled Area within a Wetland? Yes _____ No (circled)

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No (circled)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB2

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sunburst Locust (Gleditsia tria c'Sunpole') (planted)		Y	NL
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1. Rubus sp.			
2. Rosa multiflora			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: ____)			
1. Queen Anne's Lace		Y	UPL
2. Canada Goldenrod			FACU
3. Spotted knapweed		Y	N/L
4. grass sp. (mowed)			—
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No (circled)

Remarks: (Include photo numbers here or on a separate sheet.)

All trees and shrub included in this project are from silviculture or invasive and were not observed growing naturally.

SOIL

Sampling Point: SB2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	5YR 3/3						Clay loam	
10-24+	5YR 4/4						Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No V

Remarks:

See sheet for SB1

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16

Applicant/Owner: NY RISING State: NY Sampling Point: SB3

Investigator(s): S. Angus Section, Township, Range: —

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): _____

Subregion (LRR or MLRA): LRR L Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Bg Barbor and Tioga loams NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil _____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ (No)

Hydric Soil Present? Yes _____ (No)

Wetland Hydrology Present? Yes _____ (No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? Yes _____ (No)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB 3

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Spirea sp. (planted		Y	–
2. Rubus sp.			–
3. Rosa mult. flora			FACU
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Queen Anne's Lace		Y	UPL
2. Spotted knapweed			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No (circled)

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SB3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	5YR 3/3						clay loam	
10+	5YR 5/4						loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No X

Remarks:

See note on SB-1 sheet

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16
Applicant/Owner: NY RISING State: NY Sampling Point: SB 4
Investigator(s): S. Angus Section, Township, Range: —
Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): _____
Subregion (LRR or MLRA): LRR L Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Bg Barbor and Tioga loams NWI classification: _____
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation N, Soil _____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No
Hydric Soil Present? Yes _____ No
Wetland Hydrology Present? Yes _____ No

Is the Sampled Area within a Wetland? Yes _____ No

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):
Water Table Present? Yes _____ No X Depth (inches):
Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? Yes _____ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Shallow drainage feature or depression 3ft x 2ft

VEGETATION – Use scientific names of plants.

Sampling Point: SB4

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Japanese maple (planted)			NL
2. Sunburst locust (Gleditsia triac 'Sunsde')			NL
3. (planted)?			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Queen Anne's lace		Y	UPL
2. Spotted knapweed		Y	FACU
3. Bidens sp.			—
4. Phalaris arundinacea			FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No (circled)

Remarks: (Include photo numbers here or on a separate sheet.)

Two Bidens sp. plants were growing in the deepest part of the depression; however, other non-hydric species were dominant.

It appears that in some areas reed canary grass has been used for soil stabilization.

SOIL

Sampling Point: SB4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/3						Loam	
8-15	5YR 4/4						loam	
15+	refusal							tile drain?

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16

Applicant/Owner: NY RISING State: NY Sampling Point: SB 5

Investigator(s): S. Angus Section, Township, Range: —

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): _____

Subregion (LRR or MLRA): LRR L Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Bg Barbar and Tioga loams NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil _____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ (No)

Hydric Soil Present? Yes _____ (No)

Wetland Hydrology Present? Yes _____ (No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? Yes _____ (No)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

drainage feature

VEGETATION – Use scientific names of plants.

Sampling Point: SB5

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. Rubus sp			
2. Rosa multiflora			FACU
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Queen Anne's Lace		X	UPL
2. Spotted Knapweed		Y	NL
3. Evening Primrose			NL
4. Avens (Geum lacinatum)			FACW
5. Aster sp.		Y	—
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No (circled)

Remarks: (Include photo numbers here or on a separate sheet.)

Avens was at the deepest depression of the drainage feature

SOIL

Sampling Point: SB5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	5YR 3/3						loam	some gravel
8-12	5YR 4/4						loam	more gravel
12+	refusal							gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16

Applicant/Owner: NY RISING State: NY Sampling Point: SB6

Investigator(s): S. Angus Section, Township, Range: —

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): _____

Subregion (LRR or MLRA): LRR L Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: Bg Barbar and Tioga loams NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation N, Soil _____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ (No)

Hydric Soil Present? Yes _____ (No)

Wetland Hydrology Present? Yes _____ (No)

Is the Sampled Area within a Wetland? Yes _____ (No)

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? Yes _____ (No)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB 6

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. Poa sp		Y	–
2. fescue sp		Y	–
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	_____ = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SB 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	5YR 4/4						Clay Loam	
10-18	5YR 4/4						Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16
Applicant/Owner: NY RISING State: NY Sampling Point: SB7
Investigator(s): S. Angus Section, Township, Range: —
Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): 0
Subregion (LRR or MLRA): LRR L Lat: Long: Datum:
Soil Map Unit Name: Bg Barbar and Tioga loams NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no. explain in Remarks.)
Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation N, Soil , or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No
Hydric Soil Present? Yes No
Wetland Hydrology Present? Yes No

Is the Sampled Area within a Wetland? Yes No
If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No X Depth (inches):
Water Table Present? Yes No X Depth (inches):
Saturation Present? (includes capillary fringe) Yes No X Depth (inches):

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB7

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Fescue sp		Y	
2. Digitaria sanguinalis			FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SB-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	5YR 4/4						Loam	little gravel
10+	refusal							gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Guernsey City/County: Schoharie/Schoharie Sampling Date: 1/20/16

Applicant/Owner: NY RISING State: NY Sampling Point: SB 8

Investigator(s): S. Angus Section, Township, Range: —

Landform (hillslope, terrace, etc.): Flood plain Local relief (concave, convex, none): NONE Slope (%): 0

Subregion (LRR or MLRA): LRR L Lat: Long: Datum:

Soil Map Unit Name: Bg Barbor and Tioga loams NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation Y, Soil Y, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation N, Soil ____, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ (No)

Hydric Soil Present? Yes ____ (No)

Wetland Hydrology Present? Yes ____ (No)

Is the Sampled Area within a Wetland? Yes ____ (No)

If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

The site is the location of a Nursery opperation so Native vegetation was sparce or absent

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches):

Wetland Hydrology Present? Yes ____ (No)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SB8

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sugar Maple			FACU
2. Honey Locust			FAC
3. Shag bark Hickory			FACU
4. White Oak			FACU
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size:)			
1. Fescue sp		Y	-
2. Digitaria sanguinalis			FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ (No)

Remarks: (Include photo numbers here or on a separate sheet.)

Tree line next to library. Old mature trees

SOIL

Sampling Point: SB8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5YR 3/3						Loam	
6-12	5YR 4/4						Loam	
12+	refusal							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- X Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present? Yes _____ No X

Remarks:

□□□□ □□□□□□□ M□□

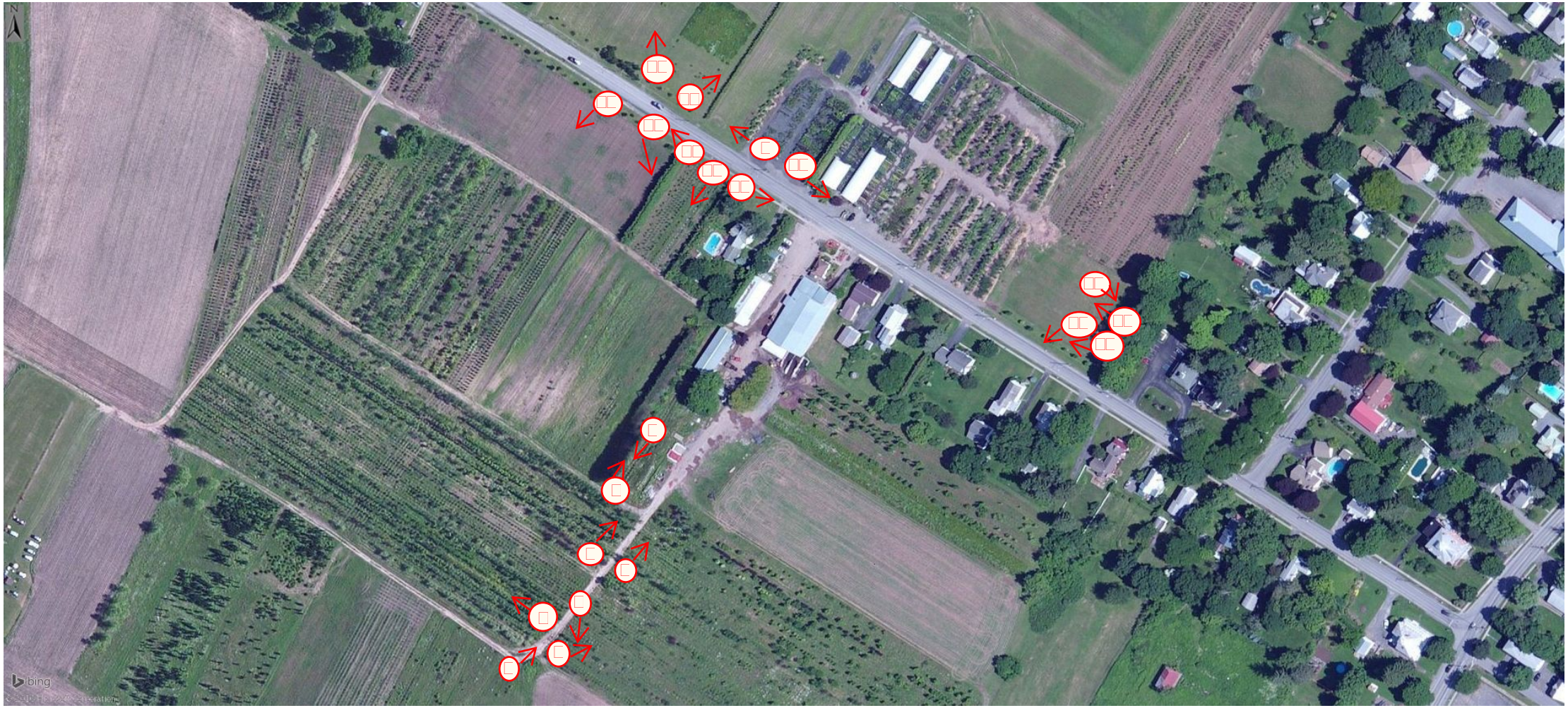


PHOTO 1

PHOTO 2

PHOTO 3

PHOTO 4

PHOTO 5

PHOTO 6

PHOTO 7

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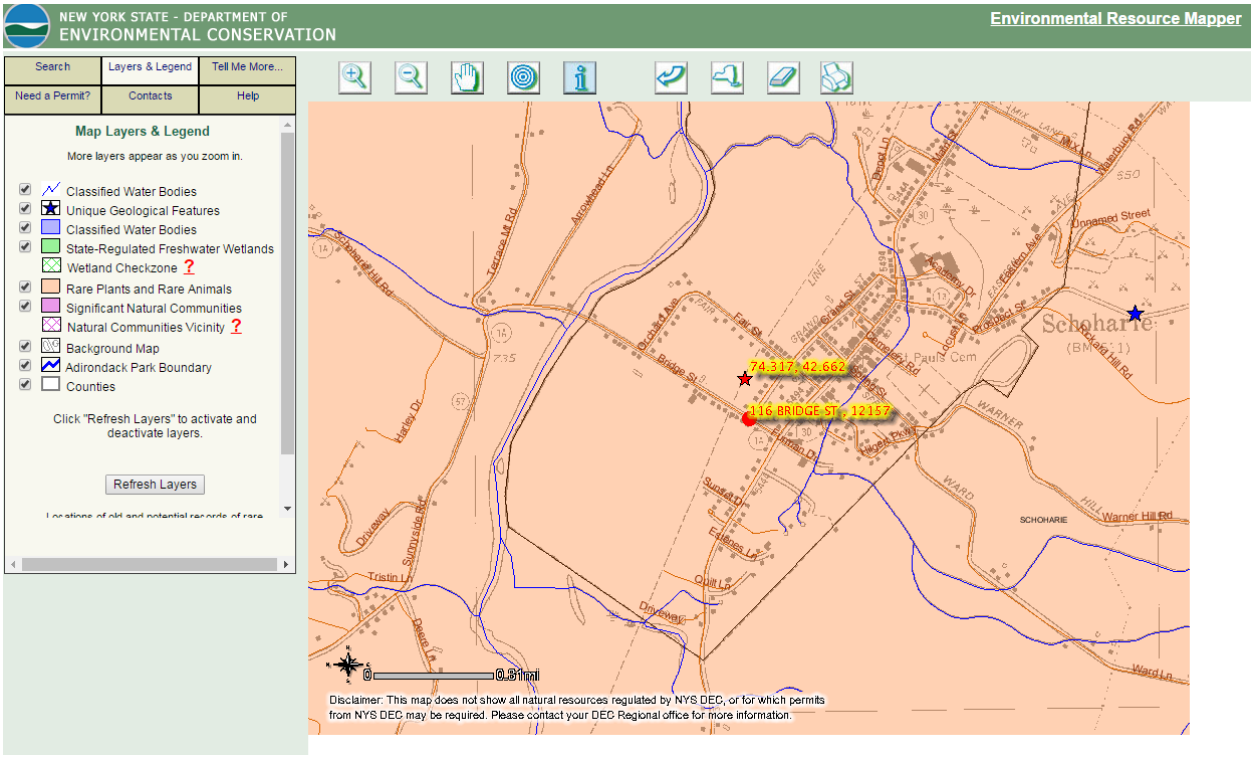
PHOTO 21

Appendix D: NYSDEC Environmental Resources Map

South End Drainage Improvements, Village of Schoharie



Appendix E: Consultations

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits & Pollution Prevention
625 Broadway, 4th Floor, Albany, New York 12233-1750
P: (518) 402-9167 | F: (518) 402-9168 | deppermitting@dec.ny.gov
www.dec.ny.gov

March 9, 2016

Mr. Thomas J. King
Governor's Office of Storm Recovery
99 Washington Avenue
Suite 1224
Albany, NY 12260

RE: South End Drainage system
Town of Schoharie, Schoharie County

Dear Mr. King:

Based upon our review, we offer the following comments:

PROTECTION OF WATERS

The following waterbodies are located within or near the site you indicated:

Name	Class	DEC Water Index Number	Status
Schoharie Creek	**C**	**H-240-82**	**Non-Protected, navigable**

A Protection of Waters permit is required for any excavation or filling below the mean high water line of any waterbodies and contiguous wetlands identified above as "navigable."

If a permit is not required, please note, however, you are still responsible for ensuring that work shall not pollute any stream or waterbody. Care shall be taken to stabilize any disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.

FRESHWATER WETLANDS

Pease contact your town officials and the United States Army Corps of Engineers in New York City, telephone (917) 790-8511 (Westchester/Rockland Counties), or (917) 790-8411 (other counties), for any additional permitting they might require.

STATE-LISTED SPECIES

The location of this project does not have any state listed species found in the database. The absence of data does not necessarily mean that any other rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which 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 sources may be required to fully assess impacts on biological resources.

CULTURAL RESOURCES

We have reviewed the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation. These records indicate the following:

- the project is located within an area considered to be sensitive with regard to archaeological resources.

For more information, please visit the New York State Office of Historic Preservation website at http://www.nysparks.com/shpo/.

OTHER

Please note that this letter only addresses the requirements for the following permits from the Department:

Protection of Waters

Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov under “Programs” then “Division of Environmental Permits.”

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,

May O'Malley
Division of Environmental Permits
may.omalley@dec.ny.gov
518-402-9154

Cc: Kristy Primeau, NYSDEC Region 4 Environmental Permits
Larry Moss, NYSOPRH Disaster Recovery
US Army Corps

NOTE: Regarding erosion/sedimentation control requirements:
Stormwater discharges require a State Pollutant Discharge Elimination System (SPDES) Stormwater permit from this Department if they either:

- occur at industrial facilities and contain either toxic contaminants or priority pollutants OR
- result from construction projects involving the disturbance of 5000 square feet or more of land within the NYC Department of Environmental Protection East of Hudson Watershed or for proposed disturbance of 1 acre or more of land outside the NYC DEP Watershed

Your project may be covered by one of two Statewide General Permits or may require an individual permit. For information on stormwater and the general permits, see the DEC website at http://www.dec.ny.gov/chemical/8468.html.
For construction permits, if this site is within an MS4 area (Municipal Separate Storm Sewer System), the stormwater plan must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. If the site is not within an MS4 area and other DEC permits are required, please contact the regional Division of Environmental Permits.

May 6, 2016

Nicholas Conrad
New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program – Information Services
625 Broadway, 5th Floor
Albany, New York 12233-4757

Re: Natural Heritage Compliance Process Request for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project – Village of Schoharie, Schoharie County, NY

Dear Mr. Conrad:

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD) is currently preparing an environmental review for the Schoharie County Soil and Water Conservation District's (SCSWCD) South End Drainage Improvements project, located in the Village of Schoharie, NY, (the "Proposed Action") (see **Attachment 1** and **Attachment 2**).

The purpose of this letter is to provide the New York State Department of Environmental Conservation (NYS DEC) Natural Heritage Program (NYNHP) notice of the Proposed Action and determine whether the Proposed Action has the potential to impact any state or federal endangered, threatened, or rare species or significant natural communities.

Area of Potential Effect: The South End Drainage Improvements Project includes the design and construction of improvements to the South End drainage system along State Route 30/Main Street located in the Village of Schoharie, NY. Design and construction of these improvements aim to reduce the risk of localized flooding when future storm events occur, while preventing isolation of residents and allowing uninterrupted emergency response.

Proposed Project Description: The purpose of this Proposed Action is to alleviate flooding and stormwater ponding so that buildings and roadways are less vulnerable. During Hurricane Irene and Tropical Storm lee, the Village of Schoharie's stormwater drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street. State Route 30/Main Street serves as a primary transportation corridor through the Schoharie Valley. It is used by emergency service vehicles to help in the evacuation of residents. However, during these storm events, flooding not only resulted in localized damage, but it also

created regional emergency response challenges. Improvements to be made to the project location include relocating existing utilities, lowering culverts, providing a retention pond to attenuate peak runoff, constructing an outfall to Schoharie Creek, reestablishing swales, providing additional drainage along and across State Route 30/Main Street, providing backflow gates to prevent Schoharie Creek flood waters from feeding back into the proposed project location, and providing streambank stabilization at the Schoharie Creek outfall.

A supplemental service area along Bridge Street is also under investigation and is currently being reviewed for funding eligibility. The improvements would be similar to the proposed State Route 30/Main Street storm sewer system. Drainage would be collected along Bridge Street and conveyed south to the aforementioned outfall pipe to the Schoharie Creek.

Compliance: According to information reviewed from the NYS DEC Environmental Resource Mapper, rare, threatened or endangered plant or animal species may be present in the property's vicinity. There are no known significant natural communities present (see **Attachment 3**). GOSR respectfully requests NYNHP review the Proposed Action and location and provide consultation on whether or not the Proposed Action is likely to adversely affect any rare, threatened, or endangered species.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0647 or Alicia.Shultz@nyshcr.org. Thank you for your time and consideration.

Sincerely,

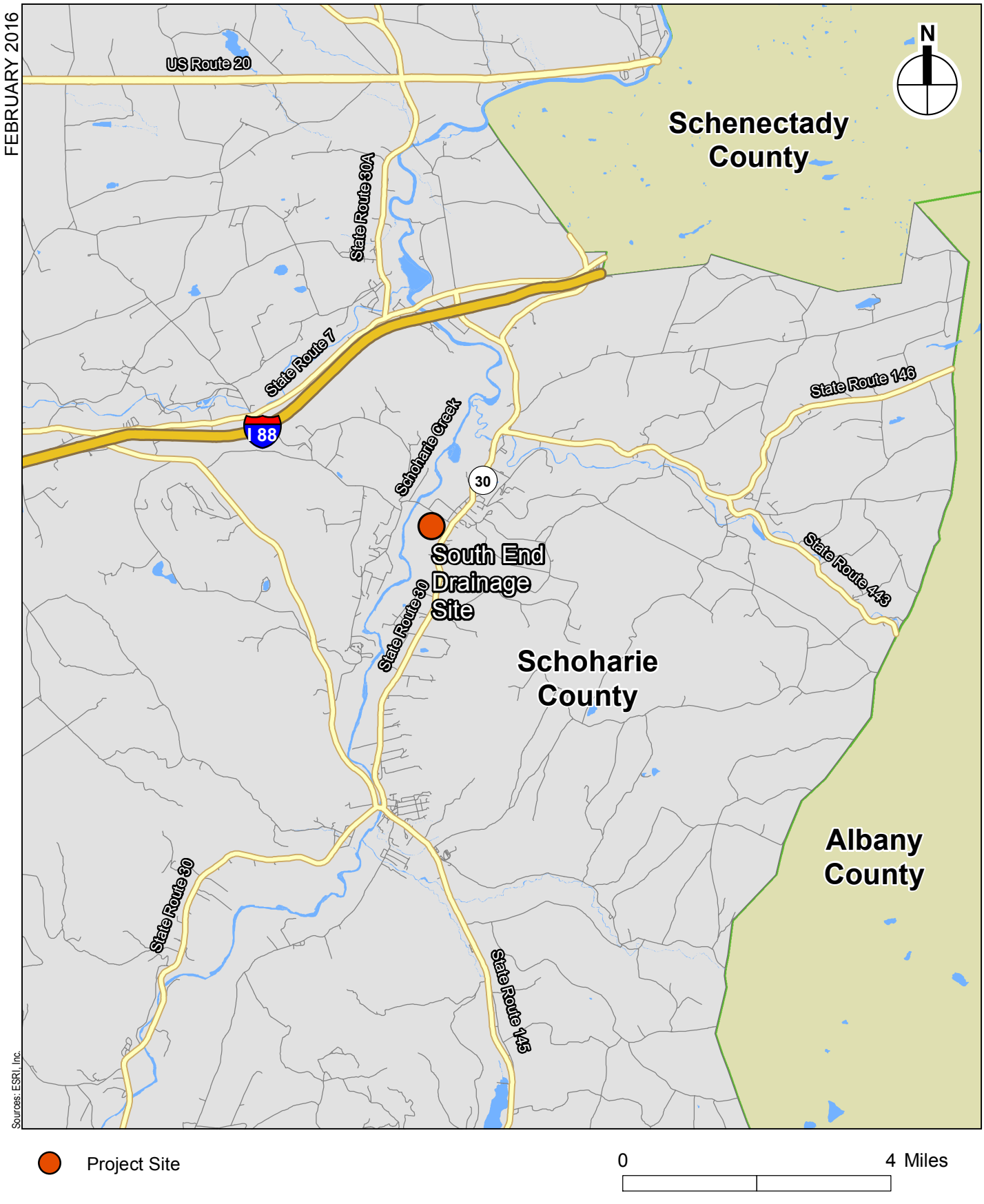
Alicia Shultz

Alicia Shultz
Community Developer - Environmental Services
New York State Homes & Community Renewal
38-40 State St., 408N,
Hampton Plaza, Albany, NY 12207

Enclosures:
Attachment 1: Project Location Map
Attachment 2: Project Site Map
Attachment 3: NYS DEC Environmental Resource Mapper Findings

Attachment 1

Project Location Map



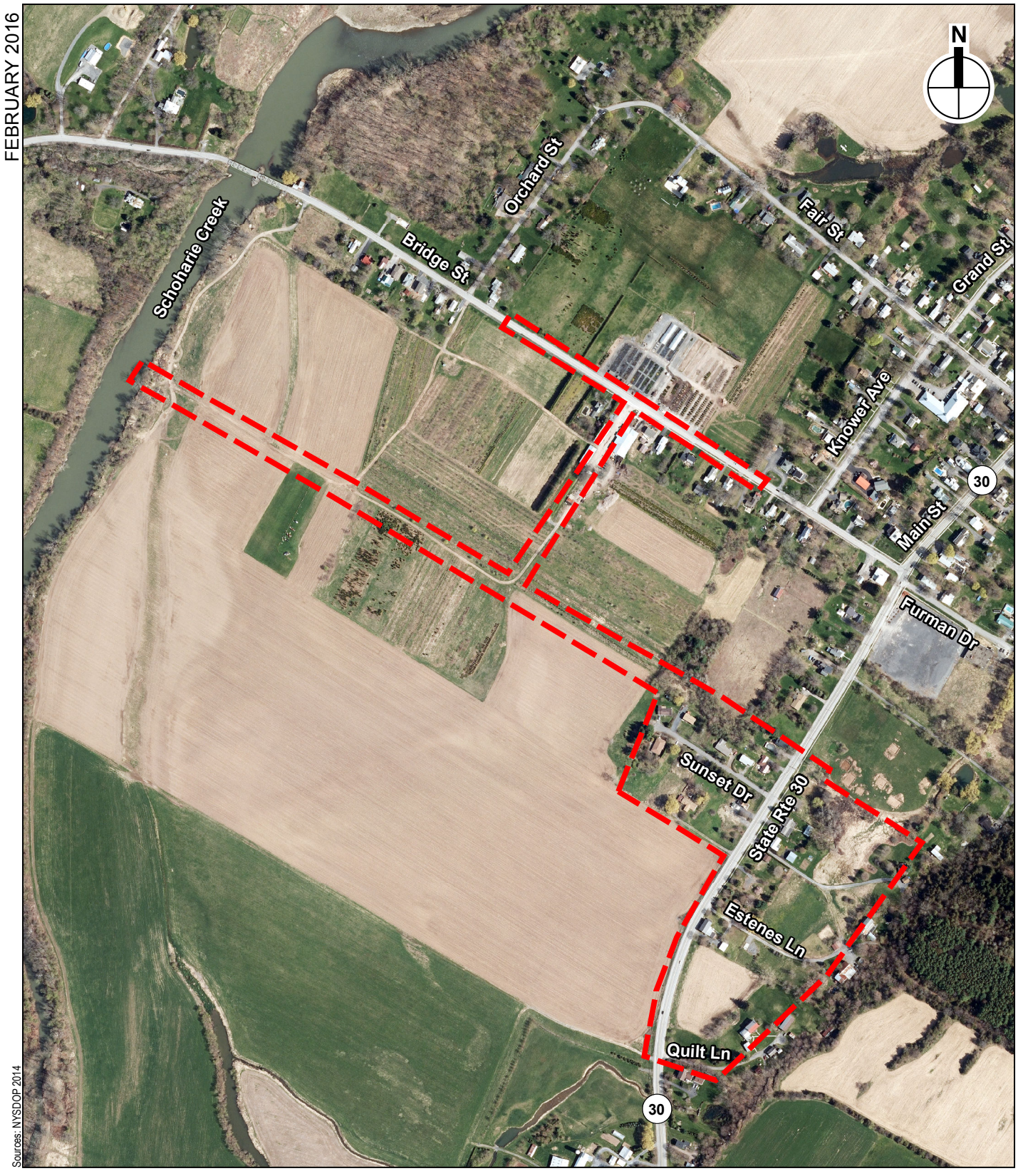
Project Location Map

South End Drainage Improvements, Village of Schoharie

Figure 1

Attachment 2

Project Site Map



Project Site Map

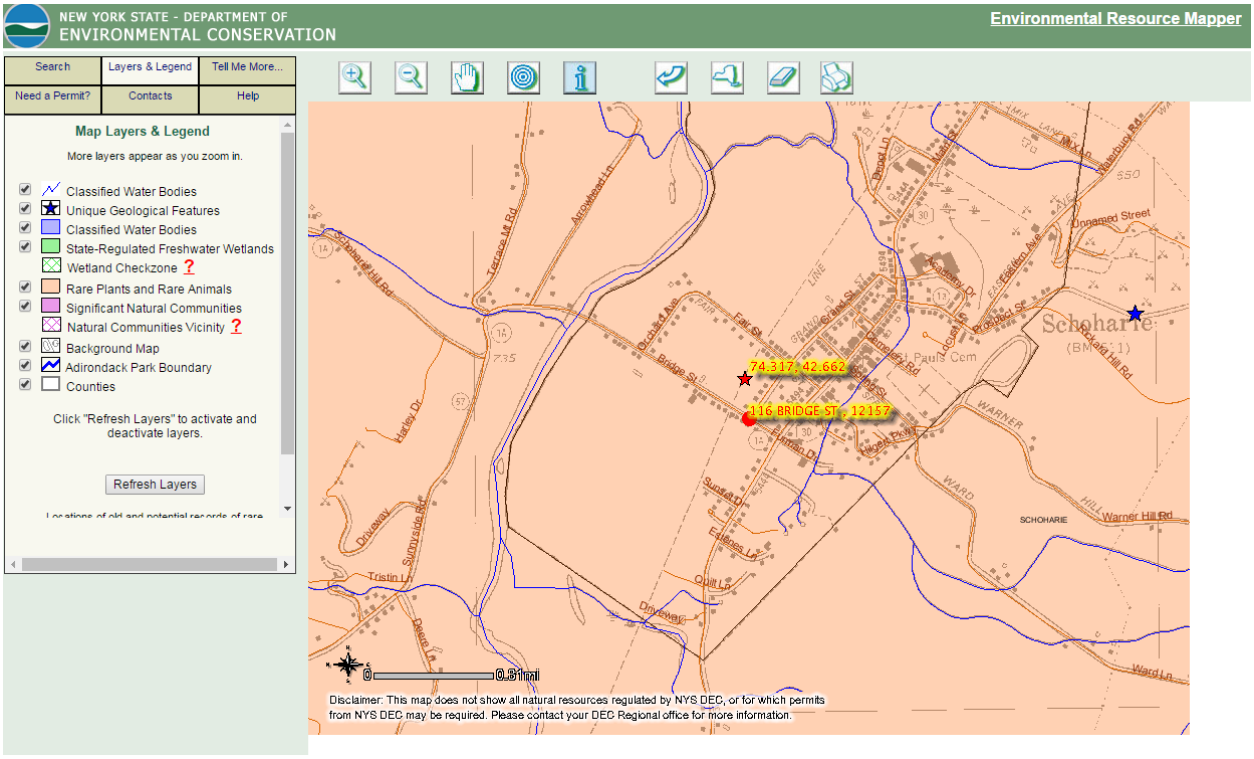
South End Drainage Improvements, Village of Schoharie

Figure 2

Attachment 3

NYS DEC Environmental Resource Mapper Findings

South End Drainage Improvements, Village of Schoharie



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

June 8, 2016

Alicia Shultz
Governor's Office of Storm Recovery
38-40 State Street
Albany, NY 12207

Re: Schoharie County Soil and Water Conservation District's South End Drainage Improvements project in the Village of Schoharie Town/City: Schoharie. County: Schoharie.

Dear Ms. Shultz:

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, directly on the project property.

Within three miles of the project site are two documented winter hibernacula of **Northern Long-eared Bat** (*Myotis septentrionalis*, state and federally listed as Threatened). The bats may travel 5 miles or more from documented locations. The main impact of concern for bats is the cutting or removal of potential roost trees; if no large trees will be cut as part of this project, we do not expect any significant impacts to rare bat species. For official determinations of NYSDEC and for information about any permit considerations for your project, please contact the Permits staff at the NYSDEC Region 4 Office at dep.r4@dec.ny.gov, 518-357-2456. For information about potential impacts of your project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Region 4 Wildlife staff at 518-357-2355.

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.

For information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the Permits staff at the NYSDEC Region 4 Office as described above.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program

April 14, 2016

Robyn A. Niver
Endangered Species Biologist
U.S. Fish & Wildlife Service
New York Field Office (Region 5)
3817 Luker Road
Cortland, NY 13045

RE: ESA/MBTA/BGEPA consultation for the South End Drainage Improvements project in the Village of Schoharie, Schoharie County, NY.

Dear Ms. Niver:

The Governor's Office of Storm Recovery (GOSR), acting under the auspices of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is preparing an Environmental Assessment (EA) for the South End Drainage Improvements project, which includes design, engineering, and construction of drainage improvements in the Village of Schoharie, New York (**Attachment 1** and **Attachment 2**). Funding is being provided by the HUD Community Development Block Grant Disaster Recovery (CDBG-DR) program.

GOSR is initiating informal consultation with your office concerning the proposed action in accordance with the following laws: Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (54 Stat. 240, as amended; 16 U.S.C. 668-668c).

Program Overview

The purpose of this Proposed Action is to alleviate flooding and stormwater ponding so that buildings and roadways are less vulnerable. During Hurricane Irene and Tropical Storm lee, the Village of Schoharie's stormwater drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street. State Route 30/Main Street serves as a primary transportation corridor through the Schoharie Valley. It is used by emergency service vehicles to help in the evacuation of residents. However, during these storm events, flooding not only resulted in localized damage, but it also created regional emergency response challenges. Improvements to be made to the project location include relocating existing utilities, lowering culverts, providing a retention pond to attenuate peak runoff, constructing an outfall to Schoharie Creek, reestablishing swales, providing additional drainage along and across State Route 30/Main Street, providing backflow gates to prevent Schoharie Creek flood waters from feeding back into the proposed project location, and providing streambank stabilization at the Schoharie Creek outfall.

Compliance

Endangered Species Act

According to the USFWS Information, Planning and Conservation (IPaC) online planning tool and Trust Resource Report (**Attachment 3**), accessed on April 5, 2016, there is one threatened species that is potential associated with the project site. The species is the northern long-eared bat (NLEB) (*Myotis septentrionalis*). There are currently no maternity roost trees or hibernacula known to be occupied by the NLEB within the proposed project boundaries. The closest hibernaculum is 1.8 miles northwest of the proposed project area. The proposed project will include clearing of up to one (1) tree located near the outfall. This tree is a Shagbark Hickory. This may take place during the active season (April-October); it will most likely occur during September and will take approximately one week.

The Northern long-eared bat (NLEB), listed as federally threatened, is a temperate, insectivorous bat whose life cycle can be coarsely divided into two primary phases - reproduction and hibernation. NLEB hibernate in caves or mines during winter and then emerge in early spring, with males dispersing and remaining solitary until mating season at the end of the summer, and pregnant females forming maternity colonies in which to rear young. No caves or mines occur near the project site. Summer habitat of the NLEB generally includes upland and riparian forest within heavily forested landscapes (Ford et al. 2005, Henderson et al. 2008). The NLEB is sensitive to fragmentation and urbanization, and requires interior forest for both foraging and breeding (Foster and Kurta 1999, Broders et al. 2006, Henderson et al. 2008). Roost trees are usually in intact forest, close to the core and away from large clearings, roads, or other sharp edges (Menzel et al. 2002, Owen et al. 2003, Carter and Feldhammer 2005). The project site consists mainly of open roadside areas, residential yards, and open fields with very few trees and the tree that may be removed would not likely be considered suitable habitat.

As indicated on **Attachment 4**, GOSR determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

Migratory Bird Treaty Act

According to the USFWS IPaC Trust Resource Report, accessed April 5, 2016, there are several migratory birds of concern that could potentially be affected by the proposed project. The project takes place within the Atlantic Flyway. GOSR determined that the project would have no significant adverse impact on migratory birds or their habitat. It is anticipated that passerine birds would temporarily leave the area during construction due to noise and disturbance. There is a small likelihood that a nest in vegetation to be cleared could be disturbed; however, the roadside habitat is not sensitive priority habitat.

Bald and Golden Eagle Protection Act

Bald Eagle (*Haliaeetus leucocephalus*) habitat and breeding sites can be found throughout Schoharie County; however, the roadway and residential yard habitats of the project area do not provide suitable habitat for the eagle. GOSR has determined that the proposed action would have no impact on the Bald Eagle.

If you have questions or require additional information regarding this request, please contact me at (518) 474-0647 or Alicia.Shultz@nyshcr.org. Thank you for your time and consideration.

Sincerely,

Alicia Shultz

Community Developer - Environmental Services

New York State Homes & Community Renewal

38-40 State St., 408N
Hampton Plaza, Albany, NY 12207

Enclosures:
Attachment 1 – Project Location Map
Attachment 2 – Project Site Map
Attachment 3 – IPaC Trust Resource Report
Attachment 4 – NLEB Streamlined Consultation Form

Literature Cited

Broders, H.G., G.J. Forbes, S. Woodley, and I.D. Thompson. 2006. Range extent and stand selection for forest-dwelling northern long-eared and little brown bats in New Brunswick. Journal of Wildlife Management 70: 1174-1184.

Carter, T.C., and G.A. Feldhamer. 2005. Roost tree use by maternity colonies of Indiana bats and northern long-eared bats in southern Illinois. Forest Ecology and Management 219:259-268.

Ford, W.M., M.A. Menzel, J.L. Rodrigue, J.M. Menzel, and J.B. Johnson. 2005. Relating bat species presence to simple habitat measures in a central Appalachian forest. Biological Conservation 126: 528-539.

Foster, R.W. and A. Kurta, A. 1999. Roosting ecology of the northern bat (Myotis septentrionalis) and comparisons with the endangered Indiana bat (Myotis sodalis). Journal of Mammalogy 80: 659-672.

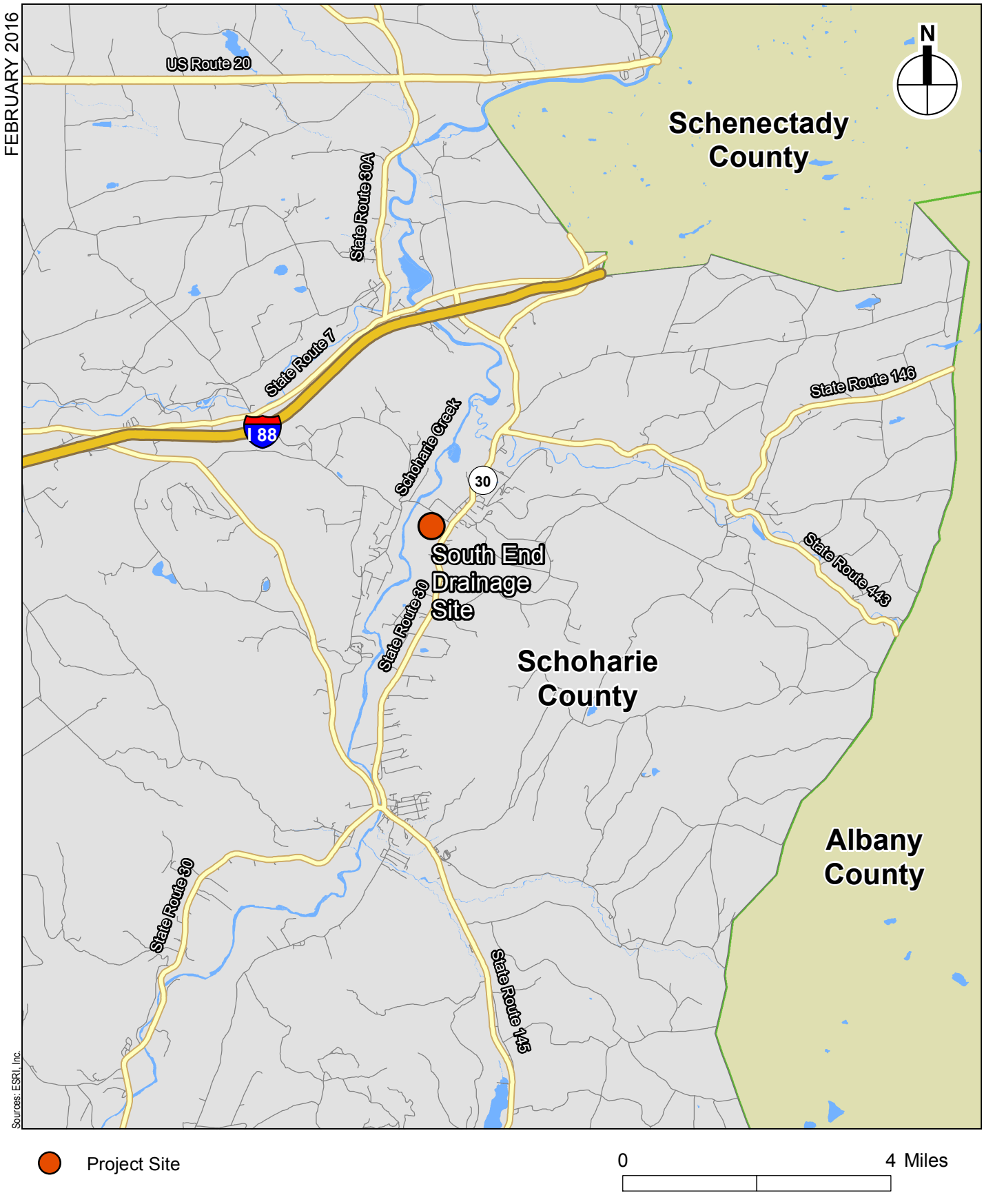
Henderson, L.E., L.J. Farrow, and H.G. Broders. 2008. Intra-specific effects of forest loss on the distribution of the forest-dependent northern long-eared bat (Myotis septentrionalis). Biological Conservation 141:1819-1828.

Menzel, M.A., S.F. Owen, W.M. Ford, J.W. Edwards, P.B. Wood, B.R. Chapman, and K.V. Miller. 2002. Roost tree selection by northern long-eared bat (Myotis septentrionalis) maternity colonies in an industrial forest of the central Appalachian mountains. Forest Ecology and Management 155:107-114.

Owen, S.F., M.A. Menzel, W.M. Ford, B.R. Chapman, K.V. Miller, J.W. Edwards, and P.B. Wood. 2003. Home-range size and habitat used by the northern myotis (Myotis septentrionalis). American Midland Naturalist 150:352-359.

Attachment 1

Project Location Map



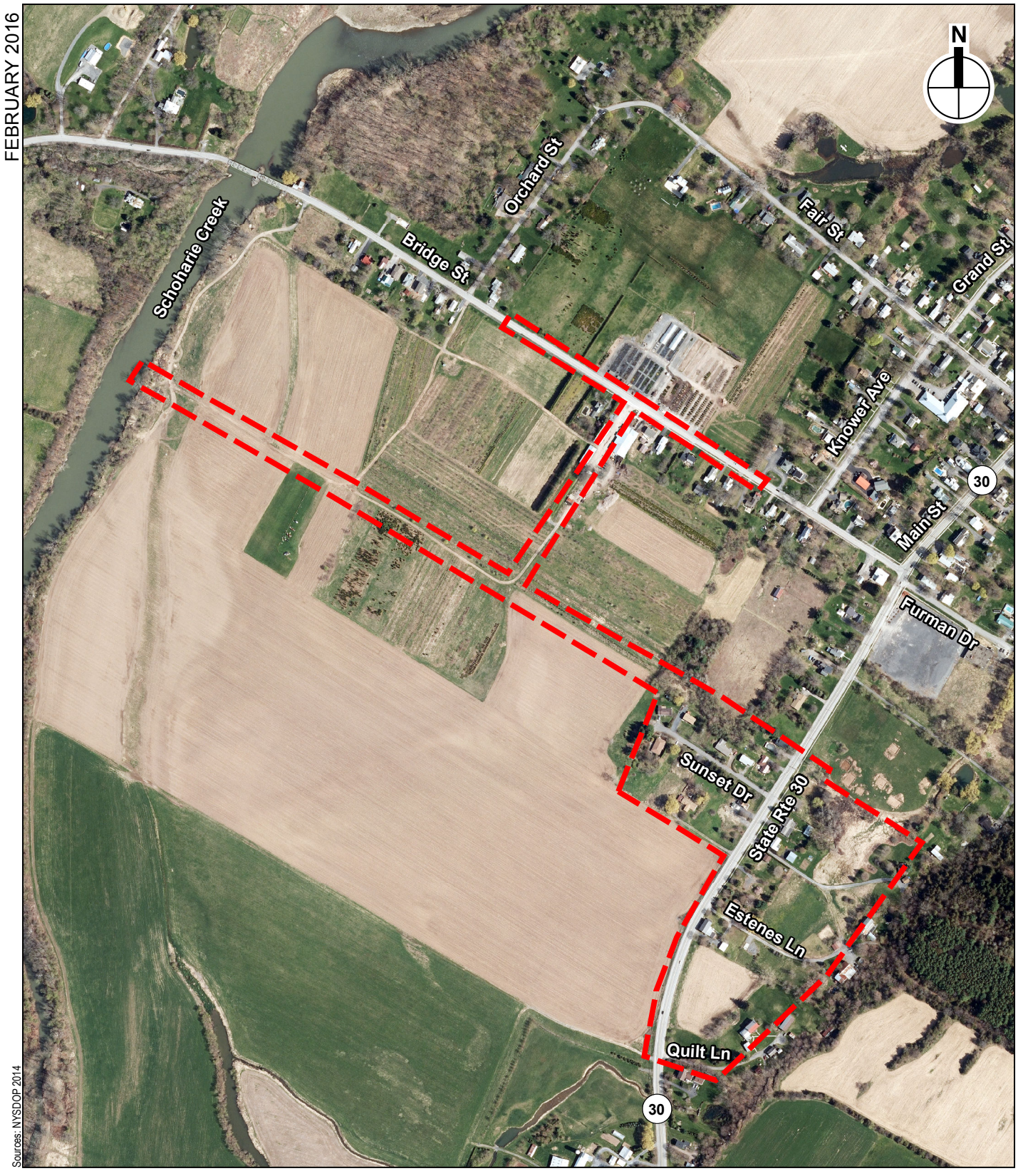
Project Location Map

South End Drainage Improvements, Village of Schoharie

Figure 1

Attachment 2

Project Site Map



Project Site Map

South End Drainage Improvements, Village of Schoharie

Figure 2

Attachment 3

IPaC Trust Resource Report

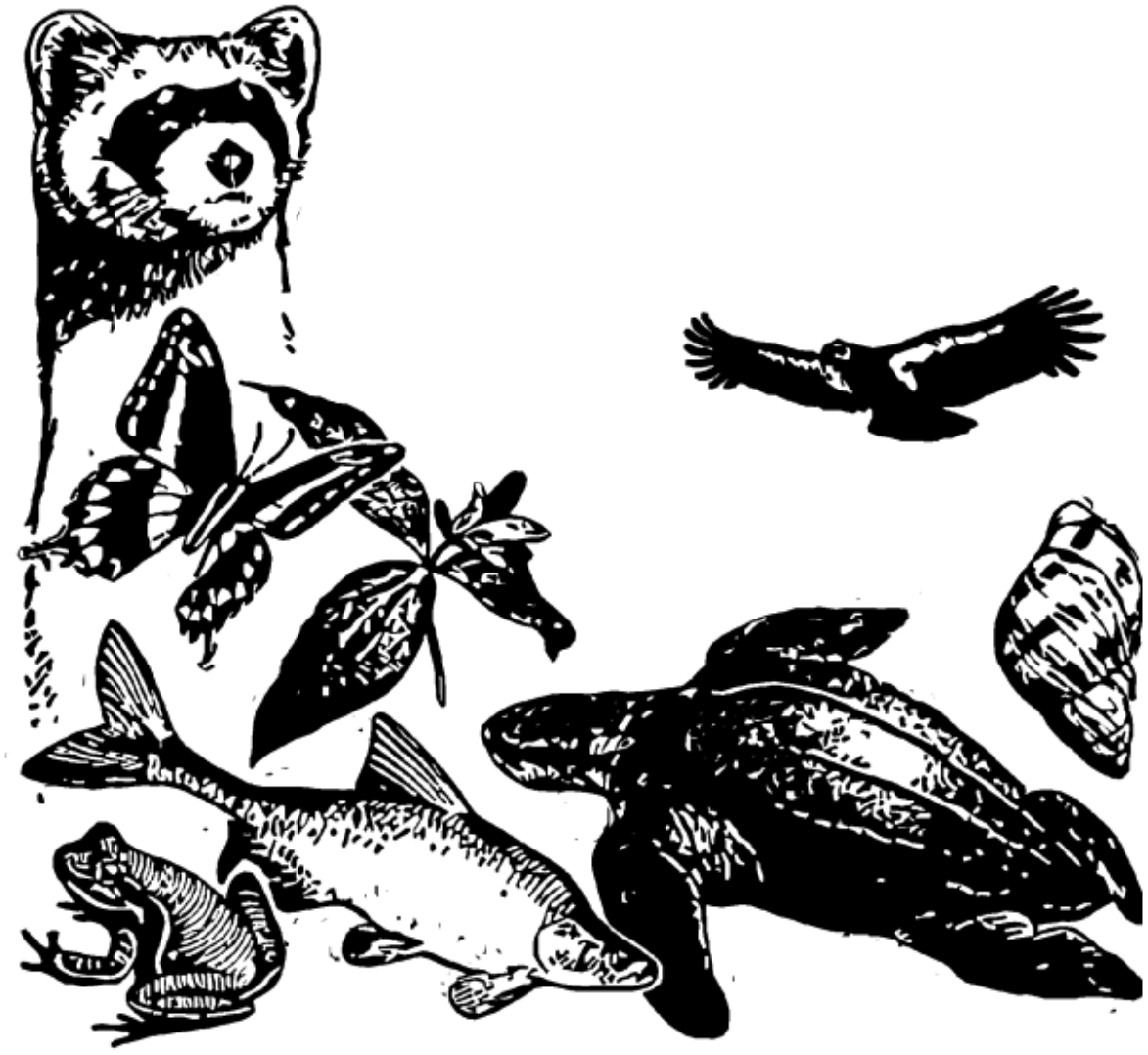
U.S. Fish & Wildlife Service

South End Drainage Improvements

IPaC Trust Resources Report

Generated April 05, 2016 11:12 AM MDT, IPaC v3.0.0

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

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U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

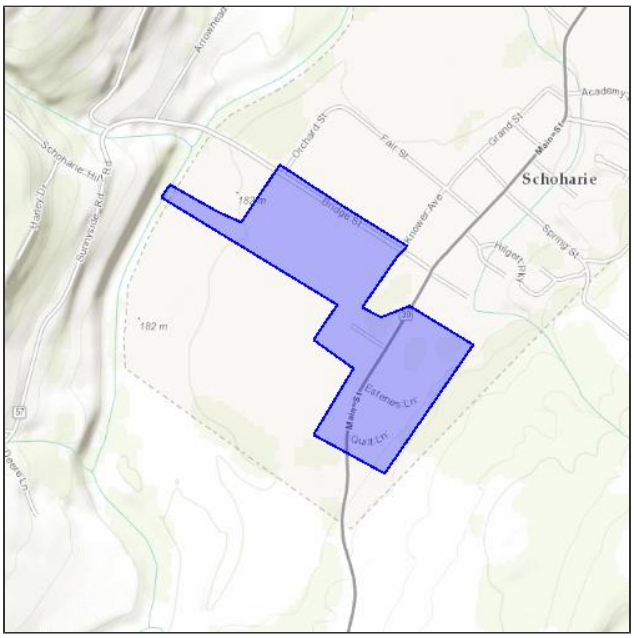
South End Drainage Improvements

LOCATION

Schoharie County, New York

IPAC LINK

https://ecos.fws.gov/ipac/project/YG5M4-77PFR-DO7OC-OWQCS-5EIZ2U



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Mammals

Northern Long-eared Bat Myotis septentrionalis — Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

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

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Canada Warbler Wilsonia canadensis — Bird of conservation concern
Season: Breeding

Golden-winged Warbler Vermivora chrysoptera — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G4

Louisiana Waterthrush Parkesia motacilla — Bird of conservation concern
Season: Breeding

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prairie Warbler Dendroica discolor — Bird of conservation concern
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Breeding

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

Attachment 4

NLEB Streamlined Consultation Form

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	X
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	X	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	X
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	X
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	X
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	X

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant[3] (Name, Email, Phone No.): Dept of Housing and Urban Development

Applicant: Schoharie County Soil & Water Conservation District (Stephen Hoerz), district@schohariesoilandwater.org, (518) 823-4535

Project Name: South End Drainage Improvements

[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf
[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html
[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

Project Location (include coordinates if known):

Village of Schoharie, Schoharie County, NY
(42.657504, -74.318525)

Basic Project Description (provide narrative below or attach additional information): Project description included with enclosed letter.

General Project Information	**YES**	**NO**
Does the project occur within 0.25 miles of a known hibernaculum?	☐	X
Does the project occur within 150 feet of a known maternity roost tree?	☐	X
Does the project include forest conversion[4]? (if yes, report acreage below)	☐	X
Estimated total acres of forest conversion		
If known, estimated acres[5] of forest conversion from April 1 to October 31		
If known, estimated acres of forest conversion from June 1 to July 31[6]		
Does the project include timber harvest? (if yes, report acreage below)	☐	X
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	☐	X
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	☐	X
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: _____ Date Submitted: _04/16/2016_____

New York State Office
USDA Natural Resources Conservation Service
The Galleries of Syracuse
441 South Salina Street, Suite 354
Syracuse, New York 13202-2450

April 15, 2016

RE: Village of Schoharie South End Drainage Improvements – Village of Schoharie, Schoharie County, NY

To Whom It May Concern:

The Governor's Office of Storm Recovery (GOSR), an office of New York State Homes and Community Renewal's (HCR) Housing Trust Fund Corporation (HTFC), on behalf of the Department of Housing & Urban Development (HUD), is currently preparing an Environmental Assessment (EA) for the South End Drainage Improvements in the Village of Schoharie in Schoharie County, NY (see Figures 1 and 2). GOSR is acting as HUD's non-federal representative for the purposes of conducting consultation pursuant to the Farmland Protection Policy Act (FPPA). The proposed project includes making improvements which aim to reduce the risk of localized flooding when future storm events occur as well as prevent isolation of residents, allowing uninterrupted emergency response (see Figure 3). The project would disturb approximately five (5) acres on an approximately 35-acre parcel.

