TOWN OF NISKAYUNA
Conservation Advisory Council
A G E N D A
January 3, 2024
7:00 P.M.

HYBRID IN-PERSON (TOWN BOARD ROOM) & VIRTUAL (GOOGLE MEETS)

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

1. December 6, 2023

IV. PRIVILEGE OF THE FLOOR

V. ENVIRONMENTAL ASSESSMENT FORM REFERRALS

1. EAF 2023-07: 2890 River Road, 3-Lot Subdivision

VI. DISCUSSION ITEMS

1. Review RFP – select candidate for Natural Resource Initiative
2. Review RFP – select candidate for GHG Inventory / CAP

VII. CLIMATE SMART COMMUNITIES TASK FORCE

1. Climate Smart Communities Task Force – Goals and Updates
2. Bethlehem Conservation Easement Program
3. Natural Resource Inventory
4. Pesticide Outreach
5. Low Mow / Biodiversity Initiatives
6. Quiet Niskayuna
7. Composting Initiative
8. Wildlife Corridors

VIII. ADJOURNMENT

Next Meeting: February 7, 2024
7pm, Town Board Room, Hybrid Format

TOWN OF NISKAYUNA
CONSERVATION ADVISORY COUNCIL
Meeting Minutes
December 6, 2023
(Virtual) Google Meet

Members Present:	Chairperson Strayer
	Ellen Daviero (virtual)
	Richard Frontero(virtual)
	Chuck Piotrowski
	Simran Uttukar
	Ashok Ramasubramanian
	Georgia Murray-Bonton (virtual)
Also Present:	Laura Robertson, Planner

1. CALL TO ORDER

Chairperson Strayer called the meeting to order at 7:00 PM.

2. ROLL CALL

Vicki Michela and Ms. Rattner was absent/excused.

3. APPROVAL OF MINUTES

a. September 6, 2023

Chairperson Strayer with the correction to the spelling of Craig School made a motion to adopt the September 6, 2023 minutes, seconded by Mr. Frontero. All were favor with the exception of Mr. Ramasubramanian and Piotrowski, both abstained.

b. October 4, 2023

Mr. Piotrowski made a motion to approve the October 4, 2023 minutes, seconded by Mr. Ramasubramanian. The October 4, 2023 minutes were approved with the abstention from Chairperson Strayer.

c. November 8, 2023

Chairperson Strayer made a motion to accept the November 8, 2023 minutes, seconded by Mr. Piotrowski. The November 8, 2023 minutes were approved.

4. PRIVILEGE OF THE FLOOR.

Chairperson Strayer opened privilege of the floor. Hearing no one in person or online, Privilege of the Floor was closed.

5. ENVIRONMENTAL ASSESSMENT FORM REFERRALS

1. EAF 2023-07: 2890 River Road, 4 Lot Subdivision

Mr. Dussault from Engineering Ventures spoke with reference to the two items on the short environmental form, Historical Sites and wetlands. Mr. Dussault stated less than a tenth of an acre of wetlands would be disturbed with the creation of lot #3. The Army Corp and DEC were contacted and they asked that a habitat assessment be done for the Northern Long Eared Bat. Upon completion of the assessment, it was determined that there would be no adverse impact on the bat habitat.

In reference to the Archeological component, SHPO suggested a Phase I survey be prepared. Mr. Dussault said, a Phase IA and Phase IB had been completed and showed no adverse impact.

Mr. Dussault said they plan a drainage easement of 1.7 acres to benefit the Town for any future maintenance that arises in that area. Mr. Dussault stated the Planning Board had 2 requests at the last meeting. The first request was to address the 100-year potential storm flood elevation at the River Road culvert and access its impact on the proposed homes. The results show lots 1 and 3 are about 3.4 feet above the level of the 100-year flood. Lot 2, which is closest to the River Road culvert has a basement elevation of one foot above the potential 100-year flood elevation.

The second request was to look at post construction storm water management on each lot. The proposal is to put a bio retention area on each lot, this potentially will eliminate any impact from the increase of impervious areas on the drainage.

There was much discussion as to the easement and how it will be handled including the terminology used to guarantee preserving the open space in the proposal.