The purpose of this letter is to provide the Natural Resources Conservation Service (NRCS) notice of the proposed project and to document FPPA compliance. The soils on the parcel are shown as prime farmland (See Figure 4). Please find attached the Form CPA-106 for your review and use.

If you have questions or require additional information regarding this request, please contact me at Alicia.Shultz@nyshcr.org or call (518) 474-0647. Thank you for your time and consideration.

Sincerely,

Alicia Shultz
Community Developer - Environmental Services
New York State Homes & Community Renewal
38-40 State St., 408N
Hampton Plaza, Albany, NY 12207

Enclosures:
Form CPA-106
Figure 1: Project Location Map
Figure 2: Project Site Map
Figure 3: Site Design Plan
Figure 4: Farmland Map

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **4/13/16**	4. Sheet 1 of **1**
1. Name of Project **South End Drainage Improvements**	5. Federal Agency Involved **U.S. Dept. of Housing and Urban Development**	
2. Type of Project **Flood/Drainage Control Improvements**	6. County and State **Schoharie County, New York**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☐	4. Acres Irrigated 574	Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %	7. Amount of Farmland As Defined in FPPA Acres: 137,508 %
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	**5**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	**N/A**			
C. Total Acres In Corridor	**35**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	89			

PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent Of Corridor Being Farmed	20				
4. Protection Provided By State And Local Government	20				
5. Size of Present Farm Unit Compared To Average	10				
6. Creation Of Nonfarmable Farmland	25				
7. Availablility Of Farm Support Services	5				
8. On-Farm Investments	20				
9. Effects Of Conversion On Farm Support Services	25				
10. Compatibility With Existing Agricultural Use	10				
TOTAL CORRIDOR ASSESSMENT POINTS	160	**0**	**0**	**0**	**0**
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	**0**	**0**	**0**	**0**
Total Corridor Assessment (From Part VI above or a local site assessment)	160	**0**	**0**	**0**	**0**
TOTAL POINTS *(Total of above 2 lines)*	260	**0**	**0**	**0**	**0**

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

The project is to provide flood/drainage control improvements for Route 30/Sunset Drive/Bridge Street. The majority of the areas to be disturbed would be temporary roadside disturbance for installation of drainage improvements. The total score for Corridor A was less than 160.

Signature of Person Completing this Part: | DATE **4/15/16**

NOTE: Complete a form for each segment with more than one Alternate Corridor

Clear Form

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

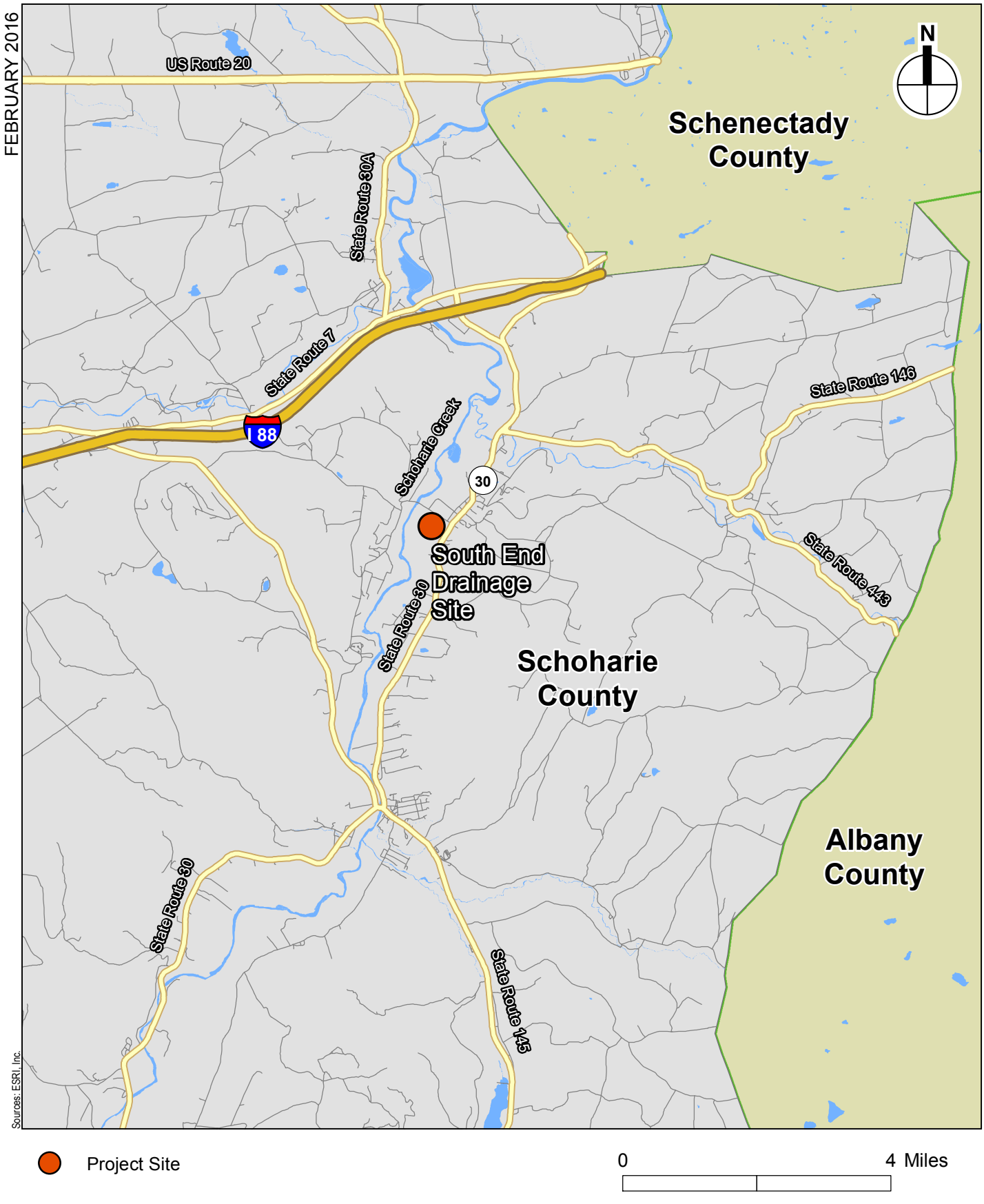
(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

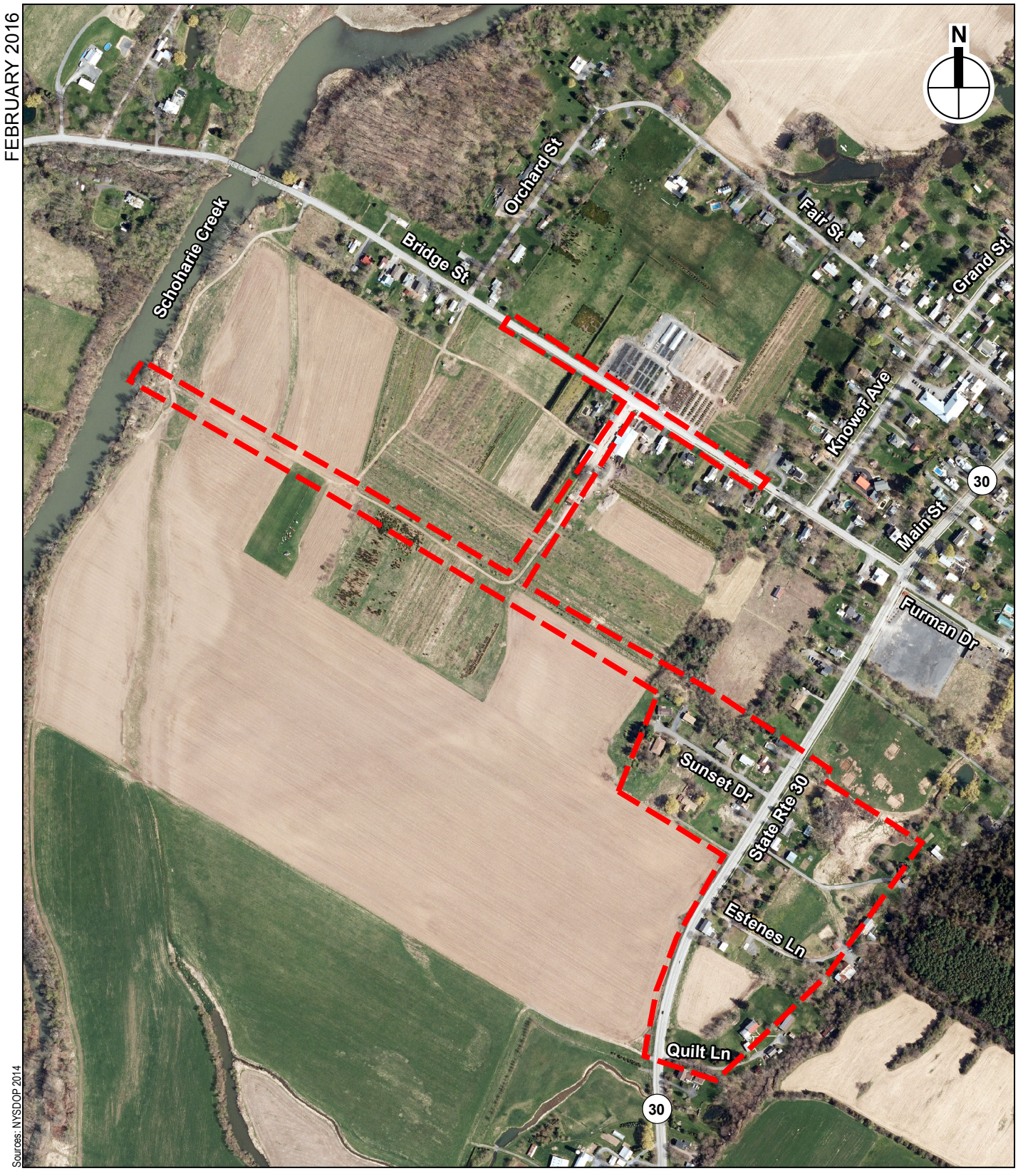
(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points



Project Location Map

South End Drainage Improvements, Village of Schoharie

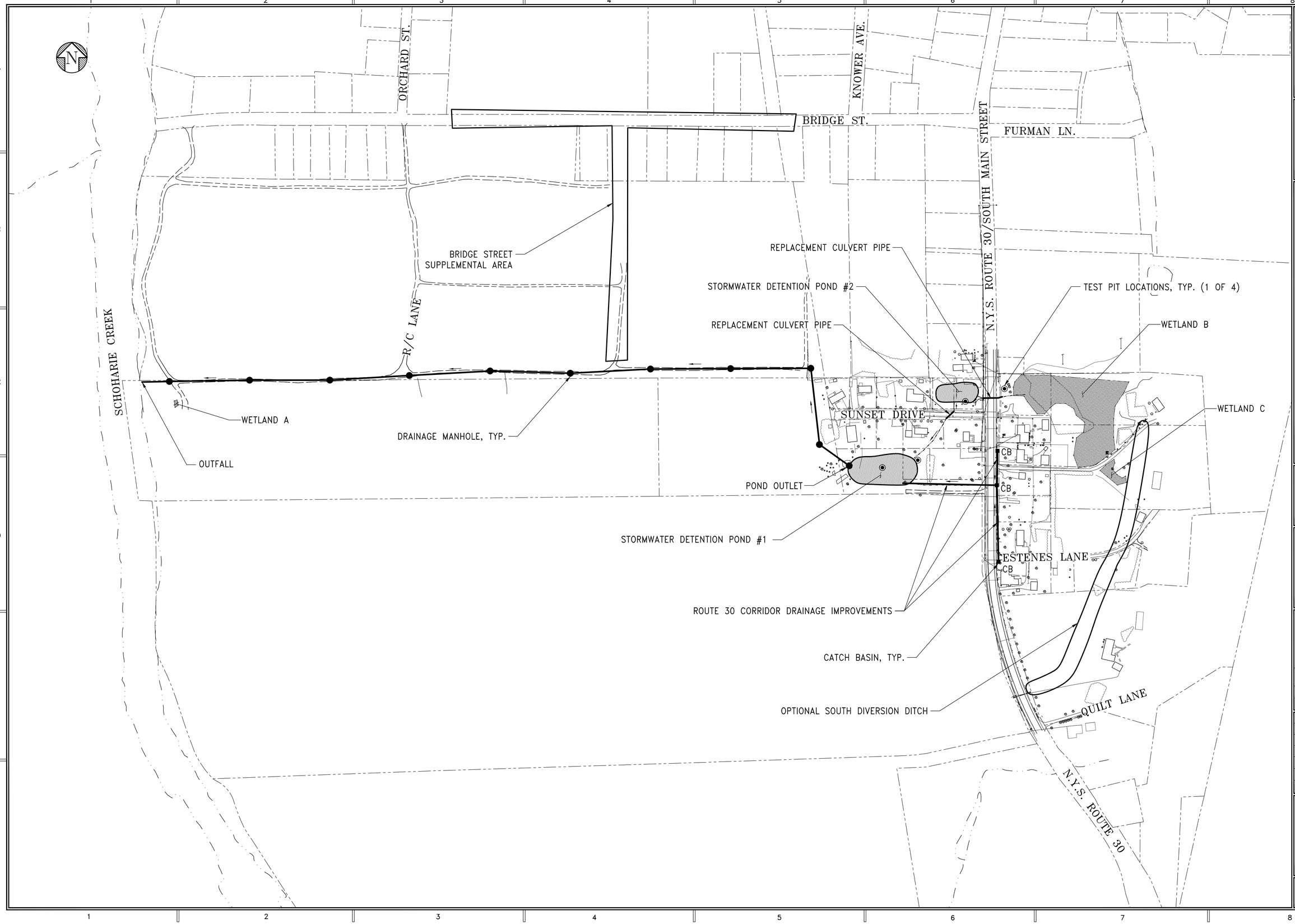
Figure 1



Project Site Map

South End Drainage Improvements, Village of Schoharie

Figure 2



Lamont Engineers
ENGINEERS - PLANNERS
FACILITY OPERATIONS
548 MAIN ST., COBLESKILL, NY 12043
(518) 234-4028
www.lamontengineers.com

Consultant

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
VILLAGE OF SCHOHARIE
SOUTH END DRAINAGE IMPROVEMENTS
SCHOHARIE COUNTY NEW YORK STATE

Stamp

Issue Rev.	Date	Remarks

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	11/03/15
Scale	1"=150'
File Name	BM_SCHO SOUTH END

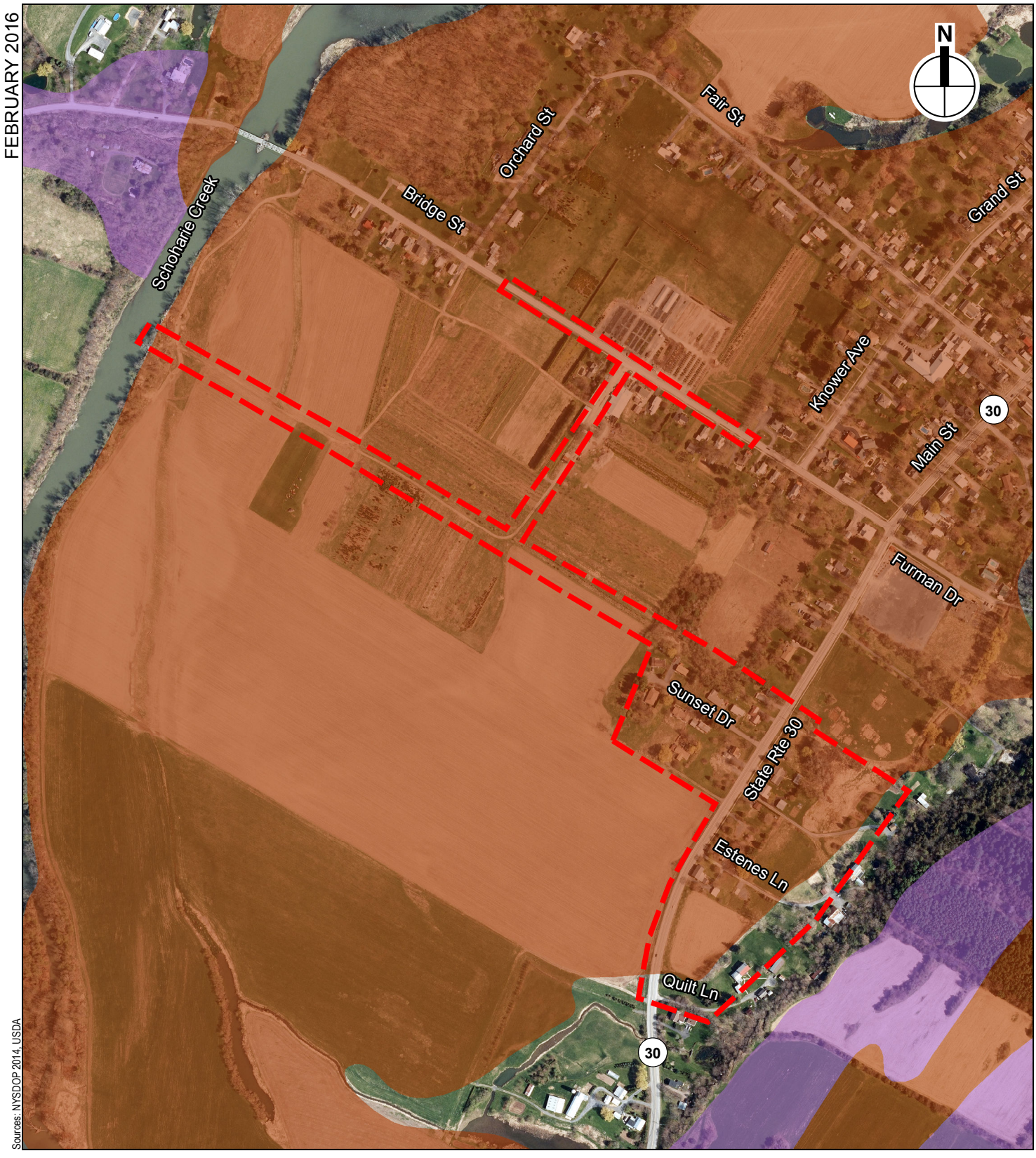
Sheet Title

GENERAL PLAN

Figure 3

Sheet No.

C11



USDA Farmland Soils

South End Drainage Improvements, Village of Schoharie

Figure 4

USDA United States Department of Agriculture

Natural Resources
Conservation Service

441 South Salina St.
Suite 354
Syracuse, NY 13212
315-477-6506
kathryn.duncan@ny.usda.gov

April 28, 2016

Alicia Schultz
Community Developer – Environmental Services
New York State Homes and Community Renewal
38-40 State St., 408N
Hampton Plaza, Albany, NY 12207

Re: Village of Schoharie South End Drainage Improvements
NRCS FPPA review

Ms. Schultz,

The Farmland Conversion Impact Rating (AD-1006), for the project cited above, is attached for your use. The funding agency is responsible for completing the rest of the form. When the total form is complete please send a copy here for our records.

Also attached, is a spreadsheet that shows the value for the soil type(s) and the final results (weighted average) that was entered on the AD-1006.

The project information will be retained for future reference. If you have any questions about this determination please feel free to contact me.

Kathryn Duncan

Kathryn Duncan
Cartographer

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*

3. Date of Land Evaluation Request: 4/15/16
4. Sheet 1 of 1
1. Name of Project: Village of Schoharie South End Drainage Impr
5. Federal Agency Involved: US Dept of Housing and Urban Develop.
2. Type of Project: Flood/Drainage Control Improvements
6. County and State: Schoharie, New York

PART II *(To be completed by NRCS)*

1. Date Request Received by NRCS: 4/18/16
2. Person Completing Form: Katie Duncan
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐
4. Acres Irrigated: 574 | Average Farm Size: 182
5. Major Crop(s): corn, hay
6. Farmable Land in Government Jurisdiction — Acres: 95,490 % 24
7. Amount of Farmland As Defined in FPPA — Acres: 137,508 % 35
8. Name Of Land Evaluation System Used: Albany Co. (Soils are similar to Schoharie (
9. Name of Local Site Assessment System: none
10. Date Land Evaluation Returned by NRCS: 4/28/16

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment: Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	5			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0			
C. Total Acres In Corridor	35			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	5			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	4.9			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	89			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15				
2. Perimeter in Nonurban Use — 10				
3. Percent Of Corridor Being Farmed — 20				
4. Protection Provided By State And Local Government — 20				
5. Size of Present Farm Unit Compared To Average — 10				
6. Creation Of Nonfarmable Farmland — 25				
7. Availablility Of Farm Support Services — 5				
8. On-Farm Investments — 20				
9. Effects Of Conversion On Farm Support Services — 25				
10. Compatibility With Existing Agricultural Use — 10				
TOTAL CORRIDOR ASSESSMENT POINTS — 160				
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100				
Total Corridor Assessment (From Part VI above or a local site assessment) — 160				
TOTAL POINTS *(Total of above 2 lines)* — 260				

1. Corridor Selected:
2. Total Acres of Farmlands to be Converted by Project:
3. Date Of Selection:
4. Was A Local Site Assessment Used? YES ☐ NO ☐
5. Reason For Selection:

Signature of Person Completing this Part: DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Project Name	Date Received	Date Returned	County	System Used
Village of Schoharie Drainage Improvements	4/18/2016	4/28/2016	Schoharie	Albany Co LESA (Soil and values are similar to Schoharie. Co which does not have a LESA system set up)

MUID	Soil	Agric. Value Group	Acres	Prod. Soil Local	AC*RV	Prime Acres	Statewide Acres
Bm	Basher and Middlebury silt loams	1	1.5	82.8	124.2	1.500	
Bg	Barbour and Tioga loams	1	3.5	92.1	322.4	3.500	
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
					0.0		
PID = Prime if Drained			5.00		446.6	5.000	0.000
Weighted Value		89.31					

Total Prime & Statewide Acres	
	5.000

May 20, 2016

Kathryn Duncan
New York State Office
USDA Natural Resources Conservation Service
The Galleries of Syracuse
441 South Salina Street, Suite 354
Syracuse, New York 13202-2450

RE: Follow-up for Village of Schoharie South End Drainage Improvements – Village of Schoharie, Schoharie County, NY

Dear Ms. Duncan,

Enclosed is the completed Farmland Conversion Impact Rating form (NRCS-CPA-106) for the Village of Schoharie South End Drainage Improvements project, as requested by your April 28, 2016 letter. Based on evaluation of the corridor assessment criteria under Part VI on the form, the total project score would be 142.

If you have questions or require additional information regarding this request, please contact me at Alicia.Shultz@nyshcr.org or call (518) 474-0647. Thank you for your time and consideration.

Sincerely,

Alicia Shultz
Community Developer - Environmental Services
New York State Homes & Community Renewal
38-40 State St., 408N
Hampton Plaza, Albany, NY 12207

Enclosures:
Form CPA-106

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **4/15/16**	4. Sheet 1 of **1**
1. Name of Project **Village of Schoharie South End Drainage Improvem**	5. Federal Agency Involved **US Dept of Housing and Urban Develop.**	
2. Type of Project **Flood/Drainage Control Improvements**	6. County and State **Schoharie, New York**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **4/18/16**	2. Person Completing Form **Katie Duncan**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated **574** / Average Farm Size **182**
5. Major Crop(s) **corn, hay**	6. Farmable Land in Government Jurisdiction Acres: **95,490** % **24**	7. Amount of Farmland As Defined in FPPA Acres: **137,508** % **35**
8. Name Of Land Evaluation System Used **Albany Co. (Soils are similar to Schoharie (**	9. Name of Local Site Assessment System **none**	10. Date Land Evaluation Returned by NRCS **4/28/16**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	5			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0			
C. Total Acres In Corridor	35			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	5			
B. Total Acres Statewide And Local Important Farmland	0			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	.001			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	4.9			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	89			

PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	0			
4. Protection Provided By State And Local Government	20	20			
5. Size of Present Farm Unit Compared To Average	10	0			
6. Creation Of Nonfarmable Farmland	25	1			
7. Availablility Of Farm Support Services	5	5			
8. On-Farm Investments	20	2			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	53	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	89	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	53	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	142	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
A	**5**	**5/19/16**	YES ☐ NO ☑

5. Reason For Selection:

The project is to provide flood/drainage control improvements for Route 30/Sunset Drive/Bridge Street. The majority of the areas to be disturbed would be temporary roadside disturbance for installation of drainage improvements. The total score for Corridor A was less than 160.

Signature of Person Completing this Part: Alicia Ahuth

DATE **5/19/16**

NOTE: Complete a form for each segment with more than one Alternate Corridor

Clear Form

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

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Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

November 18, 2015

John Bonafide
Director, Technical Preservation Bureau
Division for Historic Preservation
NYS Office of Parks, Recreation & Historic Preservation
P.O. Box 189 – Peebles Island State Park
Waterford, NY 12188-0189

Re: Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Mr. Bonafide:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and request for consultation.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. A consultation request for the project described herein will also be sent to the Tribal Historic Preservation Office for the Mohawk Nation and the Saint Regis Mohawk Tribe. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470a), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Area of Potential Effect: The South End Drainage Improvements Project includes the design and construction of improvements to the South End drainage system (located in the Village of Schoharie, NY) to reduce the risk of localized flooding when future storm events occur, while preventing isolation of residents and allowing uninterrupted emergency response. The Conceptual Plan provided in Attachment 1 shows the targeted area of the project including the underground storm sewer to the Schoharie Creek and the proposed location of the retention basin. The Expanded Area of Interest provided in Attachment 1 shows all the possible properties that may be impacted by the project. The exact project location will be determined following consultation with all interested parties.

Proposed Project Description: Due to the damage caused by Hurricane Irene and Tropical Storm Lee, the Schoharie County Soil and Water Conservation District (SCSWCD) has applied to GOSR under the NYRCR Program to fund the South End Drainage Improvements Project (Proposed Project). During the storm events, the storm water drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street

According to the June 2015 application for funding, the proposed project will involve the following:

- Relocating existing utilities and lowering culverts.
- Providing a retention pond to attenuate peak runoff.
- Constructing an outfall to Schoharie Creek, via a 3000 linear foot, 24 inch storm sewer with maintenance structures every 300 feet.
- Re-establishing the swale across the Vroman property and associated upstream driveway culverts to help divert some drainage from Sunset Drive. This swale runs south and crosses State Route 30 at the south end of the project area through a DOT culvert that has been under-utilized over the years.
- Providing additional drainage along (and across) State Route 30 to help further minimize standing water in the project area.
- Providing backflow gates to prevent Schoharie Creek flood waters from back feeding into the project areas east of State Route 30.
- Providing streambank stabilization at the Schoharie Creek outfall.

The purpose of this letter is to initiate consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA) per the implementing regulations at 36 Code of Federal Regulations (CFR) Part 800. GOSR respectfully requests your review of the proposed project described herein. If the Area of Potential Effect encompasses historic properties of religious or cultural significance, please respond within 15 days or sooner. Please respond by email or in writing to the address listed below.

Mr. Thomas King
Director – Bureau of Environmental Review and Assessment *Interim*
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0015
Mobile: (646) 417-4660
Thomas.King@StormRecovery.NY.Gov

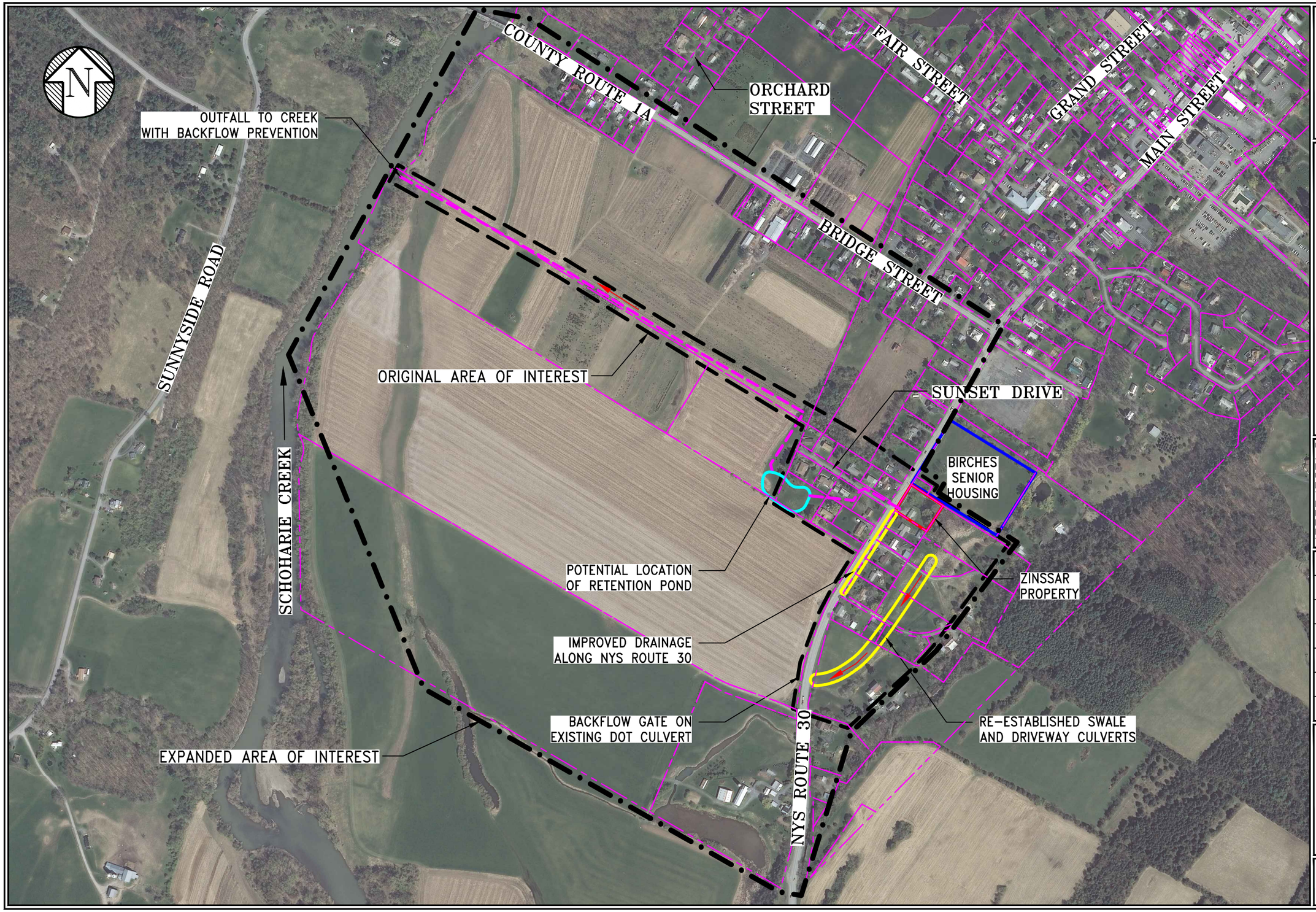
If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

Enclosures:
Attachment 1: Expanded Area of Interest
Conceptual Plan

Attachment 1



Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

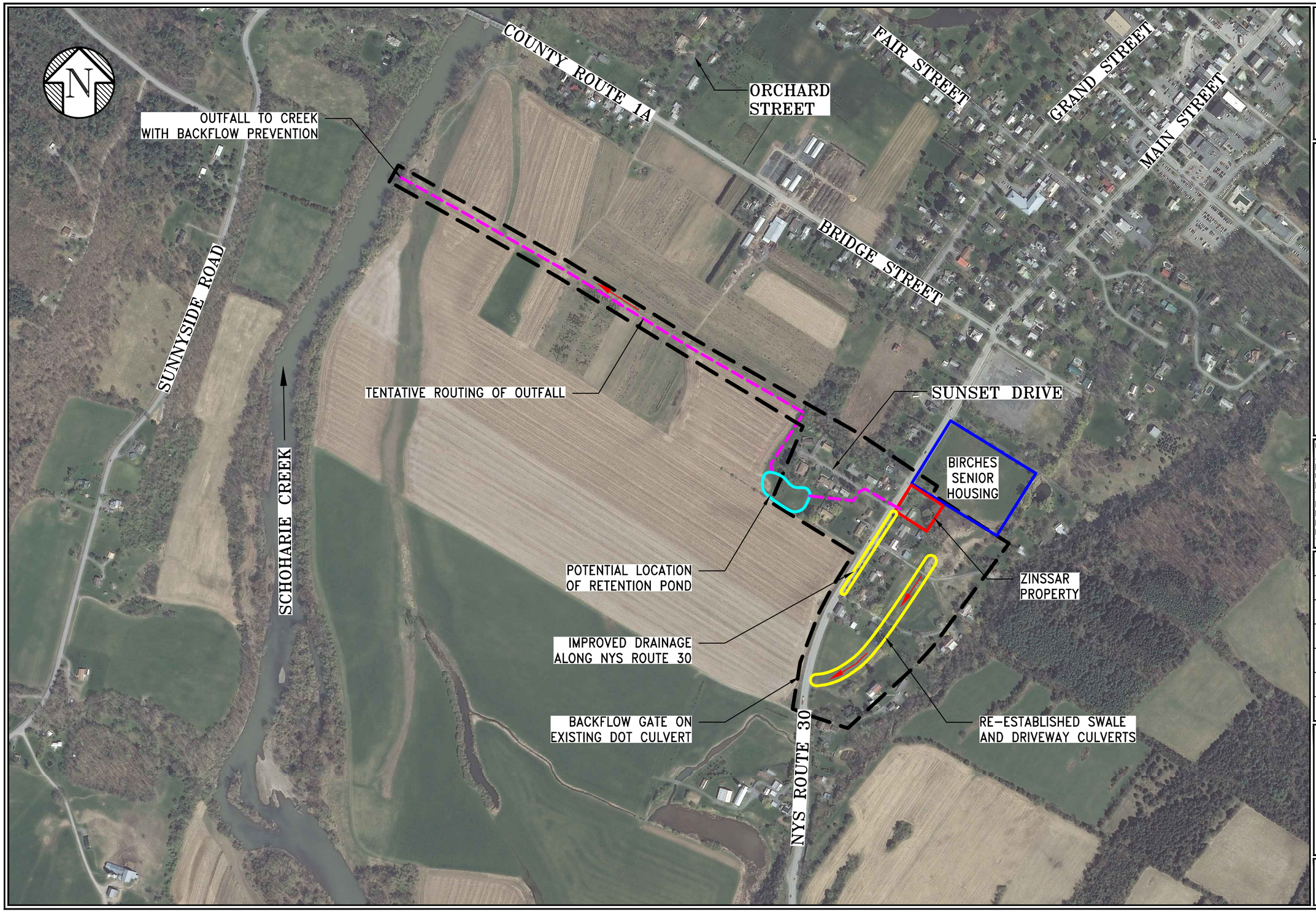
SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	9/4/15
Scale	1"=500'
File Name	R/2015037

Sheet Title

EXPANDED AREA OF INTEREST

Sheet No.



Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	9/2/15
Scale	1"=500'
File Name	R/2015037

Sheet Title

CONCEPTUAL PLAN

Sheet No.

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

January 27, 2016

Alicia Shultz
New York State Homes & Community Renewal
38-40 State Street
Albany, NY 12207

Re: NYSHCR/ GOSR/ NY Rising Program
South End Drainage Improvements-35 properties
Village of Schoharie/ Schoharie County
15PR06744

Dear Ms. Shultz:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based on this review, the opinion of the SHPO is that there is not enough information to provide an effect finding for the proposed undertaking:

1. Please create "submitted resources" for historic resources identified in the APE for buildings 45 years of age or older. Complete the required fields and upload at least one photograph per building and any associated outbuildings, in a jpg format.
2. Due to the archaeological sensitivity of the area, SHPO has recommended that an archaeological survey be conducted for the project's area of potential effect (APE). It is the SHPO's understanding that the APE has not yet been determined. Due to the potential for alluvial soils in the project area, we also recommend that the Phase I archaeological survey include an analysis by a geomorphologist.

If I can be of further assistance, please contact me at (518) 268-2187 or Larry.moss@parks.ny.gov.

Sincerely,

LMoss

Larry K Moss, Historic Preservation Technical Specialist
CC: Tom King, GOSR
Jim Turner, Stratacrm
Joshua Gomez, Tectonic Engineers
Michelle Robbins, AKRF

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

March 1, 2016

Ms. Alicia Shultz
NYS Homes & Community Renewal
38 State Street
Albany, NY 12207

Re: NYSHCR
South End Drainage Improvements
Sunset Drive at NY Route 30, Schoharie, NY
15PR06744

Dear Ms. Shultz:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

I have reviewed the report entitled "Phase IA/IB Archaeological Investigation and Geomorphological Assessment, Schoharie South End Drainage Improvements, Village of Schoharie" (February 2016). Three archaeological sites were identified during the Phase I archaeological survey (listed below). All three appear to be pre-contact Native American archaeological sites.

Site Name	**OPRHP No.**
Schoharie South End #1	09544.000117
Schoharie South End #2	09544.000116
Schoharie South End #3	09544.000115

It is SHPO's opinion that there is insufficient information to assess the three sites in terms of eligibility for listing in the Nation Register of Historic Places. Therefore, it is SHPO's opinion that the three sites should be avoided by project-related activities. If the sites cannot be avoided, then a Phase II evaluation should be conducted for each of the three sites.

SHPO concurs with the Phase I archaeological survey report recommendation of archaeological monitoring during construction. The monitoring should be conducted for construction excavations that exceed the depth that was reached by shovel tests conducted during the Phase I archaeological survey. SHPO recommends that an Archaeological Monitoring Plan be prepared and submitted to SHPO for review.

Finally, SHPO recommends that pertinent Native American Nations be invited to consult regarding the potential impacts to Native American archaeological resources. SHPO can provide assistance with the identification of relevant Native American contacts, and SHPO can assist by providing Native American representatives with access to project and archaeological site information via SHPO's online Cultural Resource Information System (CRIS).

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

via e-mail only

cc: Gwen Sivirichi (AKRF)
Jim Turner (Strata)
Joshua Gomez (Tectonic)
Thomas King (GOSR)

March 21, 2016

Mr. Larry Moss
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation and Historic Preservation
Division of Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

Re: Update related to the November 28, 2015 Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Larry Moss:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery (CDBG-DR) funds from the United States Department of Housing and Urban Development (HUD). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Tribe to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. An update for the project described herein will also be sent to the Tribal Historic Preservation Offices for the Mohawk Nation and the Saint Regis Mohawk Tribe. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (54 U.S.C. 306108), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Request for Comment: A letter was sent on November 28, 2015 to update you on the proposed project and GOSR received a request from SHPO on January 27th, 2016 for more information on the architectural impacts to the project area. Since receiving update request from SHPO, GOSR has completed the definition of the Area of Potential Affect and no buildings will be altered during the course of the project. The project will be limited to ground disturbance of easements obtained. GOSR respectfully submits for your review this letter with updates related to architectural and possible historically sensitive area impacts for the proposed project(s) described herein. The purpose of this letter is to update you on the consultation pursuant to Section 106 of the NHPA per the implementing regulations at 36 Code of Federal Regulations (CFR) Part 800.

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosures:
Narrative of the Proposed Project
Combined Permanent Easements Map
Easements to be Purchased Map

April 21, 2016

Mr. Larry Moss
Historic Preservation Technical Specialist
New York State Office of Parks, Recreation and Historic Preservation
Division of Historic Preservation
Peebles Island
P.O. Box 189
Waterford, New York 12188-0189

Re: Proposed Action based on Phase II Archaeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Dear Mr. Moss:

On April 12th, 2016 the Governor's Office of Storm Recovery (GOSR) received the attached End of Fieldwork Memo from the Phase II Archeological Site Evaluation for the South End Drainage Project. The archeologist discovered high concentrations of artifacts at the larger site of the two proposed retention ponds off of Sunset Drive, identified as Site #2. Based on the information provided in the memo, rather than continue to explore the area with a high concentration of artifacts, GOSR proposes to limit the size of the pond to be excavated at Site #2 in order to limit the potential impact to cultural resources. GOSR intends to include an unanticipated discovery plan in the construction requirements in order to ensure that should any culturally significant artifacts be discovered, all work shall cease and GOSR, SHPO, and any relevant tribal entities will be contacted immediately. Attached to this memo please find a revised site plan illustrating the truncated footprint of the retention pond.

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosure:
Attachment 1: End of Fieldwork Letter for Phase II Archeological Site Evaluation
Attachment 2: Site Plan for Proposed Avoidance of Retention Pond

STRATA, LLC
105 South Street
Warwick, NY 10990
Tel: 845-647-1390
Cell: 845-750-3938
info@stratacrm.com
www.stratacrm.com
A WBE Company

April 12, 2016

Andrea Gievers
Project Manager
TECTONIC
70 Pleasant Hill Road
Mountainville, New York 10953

Project Name: Schoharie South End Drainage
Project Description: Phase IA/IB Archeological Field Investigation

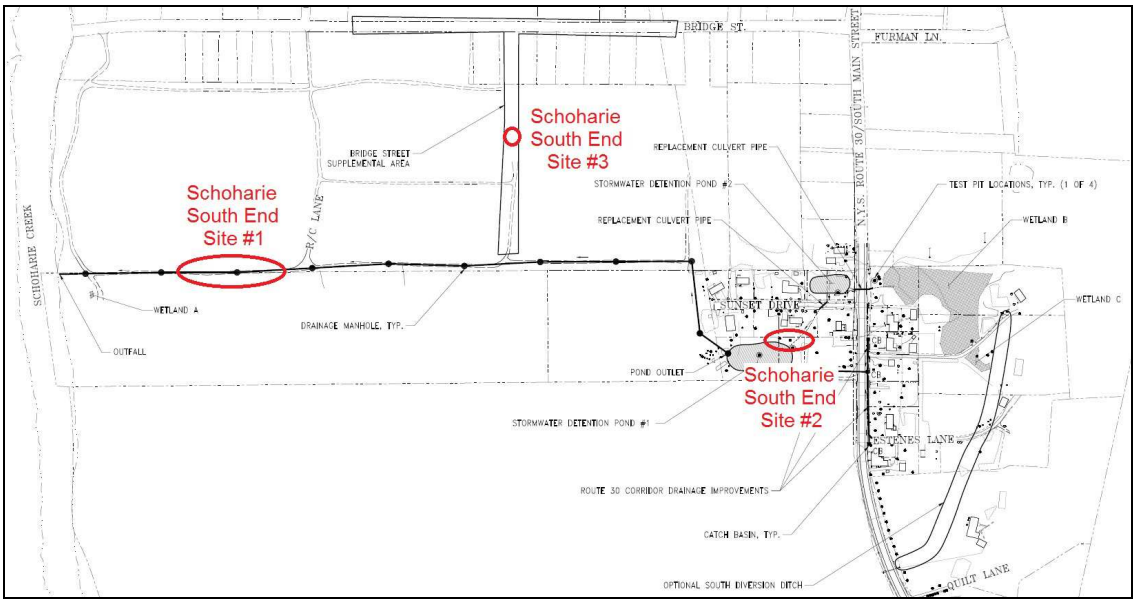
RE: End of Fieldwork Letter
Phase II Archeological Site Evaluation
Schoharie South End Drainage
Village of Schoharie, Schoharie County, NY

Dear Ms. Gievers,

This letter is to inform you of the completion of the Phase II Site Evaluation fieldwork for the abovementioned project. The fieldwork was completed on March 25, 2016 and consisted of 35 shovel test pits (STPs) centered around the original Phase IB positive shovel tests within the three sites previously identified as Schoharie South End Sites #1, #2 & #3 (Map 1).

Site #1

The cultural remains produced during the Phase IB fieldwork within Site #1 consisted of thirteen pieces of chert debitage as well as a projectile point fragment distributed across six of seven consecutive positive shovel tests. Several surface finds were also recovered here. The positive tests occupy a landform that appears to be a former creekbed, either of Schoharie Creek or a smaller tributary that currently enters the Schoharie Creek further south.

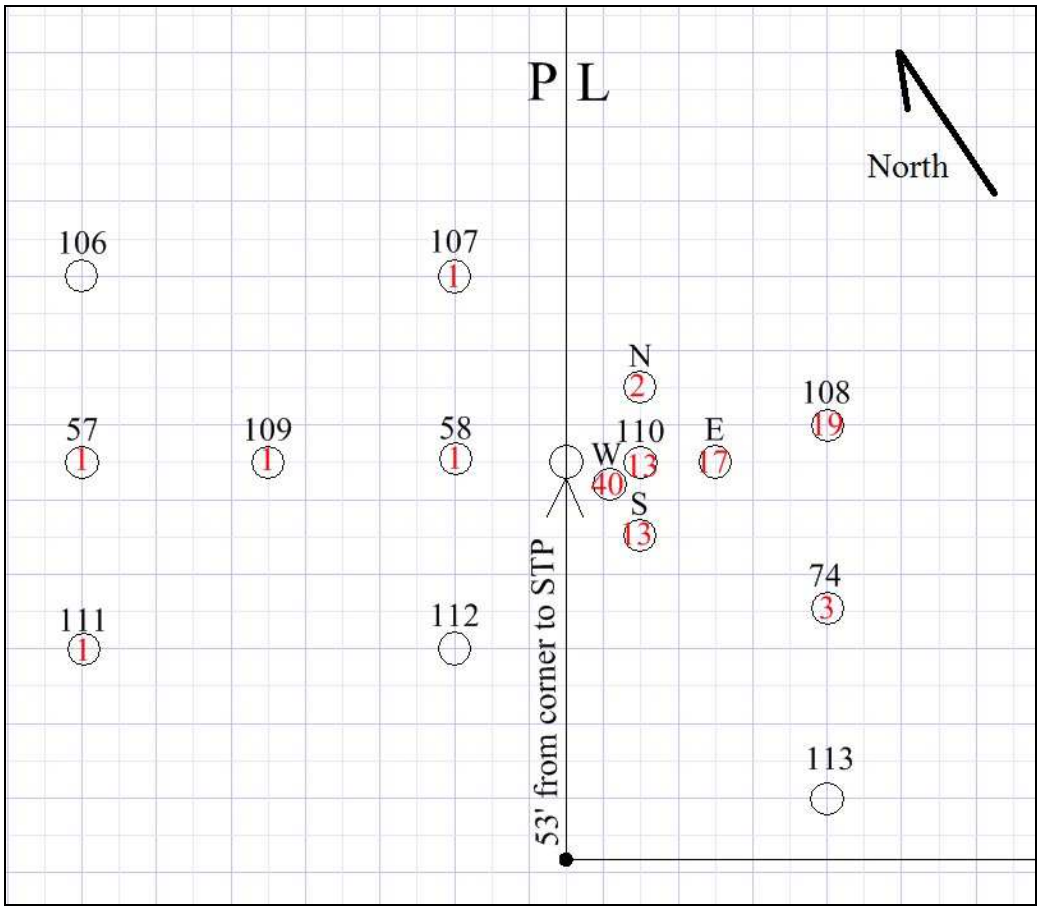


Map 1: Phase I archeological sites identified within Project Area.

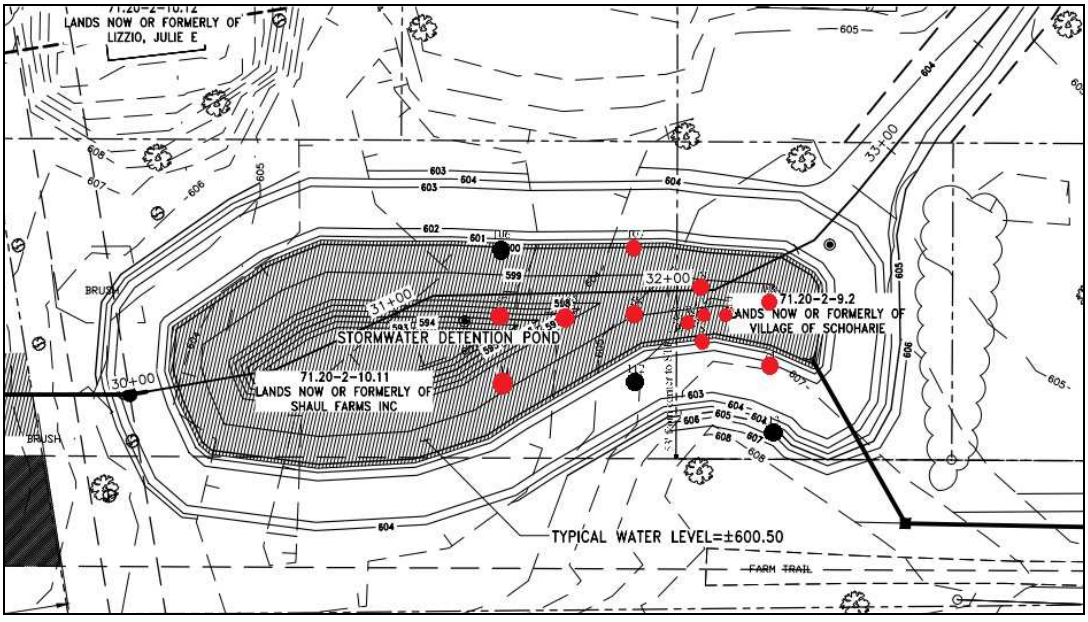
The Phase II work scope originally consisted of ten STPs and two excavation units. However, after completion of the initial ten STPs, no obvious concentrations of artifacts were observed to inform the placement of the excavation units. Instead, these units were translated into four additional STPs each for a total of eight more STPs excavated centrally within the linear Project Area. Low densities of chert artifacts were recovered from these tests suggesting that the site represents either a diffuse lithic scatter or possible secondary deposition during flood events. Either interpretation indicates a low research potential and does not appear to fulfill any of the criteria for inclusion in the National Register of Historic Places. No additional work is recommended for Site #1.

Site #2

Site #2 was originally identified through three consecutive positive shovel tests at 50-foot intervals within the limits of the proposed Stormwater Retention Pond #1 (STPs 57, 58 & 74) (Map 2). The original Phase II work scope consisted of eight STPs and one excavation unit. The STPs were placed at 25-foot intervals around the positive Phase IB tests although the number of tests was inadequate to establish a proper site grid. High densities of chert debitage were recovered from STPs 110 & 108. As with Site #1, there was insufficient data to inform the placement of the excavation unit so this was translated into four additional STPs which were arrayed at 10-foot intervals around STP 110 at the cardinal directions. Altogether STP 110 and its radials produced 75 pieces of chert debitage. While no diagnostic artifacts or subsurface features were observed, the high artifact densities suggest these could be present within Site #2 but the small sample has yet to identify them. The site limits are not properly understood and discussions with Tim Lloyd at SHPO indicated additional Phase II testing is recommended.



Map 2: Artifact distribution across Site #2 for Phase IB and Phase II excavations.



Map 3: Artifact distribution overlaid on redesigned Retention Pond #1.

Site #3

The artifacts used to define Site #3 consisted of two chert flakes recovered from a single test, STP 91, which lay to the west of a drainage ditch. Because of the adjacent prior disturbance, the five Phase II STPs were arrayed at 10-foot intervals around the original Phase IB test. Two additional chert flakes were recovered, one each in STP 101 & 102, but the recovery of modern refuse associated with the nursery that currently occupies the property indicated a lack of integrity. Again, the site is interpreted as a low density lithic scatter without research potential. No additional work is recommended for Site #3.

Currently the Phase II artifacts are being processed and the site interpretations will be further developed from the results. A final report for submission to SHPO will be produced at the conclusion of these tasks.

Sincerely,

Jim Turner
Principal Investigator
STRATA, LLC

Lamont Engineers
ENGINEERS - PLANNERS
FACILITY OPERATIONS
540 MAIN ST, CORLISHALL, NY 12543
(518) 234-4028
www.lamontengineers.com

Consultant

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
VILLAGE OF SCHOHARIE
SOUTH END DRAINAGE IMPROVEMENTS
SCHOHARIE COUNTY NEW YORK STATE

Stamp

Remarks	Date	Issue No.

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	2/7/15
Scale	1"=30'
File Name	BM_SCHD SOUTH END

Sheet Title
CONCEPT PLAN

Sheet No.
C11

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 25, 2016

Ms. Alicia Shultz
NYS Homes & Community Renewal
38 State Street
Albany, NY 12207

Re: NYSHCR/ GOSR
Schoharie South End Drainage Improvements
Sunset Drive at NY Route 30, Schoharie, NY

15PR06744

Dear Ms. Shultz:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

We have reviewed the materials submitted under cover letter dated April 21, 2016, including the brief letter report of the results of the Phase II archaeological site evaluations. SHPO concurs that Schoharie South End Sites 1 and 3 (09544.000117 and 115) do not meet the eligibility criteria for listing in the National Register of Historic Places (NRHP), and no additional work is necessary at the two sites. The density of artifacts recovered from Schoharie South End Site 2 (09544.000116) is suggestive of potential site significance, but the data are still insufficient to definitively assess the site in terms of eligibility for the NRHP. Therefore, SHPO recommends that the project avoid impacts to the site, or conduct a supplemental Phase II investigation to assess the site for potential NRHP-eligibility.

SHPO concurs with GOSR's plan to avoid Schoharie South End Site 2. SHPO recommends that protective flagging be put in place around the site to prevent inadvertent disturbance during construction. It is SHPO's opinion that the project will have No Effect on properties listed in or eligible for the NRHP, under the condition that impacts to Schoharie South End Site 2 are avoided and a final copy of the Phase II archaeological investigations is submitted to SHPO.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

Larry K Moss, Historic Preservation Technical Specialist (Larry.moss@parks.ny.gov)

CC: Tom King, GOSR
Mary Barthelme, GOSR
Andrew Dangler, USACE
Joshua Gomez, Tectonic
Jim Turner, Stratacrm
Gwen Sivirichi, AKRF

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

July 15, 2016

Ms. Alicia Shultz
NYS Homes & Community Renewal
38 State Street
Albany, NY 12207

Re: NYSHCR/ GOSR
Schoharie South End Drainage Improvements
Sunset Drive at NY Route 30, Schoharie, NY
15PR06744

Dear Ms. Shultz:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of OPRHP and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act.

OPRHP has received and reviewed the Phase II archaeological site investigation report (*Phase II Archaeological Evaluation, Schoharie South End Drainage Improvements, Village of Schoharie, Schoharie County, NY* by Tectonic Engineering and dated June 2016). As discussed in the April 25, 2016 project correspondence, OPRHP concurs that Schoharie South End Sites 1 and 3 (09544.000117 and 09544.000115) do not meet the eligibility criteria for listing in the National Register of Historic Places, and no additional work is necessary at the 2 sites.

OPRHP feels that the density of artifacts recovered from Schoharie South End Site 2 (09544.000116) is suggestive of potential site significance, but that the data are still lacking to assess definitively the site in terms of NR eligibility. As a result, OPRHP continues to recommend that the project avoid impacts to the site or conduct a supplemental Phase II evaluation. OPRHP concurs with GOSR's plan to avoid Schoharie South End Site 2. OPRHP recommends that protective flagging be put into place around the site to prevent inadvertent disturbance during construction.

OPRHP also continues to recommend archaeological monitoring during construction. The monitoring should be conducted for construction excavations that exceed the depth that was reached by shovel tests conducted during the Phase I and Phase II field testing. OPRHP continues to recommend that an Archaeological Monitoring Plan be prepared and submitted to this office for review.

Finally, OPRHP again recommends that pertinent Native American Nations be invited to consult regarding the potential impacts to Native American archaeological resources. OPRHP can provide assistance with the identification of relevant Native American contacts, and OPRHP can assist by providing Native American representatives with access to project and archaeological site information via the online Cultural resource Information System (CRIS).

If further correspondence is required regarding this project, please refer to the project review (PR) number noted above. If you have any questions, I can be reached at 518.268.2185 or at andrew.farry@parks.ny.gov.

Sincerely,

Andrew Farry
Scientist/Archaeology via e-mail only

CC: Andrew Dangler, USACE
Gwen Sivirichi, AKRF
Jim Turner, STRATA
Joshua Gomez, Tectonic
Kristofer Mierisch, Tectonic
Mary Barthelme, GOSR
Thomas King, GOSR

Affidavit of Mailing

STATE OF NEW YORK)
: SS. :
COUNTY OF ALBANY)

MARY BARTHELME, being duly sworn, deposes and says:

1. I am over the age of eighteen years.
2. On November, 19th, 2015, I mailed true and correct copies of the annexed South End Tribal Consultation Letters dated November 18th, 2015, by placing the same in first class post-paid envelopes addressed: SEE ATTACHED LIST.
3. On said day, I deposited said envelopes in a mailbox at 99 Washington Avenue, Albany, New York 12260.

Mary Barthelme

Sworn to before me this
19 day of November, 2015

Notary Public

Bridget M. Van Zutphen
Notary Public, State of New York
Qualified in Albany County
No. 01VA6295970
Commission Expires Jan. 21, 2018

November 18, 2015

Beverly Cook, Chief
Saint Regis Mohawk Tribe
P.O. Box 825
412 State Route 37
Akwesasne, NY 13655

Re: Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Ms. Cook:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470a), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Area Area of Potential Effect: The South End Drainage Improvements Project includes the design and construction of improvements to the South End drainage system (located in the Village of Schoharie, NY) to reduce the risk of localized flooding when future storm events occur, while preventing isolation of residents and allowing uninterrupted emergency response. The Conceptual Plan provided in Attachment 1 shows the targeted area of the project including the underground storm sewer to the Schoharie Creek and the proposed location of the retention basin. The Expanded Area of Interest provided in Attachment 1 shows all the possible properties that may be impacted by the project. The exact project location will be determined flowing consultation with all interested parties.

Proposed Project Description: Due to the damage caused by Hurricane Irene and Tropical Storm Lee, the Schoharie County Soil and Water Conservation District (SCSWCD) has applied to GOSR under the NYRCR Program to fund the South End Drainage Improvements Project (Proposed Project). During the storm events, the storm water drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street.

According to the June 2015 application for funding, the proposed project will involve the following:

- Relocating existing utilities and lowering culverts.
- Providing a retention pond to attenuate peak runoff.
- Constructing an outfall to Schoharie Creek, via a 3000 linear foot, 24 inch storm sewer with maintenance structures every 300 feet.
- Re-establishing the swale across the Vroman property and associated upstream driveway culverts to help divert some drainage from Sunset Drive. This swale runs south and crosses State Route 30 at the south end of the project area through a DOT culvert that has been under-utilized over the years.
- Providing additional drainage along (and across) State Route 30 to help further minimize standing water in the project area.
- Providing backflow gates to prevent Schoharie Creek flood waters from back feeding into the project areas east of State Route 30.
- Providing streambank stabilization at the Schoharie Creek outfall.

GOSR is currently consulting with the New York State Preservation Office (SHPO) in accordance with NHPA to determine if properties identified in the proposed project site are eligible for inclusion in the National Register of Historic Places and whether said properties are to be adversely affected by the proposed actions.

With this letter, GOSR respectfully submits for your review the attached documentation for the proposed project(s) described herein. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 15 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address that follows.

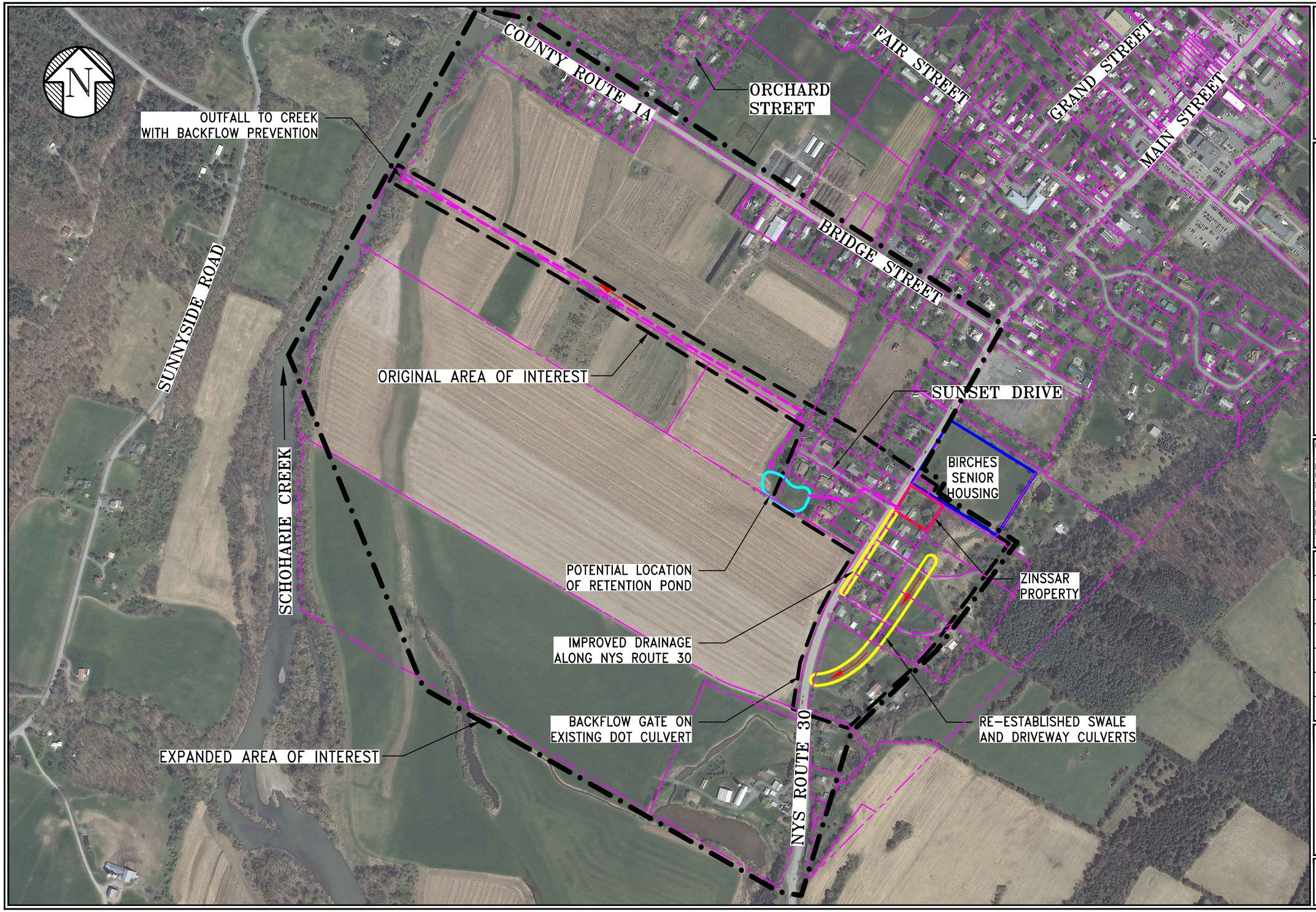
Mr. Thomas King
Director – Bureau of Environmental Review and Assessment *Interim*
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

Enclosures:
Attachment 1: Expanded Area of Interest
Conceptual Plan



Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	9/4/15
Scale	1"=500'
File Name	R/2015037

Sheet Title

EXPANDED AREA OF INTEREST

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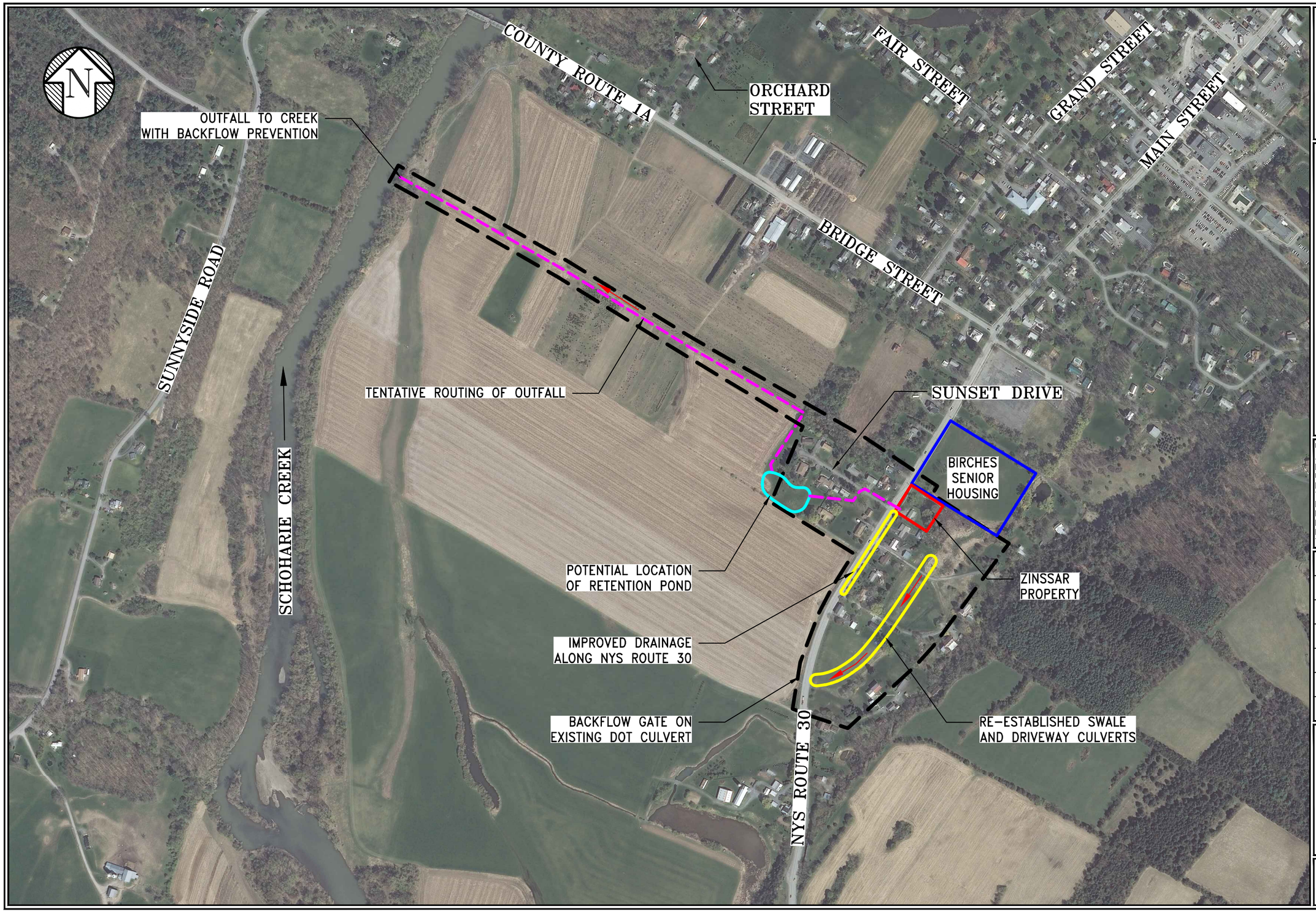

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SOUTH END DRAINAGE IMPROVEMENTS
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CONCEPTUAL PLAN

Sheet No.

Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

November 18, 2015

Paul Thompson, Chief
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Re: Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Mr. Thompson:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

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Mr. Thomas King
Director – Bureau of Environmental Review and Assessment *Interim*
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

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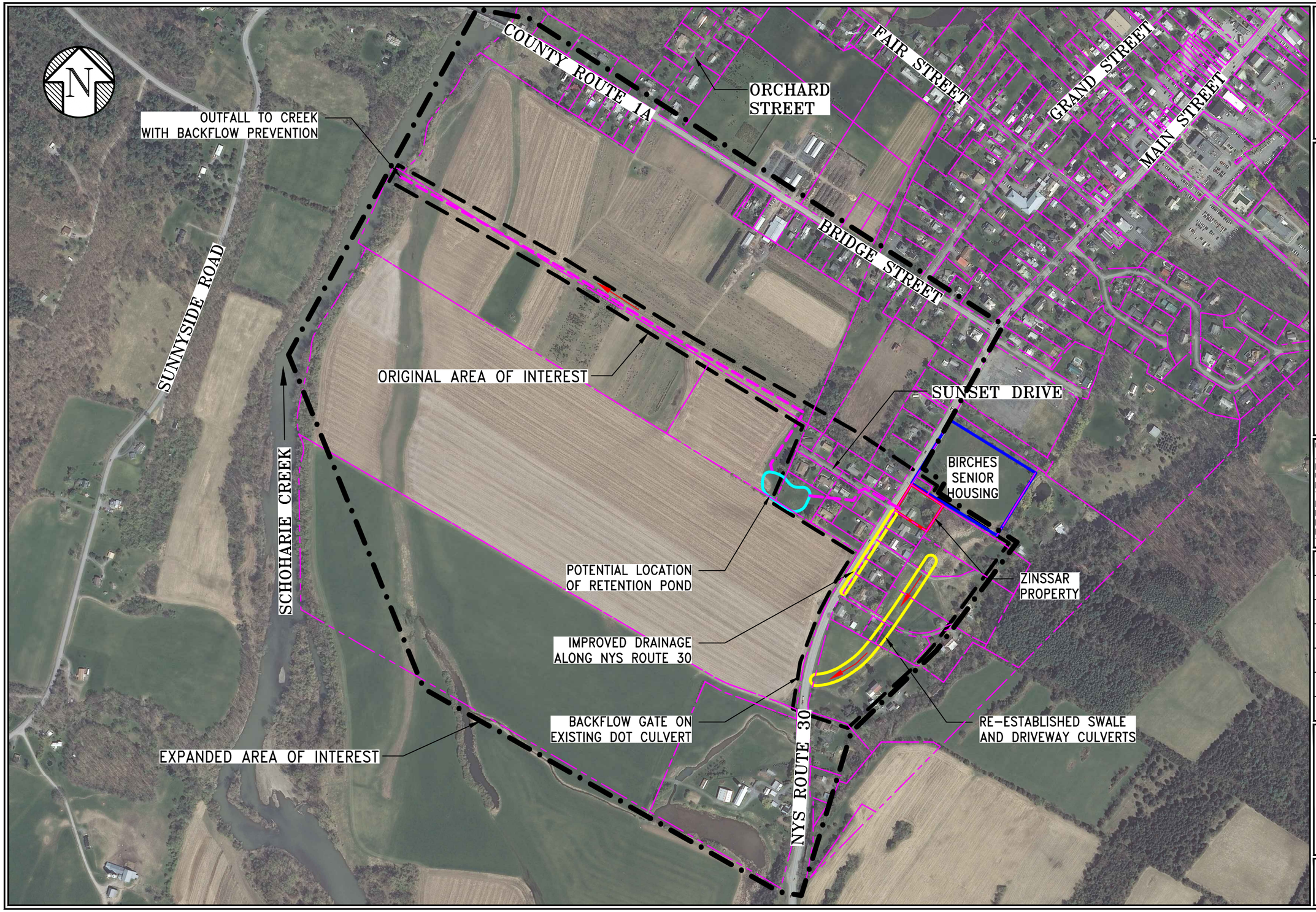

Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
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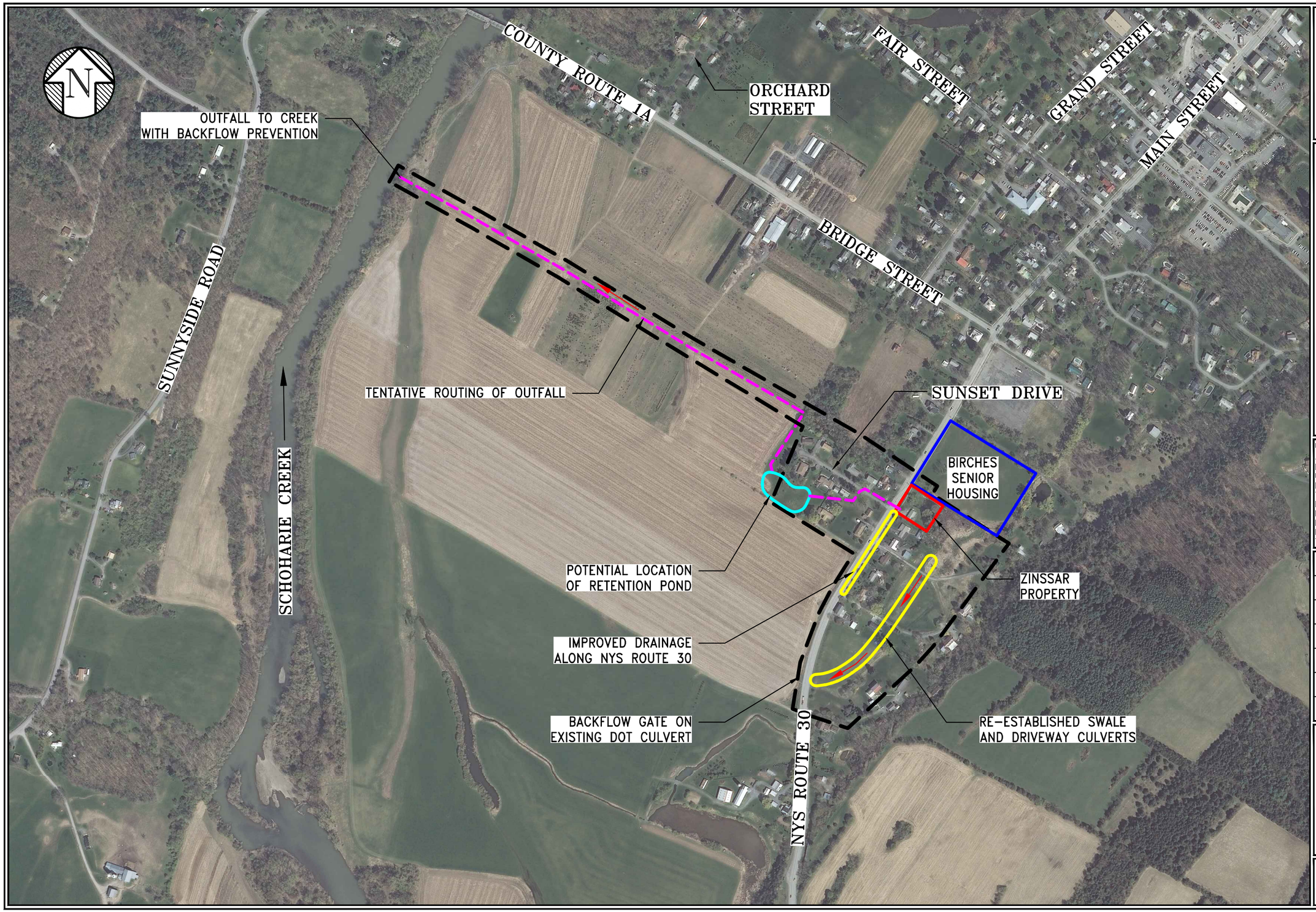

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SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

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CONCEPTUAL PLAN

Sheet No.

November 18, 2015

Arnold Printup
Tribal Historic Preservation Office
412 State Route 37
Akwesasne, NY 13655

Re: Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Mr. Printup:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

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With this letter, GOSR respectfully submits for your review the attached documentation for the proposed project(s) described herein. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 15 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address that follows.

Mr. Thomas King
Director – Bureau of Environmental Review and Assessment *Interim*
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

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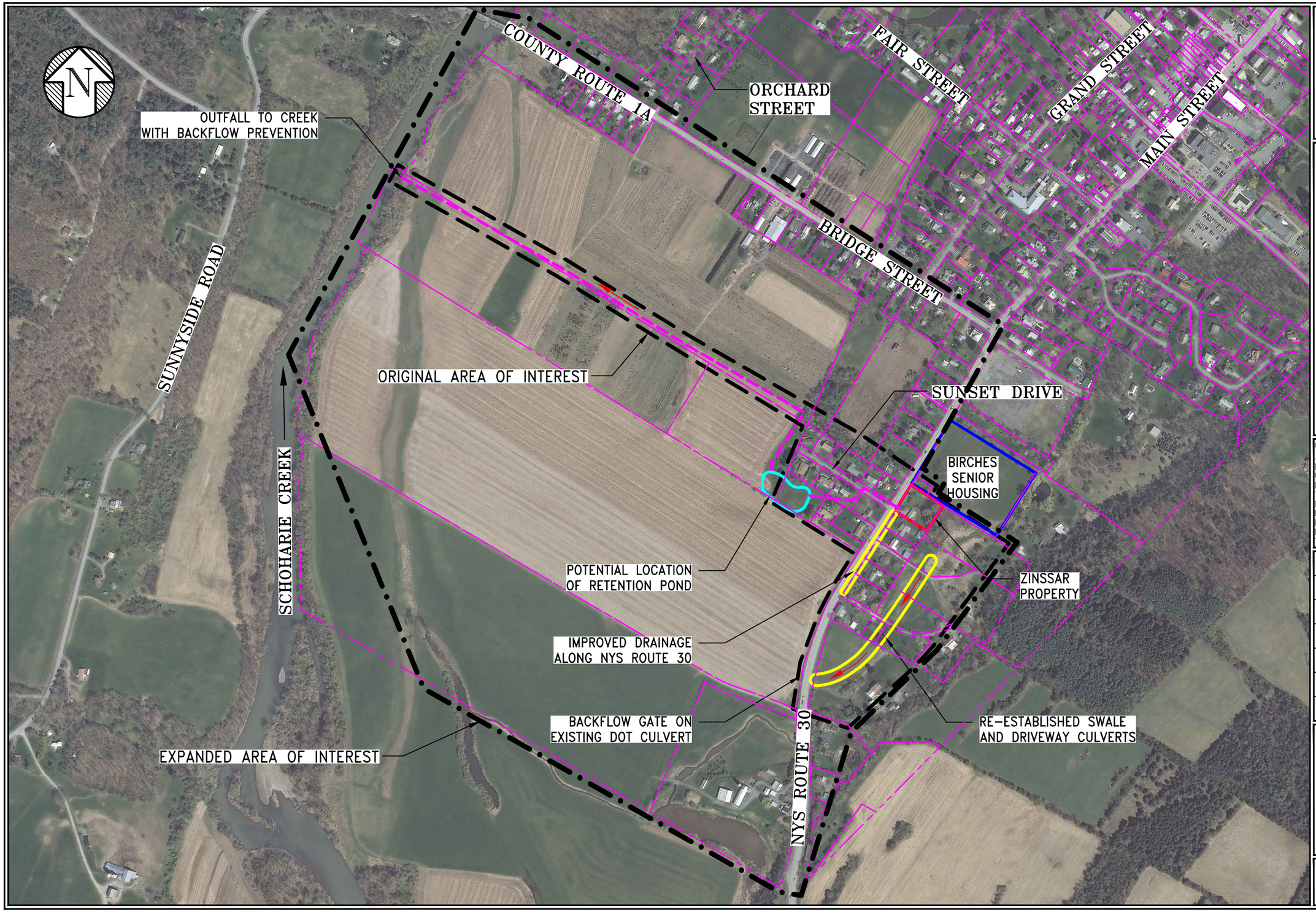

Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
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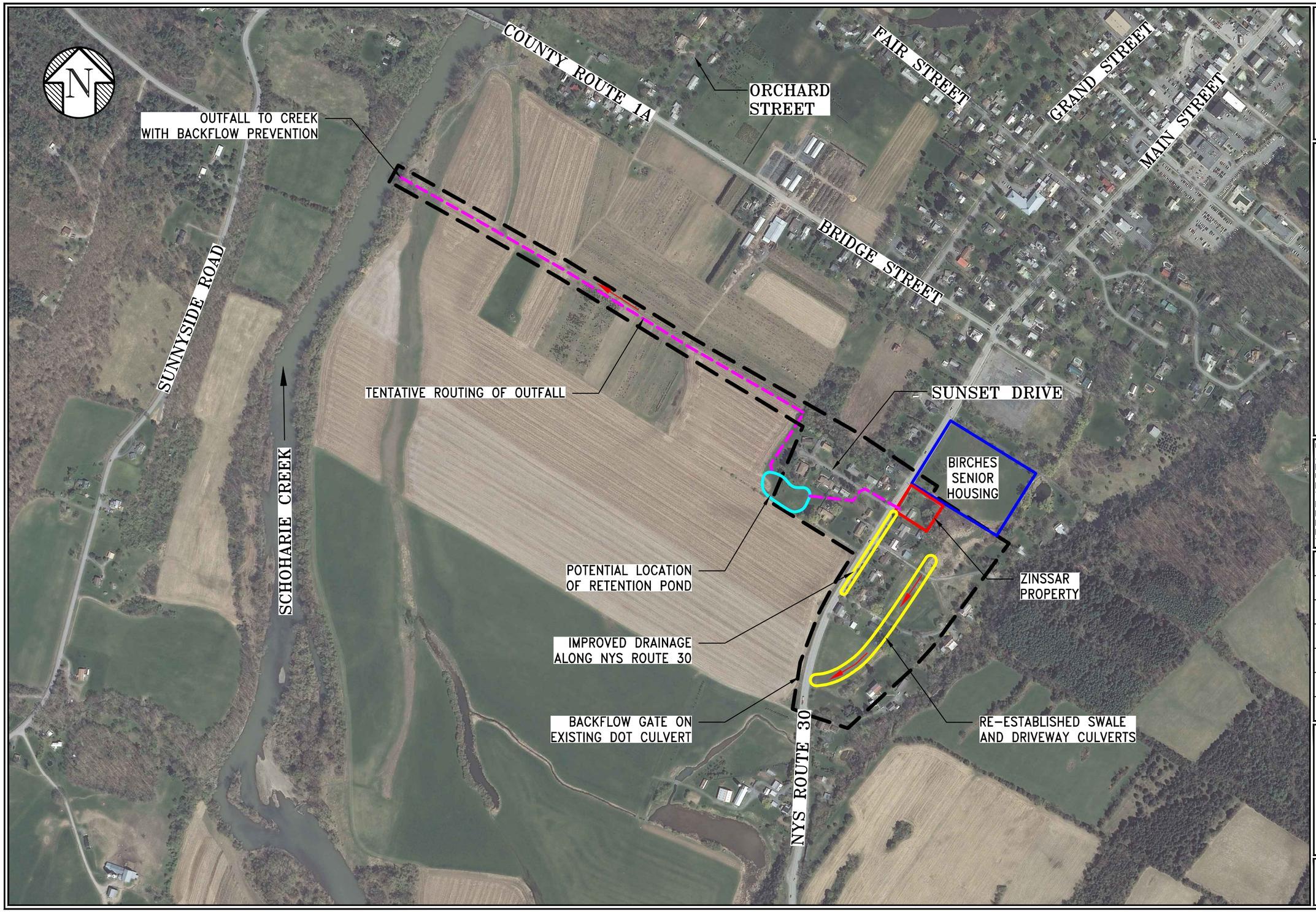

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COBLESKILL NEW YORK
(518) 234-4028

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
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Sheet Title

CONCEPTUAL PLAN

Sheet No.

November 18, 2015

Mohawk Nation Council of Chiefs
Haudenosaunee Six Nations Confederacy
Akwesasne Territory Box
Rooseveltown, NY 13683

Re: Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Mohawk Nation Council of Chiefs:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

GOSR processes environmental reviews for projects funded with HUD CDBG-DR on a case-by-case basis. In accordance with Section 101(d)(6)(B) of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470a), and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, this letter serves as notification of the proposed action.

Area of Potential Effect: The South End Drainage Improvements Project includes the design and construction of improvements to the South End drainage system (located in the Village of Schoharie, NY) to reduce the risk of localized flooding when future storm events occur, while preventing isolation of residents and allowing uninterrupted emergency response. The Conceptual Plan provided in Attachment 1 shows the targeted area of the project including the underground storm sewer to the Schoharie Creek and the proposed location of the retention basin. The Expanded Area of Interest provided in Attachment 1 shows all the possible properties that may be impacted by the project. The exact project location will be determined flowing consultation with all interested parties.

Proposed Project Description: Due to the damage caused by Hurricane Irene and Tropical Storm Lee, the Schoharie County Soil and Water Conservation District (SCSWCD) has applied to GOSR under the NYRCR Program to fund the South End Drainage Improvements Project (Proposed Project). During the storm events, the storm water drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street.

According to the June 2015 application for funding, the proposed project will involve the following:

- Relocating existing utilities and lowering culverts.
- Providing a retention pond to attenuate peak runoff.
- Constructing an outfall to Schoharie Creek, via a 3000 linear foot, 24 inch storm sewer with maintenance structures every 300 feet.
- Re-establishing the swale across the Vroman property and associated upstream driveway culverts to help divert some drainage from Sunset Drive. This swale runs south and crosses State Route 30 at the south end of the project area through a DOT culvert that has been under-utilized over the years.
- Providing additional drainage along (and across) State Route 30 to help further minimize standing water in the project area.
- Providing backflow gates to prevent Schoharie Creek flood waters from back feeding into the project areas east of State Route 30.
- Providing streambank stabilization at the Schoharie Creek outfall.

GOSR is currently consulting with the New York State Preservation Office (SHPO) in accordance with NHPA to determine if properties identified in the proposed project site are eligible for inclusion in the National Register of Historic Places and whether said properties are to be adversely affected by the proposed actions.

With this letter, GOSR respectfully submits for your review the attached documentation for the proposed project(s) described herein. If the Area of Potential Effect encompasses historic properties of religious or cultural significance to your Nation, please respond within 15 days or sooner. Additionally, please indicate if there are other sources of information or other parties, Nations, Tribes, or members of the public you believe should be included in the consultation process. Please respond by email or in writing to the address that follows.

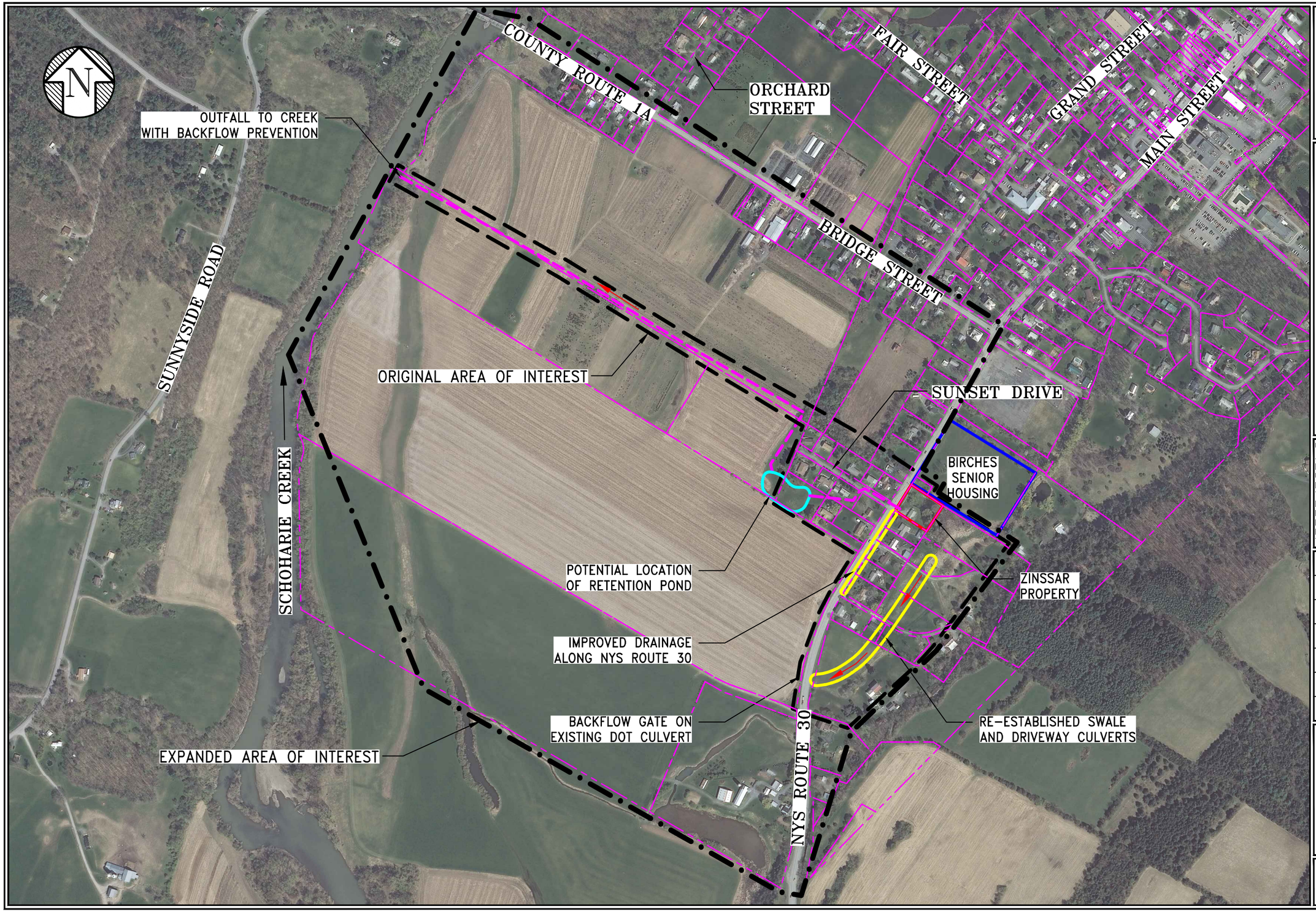
Mr. Thomas King
Director – Bureau of Environmental Review and Assessment *Interim*
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

Enclosures:
Attachment 1: Expanded Area of Interest
Conceptual Plan



Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

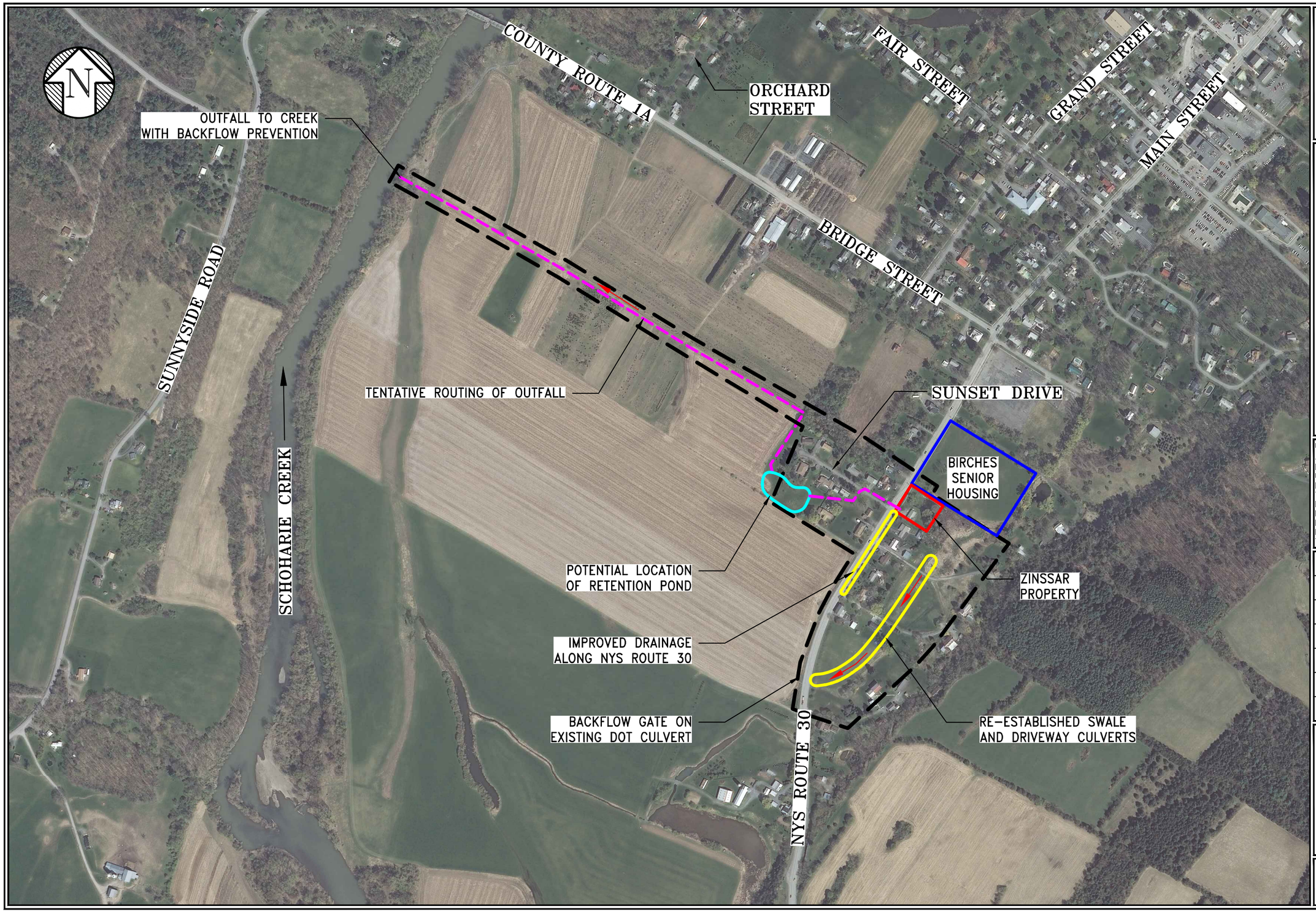
SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	9/4/15
Scale	1"=500'
File Name	R/2015037

Sheet Title

EXPANDED AREA OF INTEREST

Sheet No.



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SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
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Project Number	2015037
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Designed By	MDH
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Date	9/2/15
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Sheet Title

CONCEPTUAL PLAN

Sheet No.

November 18, 2015

Ron LaFrance, Jr., Chief
Saint Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Re: Section 106 Compliance for the Schoharie County Soil and Water Conservation District South End Drainage Improvements project – Village of Schoharie, Schoharie County, NY

Dear Mr. LaFrance:

Pursuant to the Disaster Relief Appropriations Act, 2013 (Public Law 113-2) and the Housing and Community Development Act (42 U.S.C. § 5301 et seq.), the Governor's Office of Storm Recovery (GOSR) is acting under the auspices of New York State Homes and Community Renewal's Housing Trust Fund Corporation as a recipient of Community Development Block Grant – Disaster Recovery ("CDBG-DR") funds from the United States Department of Housing and Urban Development ("HUD"). GOSR is the entity responsible for compliance with the HUD environmental review procedures set forth in 24 CFR Part 58. GOSR is acting on behalf of HUD in providing the enclosed project information and inviting this discussion with your Nation to respond with any concerns or comments.

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Mr. Thomas King
Director – Bureau of Environmental Review and Assessment *Interim*
Assistant General Counsel
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer

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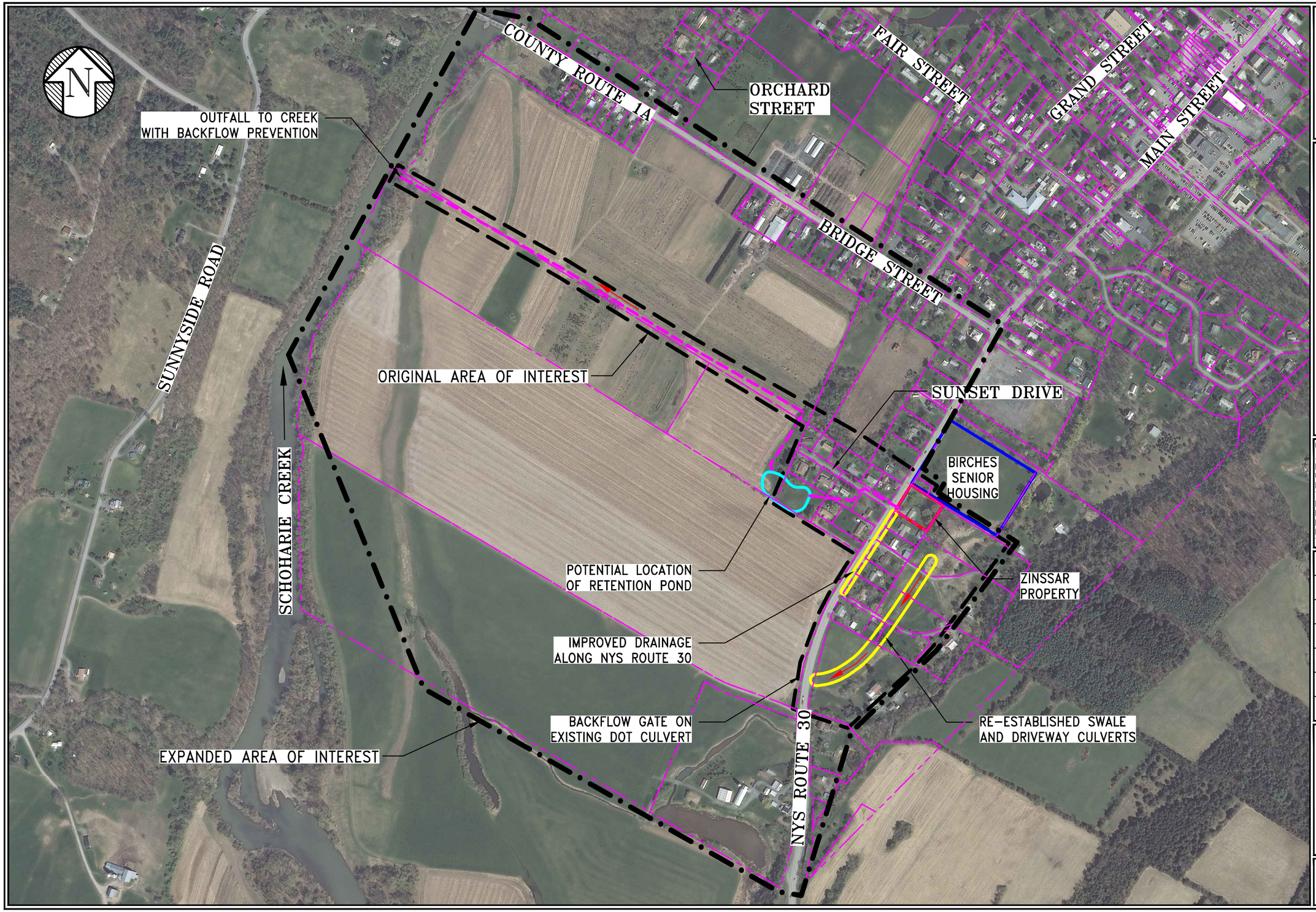


Lamont Engineers

COBLESKILL NEW YORK
(518) 234-4028

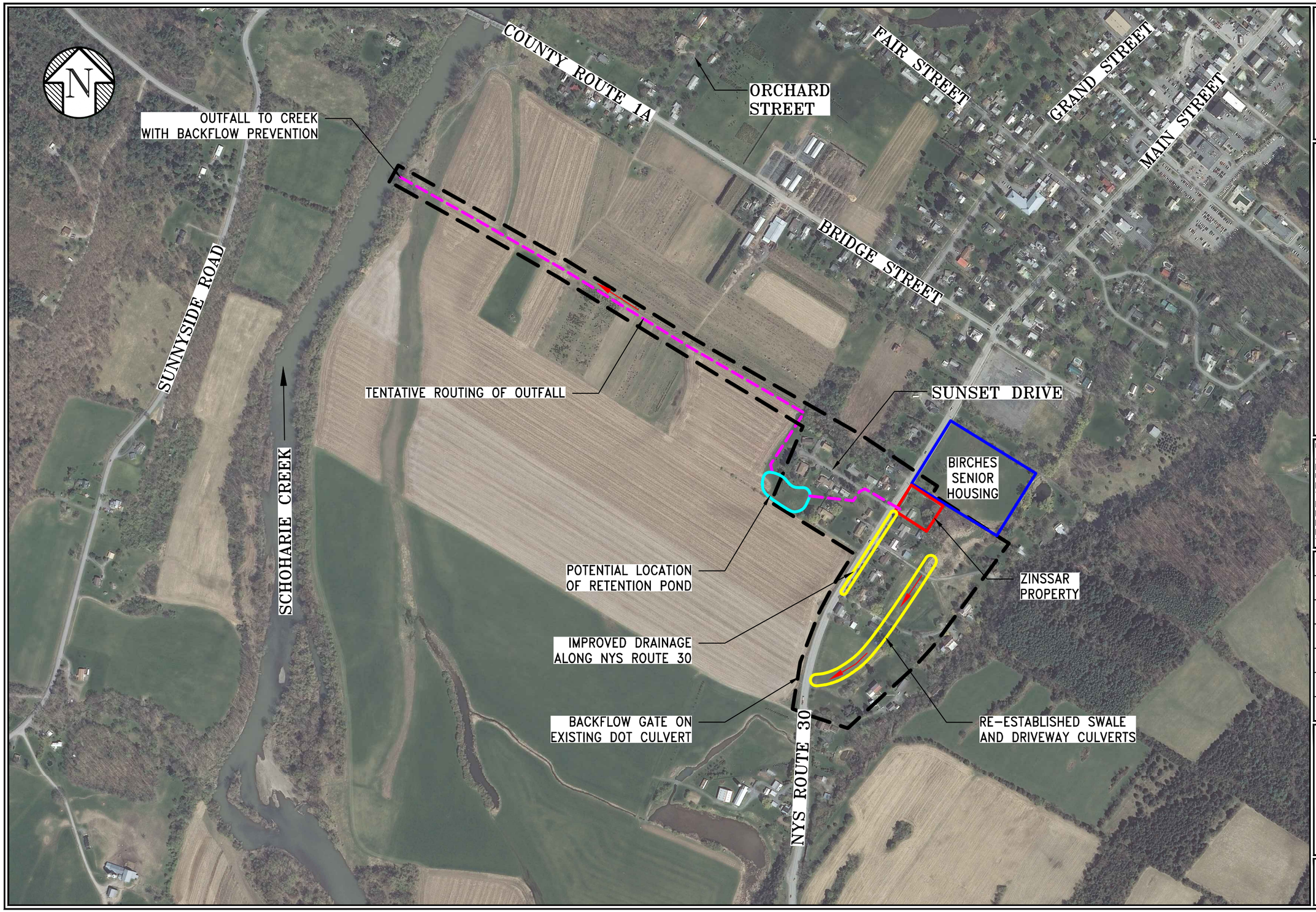
SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE NEW YORK STATE

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	9/4/15
Scale	1"=500'
File Name	R/2015037

Sheet Title

EXPANDED AREA OF INTEREST

Sheet No.



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SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
SOUTH END DRAINAGE IMPROVEMENTS
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Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	9/2/15
Scale	1"=500'
File Name	R/2015037

Sheet Title

CONCEPTUAL PLAN

Sheet No.

Saint Regis Mohawk Tribe

February 24, 2016

Thomas King
Governor's Office of Storm Recovery
25 Beaver Street
New York, NY 10004

Re: Schoharie County Soil and Water Conservation District South End Drainage Project

She:kon Mr.King

This letter is in response to a request for a Section 106 consultation between your agency and the Saint Regis Mohawk Tribe. The following project(s) that you requested my office to consult on is considered to have an "Adverse Effect" in regards to cultural properties of concern to the Saint Regis Mohawk Tribe.

Schoharie County Soil and Water Conservation District South End Drainage Project, Schoharie County NY.

The Saint Regis Mohawk will provide further comments upon the receipt of the Phase II Survey. We also would want to participate in any potential Phase III plan that may occur.

The St. Regis Mohawk Tribe requests to be immediately contacted in the event any inadvertent discoveries of human remains, funerary objects, sacred objects and objects of cultural patrimony are made during the scope of this project.

Should you or your office have any further questions in regards to these comments please feel free to contact my office at your earliest convenience.

Nia:wen,

Arnold L Printup III

Arnold L Printup
Saint Regis Mohawk Tribe
Tribal Historic Preservation Office
1(518)358-2272 Ext. 2163

412 State Route 37
Akwesasne, New York 13655
www.srmt-nsn.gov
Phone: 518-358-2272

April 26, 2016

Shannon Holsey, President
Stockbridge-Munsee Community, Band of the Mohicans
N8476 Moh He Con Nuck Road
Bowler, WI 54416

Re: Proposed Action based on Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Dear Shannon Holsey:

On April 12th, 2016 the Governor's Office of Storm Recovery (GOSR) received the attached End of Fieldwork Memo from the Phase II Archeological Site Evaluation for the South End Drainage Project. The archeologist discovered high concentrations of artifacts at the larger site of the two proposed retention ponds off of Sunset Drive, identified as Site #2. Based on the information provided in the memo, rather than continue to explore the area with a high concentration of artifacts, GOSR proposes to limit the size of the pond to be excavated at Site #2 in order to limit the potential impact to cultural resources. GOSR intends to include an unanticipated discovery plan in the construction requirements in order to ensure that should any culturally significant artifacts be discovered, all work shall cease and GOSR, SHPO, and any relevant tribal entities will be contacted immediately. Attached to this memo please find a revised site plan illustrating the truncated footprint of the retention pond.

Pursuant to NHPA Section 106, GOSR has initiated consultation with the State Historic Preservation Office (SHPO) concerning this Project and its potential to affect historic resources that are listed on or eligible for listing on the NRHP. SHPO has issued a No Effect letter with conditions that concurs with the proposed action described above for the South End project. The End of Fieldwork Letter for the Phase II Archeological Site Evaluation and Site Plan for Proposed Avoidance of Retention Pond has been provided to you. GOSR respectfully submits for your review the attached documentation for the proposed project(s) described herein.