Chairperson Strayer asked about moving forward with the proposed home on lot 2 if the basement is only one foot above the projected 100-year storm level. Mr. Dussault said there are several ways to protect the basement from the water entering.

Chairperson Strayer also asked about the culvert on River Road and its size. Mr. Dussault stated they believe it to be under sized for the 100-year storm.

Chairperson Strayer asked Ms. Robertson, what options the Town has if the water cannot be withhold on the property, being as it is wetlands. Ms. Roberson said the Town is looking at this project in two ways. It is a subdivision and also a potential future drainage study to the entire sub drainage basin. Ms. Robertson said she is not sure what the drainage study will come up with, there are many possibilities.

Chairperson Strayer brought up the path to the park that already exists and would like something a little more formal for connectivity to the park for that area and also the proposed homes. Chairperson Strayer said they need to see the full plans and the answer to the question on the multi-use path answered before they can proceed. The Council agreed and requested the plans to be updated for potential action at the next meeting.

2. EAF 2023-10: 1430 Balltown Rd. – A site plan application for an addition to the existing building and expansion of the parking lot

Mr. Palleschi from ABD Engineers and Surveyors said they have addressed the items that were discussed at the last CAC meeting in a letter, which included the 2700 square foot addition as well as the enlargements of the parking lot. The current parking lot has 7 large trees around it, two will need to be removed but two Red Maples will be planted in the front by the driveway to compensate for their removal. Mr. Palleschi stated the current detention basin near the parking lot will be moved to the front in front of the new addition. The new basin was enlarged to capture the 100-year storm runoff.

Mr. Palleschi said lighting was also a question, he stated they are reducing the number of lighting poles down to two poles with a total of four heads. Two electrical vehicle stations were added to the lot design. Mr. Palleschi said solar was considered but it will not be possible, the existing structure cannot support solar panels. Mr. Palleschi said in reference to the traffic study, the vehicle trips will be about the same with an anticipated addition of four more trips throughout the peak hours. The additional landscaping would be the two additional Red Maples previously mentioned as well as landscaping along the berm of the storm water detention basin.

Mr. Palleschi mentioned there will be a detention basin in the back of the building as well to take the runoff from the roof. This made it possible to keep the front basin a bit smaller.

Mr. Ramasubramanian asked if they would consider signing a Pesticide Free Pledge and not use pesticides on the property. Mr. Roth from Hybrid Development said the School District is his tenant and part of their requirements are they have to maintain the green spaces and all the landscaping. He stated he assumes whatever practice the School District uses on their other large spaces they would be doing at this location.

Mr. Ramasubramanian asked why the Red Maple were chosen and asked if they could switch to White Oaks, which serves many birds and bees. Mr. Palleschi asked if White Oaks were readily available and was told yes. He said he doesn't have a problem switching the tree species.

Chairperson Strayer with the updated plans presented, they can go through the questions now.

1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations? No.

2. Will the proposed action result in a change in the use or intensity of use of land? Yes there would be a minimal change in intensity.

3. Will the proposed action impair the character or quality of the existing community? There should be no impairment on the character of the community. The CAC recommended minimizing the visual impact of the stormwater basin on the aesthetics of the Town Center Overlay District.

4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)? No. There is no CEA in the area.

5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway? No or small impact. There won't be a significant increase in traffic trips. It is critical to this project to add a sidewalk from Balltown road to the entrance of the building on the south side of the driveway.

6. Will the proposed action cause an increase in the use of energy and/or does it fail to incorporate reasonably available energy conservation or renewable energy opportunities? No or small impact. The CAC noted the EV ready charging stations is a good thing. They encouraged the applicant and Planning Board to continue looking at incorporating solar.

7. Will the proposed action impact existing: (a) public / private water supplies?(b) public / private wastewater treatment utilities? No.

8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources? No to small impact. It is important to minimize the visual impact of the stormwater basin on the aesthetics of the Town Center Overlay District

9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)? No to small impact. The CAC requested the school sign it's pesticide free pledge. They worked with the applicant to agree to only native species for the new plantings and changing the new trees to white oaks (quercus Alba)

10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage

problems? Yes, this was the biggest concern for the addition / parking upgrades. The CAC made sure the 100 year storm was used for the reviews and requested the TDE review the final details closely.