If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosure:
Attachment 1: End of Fieldwork Letter for Phase II Archeological Site Evaluation
Attachment 2: Site Plan for Proposed Avoidance of Retention Pond

Electronic letter sent to:
Bonney Hartley
THPO, New York Office
Stockbridge-Munsee Community, Band of the Mohicans
65 1st Street
Troy, NY 12180

STRATA, LLC
105 South Street
Warwick, NY 10990
Tel: 845-647-1390
Cell: 845-750-3938
info@stratacrm.com
www.stratacrm.com
A WBE Company

April 12, 2016

Andrea Gievers
Project Manager
TECTONIC
70 Pleasant Hill Road
Mountainville, New York 10953

Project Name: Schoharie South End Drainage
Project Description: Phase IA/IB Archeological Field Investigation

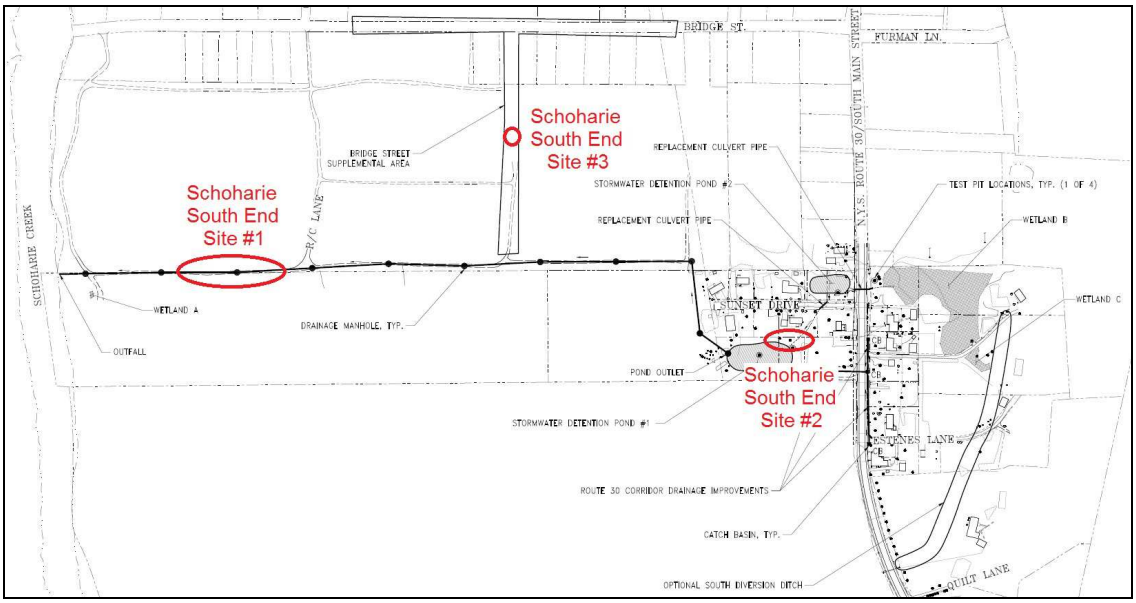
RE: End of Fieldwork Letter
Phase II Archeological Site Evaluation
Schoharie South End Drainage
Village of Schoharie, Schoharie County, NY

Dear Ms. Gievers,

This letter is to inform you of the completion of the Phase II Site Evaluation fieldwork for the abovementioned project. The fieldwork was completed on March 25, 2016 and consisted of 35 shovel test pits (STPs) centered around the original Phase IB positive shovel tests within the three sites previously identified as Schoharie South End Sites #1, #2 & #3 (Map 1).

Site #1

The cultural remains produced during the Phase IB fieldwork within Site #1 consisted of thirteen pieces of chert debitage as well as a projectile point fragment distributed across six of seven consecutive positive shovel tests. Several surface finds were also recovered here. The positive tests occupy a landform that appears to be a former creekbed, either of Schoharie Creek or a smaller tributary that currently enters the Schoharie Creek further south.

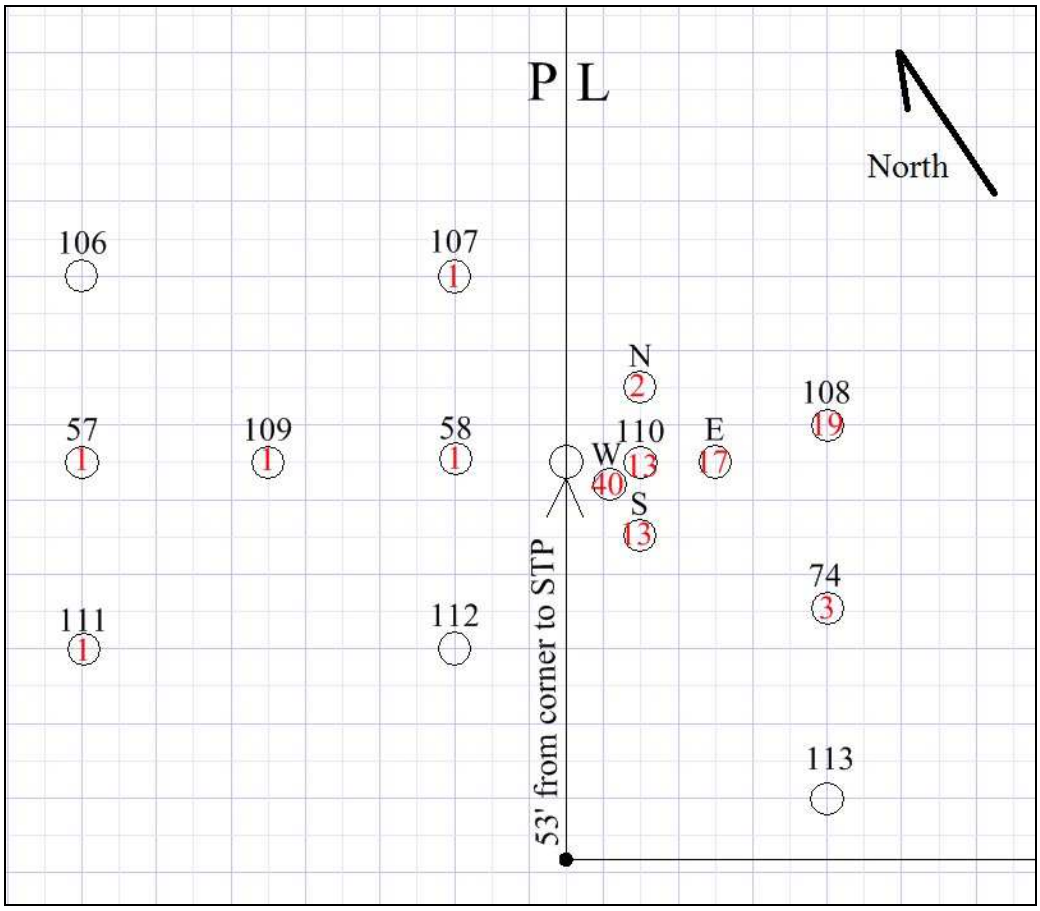


Map 1: Phase I archeological sites identified within Project Area.

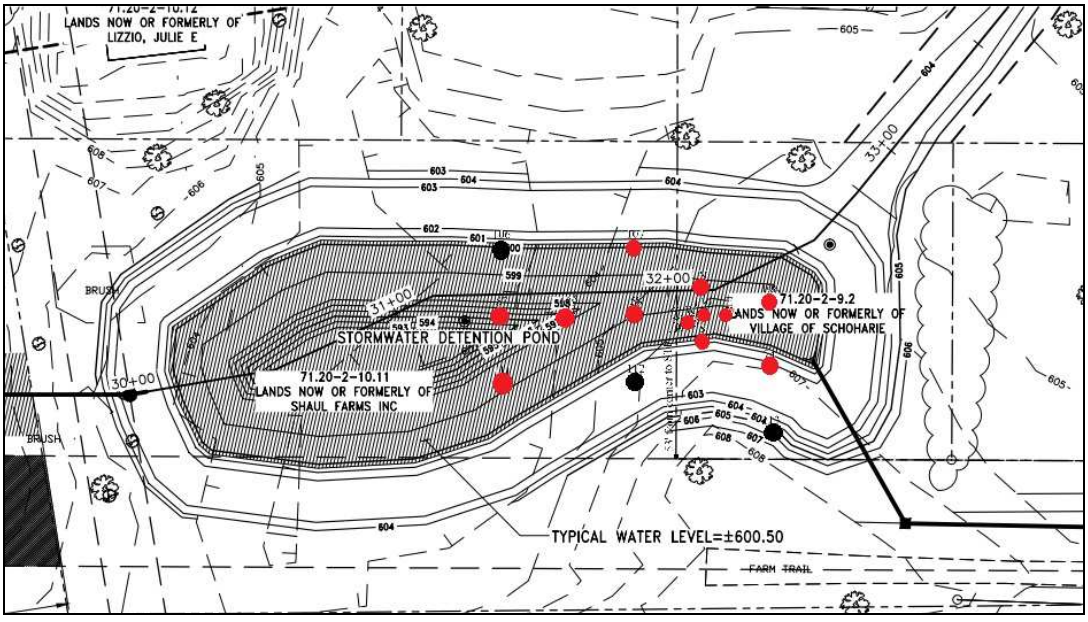
The Phase II work scope originally consisted of ten STPs and two excavation units. However, after completion of the initial ten STPs, no obvious concentrations of artifacts were observed to inform the placement of the excavation units. Instead, these units were translated into four additional STPs each for a total of eight more STPs excavated centrally within the linear Project Area. Low densities of chert artifacts were recovered from these tests suggesting that the site represents either a diffuse lithic scatter or possible secondary deposition during flood events. Either interpretation indicates a low research potential and does not appear to fulfill any of the criteria for inclusion in the National Register of Historic Places. No additional work is recommended for Site #1.

Site #2

Site #2 was originally identified through three consecutive positive shovel tests at 50-foot intervals within the limits of the proposed Stormwater Retention Pond #1 (STPs 57, 58 & 74) (Map 2). The original Phase II work scope consisted of eight STPs and one excavation unit. The STPs were placed at 25-foot intervals around the positive Phase IB tests although the number of tests was inadequate to establish a proper site grid. High densities of chert debitage were recovered from STPs 110 & 108. As with Site #1, there was insufficient data to inform the placement of the excavation unit so this was translated into four additional STPs which were arrayed at 10-foot intervals around STP 110 at the cardinal directions. Altogether STP 110 and its radials produced 75 pieces of chert debitage. While no diagnostic artifacts or subsurface features were observed, the high artifact densities suggest these could be present within Site #2 but the small sample has yet to identify them. The site limits are not properly understood and discussions with Tim Lloyd at SHPO indicated additional Phase II testing is recommended.



Map 2: Artifact distribution across Site #2 for Phase IB and Phase II excavations.



Map 3: Artifact distribution overlaid on redesigned Retention Pond #1.

Site #3

The artifacts used to define Site #3 consisted of two chert flakes recovered from a single test, STP 91, which lay to the west of a drainage ditch. Because of the adjacent prior disturbance, the five Phase II STPs were arrayed at 10-foot intervals around the original Phase IB test. Two additional chert flakes were recovered, one each in STP 101 & 102, but the recovery of modern refuse associated with the nursery that currently occupies the property indicated a lack of integrity. Again, the site is interpreted as a low density lithic scatter without research potential. No additional work is recommended for Site #3.

Currently the Phase II artifacts are being processed and the site interpretations will be further developed from the results. A final report for submission to SHPO will be produced at the conclusion of these tasks.

Sincerely,

Jim Turner
Principal Investigator
STRATA, LLC

Lamont Engineers
ENGINEERS - PLANNERS
FACILITY OPERATIONS
540 MAIN ST, CORLISHALL, NY 12543
(518) 234-4028
www.lamontengineers.com

Consultant

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
VILLAGE OF SCHOHARIE
SOUTH END DRAINAGE IMPROVEMENTS
SCHOHARIE COUNTY NEW YORK STATE

Stamp

Remarks	Date	Issue No.

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	2/7/15
Scale	1"=30'
File Name	BM_SCHD SOUTH END

Sheet Title
CONCEPT PLAN

Sheet No.
C11

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 25, 2016

Ms. Alicia Shultz
NYS Homes & Community Renewal
38 State Street
Albany, NY 12207

Re: NYSHCR/ GOSR
Schoharie South End Drainage Improvements
Sunset Drive at NY Route 30, Schoharie, NY

15PR06744

Dear Ms. Shultz:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

We have reviewed the materials submitted under cover letter dated April 21, 2016, including the brief letter report of the results of the Phase II archaeological site evaluations. SHPO concurs that Schoharie South End Sites 1 and 3 (09544.000117 and 115) do not meet the eligibility criteria for listing in the National Register of Historic Places (NRHP), and no additional work is necessary at the two sites. The density of artifacts recovered from Schoharie South End Site 2 (09544.000116) is suggestive of potential site significance, but the data are still insufficient to definitively assess the site in terms of eligibility for the NRHP. Therefore, SHPO recommends that the project avoid impacts to the site, or conduct a supplemental Phase II investigation to assess the site for potential NRHP-eligibility.

SHPO concurs with GOSR's plan to avoid Schoharie South End Site 2. SHPO recommends that protective flagging be put in place around the site to prevent inadvertent disturbance during construction. It is SHPO's opinion that the project will have No Effect on properties listed in or eligible for the NRHP, under the condition that impacts to Schoharie South End Site 2 are avoided and a final copy of the Phase II archaeological investigations is submitted to SHPO.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

Larry K Moss, Historic Preservation Technical Specialist (Larry.moss@parks.ny.gov)

CC: Tom King, GOSR
Mary Barthelme, GOSR
Andrew Dangler, USACE
Joshua Gomez, Tectonic
Jim Turner, Stratacrm
Gwen Sivirichi, AKRF

April 26, 2016

Ron LaFrance, Jr; Paul Thompson; and Beverly Cook, Chiefs
St. Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Re: Proposed Action based on Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Dear Chiefs of the St. Regis Mohawk Tribe:

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Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

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Saint Regis Mohawk Tribe, THPO
412 State Route 37
Akwesasne, NY 13655

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info@stratacrm.com
www.stratacrm.com
A WBE Company

April 12, 2016

Andrea Gievers
Project Manager
TECTONIC
70 Pleasant Hill Road
Mountainville, New York 10953

Project Name: Schoharie South End Drainage
Project Description: Phase IA/IB Archeological Field Investigation

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Village of Schoharie, Schoharie County, NY

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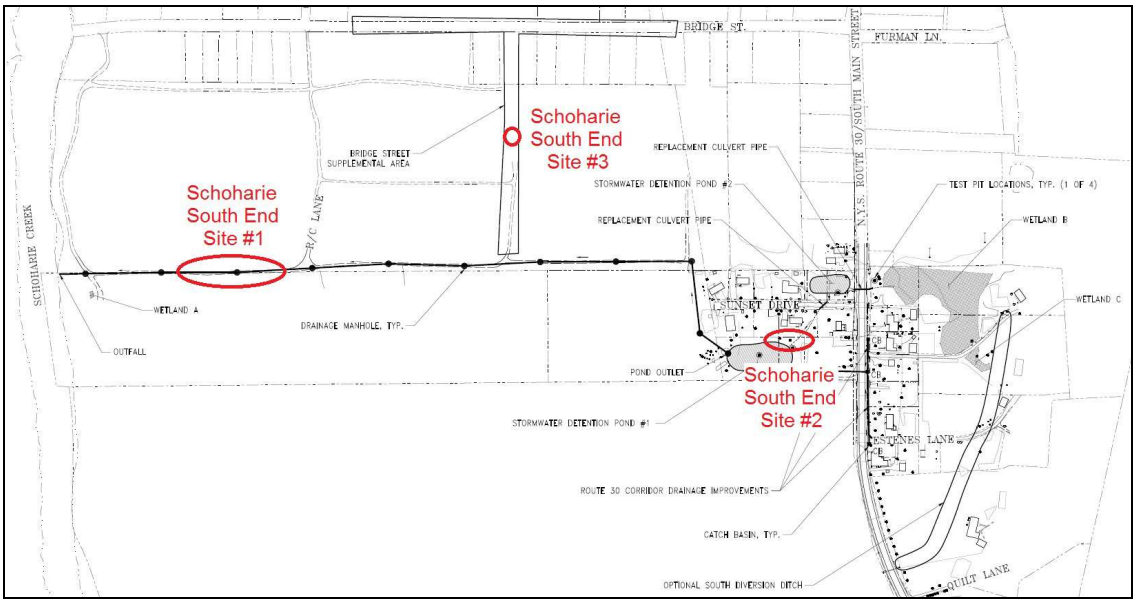

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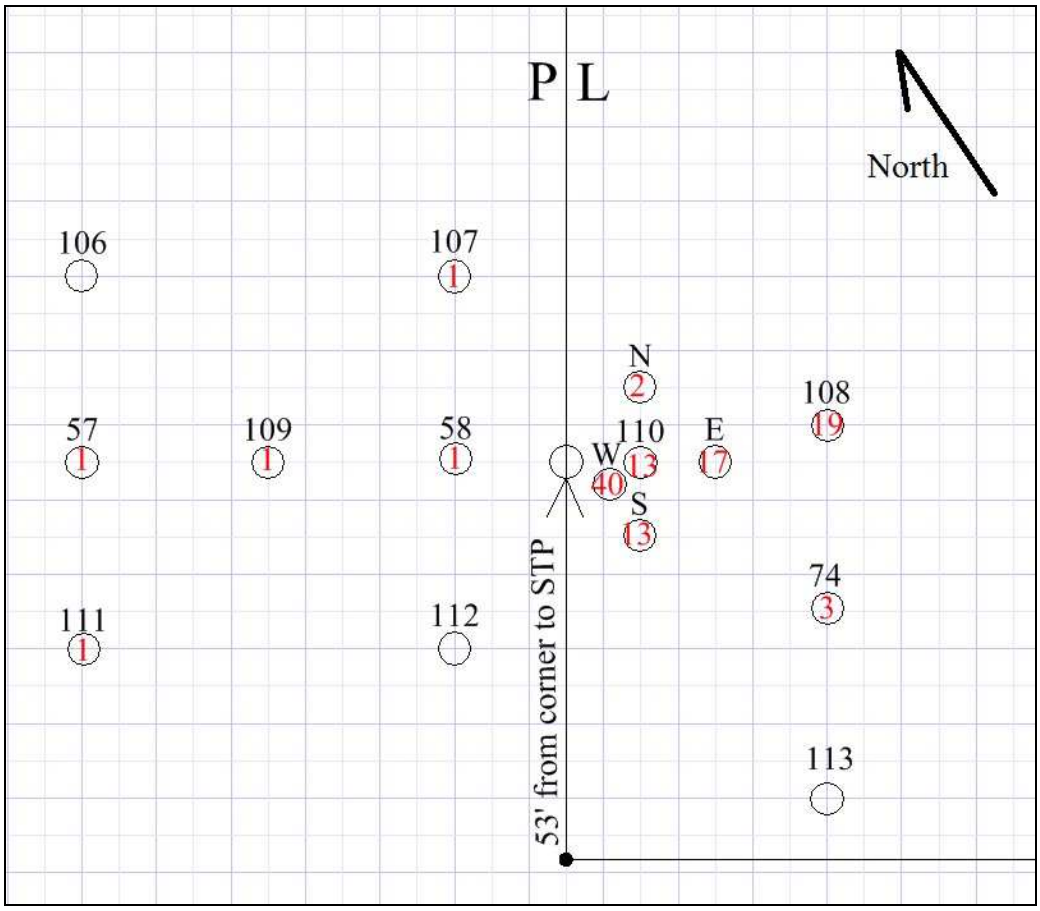
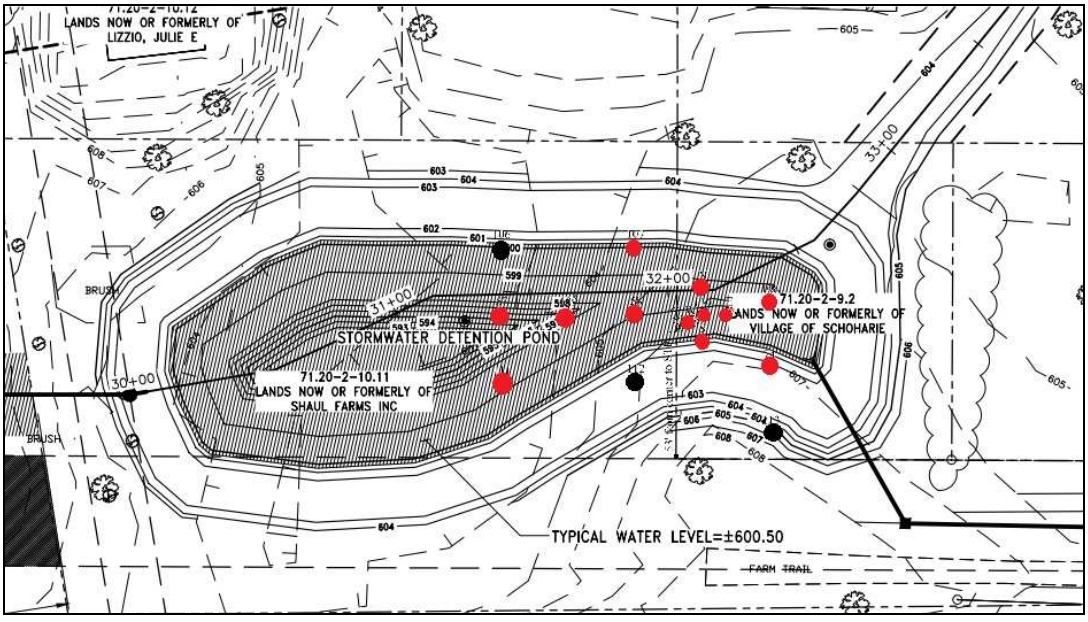


Map 2: Artifact distribution across Site #2 for Phase IB and Phase II excavations.



Map 3: Artifact distribution overlaid on redesigned Retention Pond #1.

Site #3

The artifacts used to define Site #3 consisted of two chert flakes recovered from a single test, STP 91, which lay to the west of a drainage ditch. Because of the adjacent prior disturbance, the five Phase II STPs were arrayed at 10-foot intervals around the original Phase IB test. Two additional chert flakes were recovered, one each in STP 101 & 102, but the recovery of modern refuse associated with the nursery that currently occupies the property indicated a lack of integrity. Again, the site is interpreted as a low density lithic scatter without research potential. No additional work is recommended for Site #3.

Currently the Phase II artifacts are being processed and the site interpretations will be further developed from the results. A final report for submission to SHPO will be produced at the conclusion of these tasks.

Sincerely,

Jim Turner
Principal Investigator
STRATA, LLC

Lamont Engineers
ENGINEERS - PLANNERS
FACILITY OPERATIONS
540 MAIN ST, CORLISHALL, NY 12543
(518) 234-4028
www.lamontengineers.com

Consultant

SCHOHARIE COUNTY SOIL AND WATER CONSERVATION DISTRICT
VILLAGE OF SCHOHARIE
SOUTH END DRAINAGE IMPROVEMENTS
SCHOHARIE COUNTY NEW YORK STATE

Stamp

Remarks	Date	Issue No.

Project Number	2015037
Drawn By	MKS
Designed By	MDH
Checked By	MDH
Date	2/7/15
Scale	1"=30'
File Name	BM_SCHD SOUTH END

Sheet Title
CONCEPT PLAN

Sheet No.
C11

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 25, 2016

Ms. Alicia Shultz
NYS Homes & Community Renewal
38 State Street
Albany, NY 12207

Re: NYSHCR/ GOSR
Schoharie South End Drainage Improvements
Sunset Drive at NY Route 30, Schoharie, NY

15PR06744

Dear Ms. Shultz:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

We have reviewed the materials submitted under cover letter dated April 21, 2016, including the brief letter report of the results of the Phase II archaeological site evaluations. SHPO concurs that Schoharie South End Sites 1 and 3 (09544.000117 and 115) do not meet the eligibility criteria for listing in the National Register of Historic Places (NRHP), and no additional work is necessary at the two sites. The density of artifacts recovered from Schoharie South End Site 2 (09544.000116) is suggestive of potential site significance, but the data are still insufficient to definitively assess the site in terms of eligibility for the NRHP. Therefore, SHPO recommends that the project avoid impacts to the site, or conduct a supplemental Phase II investigation to assess the site for potential NRHP-eligibility.

SHPO concurs with GOSR's plan to avoid Schoharie South End Site 2. SHPO recommends that protective flagging be put in place around the site to prevent inadvertent disturbance during construction. It is SHPO's opinion that the project will have No Effect on properties listed in or eligible for the NRHP, under the condition that impacts to Schoharie South End Site 2 are avoided and a final copy of the Phase II archaeological investigations is submitted to SHPO.

If further correspondence is required regarding this project, please refer to the SHPO Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Scientist - Archaeology
timothy.lloyd@parks.ny.gov

Larry K Moss, Historic Preservation Technical Specialist (Larry.moss@parks.ny.gov)

CC: Tom King, GOSR
Mary Barthelme, GOSR
Andrew Dangler, USACE
Joshua Gomez, Tectonic
Jim Turner, Stratacrm
Gwen Sivirichi, AKRF

Barthelme, Mary (STORMRECOVERY)

From: Bonney Hartley <Bonney.Hartley@mohican-nsn.gov>
Sent: Monday, May 02, 2016 11:41 AM
To: Barthelme, Mary (STORMRECOVERY)
Subject: RE: Update: Proposed Action based on Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Mary,

Thank you. The "Map 3" had said "Artifact distribution overlaid on redesigned Retention Pond #1," so I thought that was indicating the new proposed design. I understand now that the Concept Plan map shows the new proposed design and will avoid the high concentration area.

With that understanding, I concur with the recommendations for the Schoharie County Soil & Water Conservation District South End Drainage Improvements Project and have no further significant cultural resource concerns.

Best,

Bonney

From: Barthelme, Mary (STORMRECOVERY) [mailto:Mary.Barthelme@stormrecovery.ny.gov]
Sent: Monday, May 02, 2016 11:19 AM
To: Bonney Hartley
Subject: RE: Update: Proposed Action based on Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Hello Bonney,

I apologize for the confusion. Map 3 depicts the positive site hits discovered during the Phase II work. Based on the preliminary findings, GOSR proposes to avoid those area of high concentration of artifacts and follow the concept plan at attachment 7. The pond would be reduced in size and avoid the high concentration area (which is the right hand side of the pond with the tree (or bush) next to it. Site 2 is the proposed pond area but the changes suggested are to avoid the high concentration area and decrease the size of the pond.

Please let me know if you have any questions and if I can explain it further.

Thanks,

Mary

From: Bonney Hartley [mailto:Bonney.Hartley@mohican-nsn.gov]
Sent: Monday, May 02, 2016 11:09 AM
To: Barthelme, Mary (STORMRECOVERY) <Mary.Barthelme@stormrecovery.ny.gov>

Subject: RE: Update: Proposed Action based on Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Hi Mary:

The letter seems to read that impacts will be avoided to Site #2 by reducing the size of the retention pond. However, I am unclear from the attached information how that will happen. In looking at the figure labeled "Map 3" it appears that the pond excavation will take place directly through the site. Then there is a map attached labeled "Concept Plan" with a red line, but I'm not sure what that is showing. Is it showing that the pond would be reduced to the boundary of the red line? If so, where is the Site #2 in relation to that?

I'd appreciate if you can clarify.

Thank you,
Bonney

From: Barthelme, Mary (STORMRECOVERY) [mailto:Mary.Barthelme@stormrecovery.ny.gov]
Sent: Tuesday, April 26, 2016 9:29 AM
To: Bonney Hartley
Subject: Update: Proposed Action based on Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Dear Bonney,

Please see the attached updated consultation for the above-mentioned project.

A hard copy is being sent today by mail. Please let me know if you have any questions.

Thank you,

Mary Barthelme

Mary Barthelme
Environmental and Historic Preservation Specialist
Bureau of Environmental Review and Assessment
Governor's Office of Storm Recovery
99 Washington Avenue Suite 1224
Albany, New York 12260
Office: (518) 473-0154
Cell: (646) 706-6748
Mary.Barthelme@stormrecovery.ny.gov

Saint Regis Mohawk Tribe

May 19, 2016

Mr. Thomas King
Govenor's Office on Storm Recovery
25 Beaver Street
New York NY 10004

Re: Schoharie County Soil and Water Conservation Project South End Drainage Improvement Project

She:kon Mr.King,

This letter is in response to a request for a Section 106 consultation between your agency and the Saint Regis Mohawk Tribe. The following project(s) that you requested my office to consult on is considered to have "No Effect" in regards to cultural properties of concern to the Saint Regis Mohawk Tribe. This being conditional on following the Avoidance plan as stated in the Phase II report for site two.

Schoharie County Soil and Water Conservation Project South End Drainage Impovement Project.

The St. Regis Mohawk Tribe requests to be immediately contacted in the event any inadvertent discoveries of human remains, funerary objects, sacred objects and objects of cultural patrimony are made during the scope of this project.

Should you or your office have any further questions in regards to these comments please feel free to contact my office at your earliest convenience.

Nia:wen,

Arnold L Printup
Saint Regis Mohawk Tribe
Tribal Historic Preservation Office
1(518)358-2272 Ext. 2163

412 State Route 37
Akwesasne, New York 13655
www.srmt-nsn.gov
Phone: 518-358-2272

Governor's Office of Storm Recovery

Andrew M. Cuomo
Governor

Lisa Bova-Hiatt
Executive Director

July 1, 2016

Ron LaFrance, Jr; Paul Thompson; and Beverly Cook, Chiefs
St. Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Re: Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Dear Chiefs of the St. Regis Mohawk Tribe:

Please find enclosed the Phase II Archeological Evaluation for the South End Drainage Improvements Project. This report finalizes the avoidance plan for Site #2 as was previously consulted with your Tribe on April 26th, 2016 with an No Effect finding on May 19th, 2016. If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov.

Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosure:
Phase II Archaeological Evaluation Schoharie South End Drainage Improvements

Electronic letter sent to:
Arnold Printup
Saint Regis Mohawk Tribe, THPO
412 State Route 37
Akwesasne, NY 13655

July 1, 2016

Shannon Holsey, President
Stockbridge-Munsee Community, Band of the Mohicans
N8476 Moh He Con Nuck Road
Bowler, WI 54416

Re: Phase II Archeological Site Evaluation for the Schoharie County Soil and Water Conservation District South End Drainage Improvements Project, Village of Schoharie, Schoharie County, New York

Dear Chiefs of the St. Regis Mohawk Tribe:

Please find enclosed the Phase II Archeological Evaluation for the South End Drainage Improvements Project. This report finalizes the avoidance plan for Site #2 as was previously consulted with your Tribe on April 26th, 2016 with a No Effect finding on May 2nd, 2016. If you have any questions or require additional information regarding this request, please feel free to contact me at (646) 417-4660 or via email at Thomas.King@stormrecovery.ny.gov.

Thank you for your time and consideration.

Sincerely,

Thomas J. King
Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery

Enclosure:
Phase II Archaeological Evaluation Schoharie South End Drainage Improvements

Electronic letter sent to:
Bonney Hartley
THPO, New York Office
Stockbridge-Munsee Community, Band of the Mohicans
65 1st Street
Troy, NY 12180

Appendix F: USFWS IPaC Trust Resources Report

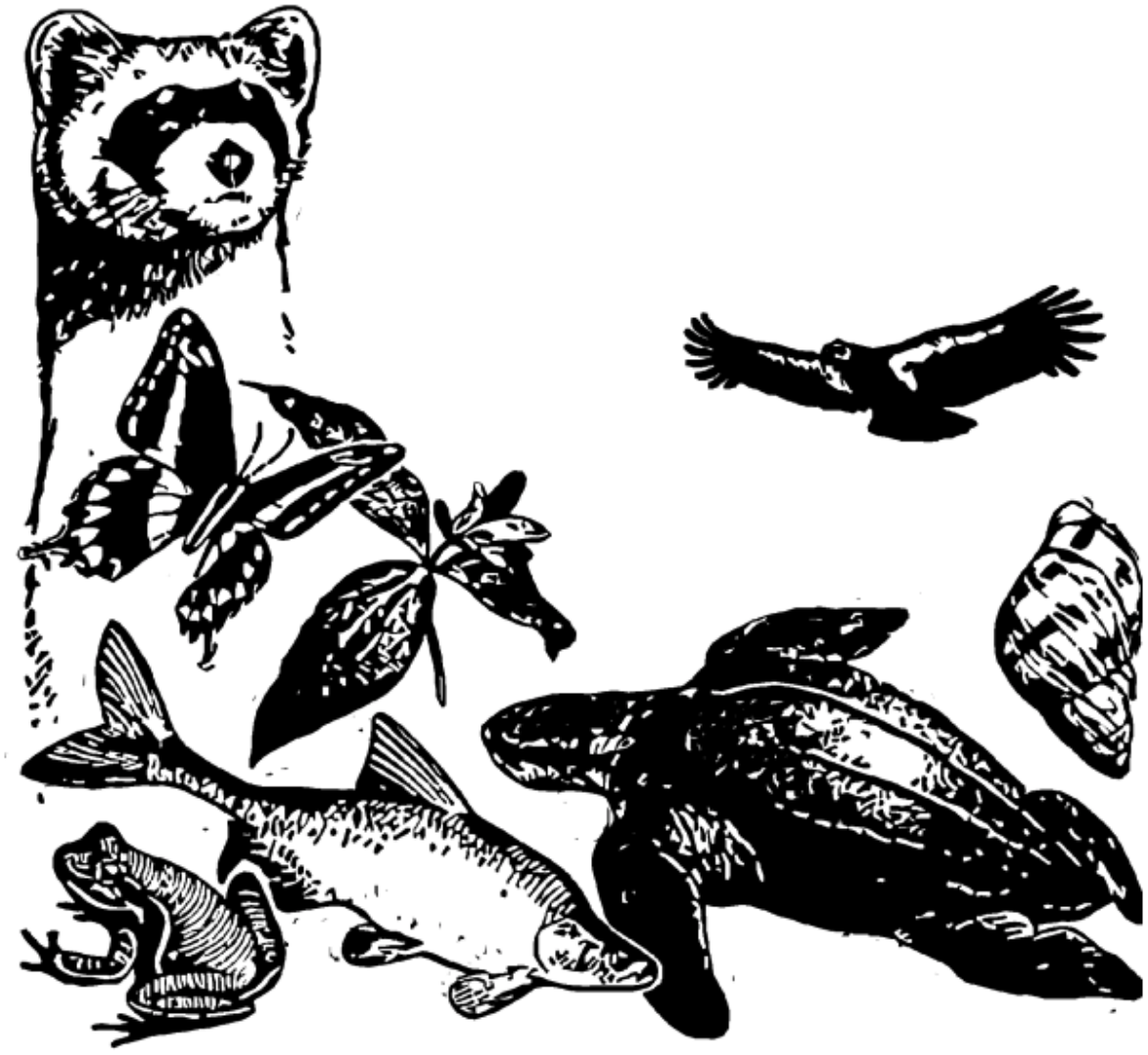
U.S. Fish & Wildlife Service

South End Drainage Improvements

IPaC Trust Resources Report

Generated April 05, 2016 11:12 AM MDT, IPaC v3.0.0

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

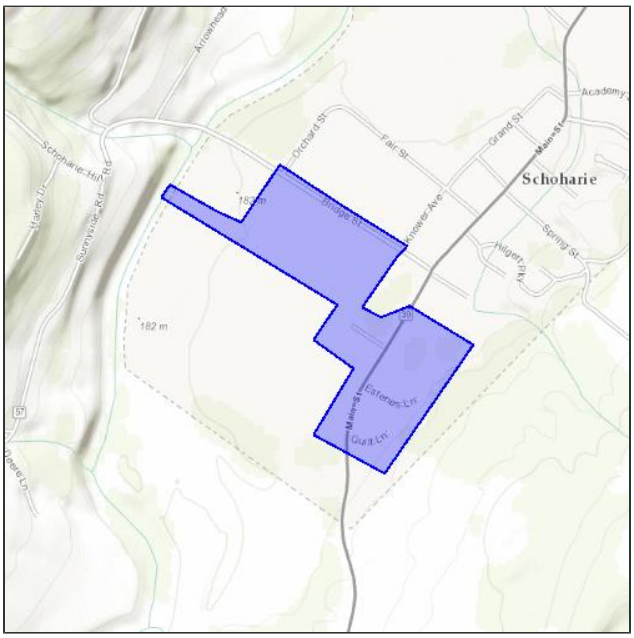
South End Drainage Improvements

LOCATION

Schoharie County, New York

IPAC LINK

https://ecos.fws.gov/ipac/project/YG5M4-77PFR-DO7OC-OWQCS-5EIZ2U



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Mammals

Northern Long-eared Bat Myotis septentrionalis — Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A0JE

Critical Habitats

There are no critical habitats in this location

Migratory Birds

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

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

---

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Canada Warbler Wilsonia canadensis — Bird of conservation concern
Season: Breeding

Golden-winged Warbler Vermivora chrysoptera — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G4

Louisiana Waterthrush Parkesia motacilla — Bird of conservation concern
Season: Breeding

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prairie Warbler Dendroica discolor — Bird of conservation concern
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Breeding

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

Appendix G: Draft 8-Step Floodplain Management & Wetland Protection Plan

DRAFT

Floodplain Management & Wetland Protection Plan

Governor's Office of Storm Recovery

U.S. Department of Housing and Urban Development

Community Development Block Grant – Disaster Recovery

South End Drainage Improvements Project

Village of Schoharie, New York

Schoharie County, New York

Draft Date: July 22, 2016

Executive Order 11988 – Floodplain Management
Executive Order 11990 – Protection of Wetlands

Governor's Office of Storm Recovery

Community Development Block Grant – Disaster Recovery

South End Drainage Improvements Project
Village of Schoharie, New York

Schoharie County, New York
Effective Date: _____, 2016

This Floodplain Management and Wetlands Protection Plan (Plan) Compliance Document meets the requirements of 24 CFR Part 55.20 and Executive Order 11988—Floodplain Management— and 11990—Protection of Wetlands-for the South End Drainage Improvements Project ("Proposed Project") located at the southern end of the Village of Schoharie, Schoharie County, New York. The Village of Schoharie is participating in the U.S. Department of Urban Development (HUD) Community Development Block Grant Program as administered by the State of New York Action Plan for Community Development Block Grant Program – Disaster Recovery (CDBG-DR).

The purpose of this Proposed Project is to alleviate flooding and stormwater ponding so that buildings and roadways are less vulnerable. During Hurricane Irene and Tropical Storm Lee, the Village of Schoharie's stormwater drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street. State Route 30/Main Street serves as a primary transportation corridor through the Schoharie Valley. It is used by emergency service vehicles to help in the evacuation of residents. However, during these storm events, flooding not only resulted in localized damage, but it also created regional emergency response challenges.

This Plan documents the eight-step decision making process for the Proposed Project and pertains to activities within the Special Flood Hazard Area (SFHA) as defined by the Federal Emergency Management Agency (FEMA), or its successors, pursuant to the National Flood Insurance Program (NFIP), or a successor program, whether advisory, preliminary, or final, and wetland as defined by 24 CFR 55.2(b)(11).

Description of Proposed Project Activities

The New York State (NYS) Governor's Office of Storm Recovery (GOSR), an office of the New York State Housing Trust Fund Corporation, is the "responsible entity" in charge of administering New York State's share of the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant – Disaster Recovery (CDBG-DR) program pursuant to the Disaster Relief Appropriations Act of 2013. The CDBG-DR program is designed to address the needs of New York State (NYS) communities devastated by Superstorm Sandy. To date, this funding has been disbursed in three allocations. On March 5, 2013, HUD published Federal Register Notice 78 Fed. Reg. 14329, which established the requirements and processes for the first $1.71 billion in federal CDBG-DR aid appropriated by the United States Congress and allocated to NYS for disaster relief. On November 18, 2013, HUD issued a second allocation of $2.097 billion to NYS under Federal Register Notice 78 Fed. Reg. 69104. On October 16, 2014, HUD issued the third and final allocation of $600 million to NYS under Federal Register Notice 79 Fed. Reg. 62194.

The Governor's Office of Storm Recovery (GOSR) is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with HUD regulations under 24 CFR Part 55 - Procedures for Making Determinations on Floodplain Management and Protection of Wetlands, to determine the potential effects that Project activity in the floodplain and wetlands would have on the human environment.

The Proposed Project includes relocating existing utilities, lowering culverts, providing a retention pond to attenuate peak runoff, constructing an outfall to Schoharie Creek, reestablishing swales, providing additional drainage along and across State Route 30/Main Street and Bridge Street, providing backflow gates to prevent Schoharie Creek flood waters from feeding back into the proposed project location, and providing streambank stabilization at the Schoharie Creek outfall (see **Figure 1**). The aforementioned improvements are anticipated to eliminate inundation of buildings within the Proposed Project location, and increase the Village's ability to recover quickly from storm events.

Executive Order 11988 and 11990 & 24 CFR Part 55

Pursuant to 24 CFR §55.20, an 8-step process for floodplain management must be completed for proposed actions taking place in a floodplain or wetland. 24 CFR §55.20 implements Executive Order (EO) 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands). EO 11988 requires federal agencies (or a state agency implementing a federal funding program) to reduce the loss of life and property caused by floods, minimize impacts of floods on human safety, health, and welfare, and preserve the natural and beneficial functions of floodplains. EO 11990 requires federal agencies (or a state agency implementing a federal funding program) to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

In addition, federal agencies are required to demonstrate that consideration of all practicable alternatives has resulted in the reduction or elimination of long- and short-term adverse impacts associated with occupancy and modifications of the floodplain or wetlands. This 8-step process includes assessing all practicable alternatives and incorporating public review.

Projects located within a Special Flood Hazard Area (SFHA) are subject to Executive Order 11988. Information on where SFHAs are located is available on Flood Insurance Rate Maps (FIRMs) published by FEMA. FEMA uses engineering studies to determine the delineation of these areas or zones subject to flooding. The relevant data source for the SFHA is the latest issued FEMA data or guidance, which includes advisory data, such as Advisory Base Flood Elevations (ABFEs) or preliminary and final FIRMs.

24 CFR Part 55.20 Eight-Step Process

Step One: Determine if a proposed action is potentially in a wetland or floodplain.

GOSR is proposing to fund the proposed action within the 100-year and 500-year Floodplain, as indicated by **Figure 1**. Projects located within a Special Flood Hazard Area (SFHA) as defined by FEMA are subject to EO 11988. The Proposed Project is anticipated to result in approximately 5 acres of disturbed land, which includes approximately 4.5 acres in the 100 year floodplain and approximately 0.1 acres in the 500 year floodplain.

The Proposed Project site is adjacent to Schoharie Creek (western edge of project site) and a tributary to Schoharie Creek (eastern edge of project site), which have recently been mapped by NWI as riverine wetlands (see **Figure** 2). The Proposed Project site does not contain any state listed freshwater wetlands (see **Figure 3**). A wetlands delineation study reported 3 wetlands making up approximately 2 acres of the

Proposed Project site; however, no disturbance will occur in these wetlands (see **Figure 4** and **Figure 5**). The Proposed Project would disturb up to 150 square feet within Schoharie Creek through placement of the streambank stabilization at the outfall. The Proposed Project would adhere to and be in compliance with the guidelines and regulations of Executive Order 11990 and in accordance with permitting guidelines from the U.S. Army Corps of Engineers and the New York State Department of Environmental Conservation (NYSDEC), in order to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

Step Two: Notify the public at the earliest possible time of intent to carry out the proposed action in a floodplain or wetland, and involve the affected and interested public in the decision making process.

Portions of the Proposed Project area are located within the 100 year floodplain and within the 500 year floodplain. As a result, GOSR must publish an early notice that allows the public an opportunity to provide input into the decision to provide funding for the proposed project activities in the area.

Once the early public notice and comment period is complete, GOSR will assess, consider, and respond to the comments received individually and collectively for the project file, then proceed to Step Three.

A 15-day "Early Notice and Public Explanation of a Proposed Activity in a 100 and 500-Year Floodplain and Wetland" was published in The Daily Gazette of Schenectady, NY on March 14, 2016. The 15-day period expired on March 29, 2016. The notice was sent to the following federal, state, and local agencies on April 22, 2016: U.S. Environmental Protection Agency (EPA), U.S. Department of Homeland Security Federal Emergency Management Agency (FEMA), U.S Fish and Wildlife Service (FWS), U.S. Department of Housing and Urban Development (HUD), HUD Office of Environment and Energy - Environmental Planning Division, U.S. Army Corps of Engineers, U.S. Department of the Interior Office of Intergovernmental and External Affairs, NYS Department Environmental Conservation, NYS Department of Transportation Region 9, NYS Historic Preservation Office, NYS Office of Parks, Recreation and Historic Preservation, NYS Division of Homeland Security & Emergency Services, Schoharie County Soil and Water Conservation District, Schoharie County Planning and Development, Schoharie County Health Department, Village of Schoharie Village Board, Schoharie County Department of Public Works, Village of Schoharie Mayor, Town of Schoharie Planning Board, Town of Schoharie Town Supervisor, Village of Schoharie Superintendent of Public Works, Village of Schoharie Clerk/Treasurer, Schoharie County Clerk, and Town of Schoharie Town Clerk/Collector (see **Appendix A** for the notice).

Since publication and distribution of the early notice, USFWS has updated the NWI maps and Schoharie Creek and a tributary to Schoharie Creek are now mapped as riverine wetlands (see **Figure 2**).

GOSR received [0] public comments on this notice.

Step Three: Identify and evaluate practicable alternatives to locating the proposed action in a floodplain.

After consideration of the following alternatives, it has been determined the best practicable alternative is the Proposed Project.

Alternatives

Option 1 – Detention pond east of NYS Route 30

This alternative included excavating a detention pond on the properties east of NYS Route 30 to attenuate flow to the west. It included culverts under the Tulytki driveway and an outlet control structure near

Route 30. This alternative would attenuate peak flows and shift the flooded area from the Motschmann property along Route 30 to the Tylutki and Manchester properties. However, this alternative would impact the forested area, including approximately two acres of forested wetlands within this location. This alternative was eliminated from further consideration.

Option 2 – Divert part of the existing watershed to the south culvert
This alternative included excavating a ditch to divert runoff from the hill east of Route 30 to the south to the culvert near Quilt Lane. The ditch and culverts would be designed to convey at least the 25-year event. This alternative would have no impact on the flooding along Route 30. By not allowing the runoff to reach the natural detention areas on the Manchester and Tylutki properties, it would actually increase peak flows downstream. This alternative was eliminated from further consideration.

Option 3 – Detention pond north of Sunset
This alternative included constructing a small detention pond on Village buyout properties north of the Sunset Drive intersection. An impoundment up to 40,000 cubic feet could be located in this area. However, the Village intends to use this area as a park and dog walk area which limits the size of a pond to approximately 1/3 of the property or 9,500 cf. This limits the usefulness of this pond, as it is not of sufficient size for flow attenuation. In order to construct this pond without taking up all available park area, it would need to be very close to Sunset Drive. A retaining wall, fence or guide rail may be needed to protect the road. This alternative was eliminated from further consideration.

Option 4 – Replace culverts at Route 30 north of Sunset Drive and at Sunset Drive
This alternative included replacing the culverts at Route 30 north of Sunset Drive and the under Sunset Drive. The culverts would be as large as possible and lowered as far as possible to allow for free drainage of runoff. Lowering of the culverts is limited by the sanitary sewer both on Sunset and along Route 30. A sewage pump station could be installed to eliminate this issue but it would not result in appreciable difference in flow and would create a maintenance issue for the Village. The water mains at each location would need to be lowered to accommodate the culverts and provide 18" of separation required by the Public Health Law between water and storm sewer piping. This alternative was eliminated from further consideration, although a variation of it is included as a component of the Proposed Project.

Option 5 –Storm sewer along Route 30
This alternative included installing storm sewers along the east side of Route 30 with an outlet to a low area near Rainbow Road. The storm sewers would be designed to convey at least the 50-year storm. This alternative is included as a component of the Proposed Project.

Option 6 –Detention pond at end of Rainbow Road
This alternative included constructing a large pond on lands owned by the Village and Shaul Farms at the end of Rainbow Road. The pond outfall would be a piped conveyance directly to Schoharie Creek. The pond will hold approximately 103,000 cubic feet of water conveyed from the east side of Route 30. It will attenuate a peak flow of 16 cubic feet per second to an outflow of 9.6 cubic feet per second in a 100-year storm. The outfall piping would be sized to convey the attenuated flow. The pond would be located in an existing low area to minimize grading and most of the trees would be saved. The outfall would be piped to minimize impact to the prime farmland along Schoharie Creek. The outfall at the creek would be constructed in accordance with NYSDEC and USACE guidelines to minimize disturbance of the stream bank. It is expected that groundwater would be encountered while excavating the pond and temporary dewatering would be required. Construction of the outfall to the creek may also require dewatering. A portion of the detention pond would be located in an area with a high concentration of cultural artifacts. A variation of this alternative is included as a component of the Proposed Project.

Option 7 –Direct runoff from Bridge Street to storm sewer in field

This alternative included installing storm sewers from Bridge Street near the Guernsey Nursery buildings to the new outfall from the Rainbow Road pond. The new storm sewer would be sized to convey at least the 10-year storm from Bridge Street and the Guernsey yard out to the storm sewer that leads to Schoharie Creek. This alternative is included as a component of the Proposed Project.

No Action Alternative
Under the No Action Alternative, the residents affected by the recurring flooding and ponding are not assured safe and accessible travel, even if outside the 100-year and 500-year floodplains. With a No Action Alternative in place, in the absence of the Proposed Project, the existing drainage infrastructure would remain undersized and the surrounding area would remain vulnerable to flooding and damage, especially during severe storm events.

Proposed Project
The Proposed Project includes relocating existing utilities, lowering culverts, providing a detention pond to attenuate peak runoff, constructing an outfall to Schoharie Creek, re-establishing swales, providing additional drainage along and across State Route 30/Main Street and Bridge Street, providing backflow gates to prevent Schoharie Creek flood waters from feeding back into the Proposed Project location, and providing streambank stabilization at the Schoharie Creek outfall. The Proposed Project is effectively a composite of portions of some of the alternatives described above.

Improving the deficiencies of the existing drainage system inherently requires work within the floodplain and adjacent wetlands. There are no alternatives that do not involve work in this area.

Step Four: Identify the potential direct and indirect impacts associated with the occupancy or modification of the floodplain or wetland.

The existing land use within the Proposed Project area is residential, commercial, and public service in the form of infrastructure. During Hurricane Irene and Tropical Storm Lee, the Village of Schoharie's stormwater drainage systems in the South End were overwhelmed, resulting in flooding of several blocks of homes and businesses along State Route 30/Main Street. State Route 30/Main Street is a primary transportation corridor through the Schoharie Valley used by emergency services vehicles and evacuating residents. The flooding not only resulted in localized damage, but it also created cascading emergency response challenges that had a regional impact. These impacts all contributed to a condition of isolation for those in the South End. Under the Proposed Project, the design, engineering, and construction of drainage improvements in the Village of Schoharie is anticipated to reduce the risk of localized flooding when future storm events occur, thereby preventing isolation of residents, and allow uninterrupted emergency response.

The minor disturbance to the stream during installation of the streambank stabilization at the outfall will be conducted in accordance with USACE and NYSDEC permitting guidelines and is not expected to have any significant negative affect on the NWI riverine wetland.

Step Five: Where practicable, design or modify the proposed action to minimize the potential adverse impacts within the floodplain and wetland and to restore and preserve its natural and beneficial values.

The Proposed Project would design, engineer, and construct drainage improvements to minimize potential adverse impacts of future flooding for the South End drainage area in the Village of Schoharie. The Proposed Project is anticipated to improve existing drainage infrastructure within the same location as the current drainage infrastructure. The proposed retention pond would help to preserve the beneficial values of the floodplain.

A NYSDEC State Pollution Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activity will be obtained for the proposed project. Stormwater will be directed to on-site stormwater treatment facilities. Stormwater and drainage work on the project site will follow the NYSDEC Stormwater Management Design Manual and the NYSDOT Chapter 8 Drainage Standards. In addition, the Propose Project will be conducted in accordance with NYSDEC and USACE permitting guidelines to minimize disturbance of the stream bank during installation of the Schoharie Creek outfall protection.

The Project will implement and maintain erosion and sedimentation control measures to prevent deposition of sediment and eroded soil in off-site wetlands and waters. Soil compaction will be controlled by minimizing activities in vegetated areas, including lawns. Best management practices (BMPs), such as silt fence and erosion prevention, may be implemented if required by permits or agency discretion. Work in areas of soils with high wind erosion potential may have to occur only during calm weather conditions or include additional watering and other dust suppression mitigation measures. Thorough planning, engineering review, and design, through the local permitting process, will minimize soil erosion and damage to the floodplain that could result from Project activities on sites with marginal soil properties.

Step Six: Reevaluate the proposed action to determine: (1) Whether it is still practicable in light of its exposure to flood hazards in the floodplain, the extent to which it will aggravate the current hazards to other floodplains or wetlands, and its potential to disrupt floodplain or wetland values; and (2) Whether alternatives preliminarily rejected at Step Three are practicable in light of the information gained in Steps Four and Five.

GOSR has reevaluated the proposed action and determined that the South End Drainage Improvements Project is still practicable in light of its exposure to flood hazards in the floodplain. The Proposed Project would not aggravate the current hazards to other floodplains or wetlands, or disrupt floodplain or wetland values. In fact, it would lessen the current hazards to the floodplain and wetland and will improve floodplain and wetland values through improved drainage and creation of a retention pond.

Site-specific hazard mitigation measures will be taken to mitigate the effects of the Project on the floodplain and wetland and to preserve natural and beneficial properties of the floodplain and wetland, including BMPs to reduce erosion and sedimentation, and proper disposal of debris. In addition, the Proposed Project will require a local floodplain development permit issued by the local Floodplain Administrator.

There are no practicable alternatives to the Proposed Project.

Step Seven: If the reevaluation results in a determination that there is no practicable alternative to locating the proposal in the floodplain and wetland, publish a final notice.

There is no practicable alternative to drainage improvements in the floodplain and wetland. Implementation of the Proposed Project will enhance drainage during future storm events. Improvements are anticipated to contribute to more efficient emergency response by eliminating inundation of the roadways and homes during high water events and increase the Village's ability to recover quickly from storm events. The determination by GOSR is that the South End Drainage Improvements Project is the preferred alternative.

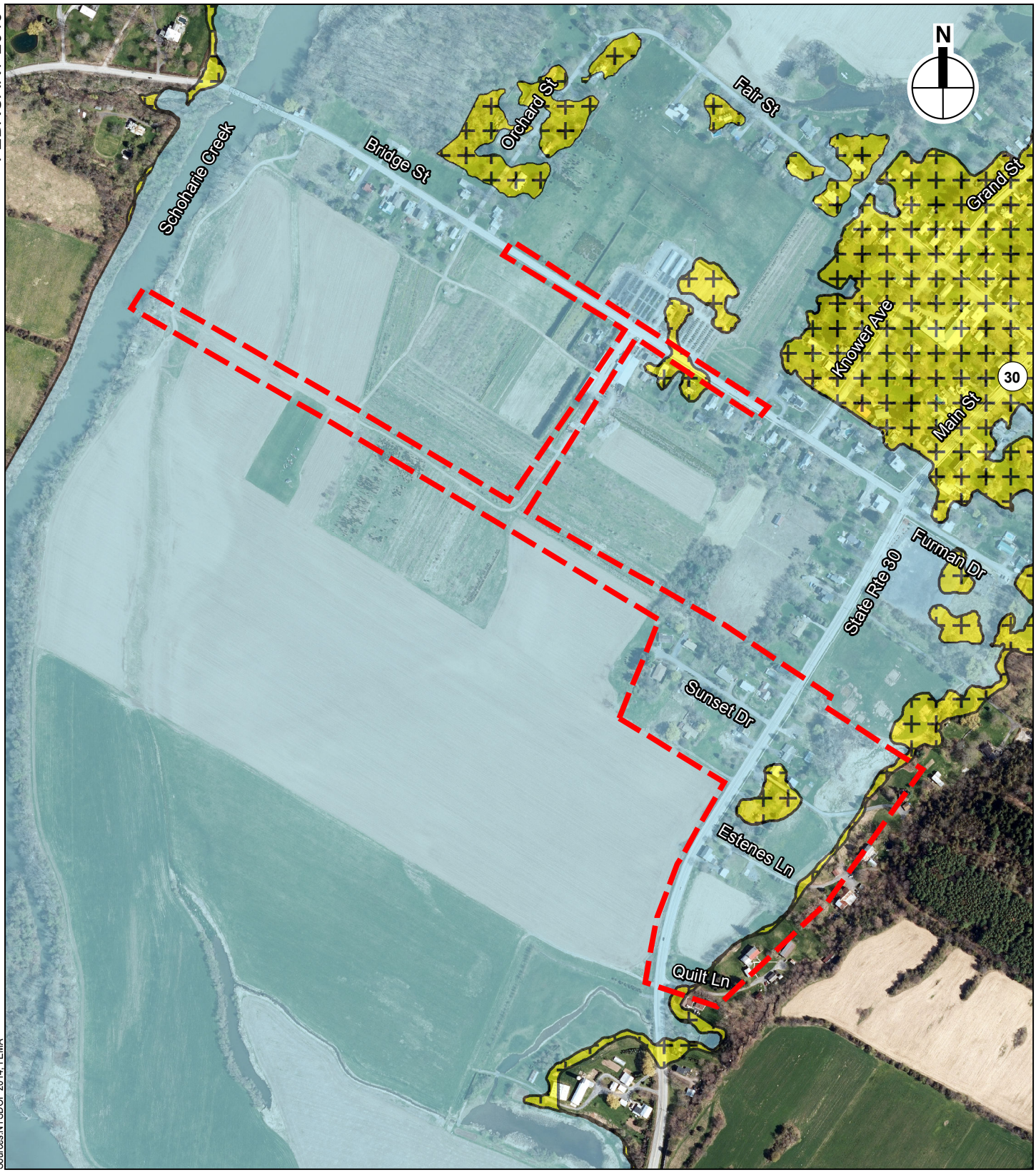
A 7-day "Notice for Final Public Review of a Proposed Activity in a 100- and 500-Year Floodplain and Wetland" was published in in The Daily Gazette of Schenectady, NY on July 22, 2016. The 15-day period expires on August 8, 2016. The notice was sent to the following federal, state, and local agencies on July

22, 2016: U.S. Environmental Protection Agency (EPA), U.S. Department of Homeland Security Federal Emergency Management Agency (FEMA), U.S Fish and Wildlife Service (FWS), U.S. Department of Housing and Urban Development (HUD), HUD Office of Environment and Energy - Environmental Planning Division, U.S. Army Corps of Engineers, U.S. Department of the Interior Office of Intergovernmental and External Affairs, NYS Department Environmental Conservation, NYS Department of Transportation Region 9, NYS Historic Preservation Office, NYS Office of Parks, Recreation and Historic Preservation, NYS Division of Homeland Security & Emergency Services, Schoharie County Soil and Water Conservation District, Schoharie County Planning and Development, Schoharie County Health Department, Village of Schoharie Village Board, Schoharie County Department of Public Works, Village of Schoharie Mayor, Town of Schoharie Planning Board, Town of Schoharie Town Supervisor, Village of Schoharie Superintendent of Public Works, Village of Schoharie Clerk/Treasurer, Schoharie County Clerk, and Town of Schoharie Town Clerk/Collector (see **Appendix A** for the notice).

All comments received by August 8, 2016 will be considered.

Step Eight: Implement the Action

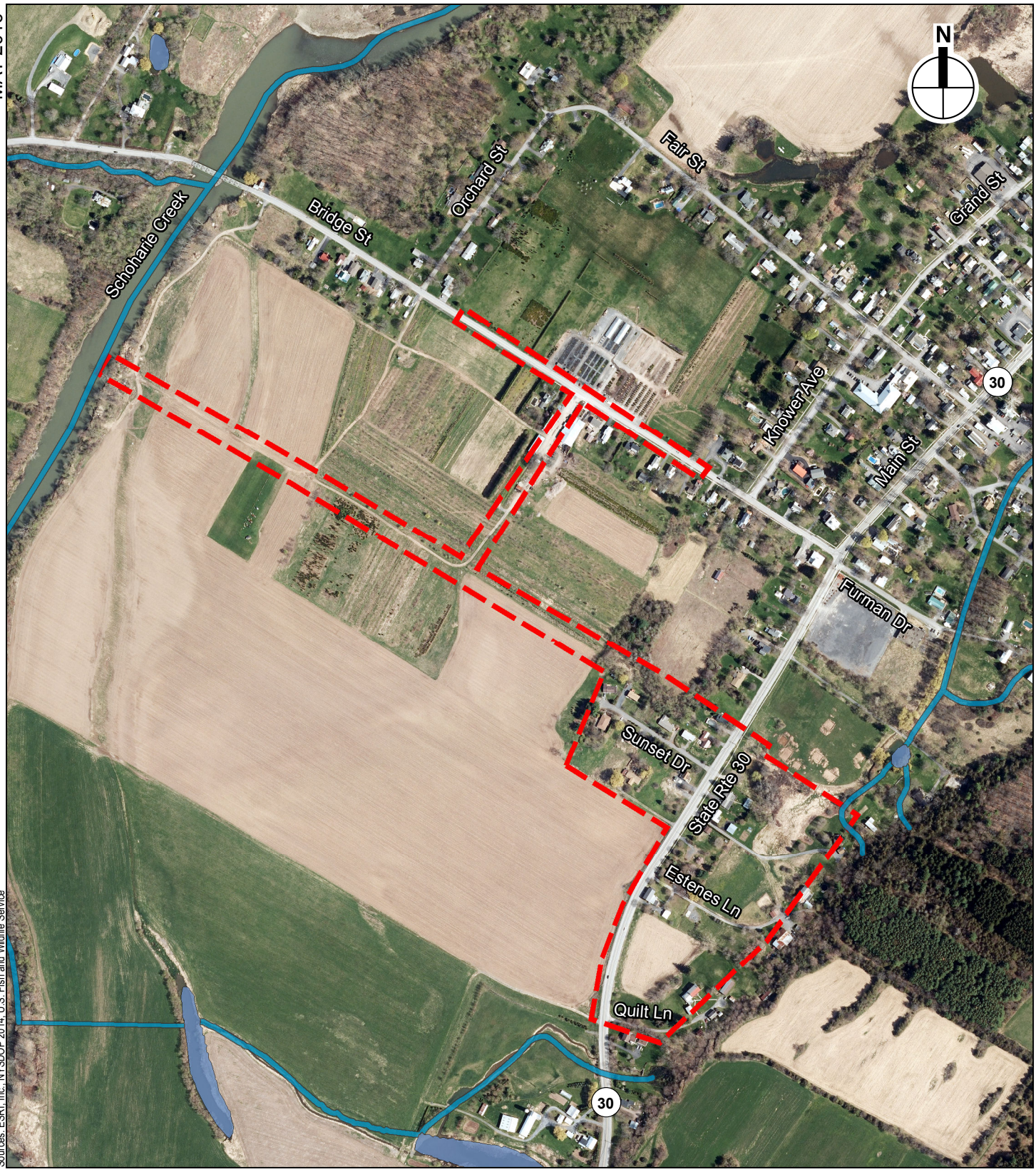
Step eight is implementation of the proposed action. GOSR has determined that the Proposed Project will have no direct or indirect adverse impacts to the floodplain or wetland. GOSR will ensure that all mitigation measures prescribed in the steps above will be adhered to. Furthermore, GOSR has conducted a NEPA review in accordance with 24 CFR Part 58 and a NY State Environmental Quality Review Act (SEQR) review in accordance with 6 NYCRR Part 617.



FEMA Flood Zone

South End Drainage Improvements, Village of Schoharie

Figure 1



Site Location

0 0.2 Mile

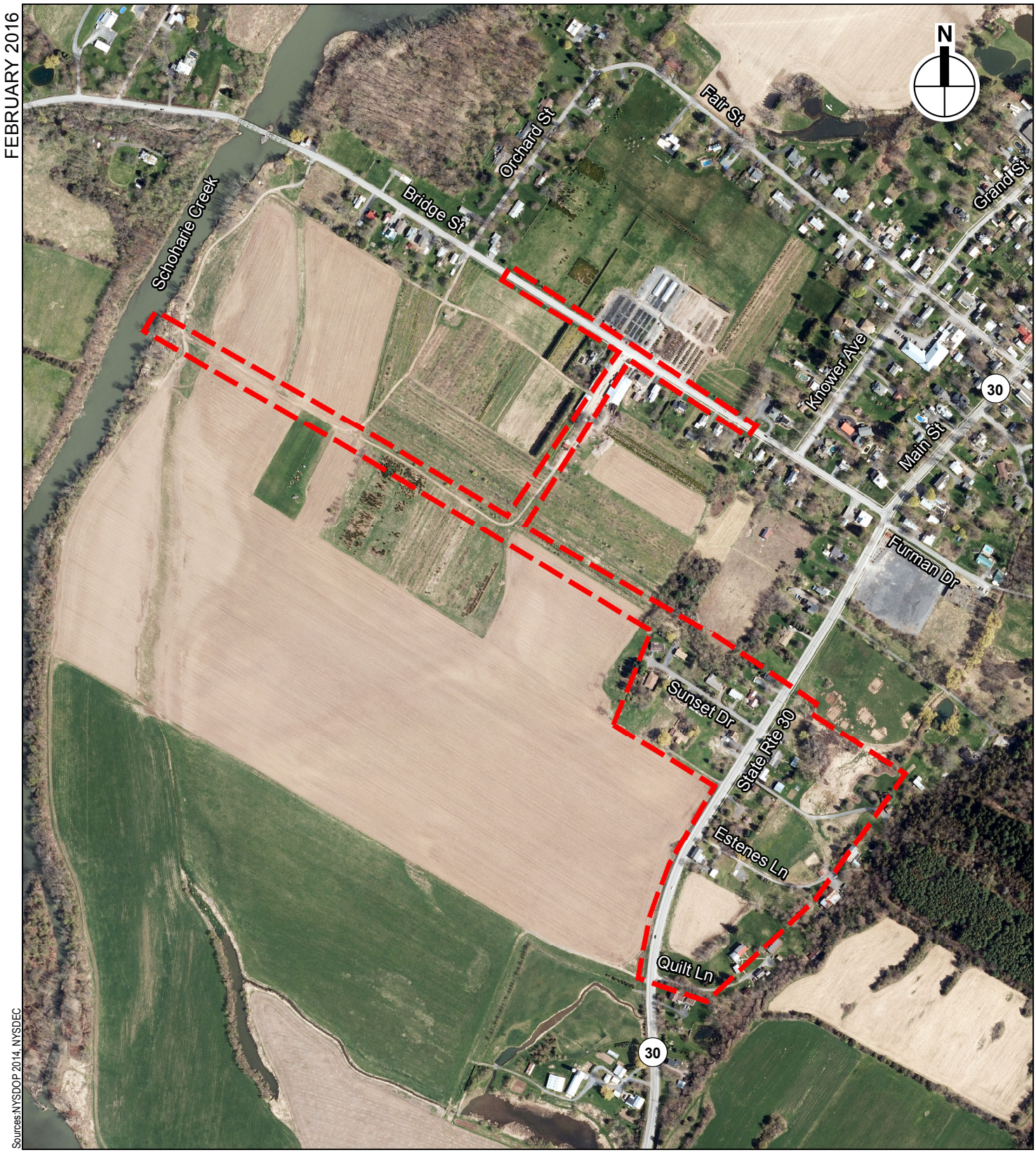
National Wetlands Inventory

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Other

South End Drainage Improvements, Village of Schoharie

NWI Wetlands

Figure 2



NYSDEC Freshwater Wetlands

South End Drainage Improvements, Village of Schoharie

Figure 3

NWI Wetlands
NYSDEC Wetlands
Schoharie South End Wetlands
Review Area
Soil Map Unit
10 Photograph Location

Figure 4
WETLAND DELINEATION AND PHOTOGRAPH LOCATION MAP

Proposed Drainage Improvements
NYS Route 30
Sschoarie, New York
Schoharie County

SHUMAKER
Consulting Engineering & Land Surveying, D.P.C.

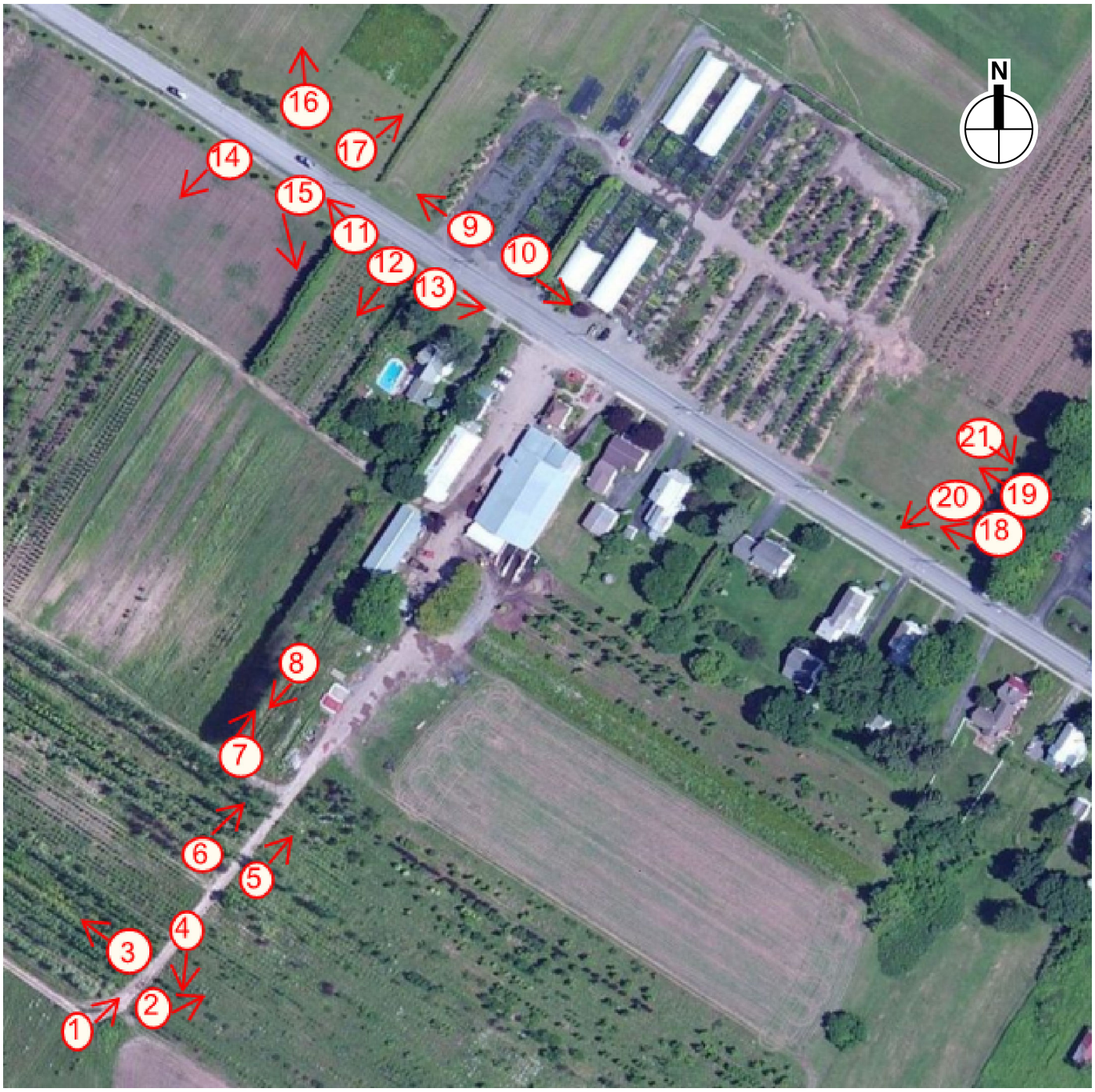
0 125 250
Feet
1 inch = 250 feet
1:3,000

County Coverage: Schoharie

Client Name: Lamont Engineers

Path: E:\2015\15131 Schoharie South End Drainage\15131.00 Environmetal\Graphics\Environmental\GIS\Fig_1_Wetland_Delineation.mxd

MARCH 2016



Note: The Bridge Street area of the project shown in the attached does not have any wetlands per the wetland delineation for this area of the project.

Photo Location

Bridge Street Area Wetland Delineation

South End Drainage Improvements, Village of Schoharie **Figure 5**

Appendix A: Early Notice

AFFIDAVIT OF PUBLICATION

STATE OF NEW YORK)
) ss
CITY AND COUNTY OF SCHENECTADY

Gloria Cabrera of the City of Schenectady, being duly sworn, says that she is Principal Clerk in the office of the Daily Gazette Co., published in the City of Schenectady and that the notice/advertisement, of which the annexed is a printed copy, has been regularly published in the Daily Gazette and/or Sunday Gazette as follows:

03/14/16

Sworn to or affirmed before me on 03/14/2016.

Notary Public

LISA J. BALDWIN
COMMISSION OF DEEDS
MY COMMISSION EXPIRES
12-22-17

Ad ID 2255813

EARLY NOTICE AND PUBLIC EXPLANATION OF A
PROPOSED ACTIVITY IN A 500- and 100-YEAR FLOODPLAIN and WETLAND
SOUTH END DRAINAGE IMPROVEMENTS PROJECT
VILLAGE OF SCHOHARIE, NY
Thomas King, Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue, Suite 1224
Albany, NY 12206
NOTIFICATION OF ACTIVITY IN A FLOODPLAIN AND WETLAND
To: All Interested Agencies, Groups, and Individuals
This is to give notice that the Governor's Office of Storm Recovery (GOSR) is conducting an evaluation as required by Executive Order 11988 and Executive Order 11990 in accordance with the U.S. Department of Housing and Urban Renewal (HUD) regulations under 24 CFR 55.20 Subpart C - Procedures for Making Determinations on Floodplain Management and Protection of Wetlands, to determine the potential effects that its activity in the floodplain would have on the human and natural environment.
The South End Drainage Improvements Project (Proposed Project) includes the design and construction of improvements to the South End drainage system in the Village of Schoharie, Schoharie County, NY. Improvements aim to reduce the risk of localized flooding when future storm events occur as well as prevent isolation of residents, allowing uninterrupted emergency response.
The total disturbed area will be up to five (5) acres, which includes approximately four and a half (4.5) acres in the 100 year floodplain and a tenth of an acre (0.1) in the 500 year floodplain. A wetlands delineation study reported three (3) wetlands making up approximately two (2) acres of the Proposed Project site; however, no disturbance will occur in these wetlands. The Proposed Project site does not contain any national or state listed freshwater wetlands.
Funding for the project will be provided by the HUD Community Development Block Grant – Disaster Recovery (CDBG-DR) program for storm recovery activities in New York State.
A floodplain map based on the FEMA Base Flood Elevation Maps has been prepared for this project, along with a wetland delineation figure; both are is available for review at http://www.stormrecovery.ny.gov/environmental-docs.
There are three primary purposes for this notice. First, people who may be affected by activities in floodplains and those who have an interest in the protection of the human and natural environment should be given an opportunity to express their concerns and provide information about these areas. Second, adequate public notice is an important public education tool. The dissemination of information about floodplains facilitates and enhances Federal efforts to reduce the risks associated with the occupancy and modification of these areas. Third, when the Federal government determines it will participate in actions taking place in floodplains, it must inform those who may be put at greater or continued risk.
PUBLIC COMMENTS
Any individual, group, or agency may submit written comments on the proposed action or a request for further information to Thomas King, Assistant General Counsel and Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, NY 12206; email: NYSCDBG_DR_ER@nyshcr.org. All comments received by March 29, 2016 will be considered.
Thomas King, Assistant General Counsel and Certifying Officer
March 14, 2016
3/14 2255813

Affidavit of Mailing

STATE OF NEW YORK)
:SS.:
COUNTY OF NEW YORK)

Nancy L. Green, being duly sworn, deposes and says:

1. I am over the age of eighteen years.
2. On April 22nd, 2016 I mailed true and correct copies of the annexed Lead letter And attachment Dated April 22nd, 2016, by placing the same in first class post-paid Envelopes addressed: SEE ATTACHED LIST.
3. On said day, I deposited said envelopes in a mailbox at 34 South Broadway, White Plains, New York 10601.

Nancy L. Green

Nancy L. Green

Sworn to before me this
22nd day of April, 2016

NANCY LORRAINE GREEN
Notary Public, State of New York
No. 01GR6314973
Qualified in Westchester County
Term Expires November 17, 2018

Notary Public

EARLY NOTICE AND PUBLIC EXPLANATION OF
A PROPOSED ACTIVITY IN A 500- and 100-YEAR FLOODPLAIN and WETLAND

SOUTH END DRAINAGE IMPROVEMENTS PROJECT
VILLAGE OF SCHOHARIE, NY

Thomas King, Assistant General Counsel and Certifying Officer
Governor's Office of Storm Recovery
99 Washington Avenue, Suite 1224
Albany, NY 12206

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Federal government determines it will participate in actions taking place in floodplains, it must inform those who may be put at greater or continued risk.

PUBLIC COMMENTS

Any individual, group, or agency may submit written comments on the proposed action or a request for further information to Thomas King, Assistant General Counsel and Certifying Officer, Governor's Office of Storm Recovery, 99 Washington Avenue, Suite 1224, Albany, NY 12206; email: NYSCDBG_DR_ER@nyshcr.org. All comments received by May 9, 2016 will be considered.

Thomas King, Assistant General Counsel and Certifying Officer

April 22, 2016

Rick Lord, Chief of Mitigation Programs &
Agency Preservation Officer
NYS Division of Homeland Security & Emergency Services
1220 Washington Avenue, Bldg 7A – Floor 4,
Albany, NY 12242

William J. Clarke, Permit Administrator
NYSDEC Region 4
1130 North Westcott Rd
Schenectady, NY 12306-2014

US Fish and Wildlife Service
Patricia Cole
New York Field Office
3817 Luker Road
Cortland, NY 13045

Larry Moss
Technical Assistance & Compliance Unit
New York State Division for Historic Preservation
Peebles Island State Park
P.O. Box 189
Waterford, NY 12188-0189

Therese Fretwell
Regional Environmental Officer, Region II
Housing and Urban Development
26 Federal Plaza
New York, NY 10278-0002

Ms. Grace Musumeci
U.S. Environmental Protection Agency
NEPA Section Chief
Region 2 (NJ, NY, PR, VI)
290 Broadway
New York, NY 10007-1866

Andrew Dangler, ATTN: CENAN-OP-RU
Biologist/Senior Project Manager, Upstate New York Section Department Of The Army
US Army Corps of Engineers
1 Buffington St., Bldg. 10, 3rd Fl. North
Watervliet, NY 12189

Nancy Boone, Federal Preservation Officer
Housing and Urban Development
Office of Environment and Energy
Environmental Planning Division
451 7th Street SW, Room 7248
Washington, DC 20410

Jack Williams, P.E., Regional Director
New York State Department of Transportation
Region 9
44 Hawley Street
Binghamton, NY 13901

Ron Rausch, Director
Environmental Management Bureau
New York State OPRHP
625 Broadway
Albany, NY 12238

U.S. Department of the Interior
Office of Intergovernmental and External Affairs
John Blair, Director
1849 C Street NW
Room 6213
Washington, DC 20240

NYS Dept. of Environmental Conservation
William Nechamen
Floodplain Management
Division of Water
625 Broadway
Albany, NY 12233-0001

Stephen Hoerz, District Field Manager
Schoharie County Soil and Water Conservation District
173 Grant Street, Suite 3
Cobleskill, NY 12043

Alicia Terry, Senior Planner
Schoharie County Planning and Development Agency Office
276 Main Street- Suite 2, PO Box 396
Schoharie, NY 12157

Schoharie County Health Department
284 Main Street
Schoharie, NY 12157

The Village Board
Village of Schoharie
P.O. Box 219
Schoharie, NY 12157

Ben Cooper, Public Works Administrator
Schoharie County Department of Public Works
P.O. Box 249
Schoharie, NY 12157

John J. Borst, Mayor
Village of Schoharie
P.O. Box 219
Schoharie, NY 12157

Katheryn M. Saddlemire, Chairwoman
Town of Schoharie Planning Board
167 Westfall Road
Schoharie, NY 12157

Christopher W. Tague, Town Supervisor
Town of Schoharie
P.O. Box 544
Schoharie, NY 12157

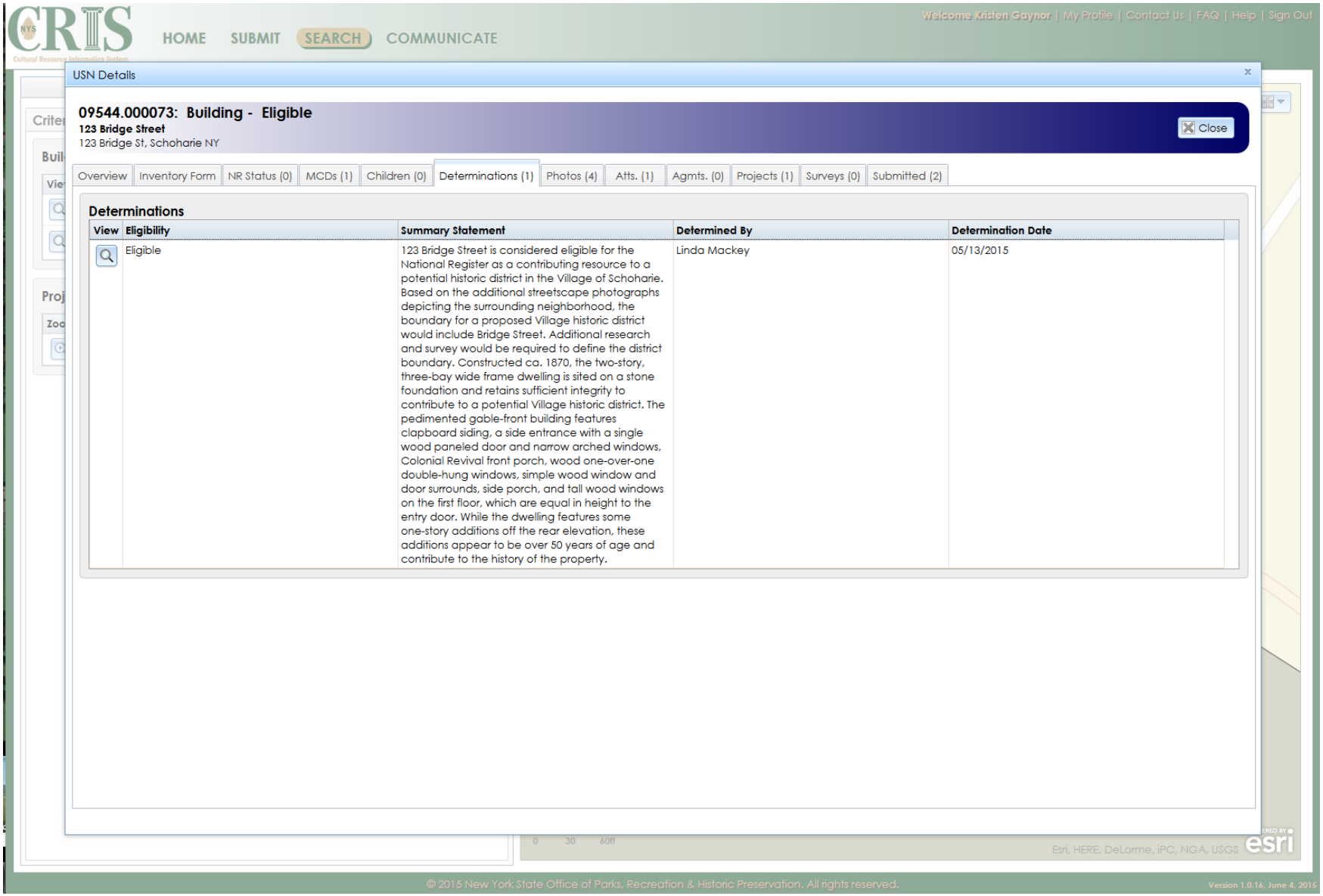
William R. Shroh
Superintendent of Public Works
Village of Schoharie
P.O. Box 219
Schoharie, NY 12157

Leslie J. Price, Clerk/Treasurer
Village of Schoharie
P.O. Box 219
Schoharie, NY 12157

M. Indica Jaycox, Schoharie County Clerk
P.O. Box 549
Schoharie, New York 12157

Pamela Foland, Town Clerk/Collector
Town of Schoharie
P.O. Box 544
Schoharie, NY 12157

Appendix H:SHPO CRIS Findings


CRIS
NYS
Cultural Resource Information System
HOME
SUBMIT
SEARCH
COMMUNICATE
Welcome Kristen Gaynor | My Profile | Contact Us | FAQ | Help | Sign Out
USN Details
09544.000073: Building - Eligible
123 Bridge Street
123 Bridge St, Schoharie NY
Close
Overview
Inventory Form
NR Status (0)
MCDs (1)
Children (0)
Determinations (1)
Photos (4)
Atts. (1)
Agmts. (0)
Projects (1)
Surveys (0)
Submitted (2)
Determinations
View
Eligibility
Summary Statement
Determined By
Determination Date
Eligible
123 Bridge Street is considered eligible for the National Register as a contributing resource to a potential historic district in the Village of Schoharie. Based on the additional streetscape photographs depicting the surrounding neighborhood, the boundary for a proposed Village historic district would include Bridge Street. Additional research and survey would be required to define the district boundary. Constructed ca. 1870, the two-story, three-bay wide frame dwelling is sited on a stone foundation and retains sufficient integrity to contribute to a potential Village historic district. The pedimented gable-front building features clapboard siding, a side entrance with a single wood paneled door and narrow arched windows, Colonial Revival front porch, wood one-over-one double-hung windows, simple wood window and door surrounds, side porch, and tall wood windows on the first floor, which are equal in height to the entry door. While the dwelling features some one-story additions off the rear elevation, these additions appear to be over 50 years of age and contribute to the history of the property.
Linda Mackey
05/13/2015
0 30 60ft
Esri, HERE, DeLorme, iPC, NGA, USGS
esri
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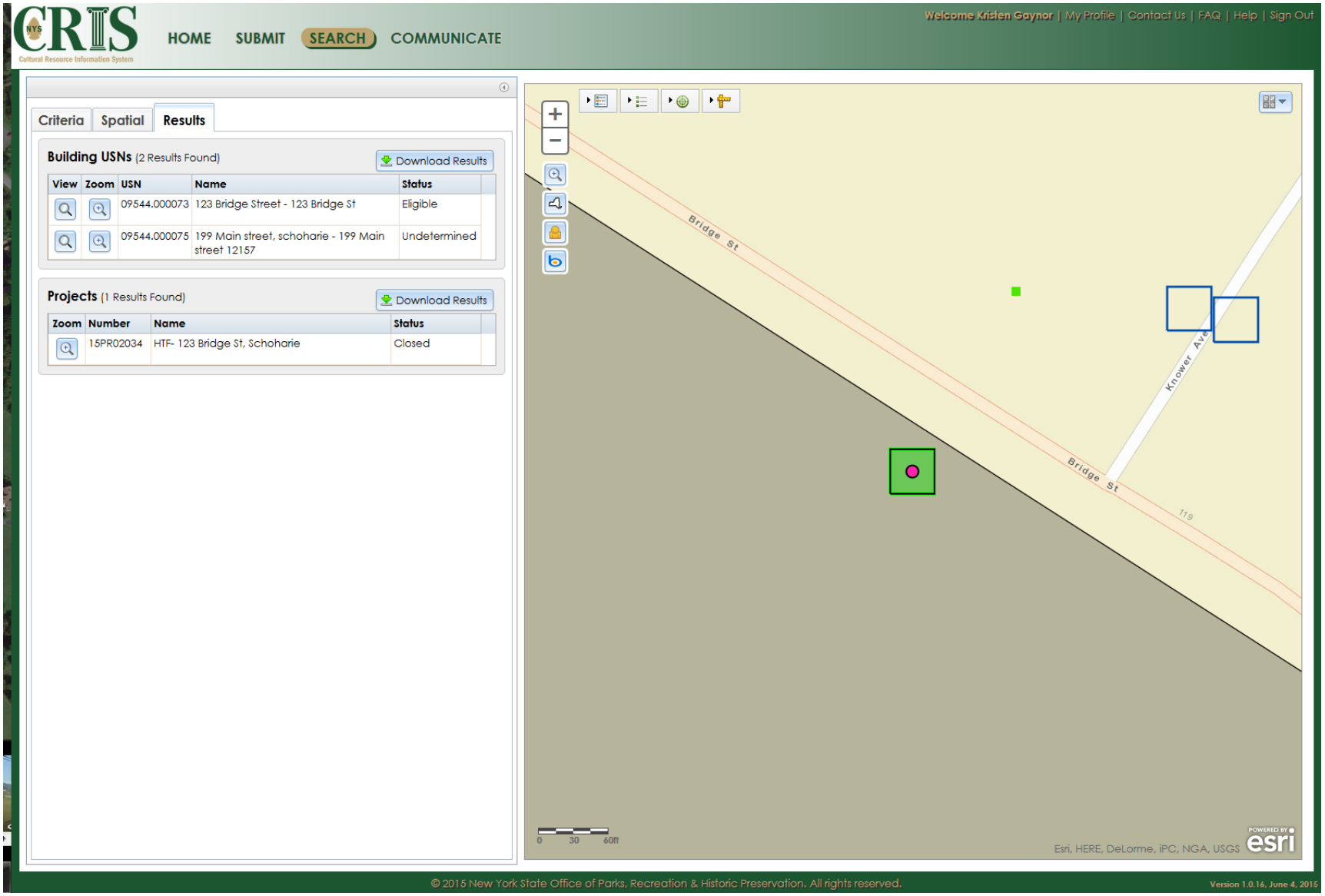
Version 1.0.16, June 4, 2015


CRIS
Cultural Resource Information System
HOME
SUBMIT
SEARCH
COMMUNICATE
Welcome Kristen Gaynor | My Profile | Contact Us | FAQ | Help | Sign Out
Criteria
Spatial
Results
Building USNs (2 Results Found)
Download Results
View
Zoom
USN
Name
Status
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123 Bridge Street - 123 Bridge St
Eligible
09544.000075
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Download Results
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Bridge St
Knower Ave
Bridge St
119
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30
60ft
Esri, HERE, DeLorme, iPC, NGA, USGS
esri
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Version 1.0.16, June 4, 2015

Appendix I: Phase IA/IB Archeological Investigation

TECTONIC

PHASE IA/IB ARCHAEOLOGICAL INVESTIGATION AND GEOMORPHOLOGICAL ASSESSMENT

SCHOHARIE SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE, SCHOHARIE COUNTY, NEW YORK

FEBRUARY 2016

Tectonic Engineering & Surveying
70 Pleasant Hill Road
Mountainville, New York
10953

www.tectonicengineering.com

MANAGEMENT SUMMARY

The following presents the findings of a Phase IA/IB Archaeological Investigation and Geomorphological Assessment conducted on behalf of the Village of Schoharie for the Schoharie South End Drainage Improvements Project located at the South End of the Village of Schoharie, Schoharie County, New York. The results of the Phase IA background and literature search suggest that the proposed Project Area has a high sensitivity for prehistoric cultural resources and a moderate sensitivity for historic cultural resources. The results of the Phase IB Field Investigation recovered several precontact artifacts from three separate locations within the Project Area. The Geomorphological Assessment indicated the soils within the Project Area to the depths of proposed impacts are of Holocene age and could contain cultural resources.

SHPO Project Review Number: 15PR06744

Involved State and Federal Agencies: Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation. US Department of Housing and Urban Development (HUD).

Phase of Survey: Phase IA/IB

Location Information

Location: Bridge Street and NYS Route 30
Minor Civil Division: Village of Schoharie
County: Schoharie County

Survey Area: ±3 acres (1.2 hectares)

USGS 7.5 Minute Quadrangle Map: Schoharie, NY

Archaeological Survey Overview

Number & Interval of Shovel Test Pits: 92 @ 50ft intervals
Depth of Shovel Test Pits: 33-130 cm (13-51 in)

Results of Archaeological Survey

Number & name of prehistoric sites identified: 3: Schoharie South End Sites #1-3.
Number & name of historic sites identified: None
Number & name of sites recommended for Phase II/Avoidance: 3: Schoharie South End Sites #1-3.

Results of Architectural Survey

Number of historic buildings/structures/cemeteries within project area: 36
Number of historic buildings/structures/cemeteries adjacent to project area: None
Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: None

Report Author(s): Jim Turner, RPA. Reviewed by Kristofer Mierisch, RPA.
Date of Report: February 2016

1.0 PROJECT DESCRIPTION

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) was retained by the Housing Trust Fund Corporation (HTFC) to perform a Phase IA/IB Archaeological Investigation on a multitude of parcels of land located south of Bridge Street and surrounding Sunset Drive in the Village of Schoharie, Schoharie County, New York (Figure 1).

The Schoharie County Soil and Water Conservation District (SCS&WCD) is seeking Community Development Block Grant-Disaster Recovery funding with which to complete the South End Drainage Improvements in the Village of Schoharie.

The intent of the project is to provide the south end of the Village relief from persistent problems related to ponding water. Ponding of stormwater runoff occurs in the vicinity of Sunset Drive on both sides of NYS Rte. 30. The elevations of key culverts along Rte. 30 are too high to allow runoff from the east side of Rte. 30 to freely drain without creating a year-round flooding nuisance. The primary impediment to lowering the culverts is the existence of water and sewer utilities at conflicting elevations. Furthermore, a natural bowl area west of Rte. 30, in part created by an old railroad grade, also prevents water from freely draining past the houses on Sunset Drive to Schoharie Creek. The conceptual solution involves the following:

- The existing 20" culvert under Rte. 30 north of Sunset Drive will be replaced with 2 – 36" ductile iron culverts at an elevation lower than the current invert elevation. This will allow the area on the east side of Rte. 30 to drain freely after a rain event. The elevation of the upstream grading will be high enough to maintain the level of the adjacent wetland.

- The 24" culvert under Sunset Drive will be replaced with 3-24" ductile iron culverts. The new invert elevation will be lowered as far as possible without interfering with the existing sanitary sewer. This will allow the continued free drainage of runoff from the east of Rte. 30 and the area north of Sunset Drive.

- A storm sewer system will be constructed along the east side of Rte. 30. This will consist of 3 catch basins on the east side of Rte. 30, one on the west side of Rte. 30, and outfall piping to a new detention pond (see below). The piping will be 12" corrugated polyethylene and will cross Rte. 30 at the location of the former Rainbow Road intersection.

- A large detention pond will be constructed on 2 parcels currently owned by the Village of Schoharie and Shaul Farms. This pond will have a normal pool elevation of approximately 660.50 ft. and a water surface area at normal pool of approximately 0.36 Acres. The pond will have an outlet control structure to attenuate peak flows.

- From the detention pond outlet, a 24" PVC outfall pipe will convey water to the Schoharie Creek, approximately 3,000 ft. away. This pipeline will include 12 drainage manholes to allow inspection, maintenance, and access. A flap gate will be provided near the outlet to discourage access by pests, rodents, and debris.

- Grass swales will be used to convey stormwater in the areas upstream of Rte. 30, between Rte. 30 and Sunset Drive, and between Sunset Drive and the new detention pond.

In an effort to establish the archaeological significance of the proposed project area, a Phase IA background and literature search was performed. This work was conducted in accordance with Section 106 of the National Historic Preservation Act and Section 14.09 of the New York Parks, Recreation and Historic Preservation Law. Further consultation with the Office of Parks, Recreation and Historic Preservation (OPRHP) indicated the floodplain environment had the potential to contain deeply buried cultural deposits and therefore a Geomorphological Analysis was also recommended.

NOTE: The larger Project Area (PA) was used for the study of overall drainage improvements while the archaeological investigation focused solely on the areas of potential effect (APE) for the currently considered design.

BACKGROUND AND LITERATURE SEARCH

The purpose of a Phase IA background and literature search is to evaluate the archaeological potential of the project area. This evaluation is based on environmental factors, the presence or absence of previously recorded cultural resources and a review of historic documents.

2.1 ENVIRONMENTAL SETTING

The proposed Project Area lies within the floodplain of the Schoharie Creek at the south end of the Village of Schoharie (Figures 1-4) and is bounded to the north by Bridge Street, to the west by Schoharie Creek, to the south by a line roughly following the Town line and to the east by NYS Route 30 as well as some additional residential properties that area adjacent to the edge of the floodplain.

Situated at elevations ranging from 585 ft (178 m) Above Mean Sea Level (AMSL) at the surface of the Schoharie Creek and rising to 608 ft (185 m) AMSL at Route 30, the Project Area spans the width of the Schoharie Creek valley. Most of the lands involved are part of the Guernsey Schoharie Nursery and consist of agricultural fields and groves of nursery trees. Residential development characterizes the lands around Sunset Drive.

The bedrock geology of the Project Area is characterized by Middle Ordovician-aged Normanskill shales which are locally chert bearing. The surficial geology consists of recent alluvium.

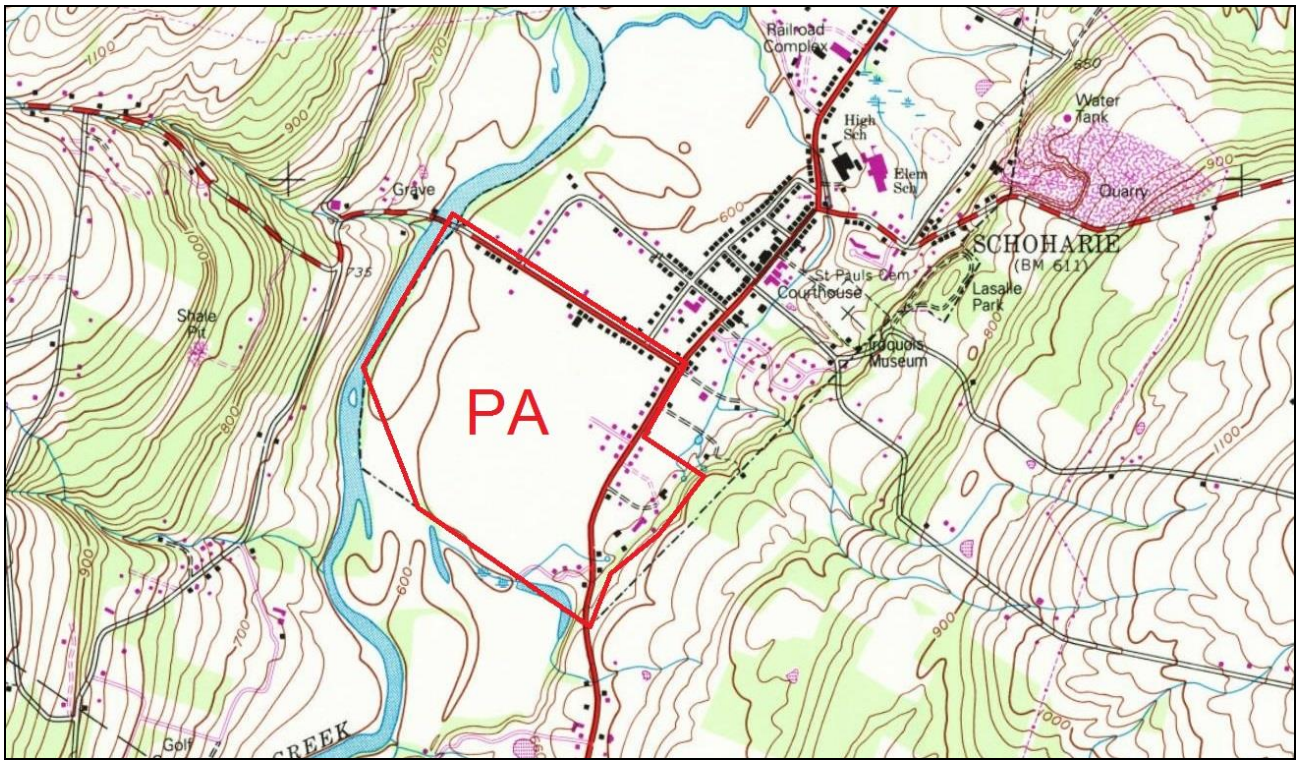

FIGURE 1. SCHOHARIE USGS 7.5 MINUTE QUADRANGLE SHOWING THE PROJECT AREA.

FIGURE 2. AERIAL VIEW OF PROJECT AREA (GOOGLE EARTH).

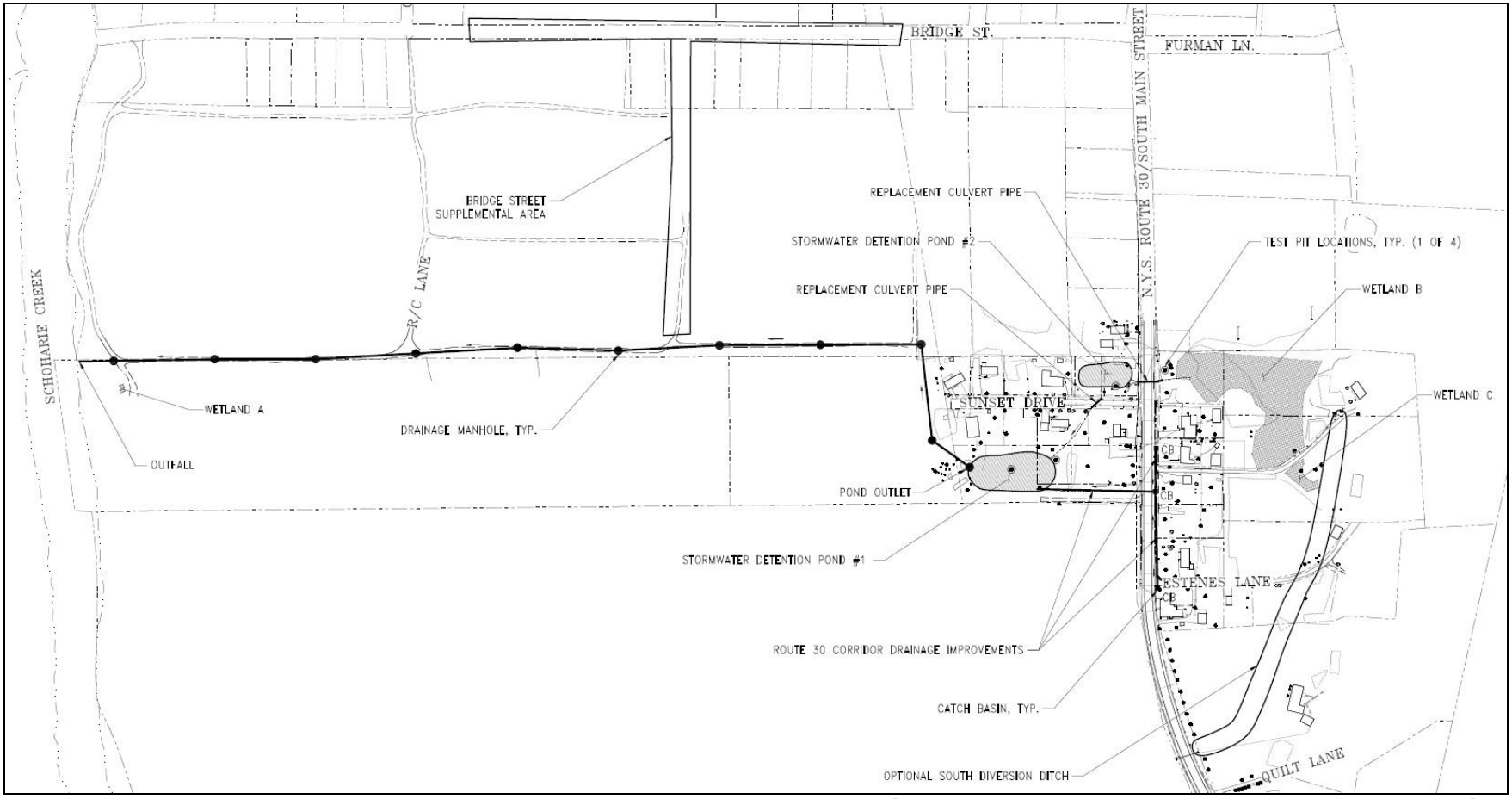

FIGURE 3: PROPOSED DRAINAGE IMRPOVEMENTS WITHIN PROJECT AREA. [NOTE: SOUTH DIVERSION DITCH IS NOT INCLUDED]

FIGURE 4: GRAPHIC DEPICTION OF PROPOSED STORMWATER DETENTION PONDS.