11. Will the proposed action create a hazard to environmental resources or human health? No. The CAC did not identify any hazards to environmental resources or human health.

Part 3:

The Council discussed minimizing the visual impact of the stormwater basin through plantings and screenings. The applicant agreed to add a sidewalk from Balltown Road to the building. The EV Charging stations were important and solar should continue to be explored. They encouraged pesticide free maintenance of the property, dark skies friendly lighting and reminded the developer to stay within Town designated working hours and noise ordinance to protect the residential properties across the street. The developer stated the project should be completed by June 1, 2024.

Chairperson Strayer asked for a motion to take action including the comments just listed. Mr. Ramasubramanian proposed a motion to give this project a negative declaration. Seconded by Mr. Piotrowski.

Upon voting, the CAC voted unanimously to recommend a negative declaration to the Planning Board.

12. DISCUSSION ITEMS

1. 2024 Calendar dates

Chairperson Strayer proposed that the meeting times be adopted as proposed. There were no objections.

II. CLIMATE SMART COMMUNITIES TASK FORCE

1. Climate Smart Communities Task Force – Goals and Updates
   - GHG Inventory, Climate Action Plan

Ms. Robertson said she finalized the RFP for the Greenhouse Gas Inventory and requested everything back by the 17th. Ms. Robertson hopes to have a consultant to start the Greenhouse Gas Inventory and the Climate Action Plan by December 19th.

Mr. Ramasubramanian asked about the memo he drafted to go to GE.

Ms. Robertson clarified GE requested a memo from the Conservation Advisory Council outlining the conservation initiatives that the Council would like to work on with GE. Ms. Robertson also stated that this parcel that is being discussed has a lot of wetlands and a very steep hill with power lines that crisscross it, so not a great place for a new building but a great place for wildlife. Ms. Bonton asked for the wildlife corridor in that area to be included in the memo.

2. Bethlehem Conservation Easement Program – no update.

3. Natural Resource Inventory – RFP

Ms. Ramasubramanian said he has received one proposal already and he is reaching out for another to let them know the deadline is coming.

4. Pesticide Outreach

5. Low Mow / Biodiversity Initiatives

Ms. Robertson said she received the seeds for the planting, if they do not get planted now Schenectady County is very happy to plant them in the Spring for us.

6. Quiet Niskayuna
7. Composting Initiative
8. Wildlife Corridors

VIII. ADJOURNMENT

Chairperson Strayer made a motion to adjourn the meeting, seconded by Mr.Ramasubramanian. All were in favor. The meeting was adjourned at approximately 8:37 PM.

TOWN OF NISKAYUNA
CONSERVATION ADVISORY COUNCIL

AGENDA STATEMENT

AGENDA ITEM NO. V. 1 MEETING DATE: 1/3/2024

ITEM TITLE: EAF 2023-07: 2890 River Rd. – An application for Sketch Plan Approval – 4 Lots or Less for a 4-lot subdivision

PROJECT LEAD: Patrick McPartlon and Genghis Khan

APPLICANT: Michael Dussault, P.E., agent for the owner

SUBMITTED BY: Laura Robertson, Town Planner

REVIEWED BY:
■ Planning Board (PB) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
☐ OTHER:

ATTACHMENTS:
■ EAF ■ Site Plan ☐ Map ☐ Report ☐ Other:

SUMMARY STATEMENT:

SUMMARY STATEMENT:

Michael Dussault, P.E., of Engineering Ventures, P.C. and agent for Ryan Lucey, property owner, has made an application for Sketch Plan Approval – 4-Lots or Less for a 4-lot subdivision at 2890 River Rd. The proposed subdivision will divide the existing 5.26 Acre property at 2890 River Rd and the 0.83 Acre property contiguous to it along Seneca Rd into 4 lots of 0.46, 0.46, 2.64 and 2.53 Acres, respectively. The existing home at 2890 River Rd is in very poor condition and will be demolished.

The property is located within the R-1 Low Density Residential zoning district.

BACKGROUND INFORMATION

The property owner, Ryan Lucey, met with Department Heads of the Niskayuna Planning, Water, Sewer & Engineering and Highway Departments to discuss a proposed 4-lot subdivision as shown in the drawing entitled “Subdivision Plan 2890 River Rd.” by Engineering Ventures, P.C. dated 6/23/23 with no subsequent revisions. At the time Mr. Lucey owned the 5.26 Acre property at 2890 River Road and was in the process of purchasing the 0.83 Acre property contiguous to it along Seneca Rd. The utility review performed by the Town representatives identified the project area as being susceptible to flooding during heavy rain events. It was noted that a thorough storm water review will be required. Mr. Lucey was informed that for his proposed subdivision to come before the Planning Board he would need to demonstrate site control by obtaining signature approval of the application from the current owner of the 0.83 Acre portion of land or wait until the sale of the land to him was completed.

On 8/23/23 Mr. Lucey provided with Planning Office with the following documents.

- A sketch plan application for a minor subdivision of 4-lots or less
- A "Contract For Purchase and Sale of Real Estate" dated 8/16/23 indicating that Mr. Lucey owned the 0.83 Acre parcel of land.
- A 1-page survey drawing entitled "Survey Lands of RPL Family Trust #2890 River Rd." by Gilbert VanGuilder Land Surveyor, PLLC dated 12/1/2022 with no subsequent revisions.
- A 1-page subdivision site plan entitled "Subdivision Plan Proposed 4-Lot 2890 River Rd." by Engineering Ventures P.C." dated 8/23/23 with no subsequent revisions.
- A Short Environmental Assessment Form (EAF) – Part 1 dated 6/22/23.

6/23/23 Subdivision Drawing

This drawing includes 4 lots. Two (2) of the lots front River Road, one (1) lot fronts Seneca Road near its intersection with River Road and one (1) lot fronts Seneca Road near the cul-de-sac at the northeast end of the road.

8/23/23 Subdivision Drawing

This drawing includes 4 lots. Three (3) of the lots front River Road, the one (1) lot near the intersection of Seneca Rd and River Rd has been eliminated and the one (1) lot that fronts Seneca Rd. near the cul-de-sac at the northeast end of the road remains.

Mr. Lucey and his representatives are before the Board this evening to present and discuss his application. The Planning Board and Planning Office should review the application relative to Town codes and the current storm water conditions along Seneca Rd.

8/28/23 Planning Board (PB) meeting – Ryan Lucey and Michael Roman attended the meeting and presented the project to the Board. They explained the 6/23/23 4-lot subdivision drawing included two lots on Seneca Rd and two lots on River Rd. The 8/23/23 drawing includes one lot on Seneca Rd and 3 lots on River Rd. The Board and Planning Office discussed the history of storm water accumulation during storms in this general area and stated a through upstream and downstream storm water analysis will be needed. Mr. Khan stated that in other areas of Niskayuna the Board has essentially inherited storm water challenges – in this area, and on this project, they have the opportunity to avoid storm water related issues. The Board noted that the small strip of property along Seneca Rd near the intersection with River Rd may be able to be used to help mitigate storm water events. The Board concluded their discussion with a request that a few additional items be added to the site plan: the addition of limits of clearing and footprints of homes that are representative of the size the applicant intends to build.

9/6/23 PB Project Lead site walk – The PB project leads and Mr. Lucey walked the project site to obtain a first-hand look at the land, wetlands, grading, neighboring properties, etc.

9/6/23 Conservation Advisory Council (CAC) meeting – The CAC briefly reviewed the project at their regularly scheduled meeting. Ms. Robertson presented the site plan and provided background regarding the storm water challenges in the area. She asked the Board to familiarize themselves with the project details and the project site. She suggested they drive by the area to get a first-hand feel for the distances between houses, storm water drainage areas, etc. Chairman Strayer noted that he would like to see a multi-use path be included in the plan connecting Seneca Rd to River Road Park. He also noted that a Town access easement along River Road along the project area would be helpful for the installation of a future sidewalk or multi-use path someday. Ms. Robertson said the CAC will be reviewing this again during the October 4, 2023 meeting.