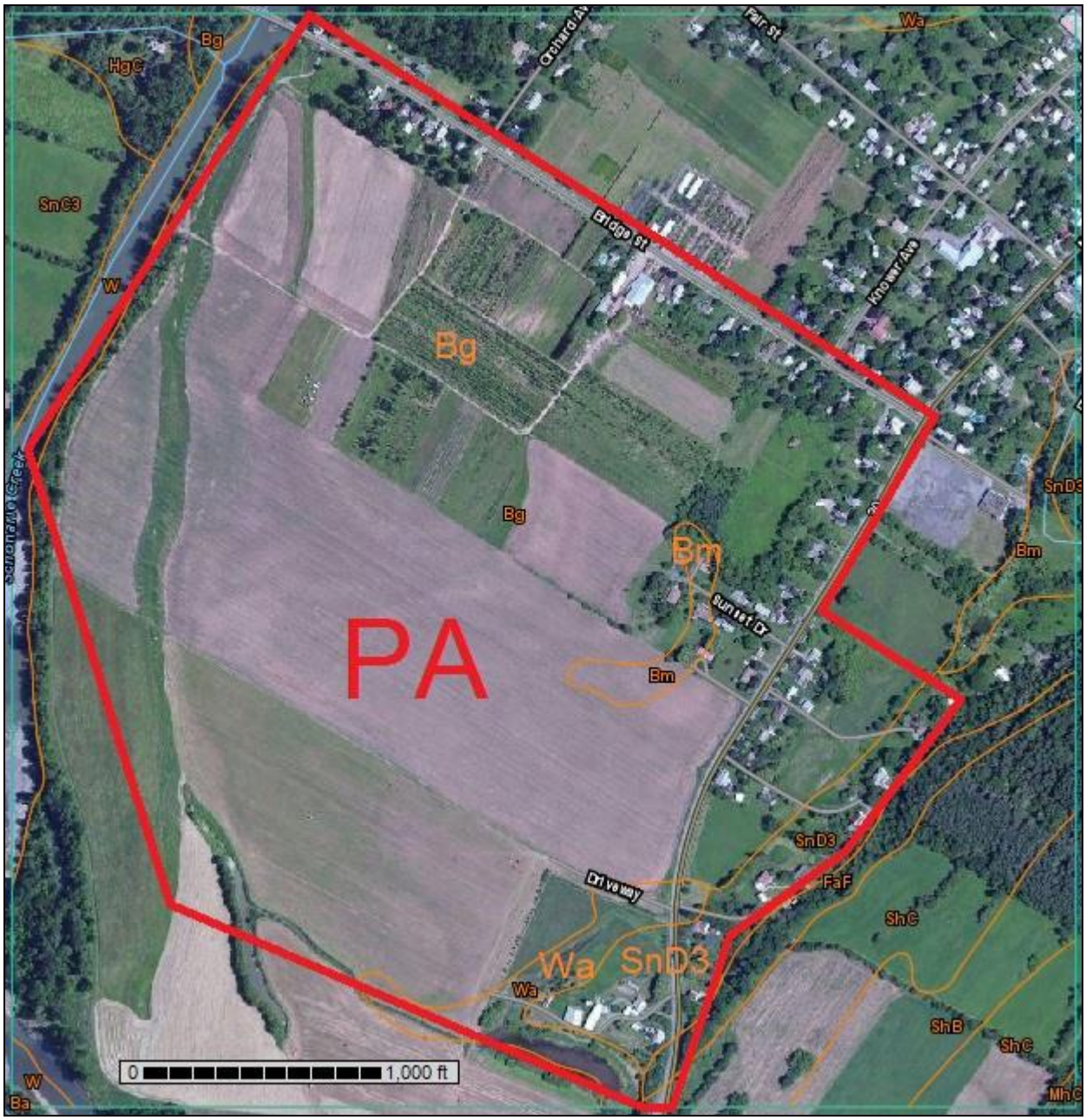

FIGURE 5. SOIL MAP OF THE PROJECT AREA (USDA 2014)

As seen above in Figure 5, soils within the Project Area consist primarily of Barbour and Tioga loams (**Bg**) with smaller areas of Basher and Middlebury silt loams (**Bm**), Schoharie and Hudson silty clay loam (**SnD3**) and Wayland silt loam (**Wa**). The characteristics of these soils are presented below in Table 1.

TABLE 1: SOILS WITHIN PROJECT AREA

Map Symbols	Soils	Soil Horizon Depth in (cm)	Color	Texture/ Inclusions	Slope	Drainage
Bg	Barbour and Tioga loams (Barbour described)	0-8 in (0-20 cm) 8-17 in (20-43 cm) 17-24 in (43-61 cm) 24-42 in (61-107 cm) 42-65 in (107-165 cm)	Brown Brown Reddish brown Dark reddish gray Dark grayish brown	Loam Loam Loam Loamy fine sand Sand	0-3%	Well drained
Bm	Basher and Middlebury silt loams (Basher described)	0-11 in (0-28 cm) 11-15 in (28-38 cm) 15-24 in (38-61 cm) 24-26 in (61-66 cm) 26-30 in (66-76 cm)	Brown Reddish brown Brown Dark grayish brown Dark brown	Silt loam Silt loam Very fine sandy loam Medium sand Loamy fine sand	0-3%	Moderately well drained
SnD3	Schoharie and Hudson silty clay loam (Schoharie described)	0-7 in (0-18 cm) 7-10 in (18-25 cm) 10-16 in (25-41 cm) 16-54 in (41-137 cm)	Dark brown Brown Light reddish brown Reddish brown	Silt loam Silt loam Silty clay loam Silty clay	12-20	Moderately well drained
Wa	Wayland silt loam	0-9 in (0-23 cm) 9-15 in (23-38 cm) 15-22 in (38-56 cm) 22-30 in (56-183 cm)	Very dark grayish brown Dark grayish brown Dark gray Gray	Silt loam Silt loam Loam Gravelly loam	0-3	Poorly drained

2.2 ARCHAEOLOGICAL SENSITIVITY

The New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) site files were consulted on November 16-17, 2015 to aid in the assessment of archaeological sites within 500 feet of the Project Area.

2.2.1 Potential for Precontact Sites

A review of the NYSOPRHP site files was conducted on November 16 & 17, 2105. According to this review, there are four known precontact sites located within the Project Area and four precontact sites adjacent to the Project Area including one site with human remains on the opposite shore of the Schoharie Creek outside of the Project Area.

TABLE 2: PREHISTORIC ARCHAEOLOGICAL SITES NEAR PROJECT AREA

Identifier	Distance from APE ft (m)	Time Period	Site Type
NYSM 245	Within PA	Precontact	No info
NYSM 258	Within PA	Precontact	No info
NYSM 259	Within PA	Precontact	No info
NYSM 6329	Within PA	Precontact	(D. Snow)
NYSM 7206	Adjacent	Precontact	Workshop, camp
NYSM 7207	Adjacent	Precontact	Camps
NYSM 7210	Adjacent	Precontact	Human remains (no site form available)
A095.44.000055	Adjacent	Precontact	Large multicomponent site

Based on the environmental setting of the Project Area, within the floodplain of the Schoharie Creek, and the abundance of known precontact sites within or adjacent to the Project Area, it is Tectonic's opinion that the Project Area has a high sensitivity for prehistoric cultural resources.

2.2.2 Potential for Historic Sites

A review of the NYSOPRHP site files has indicated that there are no identified historic archaeological sites within 500 feet of the Project Area.

2.2.3 National Register of Historic Places

According to a review of the NYSOPRHP site files, there is one property currently listed on and seven properties deemed eligible for inclusion in the National Register of Historic Places within or adjacent to the Area of Potential Effect (APE). The National Register Listed building is the Schoharie Free Association Library at 103 Knower Avenue. The seven National Register Eligible properties are located at 123 Bridge St., 117 Knower Ave., 118 Knower Ave., 125 Knower Ave., 194 Main St., 236 Main St., and 249 Main St. None of these properties will be impacted by the current project.

2.2.4 Previous Surveys

Two previous surveys have been conducted in and around the current Project Area. The first was the Village of Schoharie Water District Improvement project undertaken by Hartgen Archeological Associates, Inc. in 1998-9. The project was divided into 13 sections of which Section 1 was located within the current Project Area along the east side of NYS Route 30 proceeding southwards from Sunset Drive. Twenty-eight shovel test pits as well as three backhoe trenches were excavated along the east side of NYS Route 30. Thirteen of the 28 shovel test pits (STPs) were positive for precontact and historic artifacts. The artifacts came from the same provenience and indicated that prior disturbance related to road and sidewalk construction as well as residential landscaping activities had mixed the contexts. As a result of this prior disturbance no further archaeological investigations were recommended.

The second survey was performed on the Birches at Schoharie property adjacent to the current Project Area. The Phase I and II were completed by Curtin Archaeological Consulting, Inc. while the Phase III was conducted by Hartgen Archeological Associates, Inc. The NRE-designated site is described in the Phase III report as follows:

> "Multi-component site with occupations dating to the Late Archaic, Transitional, and Woodland Periods. The Late Archaic and Transitional/Early Woodland components are evidenced by projectile points and features; the Middle Woodland by a single point fragment; and the Late Woodland component (which was the primary occupation) by features, projectile points, and pottery. Four radiocarbon dates were obtained from features, one each from the Late Archaic and Transitional/Early Woodland, and two from the Late Woodland.
>
> The various components reflect continuity in subsistence strategy across time. The sites occupants were a series of small groups that sought to acquire various plant, animal, or lithic resources. The site setting was advantageous; it was on the flood plain of a major creek (the Schoharie Creek) with a tributary stream to the north, a wetland to the south, and lithic resources to the east. The site did not evidence a shift toward horticultural activities during the Woodland Period."

The proximity of the Birches Site to the current Project Area suggests the potential for similar deposits.

2.2.5 Historic Map Review

Four historic maps were reviewed from the years 1856, 1866, 1898 and 1943 (Figures 6-9). These maps show the steady expansion of Schoharie during the 19th Century. Settlement in and around the Project Area is focused along Bridge Street and Route 30. The 1866 map shows the construction of the Schoharie Valley Railroad which opened later that year. The residence of "E. Lawyer" is shown in the vicinity of Sunset Drive; this may represent the structure that was demolished on the Perillo property (SBL 71.20-2-7). The 1943 map shows the former railroad grade, abandoned the year before.

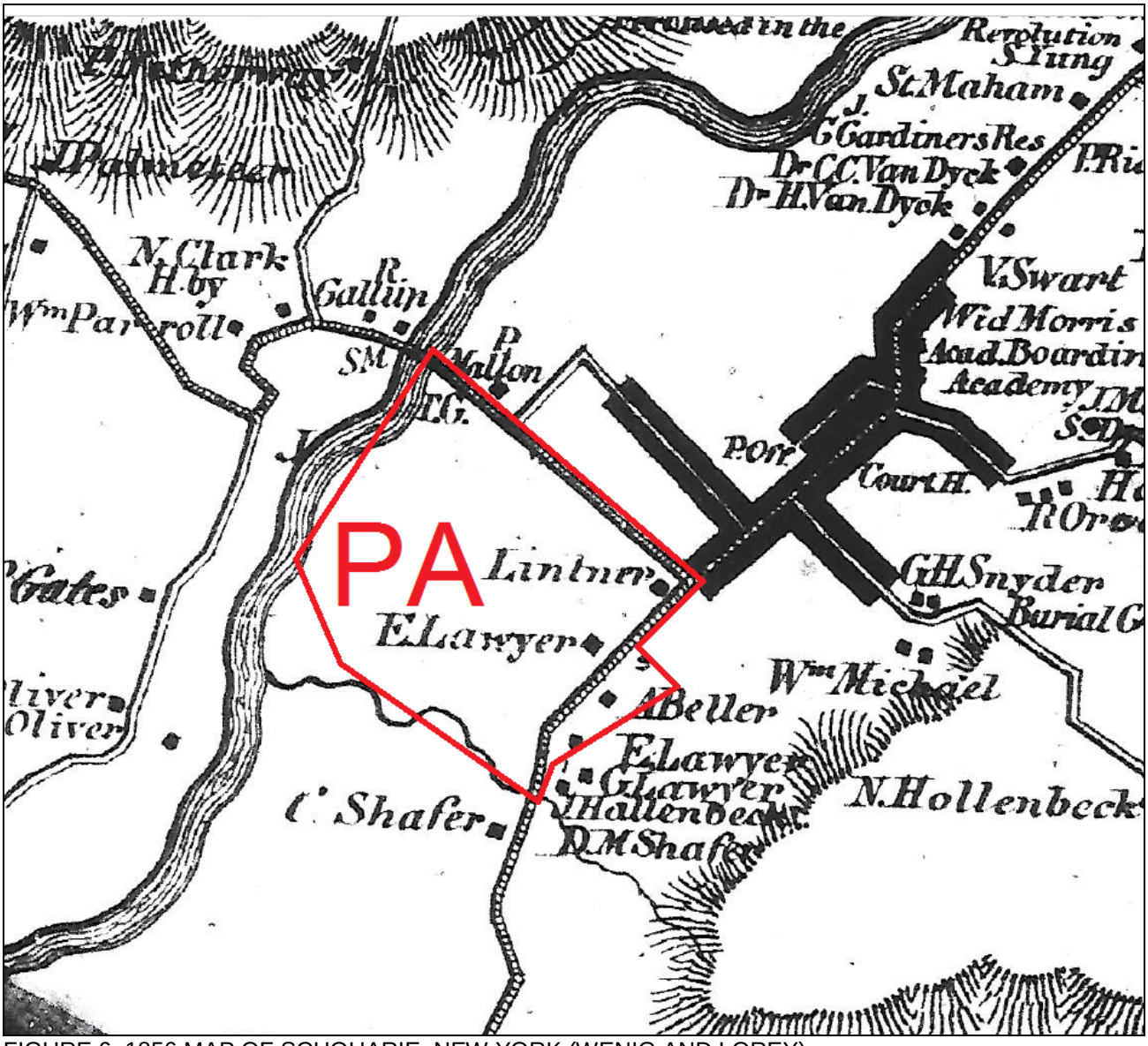

FIGURE 6. 1856 MAP OF SCHOHARIE, NEW YORK (WENIG AND LOREY).

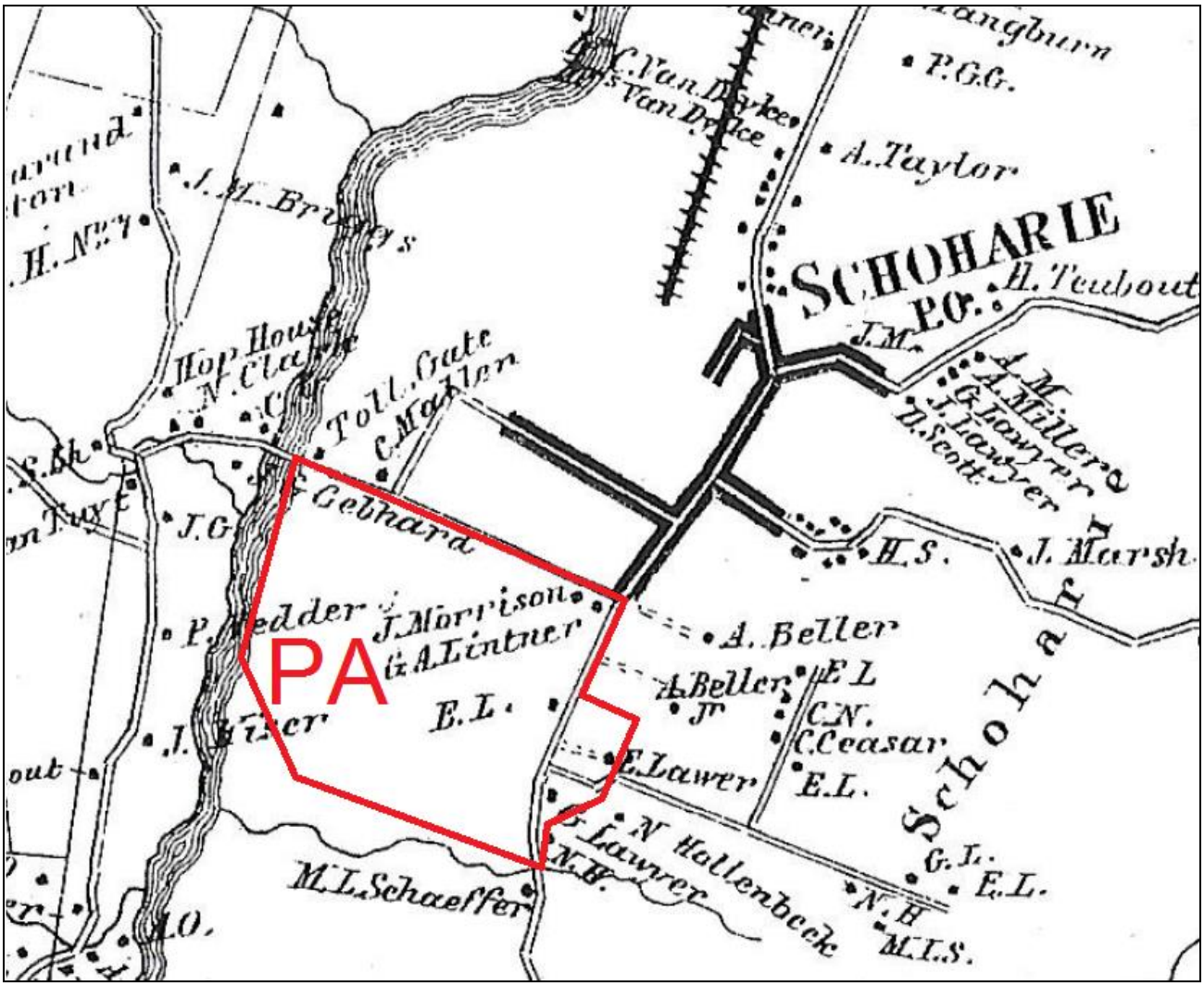

FIGURE 7. 1866 MAP, A NEW TOPOGRAPHICAL ATLAS OF SHOHARIE COUNTY, NEW YORK.

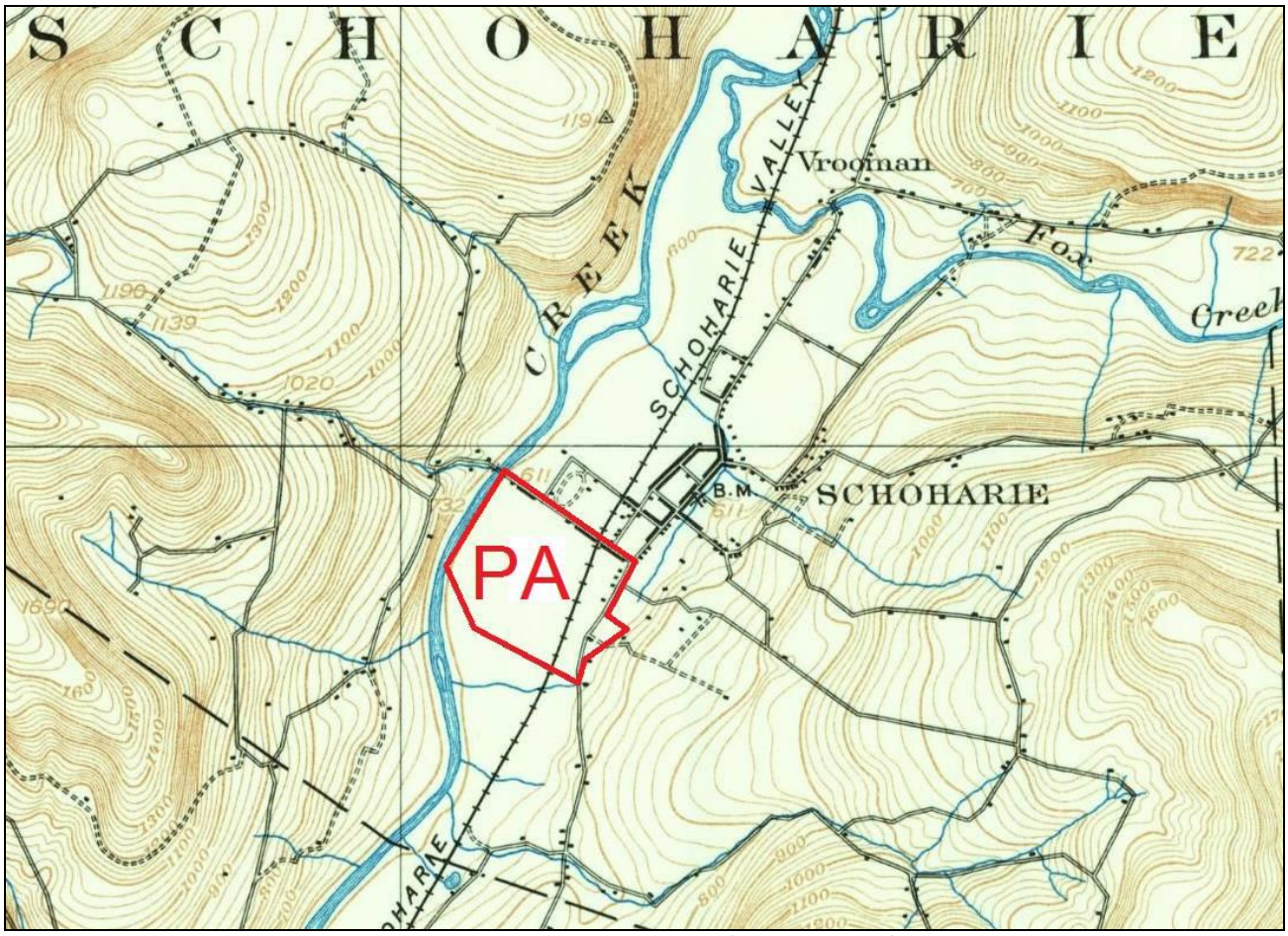

FIGURE 8. 1898 USGS 15' TOPOGRAPHIC QUADRANGLE (SCHOHARIE).

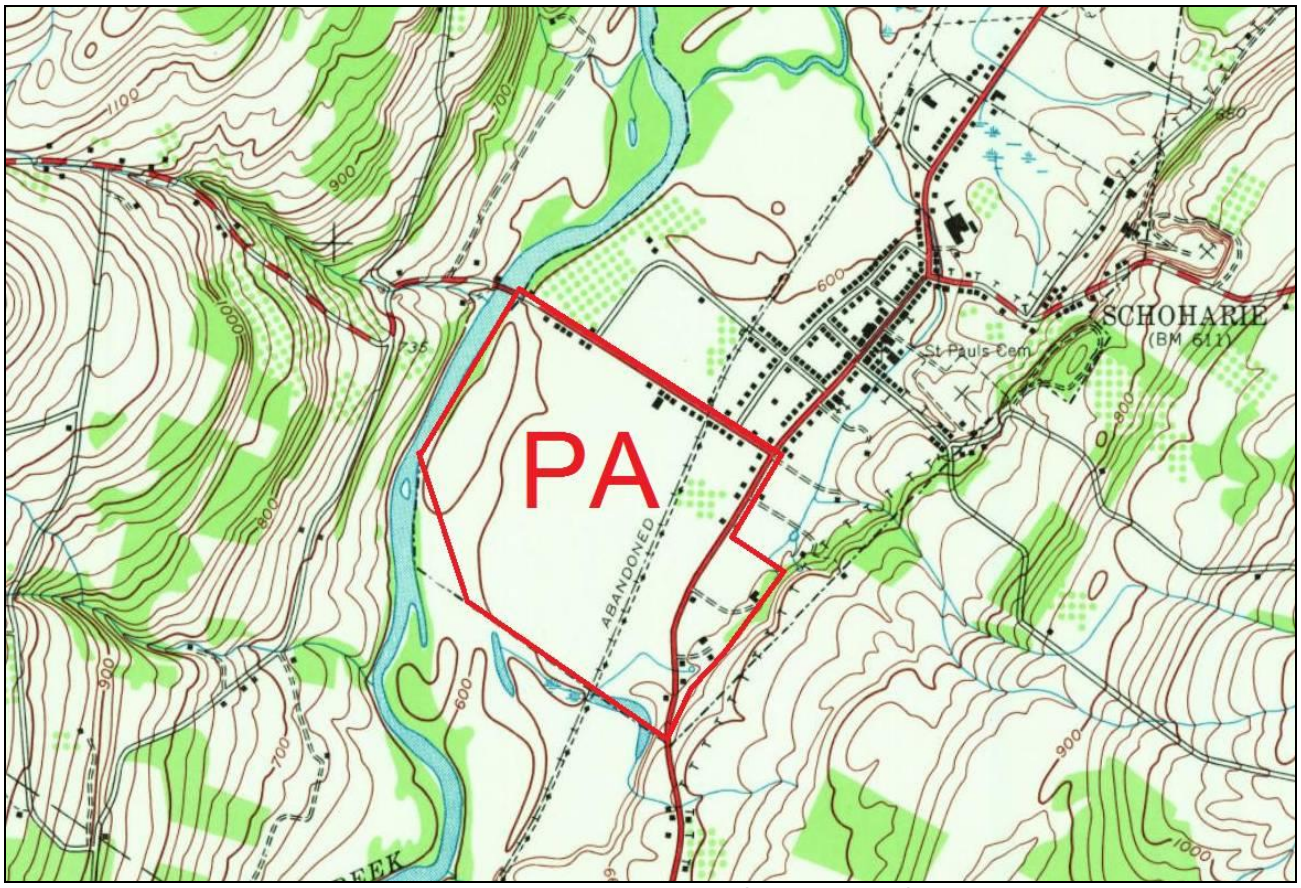

FIGURE 9. 1943 USGS 7.5' TOPOGRAPHIC QUADRANGLE (SCHOHARIE).

3.0 PREVIOUS DISTURBANCES

The Project Area has been disturbed in the past in various locations. At the Schoharie Creek, filling along the banks and stockpiling of brush and other debris has occurred, in part to create a barrier to floodwaters. Approximately 100 feet east of the creek filling and grading were undertaken to repair previous flood damage that had deeply scoured the field (Floyd Guernsey, pers. comm.12/8/15). The remainder of the linear portion of the outflow alignment to Sunset Drive does not appear to have undergone significant disturbance. Portions of the Bridge Street Connection line in and around the Guernsey offices and sheds have been disturbed by construction as well as by impacts associated with underground utility and drainage trenching. A drainage swale has been excavated from the southern corner of the southernmost building for a distance of approximately 265 feet toward the southwest. The portion of the Project Area around Sunset Drive has undergone disturbance associated with community development and the road. An abandoned railroad bed also ran through this location. Lands within the limits of the proposed Stormwater Detention Ponds # 1 & #2 have also been disturbed by the recent demolition of flood-damaged houses. The east side of Route 30 where the drainage improvements are proposed was found to be previously disturbed by the Hartgen investigation in 1998.

4.0 TESTING RECOMMENDATIONS

The results of the Phase IA Sensitivity Assessment indicate a high sensitivity for the presence of precontact cultural remains and a moderate sensitivity for the presence of historic cultural resources. Numerous known precontact sites lie in the vicinity of the Project Area while the geography of the area has been important throughout the historic era as well. Subsurface Phase IB fieldwork is recommended for all areas of ground disturbance that do not exhibit evidence of significant prior disturbance.

5.0 PHASE IB FIELD INVESTIGATION

The Phase IB Field Investigation consisted of two components. First, a geomorphological analysis of the floodplain was conducted by David DeSimone with the assistance of the Principal Investigator to assess the potential for deep deposits and buried soil horizons due to the alluvial setting of the Project Area. Second, a series of hand-excavated shovel tests were performed at 50-foot intervals along the outflow alignments and other areas of proposed impacts.

5.1 GEOMORPHOLOGICAL ANALYSIS

The geomorphological analysis of the Project Area was undertaken over the course of three days, December 8, 15-16, 2015. The first day consisted of the excavation of five exploratory backhoe trenches in and around the Project Area near Sunset Drive in order to characterize the soils in the vicinity of the proposed Stormwater Detention Ponds (Figure 10). These trenches were investigated by the Principal Investigator and profile drawings were provided to Dr. DeSimone. Trench #2 indicated building disturbance and fill below the ground surface (Photo 7). Trench #4 in the location of Detention Pond #1 displayed a massive silty clay base (Photo 8).

The geomorphological analysis continued with additional backhoe trenches supervised by Dr. DeSimone. These trenches continued the numbering scheme of the previous ones and were designated Trenches #6-17 (Figure 11). The trenches were excavated with varying lengths (averaging 20ft) with the first half excavated to a depth not exceeding 4ft and the second half excavated to depths of 10-14ft. With the assistance of the Principal Investigator the soil profiles of each trench were drawn and the stratigraphy was inspected for the presence of subsurface features, artifacts and buried horizons; none were identified. Dr. DeSimone used the data to reconstruct a cross-section of the floodplain geomorphology and concluded that the soils to a depth exceeding 10ft (the maximum depth of proposed disturbance of the current project) are all of Holocene age and therefore have the potential to contain cultural resources. Dr. DeSimone's report is attached as Appendix D.

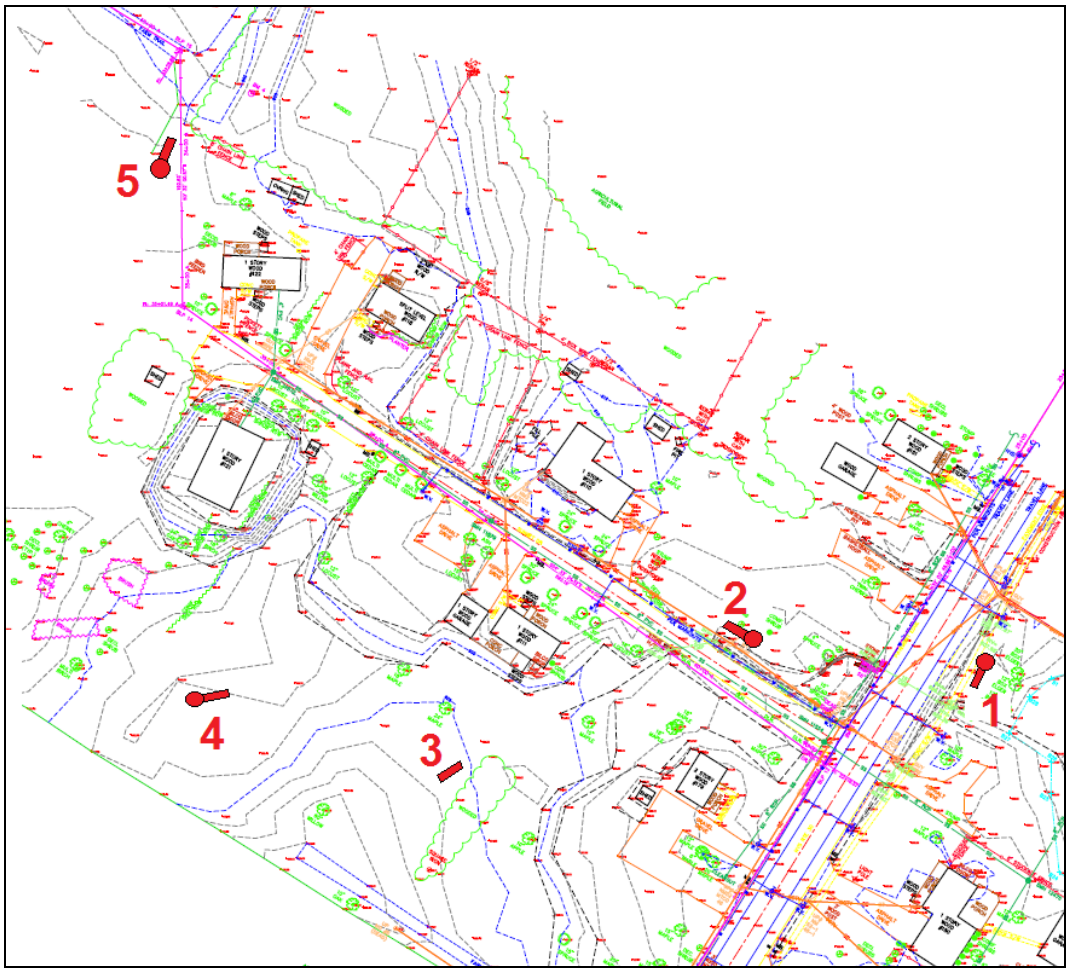

FIGURE 10. LOCATIONS OF BACKHOE TRENCHES OBSERVED BY PRINCIPAL INVESTIGATOR.

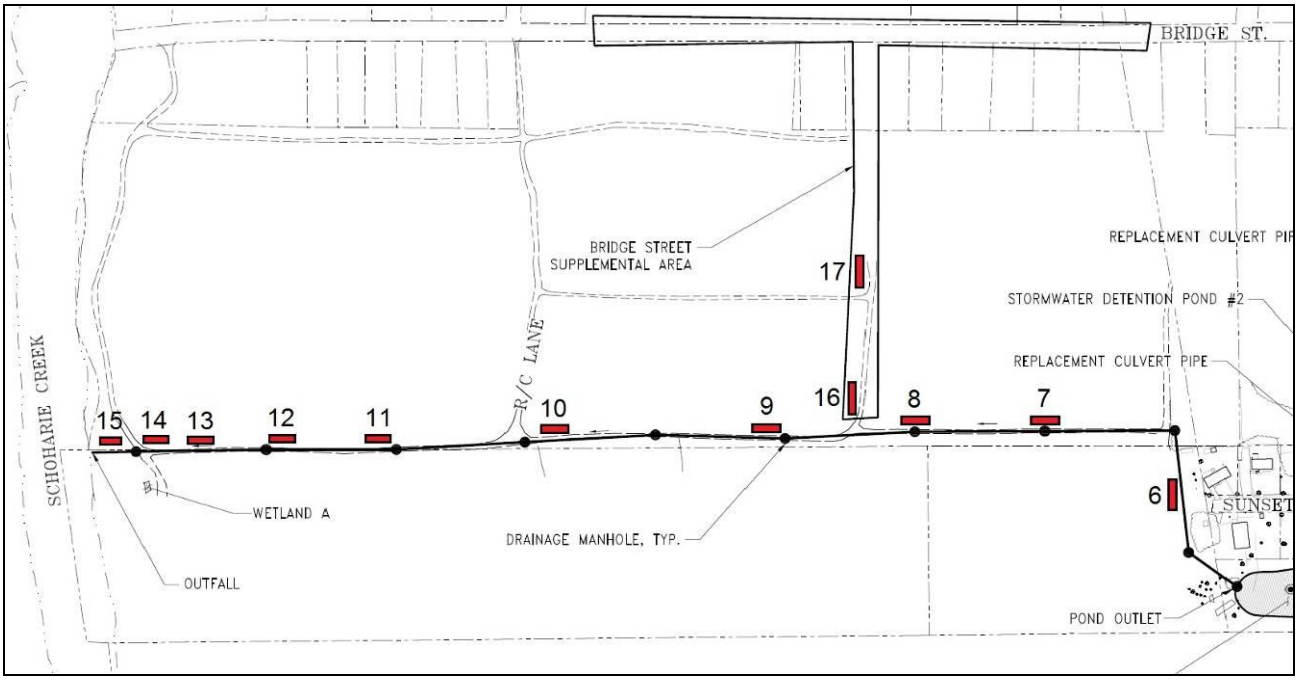

FIGURE 11. LOCATIONS OF BACKHOE TRENCHES SUPERVISED BY DR. DESIMONE.

5.2 ARCHAEOLOGICAL FIELDWORK

The Phase IB archaeological fieldwork undertaken within the proposed Project Area consisted of 92 hand-excavated shovel tests at 50ft intervals along the outflow alignment, Bridge St. Connection, and Detention Ponds as depicted in Figures 12 & 13. Shovel testing began approximately 100ft east of the bank of Schoharie Creek. STPs 1 & 2 were laid out but not excavated first due to an overburden of discarded debris as well as evidence obtained during backhoe trenching (Trench #15) that the area was disturbed and contained fill. The testing proceeded at 50ft intervals for the entire ~2,500ft outflow alignment (STPs 3-51) where it met the western edge of the proposed Stormwater Detention Pond #1 located south of Sunset Drive. The Project Area around Sunset Drive was investigated with shovel testing at 50ft intervals across the area of the detention ponds and connections across Sunset Drive and Route 30 (STPs 52-83). The Bridge Street Connection test area lay to the west of the existing dirt road and began at the southeast corner of a shed belonging to Floyd Guernsey (STPs 84-94); this alignment was decided in the field during a phone call between Mr. Guernsey and the project engineer Mike Harrington on January 7, 2016. For Phase IB Fieldwork results see Appendix B: Phase IB Shovel Test Records and Appendix C: Phase IB Artifact Catalog.

In the vicinity of the R/C airfield there were six out of seven contiguous tests that produced precontact chert artifacts (STPs 10-12 & 14-16). Several precontact surface finds were also recovered in this same area. Altogether the assemblage contains a projectile point fragment and large unifacial scraper, and secondary and thinning flake debitage (Photo 11). A total of 20 precontact artifacts was recovered from this area which appeared to straddle a dip in the land surface possibly representing a relict stream channel as suggested by aerial imagery. No additional cultural materials were recovered along the remainder of the outflow alignment.

Within the proposed limits of Detention Pond #1 three consecutive STPs produced chert flakes (STPs 57-58 & 74). The tests conform to a slight rise in the landscape along a natural drainage. The Project Area containing Detention Pond #2 was observed to be disturbed from the recently demolished house with exposed concrete and rubble across at the ground surface.

Within the Bridge St. Connection, a single test, STP 91, located west of the drainage swale to the south of the Guernsey shed, produced two chert thinning flakes. The nearby STP 94 to the north represented the end of testing.

5.3 DISCUSSION

The geomorphological analysis of the Schoharie South End Drainage Improvements Project Area indicated the potential depth for cultural remains lay beyond the maximum ~10ft depth of the proposed impacts for the project. This potential depth was shown to extend across the entire Project Area.

The results of the Phase IB archaeological fieldwork identified one large precontact site and two smaller precontact sites within the Project Area (Figure 14). The larger site, named Schoharie South End Site #1, is represented by STPs 10-16 excavated along a segment of the outflow alignment approximately 300ft in length. The linear nature of the testing did not provide data on a possible width of the site. The artifact assemblage from this location contained both chert debitage, indicating tool manufacture and/or curation, as well as formal tools which likely represent resource procurement and processing. The occurrence of both surface finds and subsurface artifacts suggests the potential for the site to extend below the plow zone indicating the potential for subsurface features. The location may have been a former stream channel of the nearby Schoharie Creek which would increase its archaeological sensitivity.

The second site, Schoharie South End Site #2, is defined by three adjacent positive shovel tests (STPs 57, 58, 74) spanning 100ft with a total of four chert thinning flakes. Negative tests to the southwest provide a partial boundary for the site. The topography appears to contain a natural drainage which may have attracted the precontact occupants to this location.

The third site, Schoharie South End Site #3, consists of a single test location, STP 91, which produced two chert thinning flakes. Negative tests occurred to the north and south of this location.

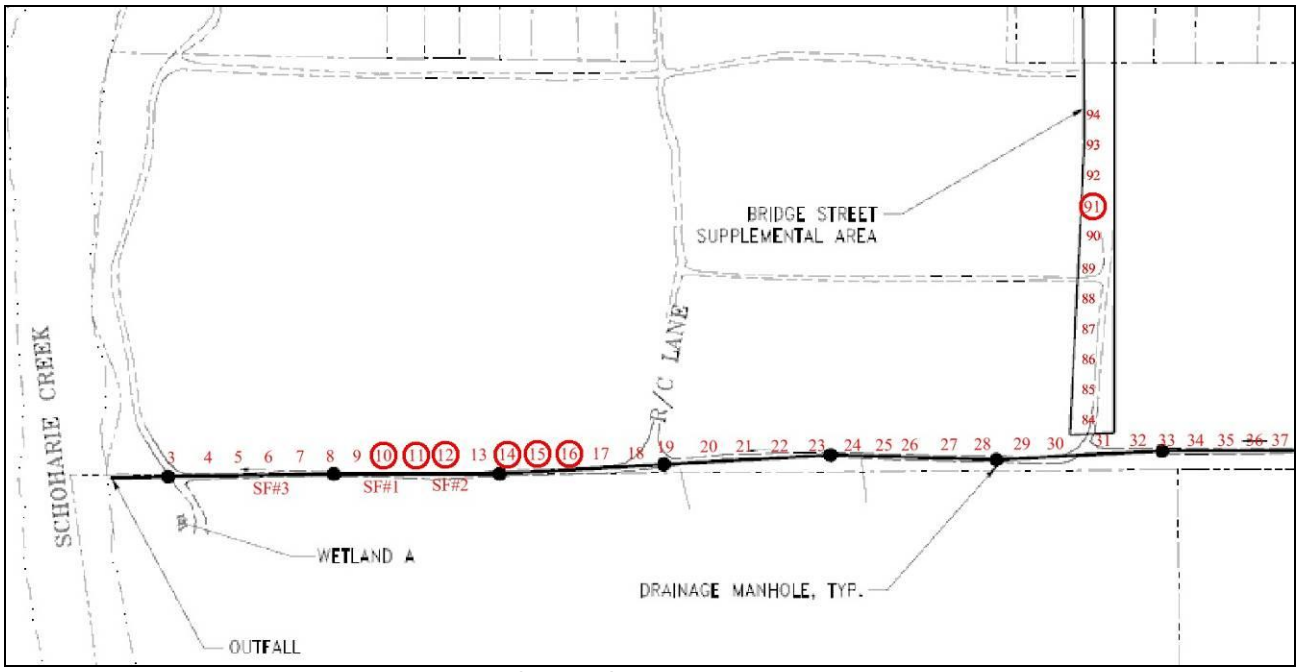

FIGURE 12: PHASE IB SURFACE FINDS (SF#1-3) AND SHOVEL TEST PIT LOCATIONS WITH POSITIVE TESTS CIRCLED.

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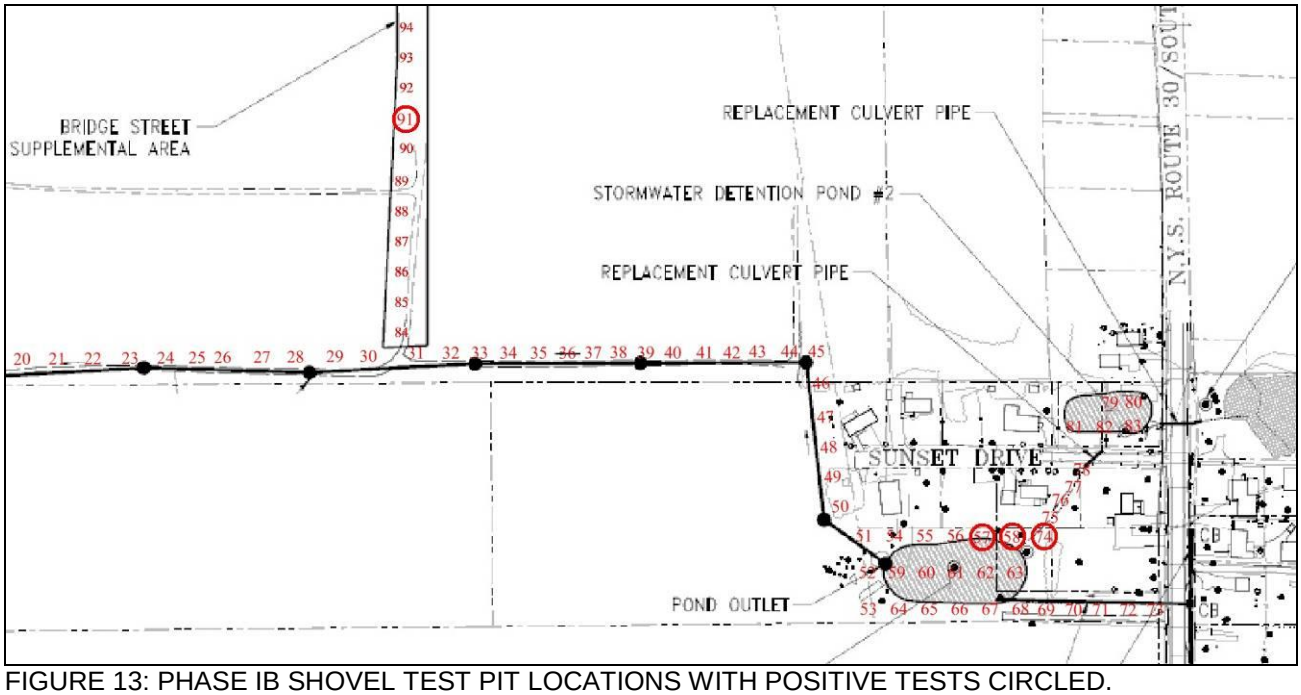

FIGURE 13: PHASE IB SHOVEL TEST PIT LOCATIONS WITH POSITIVE TESTS CIRCLED.

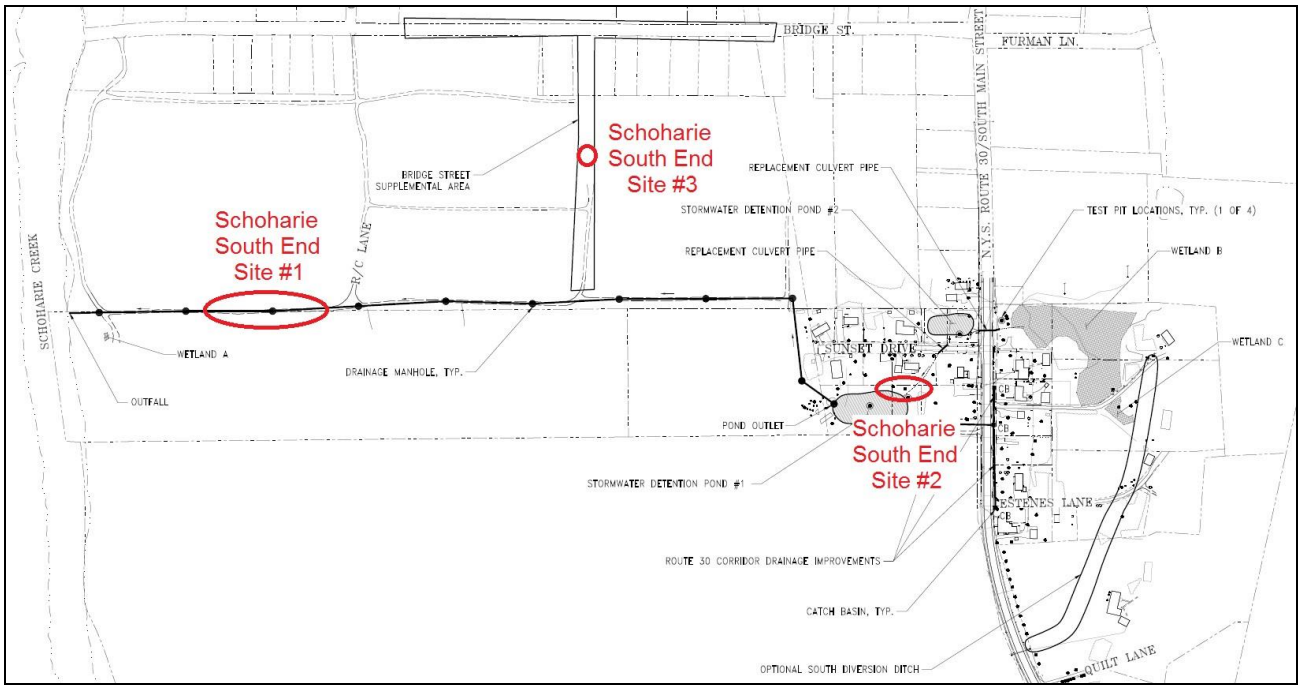

FIGURE 14: SITE LOCATIONS OF SCHOHARIE SOUTH END SITES #1-3.

5.4 RECOMMENDATIONS

The presence of precontact remains across the Project Area as well as the existence of known sites nearby indicates that site avoidance may not be feasible since any new alignment has the potential to identify similar cultural resources in adjacent lands.

The three sites identified during the Phase IB fieldwork appear to have the potential to yield information important in prehistory which would make them eligible for inclusion in the State and/or National Register under Criterion D. Therefore a Phase II Site Evaluation is recommended for each of the three sites.

Furthermore, the potential for deeply buried deposits within the floodplain alluvium and the possibility of the presence of Native American burials would appear to indicate the need for construction phase monitoring of all excavation activities. Additional consultation with OPRHP is recommended for guidance on this issue.