9/11/23 Planning Board (PB) meeting – Mr. Roman and Mr. Lucey attended the meeting. The co-project leads, Patrick McPartlon and Genghis Khan updated the Board on their observations during the 9/6/23 site walk. They noted the upland properties, Iroquois and Rosendale schools, Campo Court, etc., and observed that water generally flows towards the existing culvert under Seneca Road and into the wetland area of 2890 River Road. Ms. Robertson noted that Niskayuna zoning code includes sections requiring the examination of upstream and downstream drainage when conducting a Stormwater Management Report. The discussion primarily focused on drainage and how to efficiently assess the existing condition and post-development condition. Ms. Robertson recommended that existing stormwater reports for the neighboring sites be reviewed by Mr. Lucey's engineer. Mr. McPartlon encouraged the Board members to visit the site and acquaint themselves with the grading, vegetation, etc. Ms. Finan noted that Mr. Lucey still needs to demonstrate full site control of the thin strip of land along Seneca Road via. either signed approval of the current land owner or evidence that he is the landowner. Ms. Robertson noted that the Planning Office is in the process of securing quotes for a TDE review of the project.

A summary of actions that have occurred since the 9/11/23 meeting is as follows.

- Mr. Lucey submitted a FOIL request and received the Stormwater Management Report for the Iroquois Middle School project that is currently underway.

- The Planning Office has received 2 quotes for a TDE review of the proposed project.
    - One additional quotation is expected.

- The Planning Office has located the Storm Water Management Report for the Campo Court 7-lot major subdivision that is upstream from the proposed action.
    - Stormwater reports for other upstream areas are in the process of being located

- At the request of Mr. Lucey, a site walk with the Engineering and Highway Departments is planned for Thursday 10/5/23.

10/2/23 Planning Board (PB) meeting – Mr. Lucey and Mr. Roman attended the PB meeting. Chairman Walsh asked Mr. McPartlon, co-project lead of the project for the Planning Board, to provide a quick update since the last meeting. He stated that a Town Designated Engineer (TDE) was in the process of being selected and a site walk was being planned to familiarize everyone with the property. Mr. Roman added that the applicant's engineer was preparing a storm water management report.

10/4/23 Conservation Advisory Council (CAC) meeting – Laura Robertson, Town Planner, provided the CAC with background information on the proposed project. She described the slides and pictures that have been assembled documenting recent storm water related events in the area recently. A CAC member stressed that we need to make sure we are planning for the future and heeding storm water trends, etc. The CAC requested that the site plan drawings include representative footprints of the homes that are intended for the lots rather than small generic squares or rectangles. They also requested an inventory of animals that inhabit the area that may be impacted by the development of the land.

10/5/23 Site walk – A site walk was held at noon on 10/5/23. Participant's included Ms. Robertson, Town Planner, & Mr. Henry of the Planning Office, Mr. Doug Cole, the TDE from Prime Engineering, Mr. Yetto Superintendent of Water, Sewer and Engineering, Mr. Smith Superintendent of the Highway Department, Mr. McPartlon and Mr. Khan of the Planning Board, Mr. Lucey and his team including his engineer and a few interested neighbors. The Planning Office explained the roles and responsibilities of each member of the project team and stressed the

importance of how important communication between the applicant's engineer and the TDE will be to the success of the project. The group walked the upstream areas and discussed how storm water is managed and drains on the property. Prior to concluding the site walk meeting the group noted that the next step is for the applicant's engineer to complete and submit a storm water management report.

10/16/23 Planning Board (PB) meeting – Mr. Lucey and his design team were present at the meeting. Collectively, Mr. McPartlon, PB Project Co-Lead with Mr. Khan, Mr. Roman and Mr. Dussault, P.E. provided the Board with an update on the project.

- Mr. Roman noted that Mr. Lucey had closed on the purchase of the lot of land forming a thin strip along Seneca Rd.
- Mr. Dussault provided an update on the onsite and offsite stormwater analysis
    - He noted that he agreed with the analysis performed on the Iroquois Middle School
    - The upstream analysis was performed using the 25-year storm rainfall rates
    - His downstream analysis was performed using the 5-year storm rainfall rates
    - The analysis showed that the existing culverts under Seneca Rd. are undersized
    - With the assumptions noted in the report, the onsite stormwater discharge is essentially the same post-project as pre-project
- The Planning Board and Planning Office discussed how to best review and provide appropriate feedback to the applicant on the project at this stage (sketch plan stage) of the project.
- It was determined that TDE comments regarding the stormwater analysis and site plan would be valuable to help the applicant and the Board quantify potential challenges inherent in the site.
- The Board noted that a TDE had been selected and would begin the technical review as soon as an escrow account was set up.