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Wenig and Lorey
1856 *Map of Schoharie County, New York.*

APPENDIX A
COMPLETE SHOVEL TEST RECORDS

Shovel test #	Depth (cm)	Soil Description	Cultural Material	Bags/Notes
3	0-38	Dark brown sandy silt	Bottle/window glass, plastic, charcoal, shell (all discarded)	Fill
	38-57	Brown silty loam	NCM	Sterile subsoil
4	0-40	Brown sandy silt	Charcoal specks	
	40-57	Very dark grayish brown sand	NCM	Sterile subsoil
5	0-36	Brown silty loam	NCM	
	36-57	Brown sandy silt	NCM	Sterile subsoil
6	0-51	Brown silty loam	NCM	
	51-63	Brown sandy silt	NCM	Sterile subsoil
7	0-53	Dark brown silty loam	NCM	
	53-64	Brown sandy silt	NCM	Sterile subsoil
8	0-59	Brown silty loam	Charcoal specks	West of trench 12
	59-66	Brown silty loam	NCM	Sterile subsoil
9	0-61	Brown silty loam	Charcoal (discarded)	East of trench 12
	61-76	Brown silty loam	NCM	Sterile subsoil
10	0-53	Brown silty sandy loam	Charcoal (discarded) chert flake	1 bag
	53-78	Brown loam	NCM	Sterile subsoil
11	0-73	Brown Silty sandy loam	1 chert scraper, 2 flakes charcoal (discarded)	Bottom 25 cm sterile 1 bag
12	0-48	Brown silty sandy loam	4 chert flakes	West of trench 11 1 bag
	48-64	Brown loam	NCM	Sterile subsoil
13	0-5	Brown silty loam	NCM	Adjacent to trench 11
	5-59	Brown silty loam	NCM	Sterile subsoil
14	0-48	Brown loam	2 chert flakes charcoal (discarded)	1 bag east of trench 11
	48-69	Brown silty loam	NCM	Sterile subsoil
15	0-12	Brown loam	NCM	Across from RC

	Depth	Soil Description	Cultural Material	Bags/Notes
	12-48	Brown loam	3 chert flakes	1 bag
	48-61	Brown loam	NCM	Sterile subsoil
16	0-7	Brown loam	NCM	East of R.C. airport
	7-60	Brown loam	4 chert flakes	1 bag
	60-72	Brown loam	NCM	Sterile subsoil
17	0-38	Brown loam	NCM	
	38-60	Brown loam	NCM	Sterile subsoil
18	0-41	Brown loam	Charcoal (discarded)	
	41-56	Brown loam	NCM	Sterile subsoil
19	0-38	Dark brown loam	NCM	
	38-51	Brown loam	NCM	Strerile subsoil
20	0-43	Dark brown loam	NCM	West of trench 10
	43-70	Brown loam	NCM	Sterile subsoil
21	0-42	Dark brown silty loam	Charcoal speck	East of trench 10
	42-67	Brown silty loam	NCM	Sterile subsoil
22	0-51	Dark brown silty loam	NCM	
	51-66	Brown silty loam	NCM	Sterile subsoil
23	0-47	Brown silty loam	NCM	
	47-73	Brown silty loam	NCM	Sterile subsoil
24	0-40	Brown silty loam	Charcoal specks	
	40-63	Brown silty loam	NCM	Sterile subsoil
25	0-53	Brown silty loam	NCM	
	53-70	Dark brown loam	NCM	Sterile subsoil
26	0-52	Brown silty loam	Charcoal (discarded)	
	52-67	Brown silty loam	NCM	Sterile subsoil
27	0-70	Brown silty loam	NCM	West of trench 9
	70-77	Brown silty loam	NCM	Sterile subsoil

	Depth	Soil Description	Cultural Material	Bags/Notes
28	0-68	Brown silty loam	Charcoal specks (discarded) Ceramic	1 bag east of trench 9
	68-83	Brown silty loam	NCM	Sterile subsoil
29	0-64	Dark brown silty loam	Charcoal specks (discarded)	
	64-76	Brown silty loam	NCM	Sterile subsoil
30	0-72	Brown silty loam	Charcoal specks (discarded)	Sterile
31	0-68	Brown silty loam	NCM	Sterile
32	0-76	Brown silty loam	NCM	West of trench 8
	76-82	Brown silty loam	NCM	Sterile subsoil
33	0-67	Brown loamy clay	NCM	Adjacent to trench 8
	67-79	Brown silty loam	NCM	Sterile subsoil
34	0-39	Brown silty loam	Plastic, plastic coffee cup lid (discarded)	East of trench 8
	39-64	Brown silty loam	NCM	Sterile subsoil
35	0-43	Brown silty loam	NCM	
	43-62	Brown silty loam	NCM	Sterile subsoil
36	0-52	Brown silty loam	NCM	
	52-66	Brown silty loam	NCM	Sterile subsoil
37	0-59	Brown silty loam	Charcoal specks (discarded)	
	59-69	Brown silty loam	NCM	Sterile subsoil
38	0-64	Brown loamy clay	NCM	West of trench 7
	64-70	Brown loamy clay	NCM	Sterile subsoil
39	0-66	Brown loamy clay	NCM	Adjacent to trench 7
	66-79	Brown loamy clay	NCM	Sterile subsoil
40	0-63	Brown loamy clay	Plastic and charcoal (discarded)	East of trench 7
	63-80	Brown loamy clay	NCM	Sterile subsoil
41	0-57	Brown silty loam	Plastic (discarded)	
	57-74	Brown loamy clay	NCM	Sterile subsoil

	Depth	Soil Description	Cultural Material	Bags/Notes
42	0-80	Brown silty loam	NCM	
	80-92	Brown loamy clay	NCM	Sterile subsoil
43	0-56	Brown silty loam	Charcoal (discarded)	
	56-109	Brown loamy clay	NCM	Sterile subsoil
44	0-16	Brown silty loam	NCM	
	16-104	Brown loamy clay	NCM	Sterile subsoil
45	0-64	Brown silty loam	2x4 wood board (discarded)	
	64-112	Brown loamy clay	NCM	Sterile subsoil
46	0-58	Brown silty loam	NCM	
	58-87	Brown loamy clay	NCM	Sterile subsoil
47	0-29	Brown silty loam	NCM	
	29-108	Brown loamy clay	NCM	Sterile subsoil
48	0-116	Brown silty loam	NCM	Sterile subsoil
49	0-80	Brown silty loam	NCM	
	80-111	Brown silty loam	NCM	Sterile subsoil
50	0-84	Brown silty loam	NCM	
	84-97	Brown silty loam	NCM	Sterile subsoil
51	0-92	Brown silty loam	Electrical wire	Wire left in test pit
	92-116	Brown silty loam	NCM	Sterile subsoil
52	0-23	Brown silty loam	NCM	
	23-116	Brown loamy clay	Charcoal specks (discarded)	Sterile subsoil
53	0-98	Brown silty loam	Charcoal (discarded)	
	98-136	Brown silty sand	NCM	Sterile subsoil
54	0-35	Very dark grayish brown silt	NCM	
	35-75	Dark yellowish brown sand	NCM	Sterile subsoil
55	0-21	Dark grayish brown silt	NCM	
	21-32	Brown silt	NCM	

	Depth	Soil Description	Cultural Material	Bags/Notes
56	0-56	Brown clayey silt	NCM	
57	0-60	Brown clayey silt	Chert flake	
58	0-53	Brown clayey silt	Chert flake	
59	0-39	Very dark grayish brown silt	NCM	
	39-81	Dark yellowish brown sand	NCM	Sterile subsoil
60	0-15	Dark grayish brown silt	NCM	
	15-59	Reddish brown clayey silt	NCM	Sterile subsoil
61	0-55	Brown clayey silt	NCM	
62	0-57	Brown clayey silt	NCM	
63	0-62	Brown clayey silt	NCM	
64	0-80	Very dark grayish brown silt	Coal, slag N/C	
65	0-12	Dark grayish brown silt	NCM	
	12-55	Reddish brown clayey silt	NCM	Sterile subsoil
66	0-15	Dark grayish brown silt	NCM	
	15-63	Reddish brown clayey silt	NCM	Sterile subsoil
67	0-106	Brown silty loam	NCM	
	106-130	Brown loamy clay	NCM	Sterile subsoil
68	0-96	Brown silty loam	Charcoal, macadum, window glass (discarded)	
	96-118	Brown loamy clay	NCM	Sterile subsoil
69	0-53	Brown silty loam	NCM	
	53-76	Brown silty loam	NCM	Sterile subsoil
70	0-27	Brown gravelly loam	NCM	Very gravelly
	27-68	Brown silty loam	NCM	Sterile subsoil
71	0-68	Brown silty loam	Charcoal (discarded)	
	68-92	Brown loamy clay	NCM	Sterile subsoil

	Depth	Soil Description	Cultural Material	Bags/Notes
72	0-45	Brown silty loam	NCM	
	45-78	Brown loamy clay	NCM	Sterile subsoil
73	0-71	Brown gravelly silty loam	NCM	
	71-93	Brown loamy clay	NCM	Sterile subsoil
74	0-70	Brown loam	Plastic, Alluminum, windown glass, charcoal 3 chert flakes	Former house site 1 bag
	70-98	Brown loam	Charcoal, wood, mortar, stryofoam (discarded)	Disturbed Fill
75	0-58	Brown silty loam	Plastic PBC pipe (discarded)	
	58-77	Brown gravelly loam	NCM	Very gravelly disturbed fill
76	0-69	Brown silty loam	NCM	
	69-91	Brown silty loam	NCM	Sterile subsoil
77	0-75	Brown silty loam	Plastic (discarded)	
	75-106	Brown silty loam	NCM	Sterile subsoil
78	0-83	Brown silty loam	Charcoal (discarded)	Sterile
79	0-20	Brown gravelly loam	Concrete (discarded)	Fill
	20-61	Dark brown loam	NCM	Sterile subsoil
80	0-71	Brown gravelly loam	Concrete and charcoal (discarded)	Disturbed
81	0-40	Brown loam	NCM	
	40-84	Brown loamy clay	NCM	Sterile subsoil
82	0-18	Brown gravelly loam	Concrete (discarded)	Concrete at 18cmbs
	18-43	Dark brown loam	NCM	Disturbed Fill
83	0-33	Dark brown gravelly loam	Charcoal, plastic, window glass (discarded)	Rock impasse
84	0-65	Dark yellowish brown silt	Glass N/C	
85	0-60	Dark yellowish brown silt	NCM	
86	0-30	Dark yellowish brown silt	NCM	

	Depth	Soil Description	Cultural Material	Bags/Notes
	30-79	Strong brown clayey silt	NCM	Moist
87	0-47	Dark yellowish brown silt	NCM	Moist
	47-75	Dark yellowish brown silty sand	NCM	
88	0-55	Dark yellowish brown silt	NCM	
89	0-62	Dark yellowish brown silt	NCM	
90	0-60	Dark yellowish brown silt	NCM	
91	0-61	Dark yellowish brown silt	2 chert flakes	Plastic in wall @ 20 + 30cm
92	0-58	Dark yellowish brown silt	NCM	
93	0-75	Dark yellowish brown silt	NCM	
94	0-33	Dark brown gravelly loam	Plastic from light fixture (discarded)	6 ft. from barn.
	33-99	Brown silty loam	NCM	Sterile subsoil

APPENDIX B
PHOTOGRAPHS OF THE PROJECT AREA

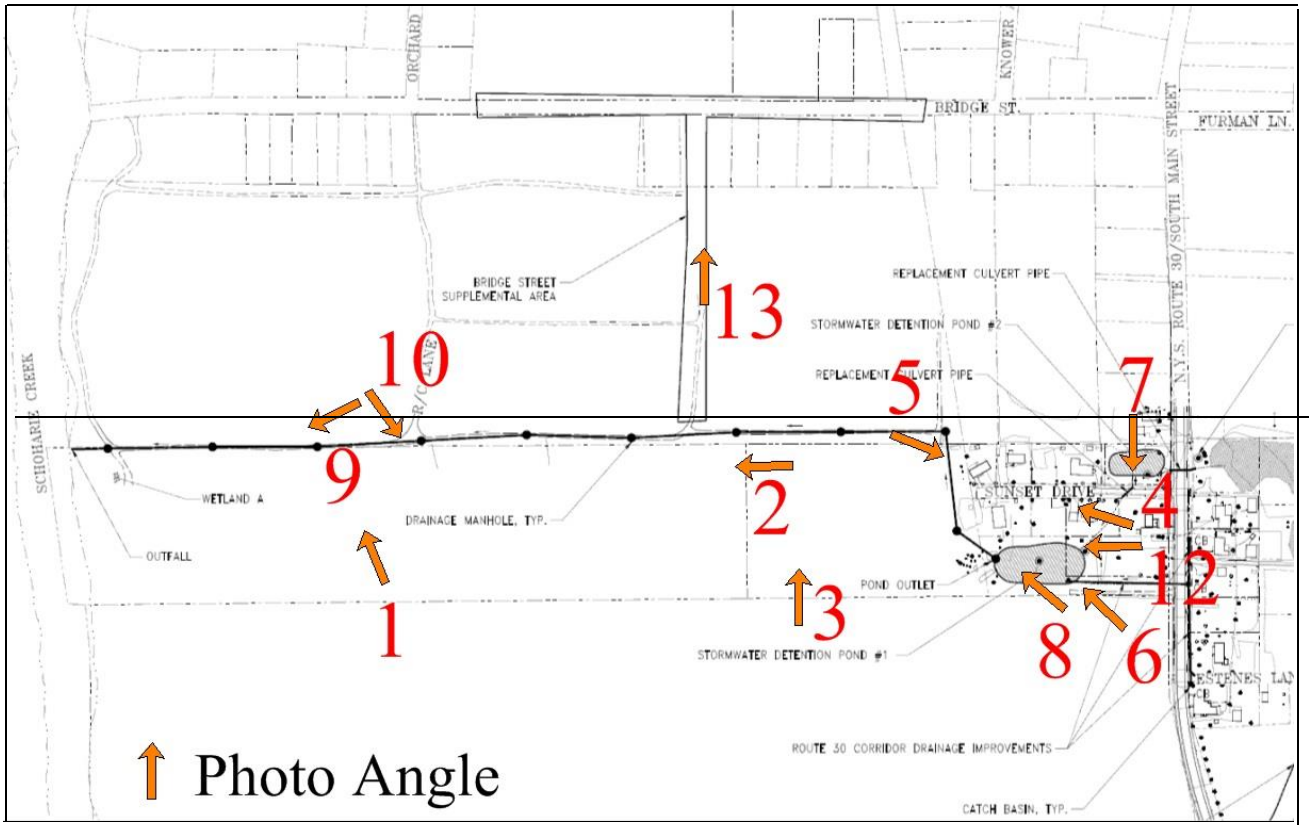
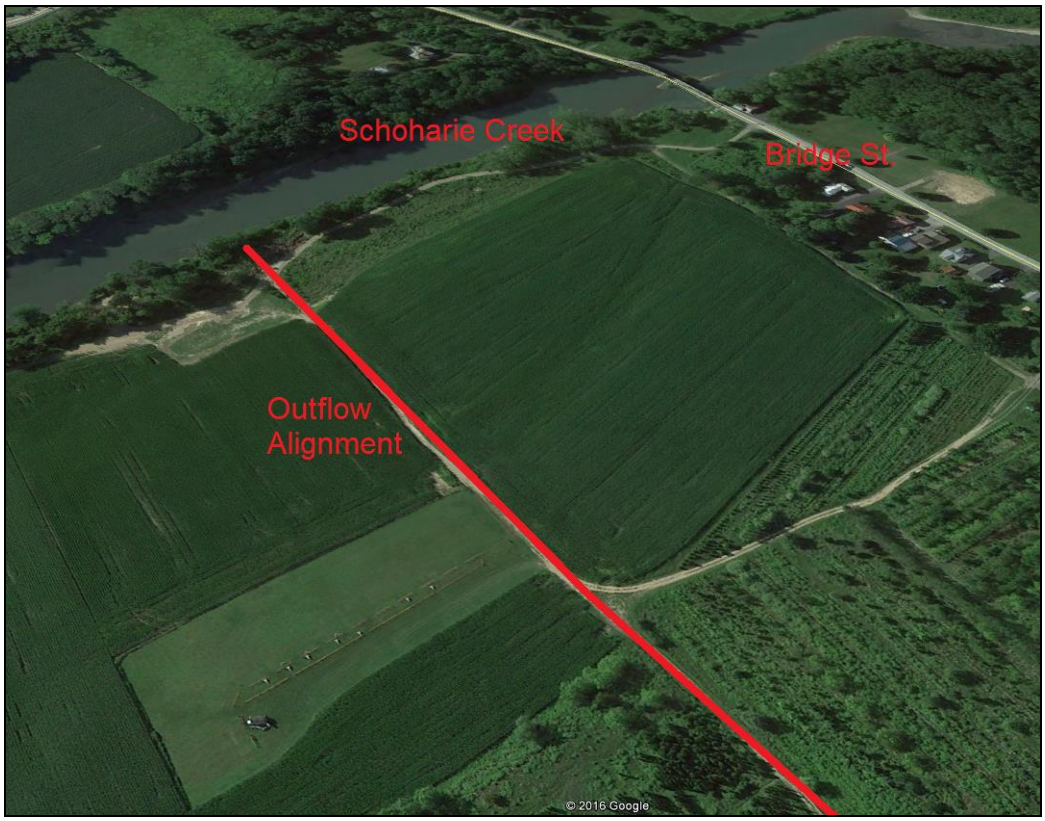
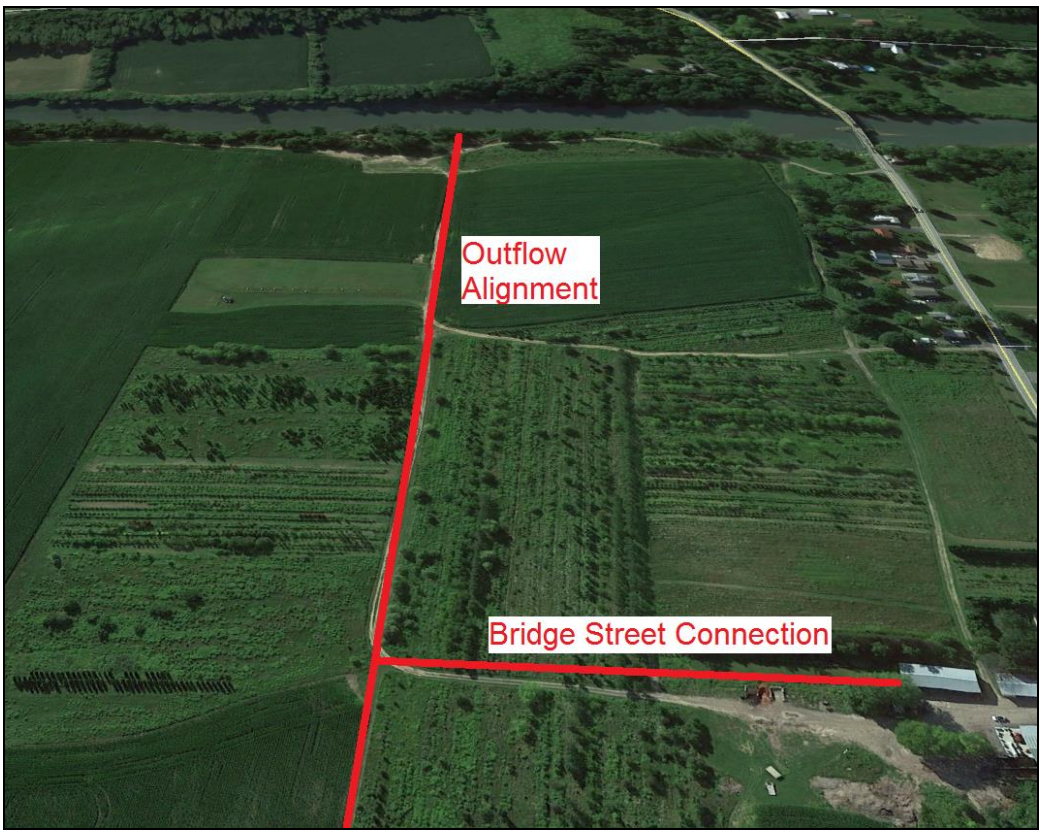


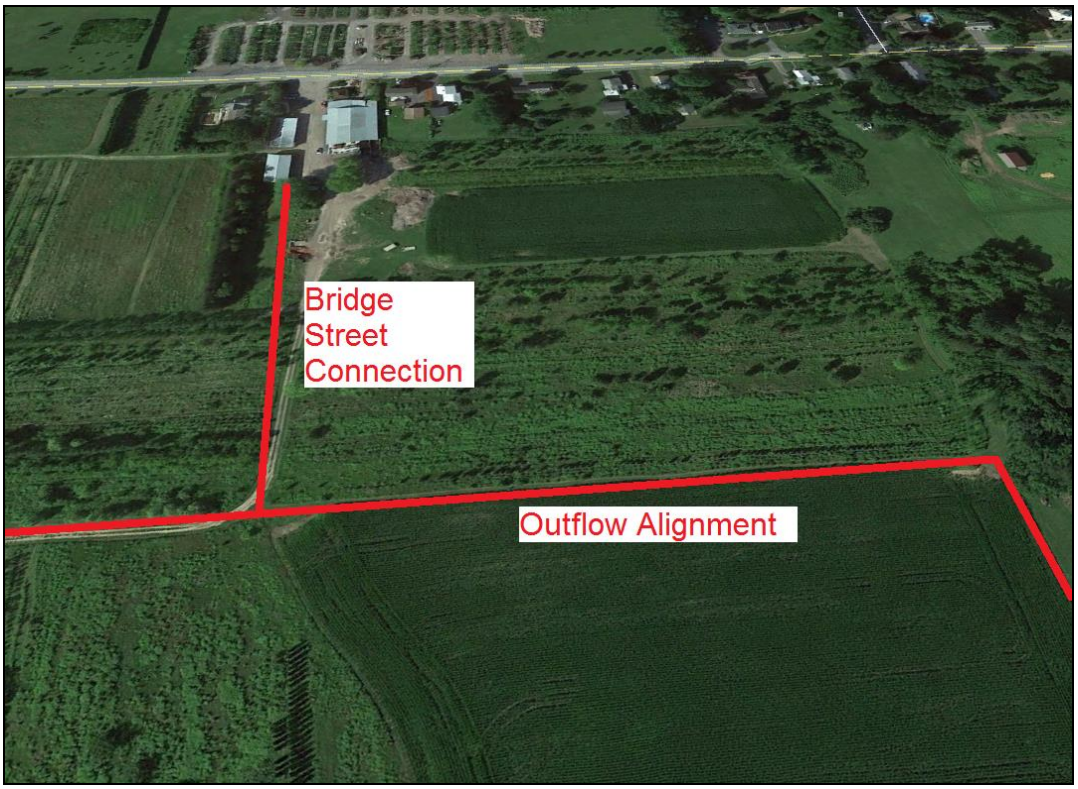
FIGURE 14. PROPOSED SITE PLANS ALONG WITH PHOTOGRAPH LOCATIONS.
(Aerial Imagery Source: Google Earth)



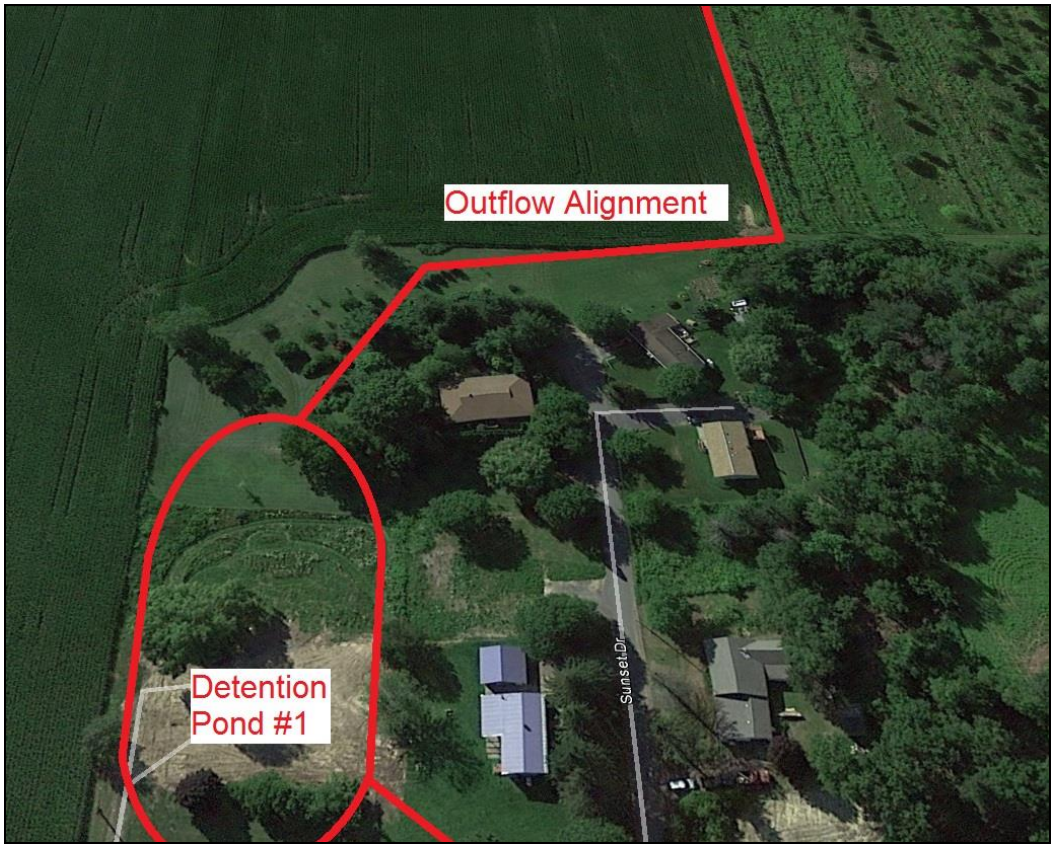
PHOTOGRAPH 1. AERIAL VIEW NORTHWEST ACROSS GUERNSEY LANDS SHOWING OUTFLOW ALIGNMENT.



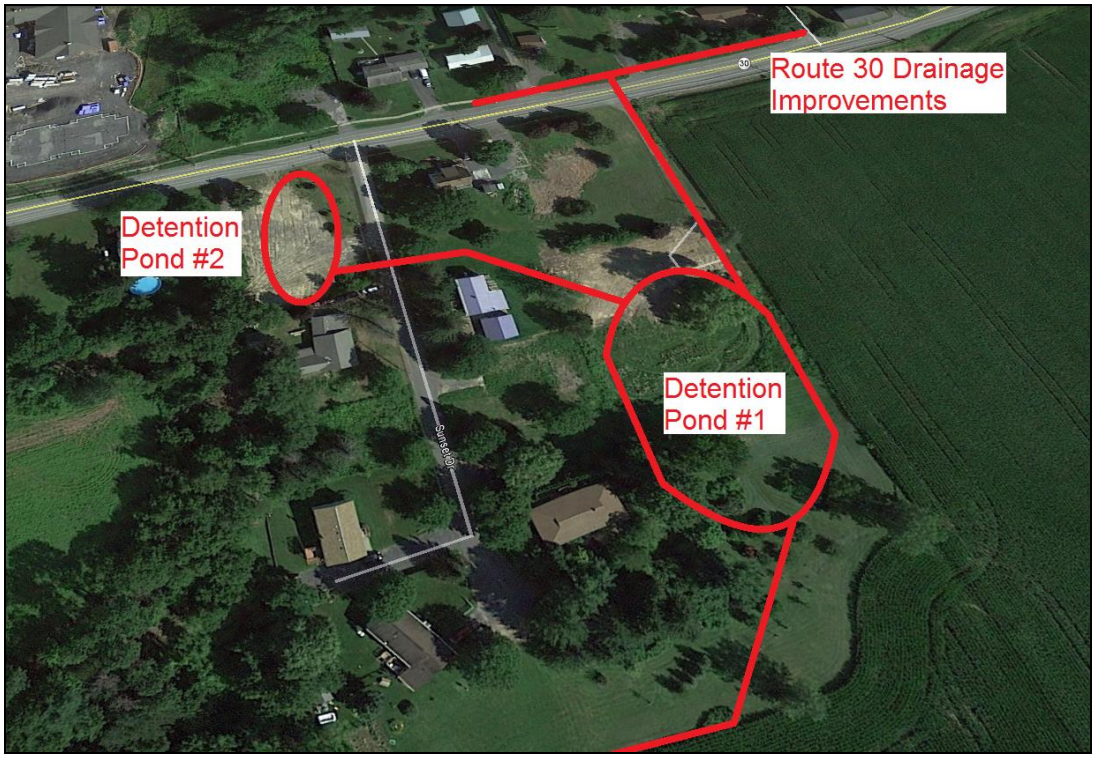
PHOTOGRAPH 2. AERIAL VIEW WEST SHOWING OUTFLOW ALIGNMENT AND BRIDGE STREET CONNECTION.



PHOTOGRAPH 3. AERIAL VIEW NORTH SHOWING OUTFLOW ALIGNMENT AND BRIDGE STREET CONNECTION

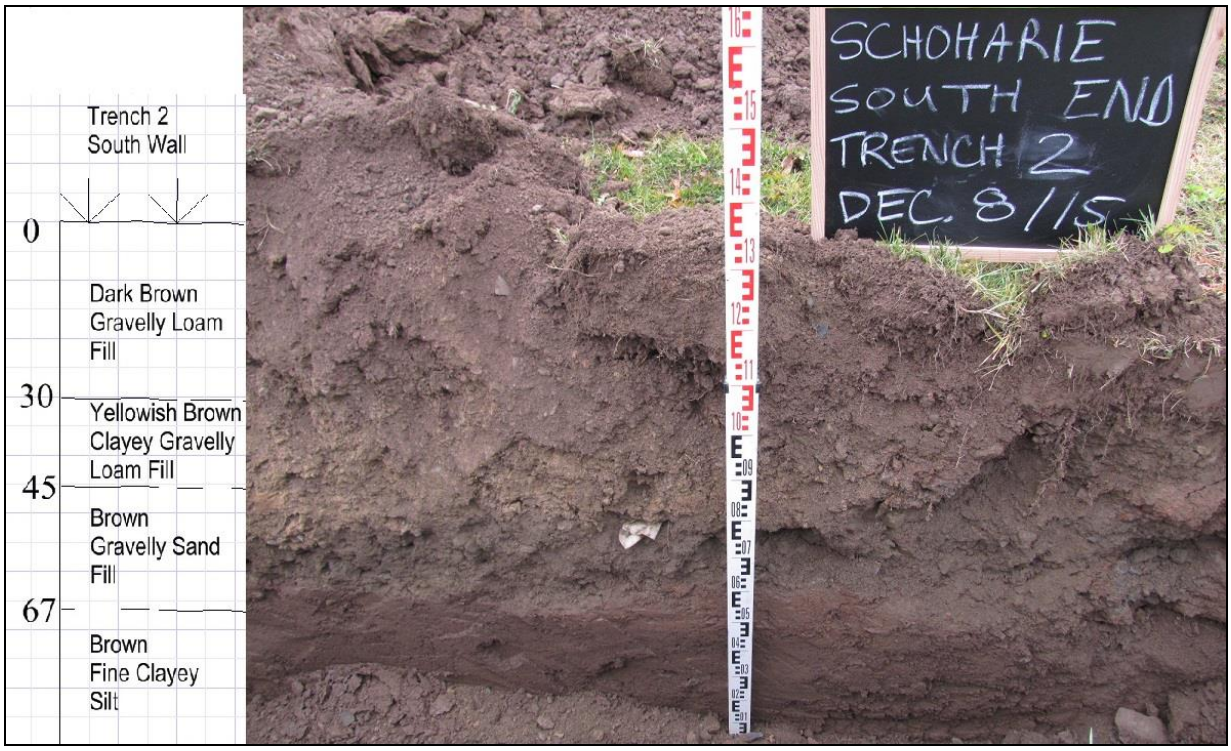


PHOTOGRAPH 4. AERIAL VIEW NORTHWEST SHOWING OUTFLOW ALIGNMENT, BRIDGE STREET CONNECTION AND DETENTION POND #1

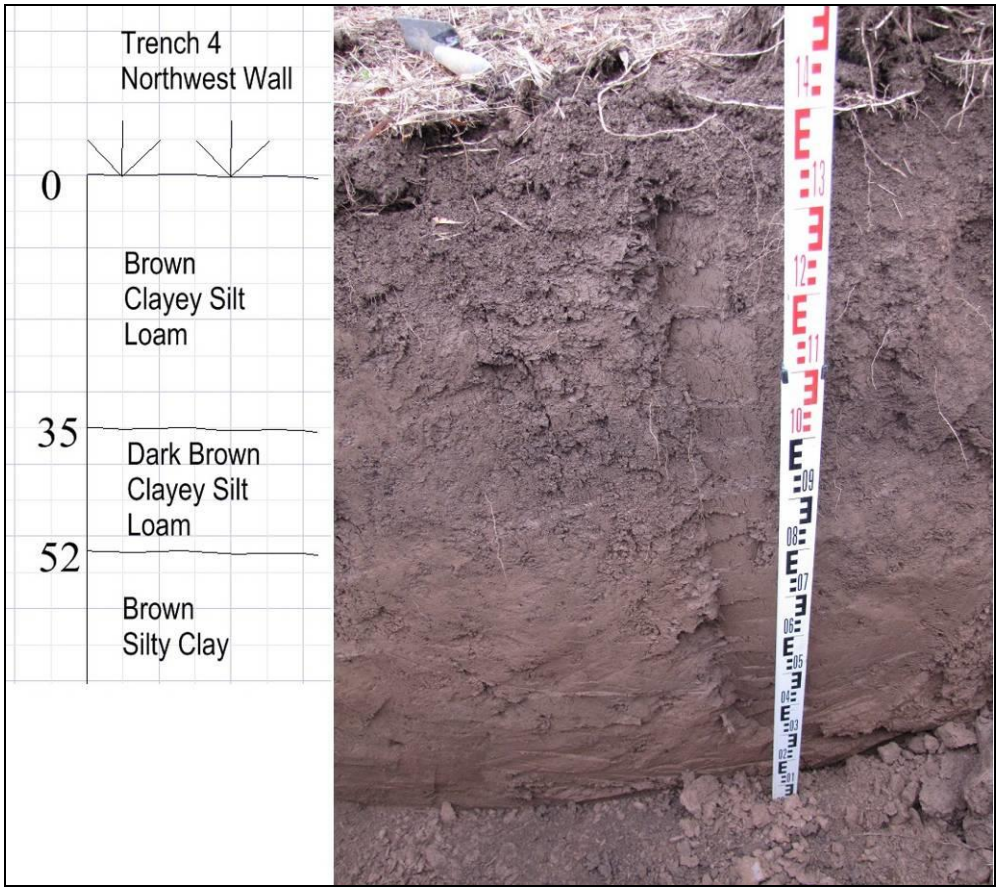


PHOTOGRAPH 5. AERIAL VIEW SOUTH SHOWING SUNSET DRIVE, DETENTION PONDS #1 & #2 AND ROUTE 30 DRAINAGE IMPROVEMENTS

PHOTOGRAPH 6. FACING NORTH SHOWING LOCATION OF DETENTION POND #1.



PHOTOGRAPH 7. SOUTH WALL PROFILE OF TRENCH 2 SHOWING FILL DISTURBANCE.



PHOTOGRAPH 8. NORTHWEST WALL PROFILE OF TRENCH 4 SHOWING MASSIVE SILTY CLAY BASE.

PHOTOGRAPH 9. FACING NORTHWEST SHOWING LOCATION OF POSITIVE STPs 10, 11 & 12 (FOREGROUND).

PHOTOGRAPH 10. FACING SOUTH SHOWING LOCATION OF POSITIVE STPs 14, 15 & 16.

PHOTO 11: PRECONTACT CHERT ARTIFACTS RECOVERED NEAR R/C AIRFIELD.

PHOTOGRAPHS 12. FACING NORTHWEST SHOWING LOCATION OF POSITIVE STPs 57 & 58 (FOREGROUND).

PHOTOGRAPH 13. FACING NORTHEAST SHOWING LOCATION OF POSITIVE STP 91.

APPENDIX C
ARTIFACT CATALOG

STP #	Level	Count	Material	Artifact Summary	Dimensions	Weight	Description
Surface	find #1	1	gray chert	core fragment	6.6 x 4.7 x 2.1 cm	68.8 g	
Surface	find #2	1	gray chert	secondary flake	3.6 x 2.3 x 0.4 cm	4.0 g	
Surface	find #3						
	adjacent						
	to STP 13	1	gray chert	secondary flake	2.0 x 1.7 x 0.3 cm	1.1 g	
3	1	1	ceramic	sherd	3.2 x 3.1 x 0.2 cm	4.3 g	whiteware, Johnson Bros. England, c. 1913-present
		1	shell	fragment	3.1 x 1.8 x 0.4 cm	7.5 g	
10	1	1	Onondaga chert	secondary flake	1.5 x 1.5 x 0.3 cm	0.6 g	
11	1	1	gray chert	projectile point fragment	4.5 x 2.7 x 0.8 cm	10.5 g	PP missing base
		1	light gray chert	secondary flake	1.9 x 1.5 x 0.3 cm	1.2 g	
		1	light gray chert	shatter fragment	1.0 x 0.9 x 0.2 cm	1.3 g	
12	1	1	Onondaga chert	secondary flake	2.3 x 1.6 x 0.4 cm	5.8 g	
		3	gray chert	trim flakes	1.1 x 0.8 x 0.2 cm	0.4 g	
					0.9 x 0.8 x 0.1 cm	0.4 g	
					0.9 x 0.9 x 0.1 cm	0.2 g	
14	1	2	gray chert	shatter fragments	1.9 x 0.7 x 0.2 cm	0.2 g	
					0.7 x 0.5 x 0.1 cm	<0.1 g	
15	2	1	gray chert	trim flake	1.0 x 0.6 x 0.2 cm	<0.1 g	
		2	gray chert	shatter fragments	2.0 x 1.0 x 0.3 cm	0.6 g	
					1.5 x 0.9 x 0.2 cm	0.3 g	
16	2	3	gray chert	secondary flakes	2.2 x 1.3 x 0.3 cm	1.0 g	
					1.6 x 0.9 x 0.2 cm	0.3 g	
					1.2 x 1.0 x 0.1 cm	0.2 g	

STP #	Level	Count	Material	Artifact Summary	Dimensions	Weight	Description
		1	gray chert	trim flake	1.3 x 0.6 x 0.2 cm	<0.1 g	
28	1	1	ceramic	sherd	1.3 x 0.4 x 0.2 cm	0.3 g	whiteware with blue and yellow hand painting
57	1	1	gray chert	secondary flake	2.3 x 1.5 x 0.3 cm	1.1 g	
58	1	1	gray chert	secondary flake	2.0 x 1.6 x 0.2 cm	1.0 g	
74	1	1	brown chert	secondary flake	1.7 x 1.2 x 0.3 cm	1.2 g	
		1	gray chert	secondary flake	1.3 x 1.0 x 0.2 cm	0.2 g	
		1	gray chert	shatter fragment	1.5 x 0.7 x 0.7 cm	1.0 g	
91	1	2	Onondaga chert	secondary flakes	2.2 x 1.3 x 0.2 cm	0.8 g	
					1.6 x 1.3 x 0.2 cm	0.7 g	
93	1	3	gray chert	shatter fragments	1.9 x 1.4 x 1.0 cm	4.3 g	
					1.8 x 1.0 x 0.7 cm	1.7 g	
					1.6 x 1.3 x 0.6 cm	2.1 g	
					0.9 x 0.6 x 0.5 cm	0.5 g	

APPENDIX D
GEOMORPHOLOGICAL ANALYSIS

Discussion & Interpretation of the Stratigraphy & Geomorphology in the Schoharie Valley at The South End Project Area Schoharie, NY 12157

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Discussion

Geomorphology: A traverse along the proposed alignment and along the river bank revealed the presence of 3 distinct terraces as shown on **Map 1**. The lowest T0 terrace exists along the immediate creek edge and includes a flood channel of the creek evident on imagery and on the topographic map as a depression bracketed by the 600 foot contour. The bottom of the flood chute lies at 592-593 feet elevation. This flood channel or chute was occupied at least during the 1996 and 2011 flood events. A prominent step or riser marks the transition to the next higher surface. Trenches 14 & 15 were placed in the T0 terrace with trench 14 in the eastern portion of the flood chute and trench 15 placed along the high creek bank at what was thought to be a natural levee that tops at slightly more than 594 feet. The stratigraphy discussed in the next section indicates this was not true.

The riser from the eastern edge of the flood chute on the T0 terrace leads up to the T1 terrace with a surface elevation only a few feet higher at approximately 599 feet. This T1 terrace slopes very gently eastward away from Schoharie Creek. The higher western edge of the terrace likely represents a minor natural levee of the creek that probably receives sediment during numerous floods that reach 600 feet in elevation along this section of the flood plain. Trenches 12 & 13 were placed in this terrace. Trench 13 was located to capture any natural levee sediment while trench 12 was located to compare any levee sediment with more distal overbank sediment. A riser along the eastern edge of the T1 terrace leads up to the next higher terrace.

The T2 terrace is a wide terrace that comprises the middle portion of the alignment and steps up almost imperceptibly to a T2a terrace near its eastern edge. The longest trench, #11, was located to capture any natural levee evidence with trenches 10, 9 8 & 7 placed at intervals along this surface to sample the overbank stratigraphy. The western edge of the T2 terrace is very slightly higher in elevation at 603 feet while most of the terrace is nearly flat at 601 feet elevation. The eastern portion of the terrace undulates slightly about a 604 foot elevation. While there is no obvious step or riser from the adjacent 601 foot T2 terrace surface, the slight elevation change and undulating surface suggests this is a related but higher terrace and is designated T2a.

The 1-foot contour interval data used in the engineering cross section depicts a marked step up in grade but a traverse does not reveal an obvious step in topography. Nevertheless, the terrace east of the T2a surface lies above 607 feet elevation and slopes gently upward to the east

across Main Street where this terrace continues and is coeval with the terrace studied by DeSimone for The Birches project. This T3 terrace is the highest flood plain surface along this reach of Schoharie Creek. It is likely the old railroad grade was placed here because the terrace was infrequently flooded. It may be the geomorphic equivalent of a 100 year flood plain terrace. This inference is not intended to negate any designated 100 year flood plain map but only serves to explain the geomorphology of the terrain along the alignment and across Main Street through The Birches. The T3 terrace continues to the east where a marked break in slope occurs. The base of this break in slope coincides with the flood height predicted from a Gilboa Dam failure during wet weather, the darker blue shade shown on **Map 2**.

Stratigraphy: Cross section 1 depicts the general stratigraphy revealed in trenches 5 through 15 plus trench 2 and with consideration of the off-alignment data from trenches 16 & 17. Data for trenches 1, 3 & 4 were also briefly examined. **Table I** summarizes the sediment unit thicknesses used in the cross section. Multiple solutions to the discrete data from the trenches are possible but interpolation between trenches using the simplest alternative is the preferred solution shown. Creation of a stratigraphic cross section using excavation data requires interpolation between the trenches. Consequently, correlation of sediment from one trench to the next is usually not straightforward.

Fill is present at both ends of the alignment as seen in trench 2 and trenches 14 & 15. The fill in trench 2 is shown as extending to the Main Street road grade and this is likely; however, trench 2 was not seen and the data are my only clue. The fill of trench 15 was a surprise in its thickness. South of the alignment, a cut through the creek bank revealed overbank sediment almost to creek level but no fill was observed. The bank was at a lower elevation and this may be the more correct condition along this reach of the creek. The fill in trench 15 suggests a purposeful increase in bank height probably to minimize flood impacts on the adjacent farm land. Debris at the trench location was removed prior to excavation and the bank actually appeared higher because of the coarse debris piled along the bank.

Gravel with pebble to cobble sizes and coarse sand matrix was observed at the base of trenches 15, 14, 12, 11, 10, 9, 8 & 6 along the alignment and at the bottom of trench 16 perpendicular to the alignment.

The widespread occurrence of the gravel indicates it may be a nearly continuous layer that underlies the flood plain silt and fine sand. Gravel and coarse to medium sand are channel and bar sediments transported as part of the traction or bed load of a stream. They are typically not carried from the channel and bar environment up onto a flood plain. The gravel appears to form a layer that gently slopes toward the creek. The gravel thickness is unknown. However, anecdotal evidence from Floyd Guernsey, owner of the property, is that there was at least several feet of gravel, perhaps as much as 6 feet, he excavated through north of Bridge Street during excavation for a pond. The gravel represents the time transgressive Holocene migration of Schoharie Creek from East to West as it downcut through the Pleistocene lake bottom sediment. The age of the gravel must, thus, be younger in the West and older in the East. Absolute ages can only be determined if organic matter within or in contact with the gravel is dated by the C14 method. Trench 16 had wood and small amounts of organic matter at the top of the gravel in a grey silt matrix bed interpreted to represent a quiet water flood deposit atop the gravel once the channel was abandoned during westward migration of the creek.

Sand occurs as a distinct unit in 2 places along the cross section. In both instances, the sand unit is interpreted to be lenticular and not a continuous layer. The sand in trenches 14 & 13 is predominantly medium sand (MS) and fine sand (FS) with minor very fine sand (VFS). The MS & FS and FS & VFS beds occur in alternating beds that form sediment couplets. In detail, the couplets actually represent a single graded bed that fines upward from either MS to FS or from FS to VFS. A plausible interpretation of the graded beds is they each reflect a single high energy depositional event. These sands likely accumulated in either a bar or natural levee setting based upon the sand grain size that is too coarse for typical overbank flood plain deposition. The western sand lens underlies the western portion of the T1 terrace and may record bar and levee accumulation. Trench 13 also contains a thin pebble gravel lens that likely reflects a channel migration episode during meandering of the creek as the T1 terrace formed.

Trench 14 also contains a small gravel lens. The stratigraphic position of the gravel lens is distinctive, however. A truncation surface recording a major erosional event cuts across the alternating MS & FS couplets. The erosional surface undulates and forms a small channel-like cut into the underlying sediment. The pebble gravel lens was deposited atop this erosion surface. In turn, the gravel and the erosional surface were buried

with fill. This fill was brought in after the 1996 flood. Thus, it is likely that flood eroded the flood chute of the T0 terrace and deposited a lens of gravel during the later stages of the flood. Fill graded the scoured ground left from the flood.

Sand observed in trenches 7 & 6 and described in trench 5 is both mottled in sections and layered in other sections of the unit. The layered sand of trench 7 consists of MS & CS that is both horizontally bedded and cross bedded. The beds have a slight northward dip and reflect a generally northward flowing current for their deposition. The setting is consistent with deposition in a sand bar and/or a bar that may transition to a levee if the height increased. This bar to levee setting would be associated with the T3 to T2a terraces from the position and elevation of the sand lens unit.

Silt (St) is the last sediment unit seen across the alignment. It is the most widespread and thickest sediment layer present. The St unit is the primary overbank flood plain unit in the stratigraphic sequence seen in the trenches.

In many instances, the St & VFS is mottled and represents locations where original bedding was disturbed/destroyed by processes. Turbulence of the bedding plain surface accompanying deposition can disturb the upper millimeter or so of the flood plain surface and cause the resulting deposit to be homogenized and weather to a mottled appearance. The mottling likely happens due to slight grain size differences with some pockets of VFS and some pockets of St in an otherwise homogenized bed.

The St & VFS in other sections consists of alternating layers that with close examination are sediment couplets. These couplets each represent a single graded bed and were deposited on the flood plain during individual flood events. It may be possible to use these sediment couplets to count individual flood events.

Interpretation of the Stratigraphy & Geomorphology

A brief integration of the above discussion will summarize the sequence of events interpreted from the trench data. The sediment sequence seen collectively in the trenches represents a typical fining upwards terrace sequence. An alluvial or fluvial terrace represents the lateral accumulation of a terrace. Migration of a stream channel leaves behind both channel gravel and bar sand. Sand may build up to form a distinct point bar on the inside of a stream bend and may further increase in height to become a natural levee, a stream bank higher than the adjacent

flood plain. Floods that overtop the point bar and levee spread onto the flood plain and in this low energy environment silt and very fine sand accumulate. Individual flood events can deposit a single graded bed of silt and very fine sand on the flood plain. Similarly, individual high energy events in a bar or levee setting can deposit a single graded bed of medium sand and coarse sand or medium sand and fine sand. Bars and levees thus become longer, wider and higher. Flood plains become higher with flood deposition.

This setting along this reach of Schoharie Creek likely represents a very active fluvial environment. Depositional events must have been frequent enough to limit soil profile development.

Each of the terraces identified - T0, T1, T2/T2a and T3 remain active. Only the highest floods cover all or portions of the T3 terrace with water as was the case with the 2011 Irene flood. The lower terraces are flooded more frequently. **Table II** is a list of the 16 highest annual peak discharges along Schoharie Creek as recorded by the Burtonsville USGS gaging station located downstream from the Village of Schoharie. Note, these discharge values reflect controlled discharge from the Gilboa Dam. The natural cycle of flooding has been interrupted by the dam.

Implications for the alignment: Cross section 1 also shows the proposed location of the storm water drain. The drain will almost certainly be excavated through alluvium of the terraces shown. Most of the excavation will be in silt, very fine sand and fine sand. At least 2 areas of fine sand, medium sand and some coarse sand will be encountered during the excavation. There is only a small chance gravel will be encountered. Near the creek, excavation will be through fill.

Archaeological potential: All of the alignment will be excavated through a Holocene fining upwards alluvial terrace sequence that consists of a basal gravel and/or sand, localized bar/levee sand and overbank or flood plain silt. The age of the alluvium can only be bracketed as Holocene as there are no absolute ages known. It is likely that the depth of impact for the project will reach sediment of pre-Contact and possibly much older sediment. No strong buried A horizons were observed but this does not mean a buried A horizon couldn't be encountered in future excavations. All of this alluvium has a high potential for artifacts based upon the stratigraphy and geomorphology along the alignment.

Recommendations

The likely age range of the alluvium to be excavated for the proposed project and its potential for artifacts indicates it may be prudent for an archaeologist to observe the excavation during the construction phase of the project. A contingency to request the visit of a geomorphologist should that be deemed worthwhile may also be included in future planning for this project.

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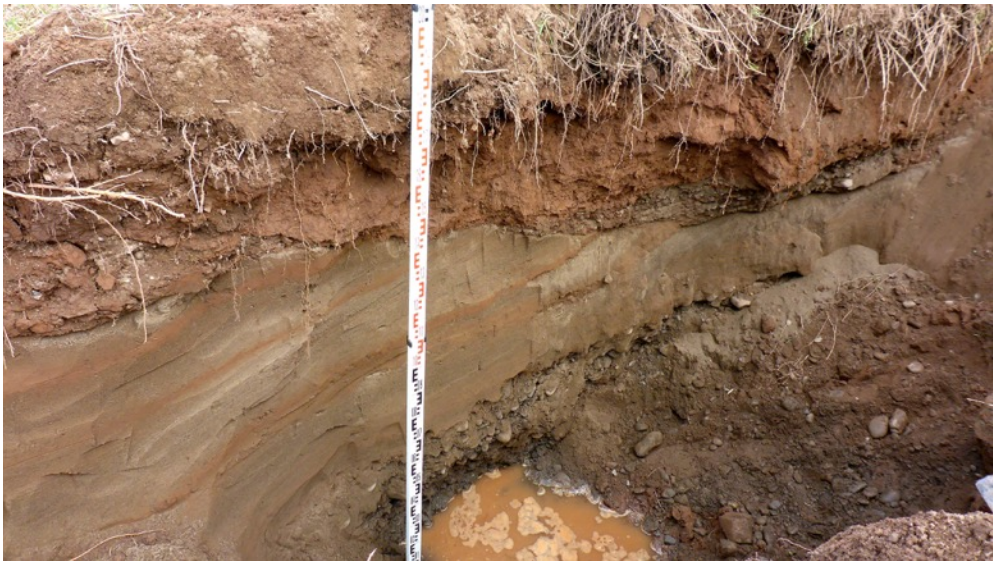


Trench 14: The top chocolate brown fill layer was graded into place after the 1996 flood. A thin imbricated pebble gravel layer beneath the fill to the right of the measuring staff represents a deposit in the flood chute from the 1996 flood. Both fill and gravel overlie a truncation surface that cuts across an underlying unit of interbedded medium and fine sand that contains sediment couplets from individual flood events. A pebble to small cobble gravel layer is at the base of the trench.

Trench 13: Massive FS, VFS & St transition to FS-MS couplets that prevail to the base of the trench. A thin pebble gravel lens is in the center.

Trench 12: Massive St-VFS-FS transitions downward to FS-VFS-St sediment couplets. Basal gravel is just visible in the bottom of the image.

Trench 11: St-VFS-FS and minor FS-MS couplets prevail throughout most of the trench but are interrupted by a massive section near the middle of the beds. A basal pebble gravel is not visible in this image. A final bucket haul brought up a grey & reddish St & VFS with minor clay not shown on the data table or in the cross section. This could be a deeper Holocene section or could be Pleistocene.

Trench 15: Fill is the upper unit in this trench located on the creek bank. Massive Silt underlies the fill with a basal gravel appearing near creek level associated with the water table seen in the image.

Trench 10: Massive silt dominates the excavation with a basal pebble to small cobble gravel.

Trench 9: Massive silt dominates the excavation with a basal pebble to small cobble gravel. A grey sand layer can be seen atop the gravel near the base of the measuring staff.

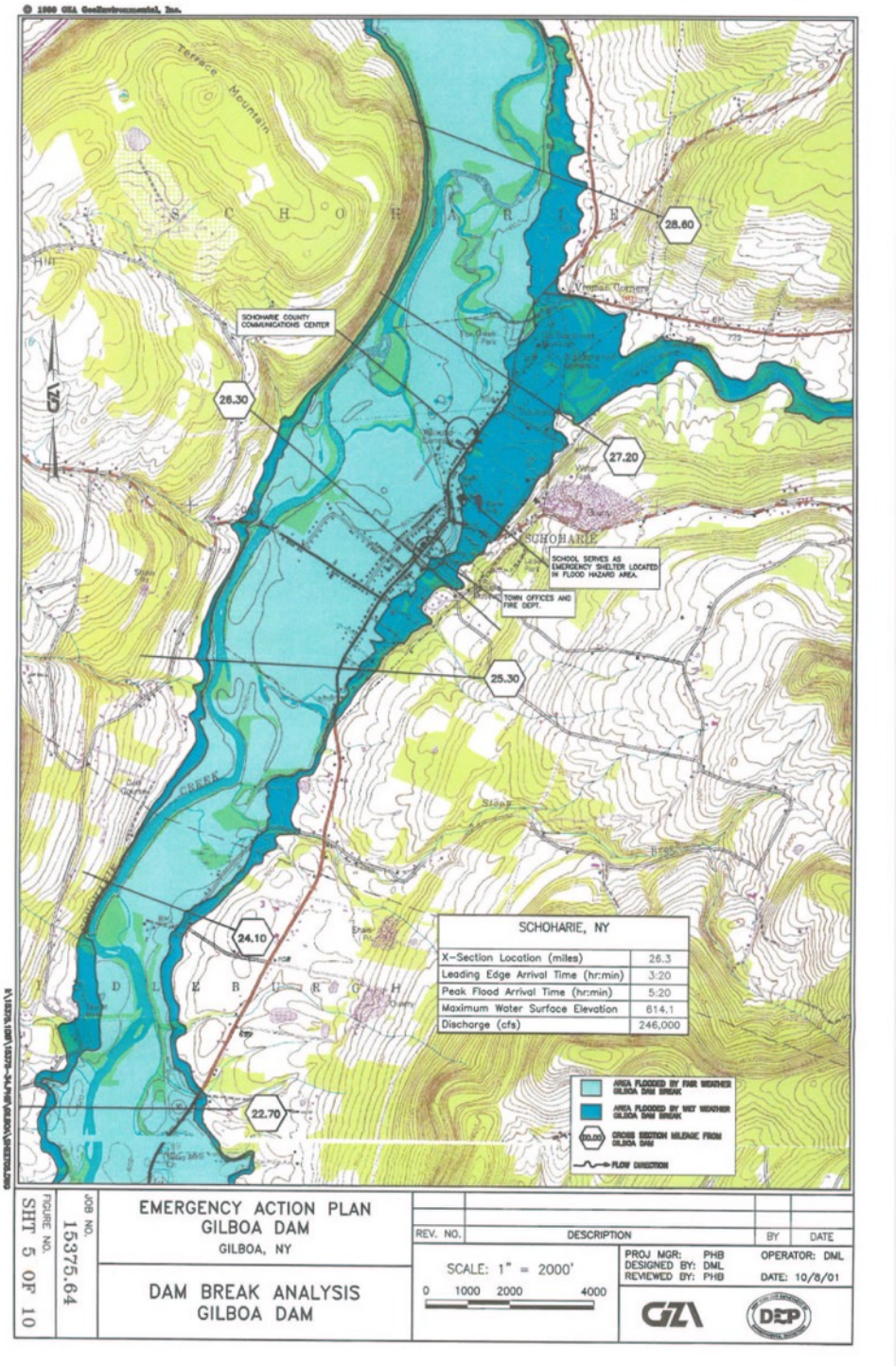
Trench 8: Massive chocolate brown silt dominates the excavation. A basal pebble gravel is barely visible in the dark portion of the bottom of the trench.

Trench 7: Massive silt transitions downward to interbeds of St-FS-MS. This, in turn overlies MS-CS with horizontal and cross bedded structures that extends to the bottom of the trench. The interpretation is a sand bar overlain by a transitional zone of sand and silt interbeds to a flood plain zone dominated by silt.

Trench 6: A thin chocolate brown silt layer overlies a thick gray and brown sand unit consisting of MS-FS-CS textures. The setting for deposition of the sand is interpreted as a bar environment that may have accumulated to become a levee although that is not certain. Flood plain silt overtopped the bar or levee.

Map 1: Terraces along the West-East alignment.

Map 2: Gilboa Dam Failure Flood Heights



Map 2: Gilboa Dam Failure Flood Prediction

Cross Section 1

Trench	Fill (ft)	Silt (ft)	Sand (ft)	Gravel (ft)
2	2.2	0.5+	-	-
5	-	3.6	4.0	-
6	-	3.0	10.2	0.6
7	-	8.2	3.6	-
8	-	7.5	-	2.0
9	-	6.9	-	2.6
10	-	8.2	-	3.0
11	-	8.6	-	1.6
12	-	4.3	2.3	1.7
13	-	-	9.9	-
14	2.5	-	2.4	1.7
15	5.2	2.2	-	0.8

Table I: Summary of sediment layer thicknesses used to generate the cross section. Details within each trench can be found in the archaeology trench profiles. The summary here generalizes the sediment units by their predominant feature. The text explains illustrative details in the units.

Schoharie Creek Peak Annual Discharge at Burtonsville, NY			
16 Highest Ranked Floods since 1940			
Year	Date	Gage Height (feet)	Stream Flow (cfs)
2011	Aug. 29, 2011	17.46	128,000
1996	Jan. 20, 1996	12.88	81,600
1956	Oct. 16, 1955	12.39	76,500
1987	Apr. 05, 1987	11.23	64,900
2005	Apr. 03, 2005	10.30	56,100
1980	Mar. 22, 1980	10.15	54,700
2007	Apr. 17, 2007	8.95	44,100
1978	Nov. 09, 1977	8.51	40,400
2010	Mar. 23, 2010	8.48	40,200
1984	Apr. 06, 1984	8.38	39,400
1951	Mar. 31, 1951	8.00	37,900
1986	Mar. 15, 1986	8.14	37,400
2000	Jun. 07, 2000	8.11	37,200
1977	Mar. 14, 1977	7.89	35,500
1997	Nov. 09, 1996	7.85	35,100
2004	Sep. 18, 2004	7.72	34,100

Table II: The sixteen highest annual peak discharge events along Schoharie Creek at Burtonsville, NY.

Appendix J: Phase II Archeological Evaluation

PHASE II ARCHAEOLOGICAL EVALUATION

SCHOHARIE SOUTH END DRAINAGE IMPROVEMENTS
VILLAGE OF SCHOHARIE, SCHOHARIE COUNTY, NEW YORK

June 2016

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MANAGEMENT SUMMARY

The following presents the findings of three Phase II Archaeological Site Evaluations conducted on behalf of the Village of Schoharie for the South End Drainage Improvements Project located at the South End of the Village of Schoharie, Schoharie County, New York. The Phase IA/IB Field Investigation recovered several precontact artifacts from three separate locations within the Project Area, subsequently designated Schoharie South End Sites #1-3. The Phase II Site Evaluations indicated that only Site #2 was potentially eligible for the State/National Register of Historic Places. Project redesign has successfully avoided the site.

SHPO Project Review Number: 15PR06744

Involved State and Federal Agencies: Governor's Office of Storm Recovery (GOSR), operating under the auspices of the New York State Homes and Community Renewal's (NYSHCR) Housing Trust Fund Corporation (HTFC) and U.S. Department of Housing and Urban Development (HUD)

Phase of Survey: Phase II

Location Information
Location: Sunset Drive
Minor Civil Division: Village of Schoharie
County: Schoharie County

Survey Area: ±3 acres (1.2 hectares)

USGS 7.5 Minute Quadrangle Map: Schoharie, NY

Archaeological Survey Overview
Number & Interval of Shovel Test Pits: 35 @ various intervals
Depth of Shovel Test Pits: 58-71 cm (23-28 in)

Results of Archaeological Survey
Number & name of prehistoric sites identified: 3: Schoharie South End Sites #1-3
Number & name of historic sites identified: None
Number & name of sites recommended for Avoidance: 1: Schoharie South End Site #2

Results of Architectural Survey
Number of historic buildings/structures/cemeteries within project area: None
Number of historic buildings/structures/cemeteries adjacent to project area: None
Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: None

Report Author(s): Jim Turner, RPA (STRATA LLC)
Date of Report: June 2016

1.0 PROJECT DESCRIPTION

The Schoharie County Soil and Water Conservation District (SCS&WCD) is seeking U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery (CDBG-DR) funding with which to complete the South End Drainage Improvements Project in the Village of Schoharie (Village). The HUD CDBG-DR funding will be delivered through the NY Rising Community Reconstruction Program administered by GOSR, operating under the auspices of the NYSHCR's HTFC. The intent of the project is to provide the south end of the Village relief from persistent problems related to ponding water.

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) was retained by GOSR to perform a Phase IA/IB Archaeological Investigation on a multitude of parcels of land located south of Bridge Street and surrounding Sunset Drive in the Village of Schoharie, Schoharie County, New York (Figure 1).

In an effort to establish the archaeological significance of the proposed project area, a Phase IA/IB Archeological Investigation was performed. This work was conducted in accordance with Section 106 of the National Historic Preservation Act and Section 14.09 of the New York Parks, Recreation and Historic Preservation Law. Further consultation with the Office of Parks, Recreation and Historic Preservation (OPRHP) indicated that the floodplain environment had the potential to contain deeply buried cultural deposits and, therefore, a Geomorphological Analysis was also recommended.

The Phase IA background research and Geomorphological Analysis indicated the Project Area to be highly sensitive to the presence of precontact cultural resources. The Phase IB Fieldwork identified three areas of precontact artifact concentrations which were then designated Schoharie South End Sites #1-3 (Figure 3). Site #1 was the largest of the three with six of seven shovel tests proving positive along an alignment approximately 300 feet in length. Site #2 consists of three adjacent positive shovel tests while Site #3, the smallest, consisted of two chert flakes from a single positive shovel test.

2.0 ENVIRONMENTAL SETTING

The proposed Project Area lies within the floodplain of the Schoharie Creek at the south end of the Village of Schoharie (Figures 1-4) and is bound to the north by Bridge Street, to the west by Schoharie Creek, to the south by a line roughly following the Town line, and to the east by NYS Route 30, as well as some additional residential properties that are adjacent to the edge of the floodplain.

Situated at elevations ranging from 585 feet (178 meters) Above Mean Sea Level (AMSL) at the surface of the Schoharie Creek and rising to 608 feet (185 meters) AMSL at Route 30, the Project Area spans the width of the Schoharie Creek valley. Most of the lands involved are part of the Guernsey Schoharie Nursery and consist of agricultural fields and groves of nursery trees. Residential development characterizes the lands around Sunset Drive.

The bedrock geology of the Project Area consists of Middle Ordovician-aged Normanskill shales which are locally chert bearing. The surficial geology consists of recent alluvium.

The setting of Site #1 consists of an alluvial floodplain at the western edge of the T2 terrace above the Schoharie Creek. A 300-foot linear alignment following the proposed outfall pipe was tested along the north side of the

adjacent access road. Ground surface elevations range from approximately 597-603 feet AMSL. The site is currently an active agricultural field.

Site #2 lies along the common property line between Shaul Farms Inc. (SBL 71.20-2-10.11) and former Geertsens property (SBL 71.20-2.9.2) in the vicinity of a large willow tree and the former location of the Geertsen residence. The small site occupies the crest of a low grassy rise alongside a shallow drainage swale that may have formerly been an active stream channel.

Site #3 lies adjacent to an artificial drainage ditch to the southwest of Guernsey's shed buildings and alongside nursery plantings.

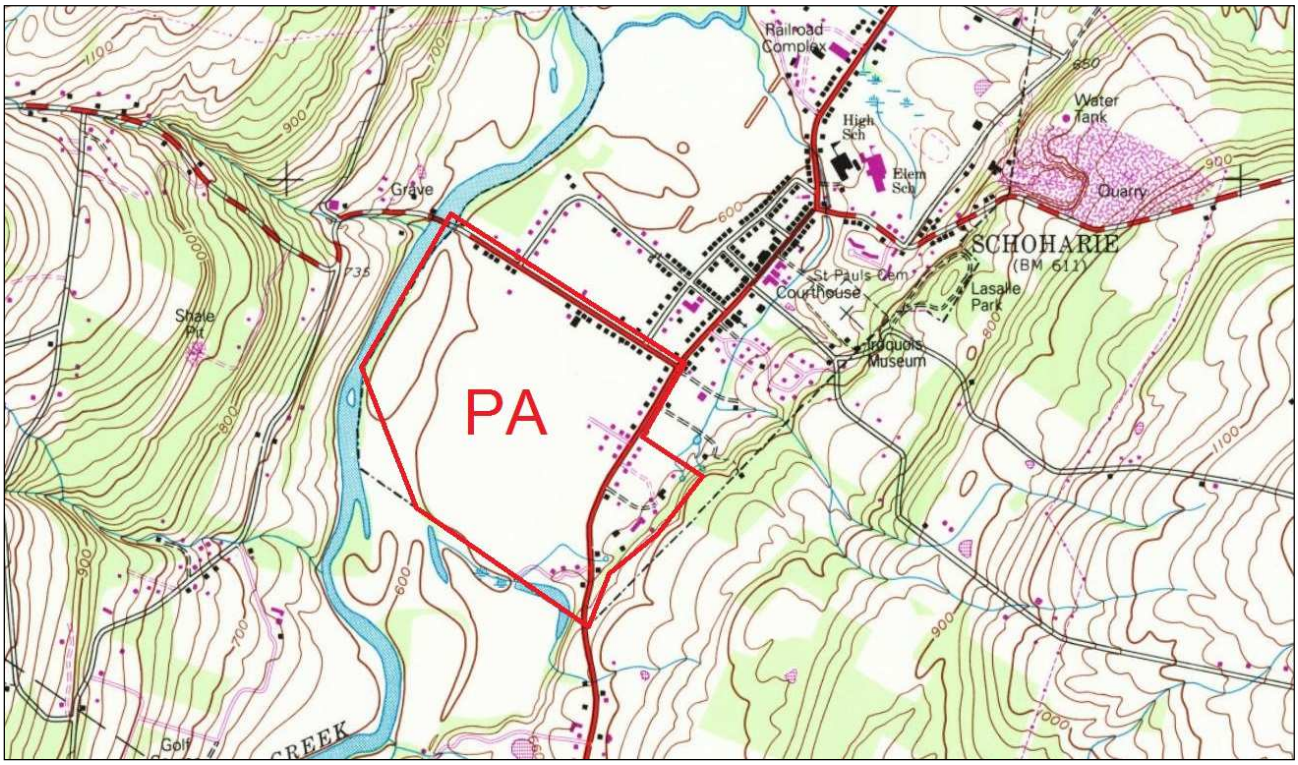

FIGURE 1. SCHOHARIE USGS 7.5 MINUTE QUADRANGLE SHOWING THE PROJECT AREA.

FIGURE 2. AERIAL VIEW OF PROJECT AREA (GOOGLE EARTH).

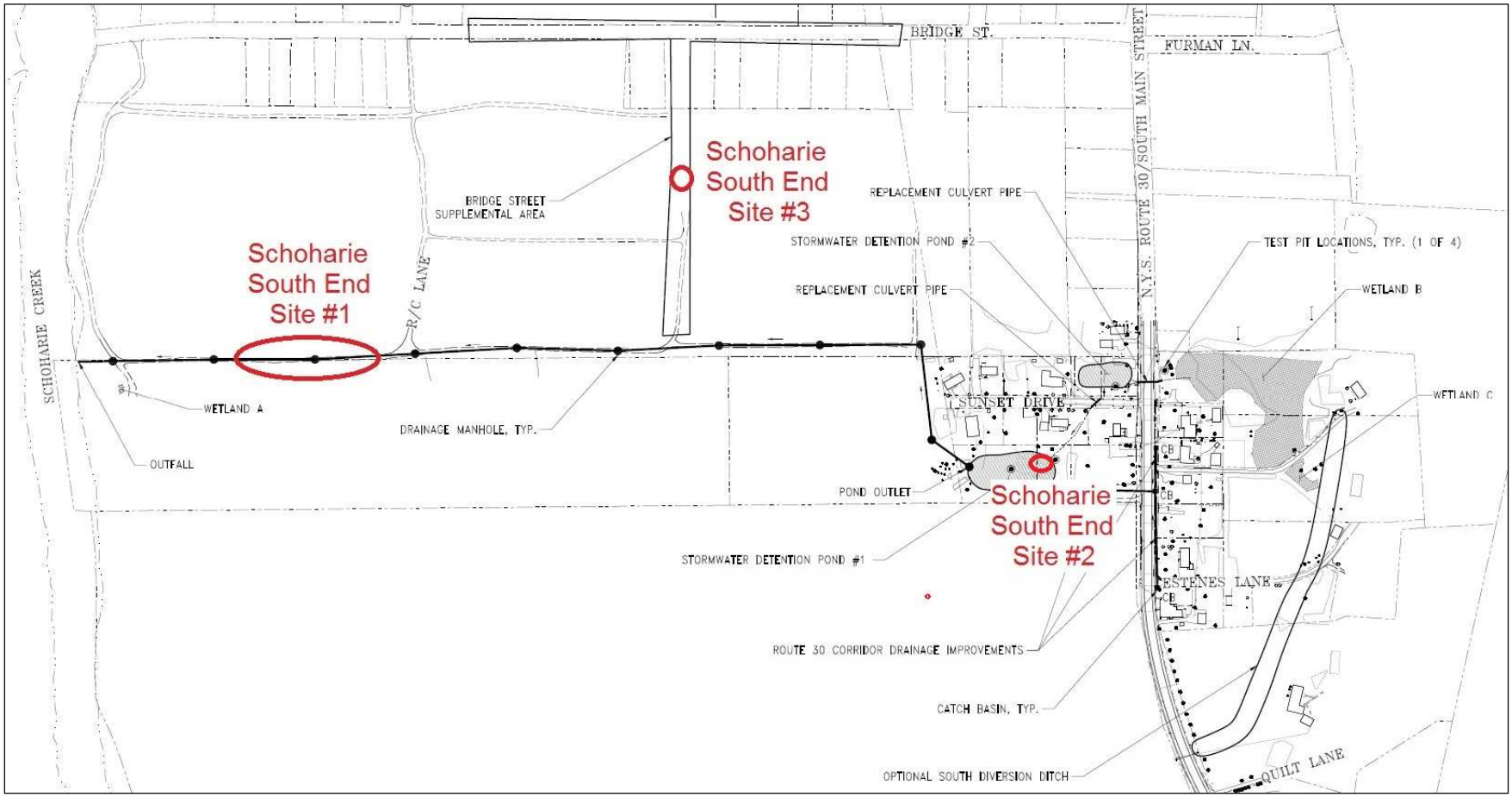

FIGURE 3: PROPOSED DRAINAGE IMRPOVEMENTS WITHIN PROJECT AREA. (NOTE: SOUTH DIVERSION DITCH IS NOT INCLUDED.)

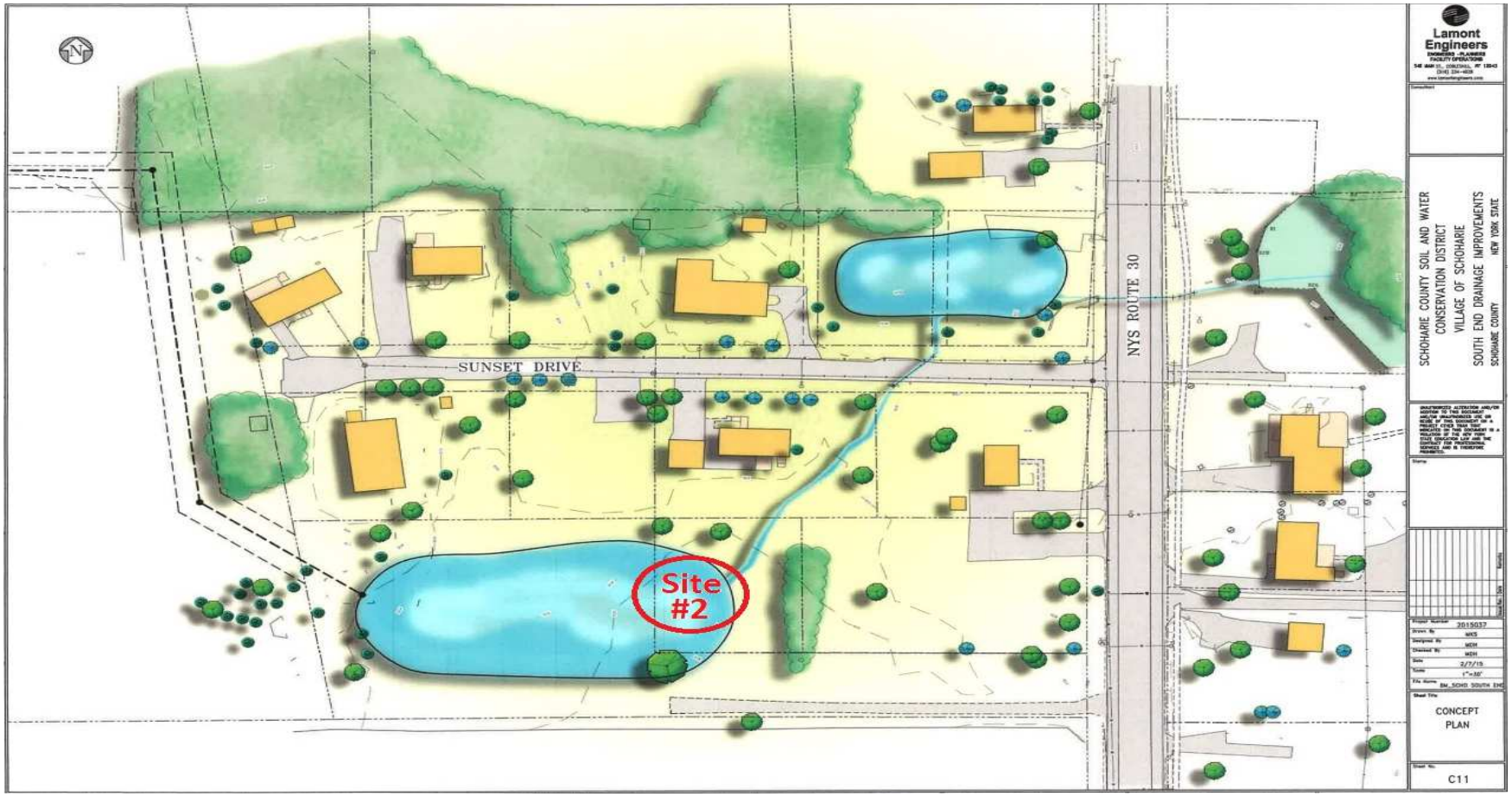

FIGURE 4: GRAPHIC DEPICTION OF ORIGINAL PROPOSED STORMWATER DETENTION PONDS WITH SITE #2.

FIGURE 5. SOIL MAP OF THE PROJECT AREA (PA) (USDA 2014)

As seen above in Figure 5, soils within the Project Area (PA) consist primarily of Barbour and Tioga loams (**Bg**) with smaller areas of Basher and Middlebury silt loams (**Bm**), Schoharie and Hudson silty clay loam (**SnD3**) and Wayland silt loam (**Wa**). The characteristics of these soils are presented below in Table 1.

TABLE 1: SOILS WITHIN PROJECT AREA

Map Symbols	Soils	Soil Horizon Depth in (cm)	Color	Texture/ Inclusions	Slope	Drainage
Bg	Barbour and Tioga loams (Barbour described)	0-8 in (0-20 cm) 8-17 in (20-43 cm) 17-24 in (43-61 cm) 24-42 in (61-107 cm) 42-65 in (107-165 cm)	Brown Brown Reddish brown Dark reddish gray Dark grayish brown	Loam Loam Loam Loamy fine sand Sand	0-3%	Well drained
Bm	Basher and Middlebury silt loams (Basher described)	0-11 in (0-28 cm) 11-15 in (28-38 cm) 15-24 in (38-61 cm) 24-26 in (61-66 cm) 26-30 in (66-76 cm)	Brown Reddish brown Brown Dark grayish brown Dark brown	Silt loam Silt loam Very fine sandy loam Medium sand Loamy fine sand	0-3%	Moderately well drained
SnD3	Schoharie and Hudson silty clay loam (Schoharie described)	0-7 in (0-18 cm) 7-10 in (18-25 cm) 10-16 in (25-41 cm) 16-54 in (41-137 cm)	Dark brown Brown Light reddish brown Reddish brown	Silt loam Silt loam Silty clay loam Silty clay	12-20	Moderately well drained
Wa	Wayland silt loam	0-9 in (0-23 cm) 9-15 in (23-38 cm) 15-22 in (38-56 cm) 22-30 in (56-183 cm)	Very dark grayish brown Dark grayish brown Dark gray Gray	Silt loam Silt loam Loam Gravelly loam	0-3	Poorly drained

3.0 PHASE II TESTING STRATEGY

The Phase II testing strategy consisted of additional shovel testing around the original positive Phase IB STPs. A total of 35 Phase II STPs were excavated and were allocated as follows: Site #1 - 18 STPs; Site #2 - 12 STPs and Site #3 - 5 STPs. To separate the Phase II tests from the Phase IB tests the Phase II tests were numbered 101-135. All STPs within Site #1 were excavated along the same linear alignment originally tested during the Phase IB. The twelve STPs within Site #2 were excavated at 25-foot intervals around the original positive Phase IB tests as well as radial tests at 10-foot intervals around STP 110 which produced large quantities of chert debitage. Testing at Site #3 consisted of five STPs arrayed in a semi-circle at 10-foot intervals from positive Phase IB STP 91; an adjacent drainage ditch precluded testing to the east.

The initial testing strategy included a number of 1 meter-x-1 meter excavation units. However, the lack of fine-grained data for artifact distribution across Sites #1 & #2 resulted in each of these units being substituted by four additional shovel tests each in an attempt to further elucidate artifact densities and distributions across the respective sites.

3.1 TESTING RESULTS

Site #1

The Phase II tests within Site #1 were numbered from 114-131 and were interspersed amongst the Phase IB tests (Figure 7). The work scope called for ten STPs and two 1-meter excavation units. When no obvious features or concentration of artifacts were found within STPs 114-123 the two 1-meter units were converted to eight additional shovel tests (STPs 124-131) which were judiciously placed to fill in larger gaps within the original tests. Overall, three tests were negative for the presence of precontact artifacts while the remaining 15 STPs produced a total of 53 artifacts consisting exclusively of grey chert debitage. Specifically, the recovery included a single primary flake, 23 secondary flakes, 12 trim flakes and 15 pieces of shatter (Figure 8; Table 2). All artifacts were recovered from the massive brown silt loam Level 1 with the tests averaging a depth of approximately 65 centimeters (cm). The lack of cultural features or identifiable stratigraphic levels coupled with the fact that all artifacts consisted of chert debitage severely limits the research potential of Site #1, as currently understood.

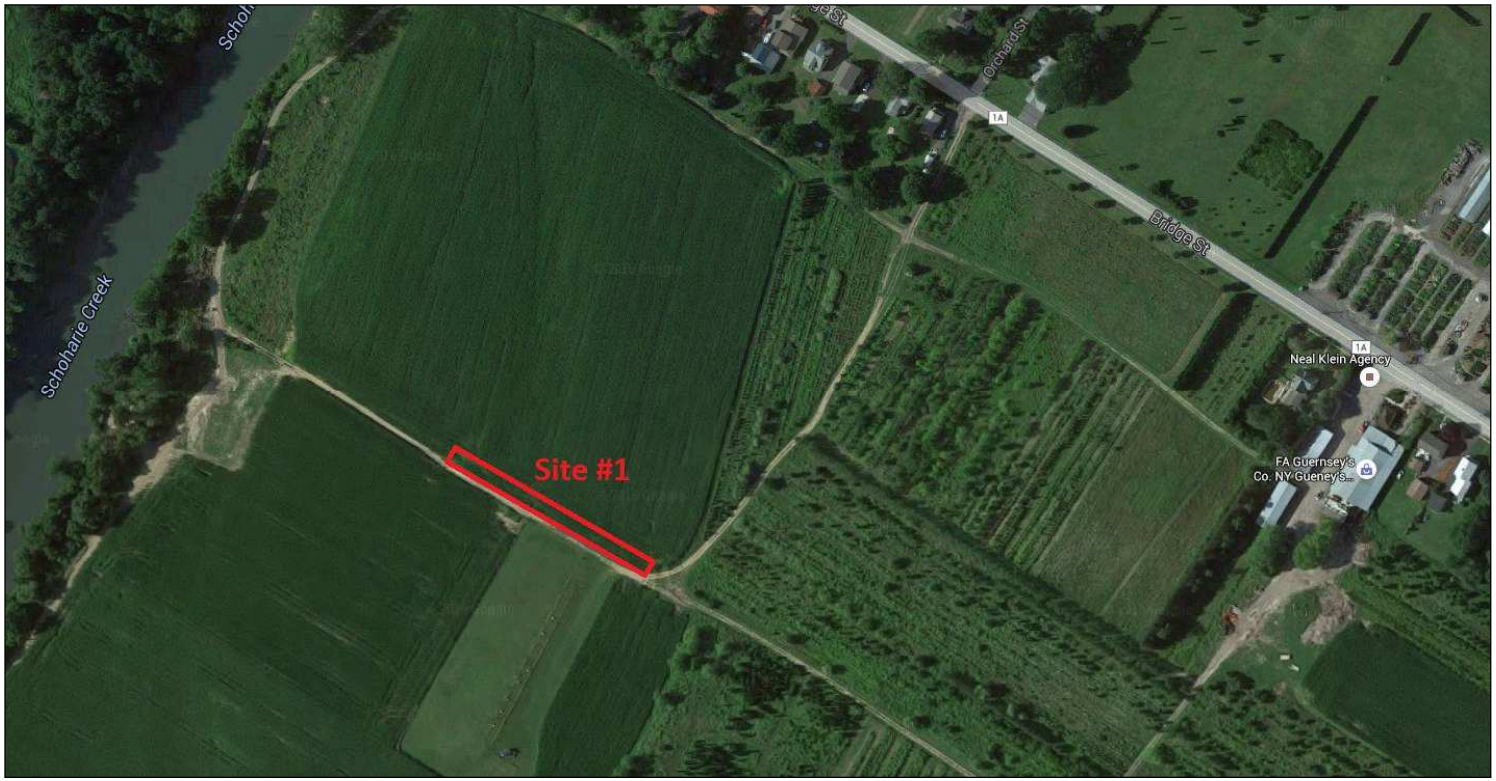

FIGURE 6: GOOGLE MAPS AERIAL PHOTO SHOWING LOCATION OF SITE #1 ADJACENT TO ACCESS ROAD AND R/C AIRFIELD.

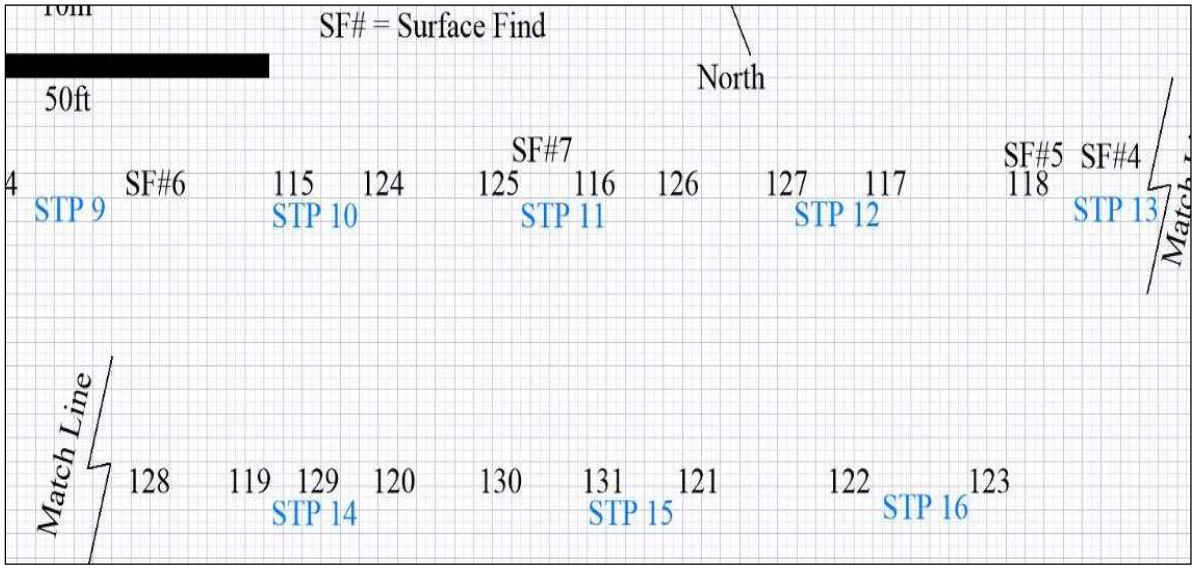

FIGURE 7. LOCATIONS OF PHASE II SHOVEL TEST PITS, SURFACE FINDS AND PHASE IB STPS.

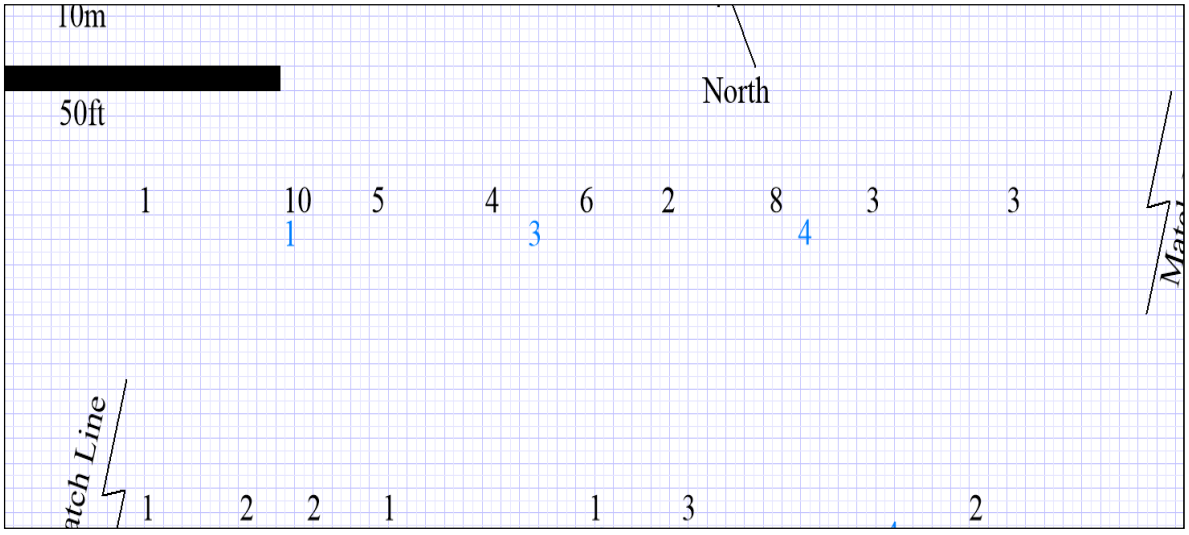

FIGURE 8: PHASE II ARTIFACT DENSITIES WITH PHASE IB COUNTS IN BLUE.

TABLE 2: SITE #1 ARTIFACT TYPES AND COUNTS

STP #	Primary flake	Secondary flake	Trim flake	Shatter	Total
115		6	2	2	10
116		3	1	2	6
117		3			3
118		2		1	3
119		1	1		2
120			1		1
121		2		1	3
123				2	2
124			3	2	5
125	1		1	2	4
126				2	2
127		6	1	1	8
128			1		1
129				2	2
131			1		1
Total	1	23	12	15	53

Site #2

The Phase II tests within Site #2 were numbered from 106-113 and included four radial tests around STP 110 which produced a large quantity of precontact debitage (Figures 10 & 11; Table 3). The original work scope called for eight STPs and one (1) 1-meter excavation unit, however the excavation unit was replaced with the four radial tests.

Single artifacts were recovered from tests to the west of the property line while the higher density tests occurred to the east of the property line atop a small rise to the north of a large willow tree. The site was adjacent to the site of a former residential structure that suffered flood damage and was recently demolished. The original construction and subsequent demolition of the house likely caused extensive disturbance in the lands to the southeast of Site #2.

A total of 107 artifacts consisting exclusively of chert debitage were recovered from Site #2 during the Phase II excavations and included three primary flakes, 40 secondary flakes, 25 trim flakes and 39 pieces of shatter. No diagnostic artifacts or subsurface features were identified, however, the high density of flakes around STP 110 suggests the possibility that the site is representative of something more significant than a lithic scatter. As a result, site avoidance was recommended since the original proposal called for a stormwater detention pond to occupy this location (Figure 4).

Approximate site limits were indicated to the Project Engineers based on the combination of artifact density and the local landscape. In response, a smaller detention pond has been designed which avoids the area of highest artifact concentrations focused on the small rise to the north of the willow tree (Figure 12).

FIGURE 9: GOOGLE MAPS AERIAL PHOTO SHOWING LOCATION OF SITE #2.

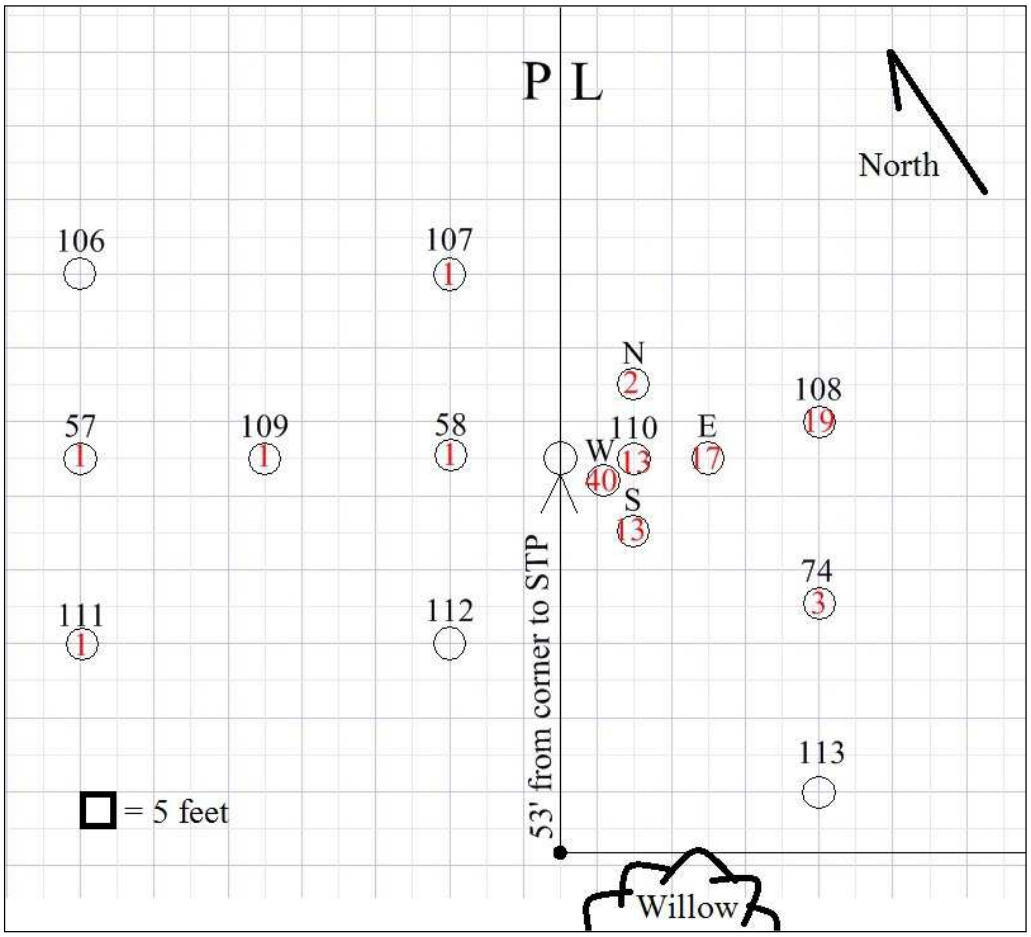

FIGURE 10: PHASE II STPs 106-113 & PHASE IB STPs 57, 58 & 74 WITH ARTIFACT COUNTS IN RED.

TABLE 3: SITE #2 ARTIFACT TYPES AND COUNTS

STP #	Primary flake	Secondary flake	Trim flake	Shatter	Total
107		1			1
108		8	8	3	19
109		1			1
110	1	7	2	3	13
110N	1			1	2
110E	1	5	4	7	17
110S		6	3	3	12
110W		12	6	22	40
111			2		2
Total	3	40	25	39	107

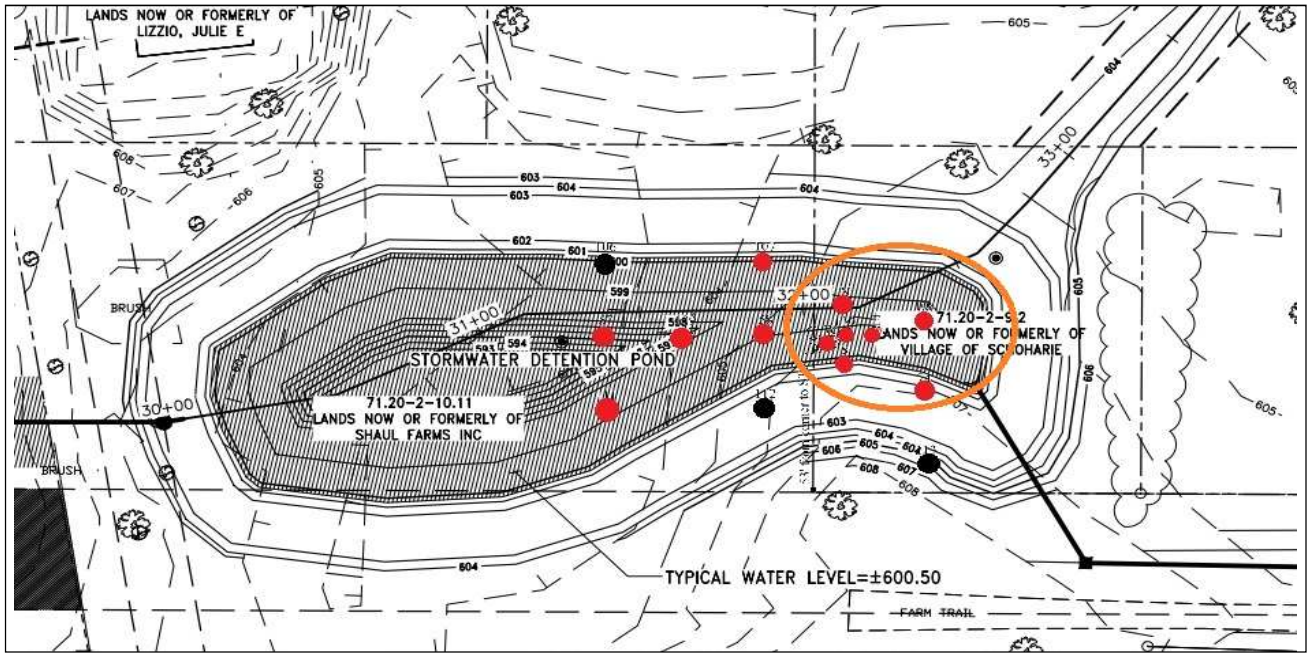

FIGURE 11: POSITIVE STPs OVERLAID ON PROPOSED DETENTION POND WITH APPROXIMATE SITE LIMITS (IN ORANGE)

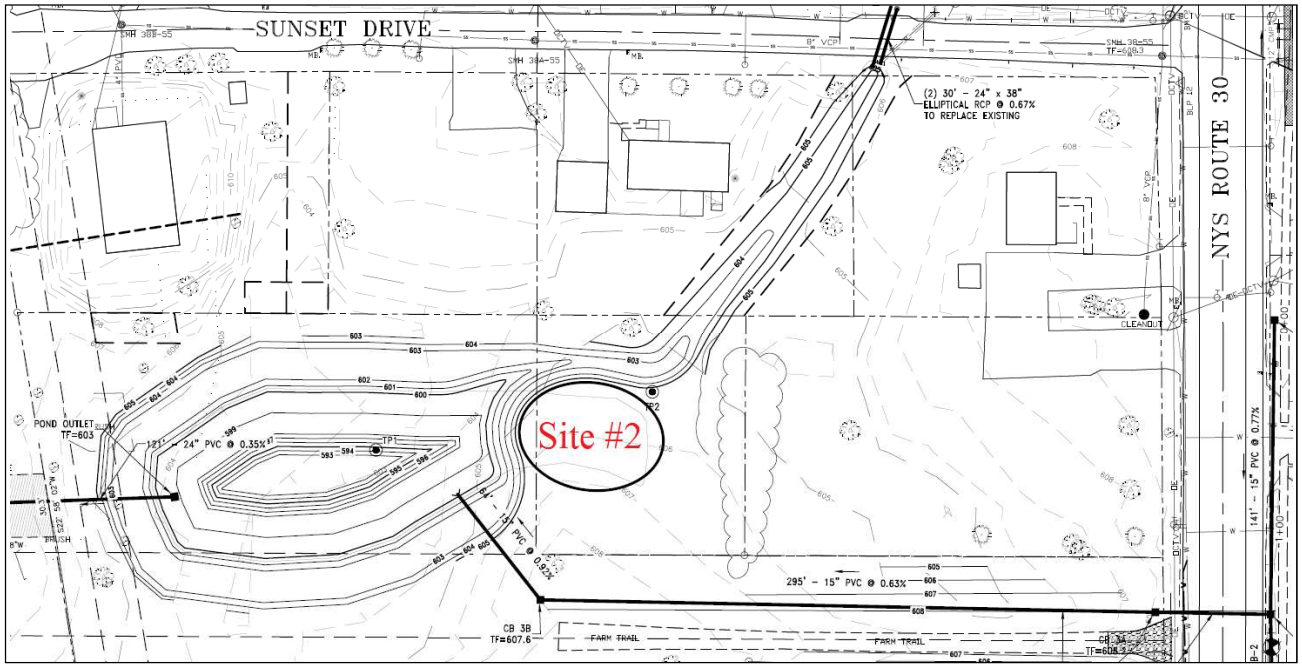

FIGURE 12: REDESIGNED DETENTION POND AVOIDING LIMITS OF SITE #2.

Site #3

The Phase II tests within Site #3 were numbered from 101-105 and were arrayed in a semi-circle at ten-foot intervals around the Phase IB STP 91 which produced two chert secondary flakes (see Photo 8). A total of four additional pieces of chert debitage were recovered from three of the Phase II shovel tests (Table 4). While the low quantity of debitage suggests a small lithic scatter, modern debris recovered alongside the precontact artifacts indicates the site has suffered disturbance in the past.

TABLE 4: SITE #3 ARTIFACT TYPES AND COUNTS

STP #	Primary flake	Secondary flake	Trim flake	Shatter	Total
101				1	1
102			1		1
104			1	1	2
Total			2	2	4

3.2 SITE INTERPRETATIONS

SITE #1

The linear nature of the testing along the proposed outflow pipe alignment within Site #1 functions essentially as a cross-section of the western edge of Terrace T2 beginning some 600 feet from the banks of Schoharie Creek. The site itself appears to measure some 300 feet from end to end as originally proposed subsequent to the Phase IB investigation. The landform and size of the site suggest that it may be part of a larger site that extends beyond the narrow limits of testing to the north and south. However the lack of diagnostic artifacts or subsurface features suggests limited research potential. While a small quantity of bifacially worked artifacts were recovered as Surface Finds, none were recovered from within the shovel tests themselves. Furthermore, only a single primary flake was recovered indicating that activities within the site were likely limited to tool curation and retouch rather than raw material processing.

The nearby Birches Precontact Site evinces a long period of occupation by aboriginal groups within the Schoharie Creek valley. However, the flashy nature of the creek has caused destructive erosion within the floodplain for eons, likely reworking the lower Terrace T1 where one would expect to find extensive evidence of occupation. However, this was not the case with the shovel testing results closer to the creek itself. While flood erosion has the potential to destroy intact sites, flooding also has the ability to redistribute small, light lithic artifacts within the powerful waters. The massive brown silt loam within Site #1 gave no evidence of stratification within the shovel tests (although some stratification was observed at lower depths during the

geomorphological analysis). Therefore, it is impossible to discern any association of the nondescript debitage amongst the various examples in the assemblage.

Finally, the more recent history of avocational collectors removing surface artifacts cannot be overlooked. The Schoharie floodplain is a well-known location for fieldwalkers and several people were observed within the fields slowly pacing the plowed earth during the archeological fieldwork. Such collectors are typically interested only in diagnostic tools and other formal lithic artifacts which causes an asymmetrical reduction of the assemblage by removing the artifacts that would have the highest research value. After decades of fieldwalking, a site will often be left virtually bereft of diagnostic items with only the waste debitage left behind as testament to the former occupations.

SITE #2

Due to the limited work scope afforded for the exploration of Site #2, the overall site limits are not well understood. This limits the possibility for site interpretation. Additionally, the likelihood of historic disturbance of the site resulting from the construction and demolition of the adjacent house has undoubtedly affected the integrity of the site. The high concentrations of lithic debitage and the proximity to the nearby Birches Precontact Site suggest Site #2 may have been a small lithic processing site. While only three primary flakes were recovered here, these nonetheless suggest raw material was being processed and manufactured into formal tools. The high artifact densities also suggest that this was a locus of activity. Further speculation seems unwarranted given the lack of diagnostic artifacts or subsurface features within Site #2.

SITE #3

The small quantity of debitage recovered from within Site #3 (n=6) indicates that the site is a small lithic scatter likely disturbed by historic land use related to agriculture and the current nursery that occupies the land. No diagnositc artifacts or subsurface features were identified and the paucity of the assemblage prevents further interpretation of the site.

3.3 NATIONAL REGISTER ELGIBILITY

The three precontact sites evaluated here for the South End Drainage Improvements Project would fall under Criterion D for the potential to provide information important for our understanding of prehistory. However, none of the sites appear to offer significant research potential due to the lack of diagnostic artifacts and subsurface features. Each of the three sites appears to have compromised integrity due to prior disturbance from various sources. Therefore, none of the three sites appears to satisfy the requirements for inclusion in the National Register of Historic Places.

4.0 CONCLUSION AND RECOMMENDATIONS

The three sites investigated during this Phase II Site Evaluation were deemed ineligible for inclusion in the National Register. Furthermore Site #2, which exhibited the highest densities of artifacts, has been successfully avoided through redesign of the proposed stormwater detention pond. Proper site protection should be established during the construction phase in order to prevent disturbance to Site #2. Any modification to the current design may require additional archeological investigations if the new design extends into previously untested lands. Lastly, construction phase monitoring is still recommended to address the potential for deeply buried cultural remains within the massive floodplain alluvium.

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1866 *A New Topographical Atlas of Schoharie County, New York.*

United States Department of Agriculture
2014 Soil Survey. Available online www.websoilsurvey.nrcs.usda.gov.

United States Geographic Survey
1969 7.5' Topographic Quadrangle (Schoharie, NY).

Wenig and Lorey
1856 *Map of Schoharie County, New York.*

APPENDIX A

PHOTOGRAPHS OF THE PROJECT AREA

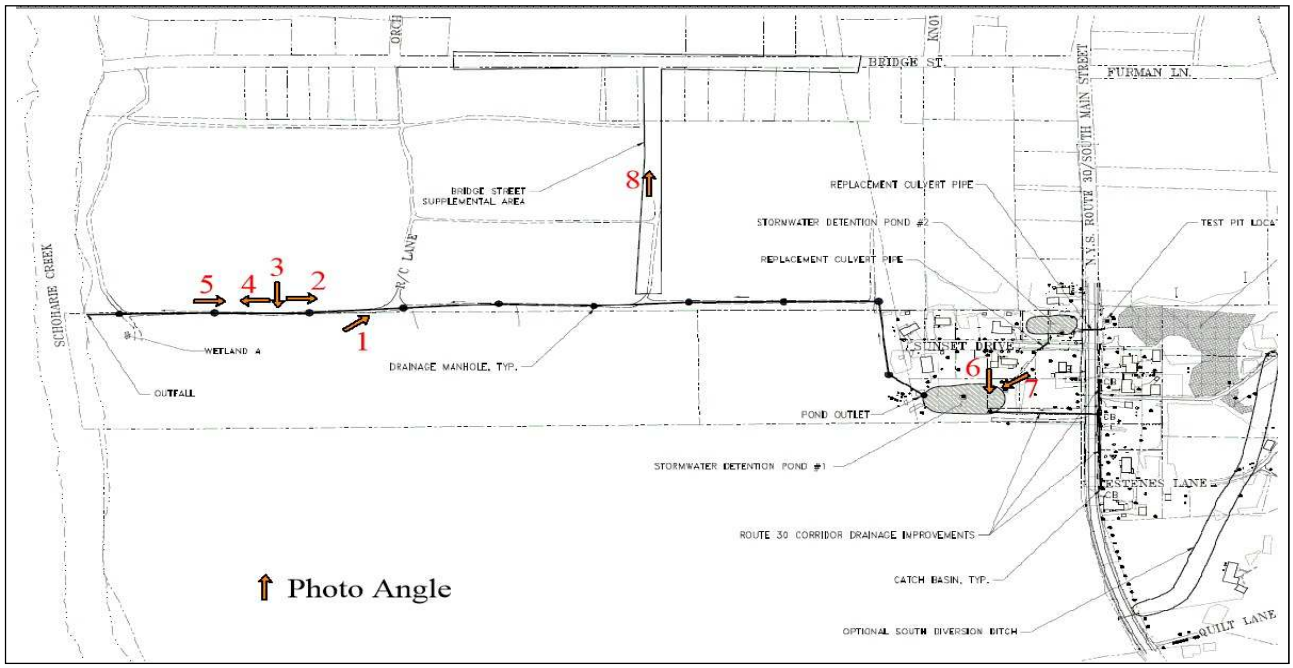

FIGURE 13. PROPOSED SITE PLANS ALONG WITH PHOTOGRAPH LOCATIONS.

PHOTOGRAPH 1. VIEW EAST FROM ACCESS ROAD TOWARD R/C/ LANE AND STP 123.

PHOTOGRAPH 2. VIEW SOUTHEAST ALONG PROPOSED OUTFLOW PIPE ALIGNMENT NEAR R/C AIRFIELD.

PHOTOGRAPH 3. VIEW SOUTHWEST TOWARD R/C AIRFIELD.

PHOTOGRAPH 4. VIEW NORTHWEST ALONG PROPOSED OUTFLOW PIPE ALIGNMENT NEAR R/C AIRFIELD.

PHOTOGRAPH 5. VIEW SOUTHEAST ALONG PROPOSED OUTFLOW PIPE ALIGNMENT AND STP 114

PHOTOGRAPH 6. FACING SOUTHWEST SHOWING LOCATION OF SITE #2 PHASE II TESTING.

PHOTOGRAPH 7. FACING WEST SHOWING LOCATION OF SITE #2 PHASE II TESTING.

PHOTOGRAPH 8. FACING NORTHEAST SHOWING PHASE II TESTING WITHIN SITE #3.

APPENDIX B

COMPLETE SHOVEL TEST RECORDS

STP #	Depth (cm)	Soil Description	Cultural Material	Notes
101	0 – 5 5 – 32 36 - 62	Root mat Brown silt loam Brown silt	1 Chert flake	Nylon twine @ 26cm
102	0 – 4 4 – 29 29 – 59	Root mat Brown silt loam Brown silt	1 Chert flake	
103	0 – 4 4 – 28 28 – 60	Root mat Brown silt loam Brown silt		
104	0 – 5 3 – 30 30 – 70	Root mat Brown silt loam Brown silt	2 Chert flakes, coal N/C	
105	0 – 3 3 – 30 30 – 70	Root mat Brown silt loam Brown silt	Ceramic, glass	
106	0 – 5 5 – 31 31 – 69	Root mat Brown silt loam Brown clayey silt		
107	0 – 6 6 – 29 29 – 58	Root mat Brown silt loam Brown clayey silt	1 Chert flake	
108	0 – 4 4 – 27 27 – 66	Root mat Brown silt loam Brown clayey silt	19 Chert flakes	
109	0 – 6 6 – 27 27 - 68	Root mat Brown silt loam Brown clayey silt	1 Chert flake	
110	0 - 5 5 – 32 32 – 67	Root mat Brown silt loam Brown clayey silt	13 Chert flakes	
110N	0 – 6 6 – 26 26 – 62	Root mat Brown silt loam Brown clayey silt	2 Chert flakes	
110E	0 – 5 5 – 32 32 – 70	Root mat Brown silt loam Brown clayey silt	17 Chert flakes	
110S	0 – 6 6 – 29 29 – 65	Root mat Brown silt loam Brown clayey silt	12 Chert flakes	

STP #	Depth (cm)	Soil Description	Cultural Material	Notes
110W	0 – 5 5 – 30 30 – 64	Root mat Brown silt loam Brown clayey silt	40 Chert flakes	
111	0 – 4 4 – 30 30 – 58	Root mat Brown silt loam Brown clayey silt	1 Chert flake	
112	0 – 5 5 – 32 32 – 60	Root mat Brown silt loam Brown clayey silt		
113	0 – 4 4 – 35 35 – 65	Root mat Brown silt loam Brown clayey silt		
114	0 – 61	Brown silt loam		In farm field
115	0 – 70	Brown silt loam		
116	0 – 68	Brown silt loam		
117	0 – 67	Brown silt loam		
118	0 – 69	Brown silt loam		
119	0 – 65	Brown silt loam		
120	0 – 67	Brown silt loam		
121	0 – 64	Brown silt loam		
122	0 – 71	Brown silt loam		
123	0 – 69	Brown silt loam		
124	0 – 66	Brown silt loam		
125	0 – 66	Brown silt loam		
126	0 – 69	Brown silt loam		
127	0 – 70	Brown silt loam		
128	0 – 67	Brown silt loam		
129	0 – 68	Brown silt loam		
130	0 – 65	Brown silt loam		
131	0 – 69	Brown silt loam		