The following activities and revisions to the site plan occurred since the 10/16/23 PB meeting.

- 10/27/23 – An escrow account was established and the TDE was immediately engaged
- 11/6/23 – A revised site plan drawing was received (dated 11/3/23) consisting of 3-lots
- 11/8/23 – A 1st TDE comment letter was received by the Planning Office and is included in the packet for the 11/13/23 PB meeting.

11/8/23 Conservation Advisory Council (CAC) meeting – The Planning Office provided a general review of the history and status of the project and noted receipt of the 1st TDE comment letter and revised 3-lot subdivision site plan. Ms. Robertson noted that the CAC will be reviewing the project in more detail at the following meeting.

11/13/23 Planning Board (PB) meeting – Mr. Roman, agent for Mr. Lucey, and Mr. Dussault, of Engineering Ventures, attended the meeting and represented Mr. Lucey. They referenced the revised site plan drawings dated 11/3/23 which now depict a 3-lot subdivision. Mr. Cole, of Prime Engineering and TDE for the project, summarized his TDE response letter dated 11/8/23. A detailed discussion of the project ensued and the group agreed on the following.

- Site control for the application was established on 11/2/23 when Mr. Lucey's ownership of Tax Parcel 51.9-2-1.2, the lot of land along Seneca Rd. near the intersection of River Rd., was recorded in the Schenectady County Clerk's Office.
- Proposed design reduced from 4-lot subdivision to 3-lot subdivision.
- The new lots will include on-lot stormwater management practices (retention basins, etc.) such that the post development runoff will be equal to or less than the pre development runoff.
- Design includes an 80' wide easement to the Town that encompasses the ditch in the wetlands

- Stormwater report will have to be revised to reflect the 3-lot design.
- Stormwater analysis will be performed using 100 yr. rainfall rates.
- Mr. Lucey and the Town will explore a conservation easement, extending the 80' easement or deeding the land along Seneca Rd. near River Rd. to the Town to enable the land to be used as a stormwater management basin.
- Mr. Dussault will provide written responses to the TDE letter dated 11/8/23.
- The Town will include upstream and downstream analysis and culvert design in their town-wide drainage analysis project.

11/27/23 Planning Board (PB) meeting – The applicant and the Planning Board Project Leads provided the Board with an overview and update of the project. After a short discussion the PB approved Resolution 2023-28 granting sketch plan approval to the proposed 3-lot subdivision.

Since the 11/27/23 PB meeting the applicant has provided the following documents to the Planning Office.

- *11/28/23* – A 21-page report entitled "Endangered Species Habitat Suitability Assessment Report" by Gilbert VanGuilder Land Surveyor, PLLC dated 9/22/23.
- *11/28/23* – A 19-page report entitled "Phase 1 Archaeological Survey 2890 River Rd. Town of Niskayuna Schenectady County 23PR05721 by Timothy J. Abel, PhD 33512 SR 26 Carthage, NY 13619 dated 11/21/23.
- *12/5/23* – A 1-page letter entitled "USACE 2890 River Road Subdivision and Three New Single-effecFamily Homes, 2890 River Rd, Niskayuna, NY 12309, 23PR05721 by Jessica Schreyer, Archaeology Unit Program Coordinator, of the New York State Parks, Recreation and Historic Preservation Department dated 12/4/23.

12/6/23 Conservation Advisory Council (CAC) meeting – The applicant and his engineer attended the meeting and updated the CAC on the proposed project. They noted that they are designing stormwater retention areas for each of the lots to control the post-development stormwater discharge to pre-development levels. They also noted that the basement elevation of the home on lot 2 will be 1' above the 100-year flood elevation. After a discussion the Council chose to table making a SEQR recommendation until they can review updated site plans that were discussed.

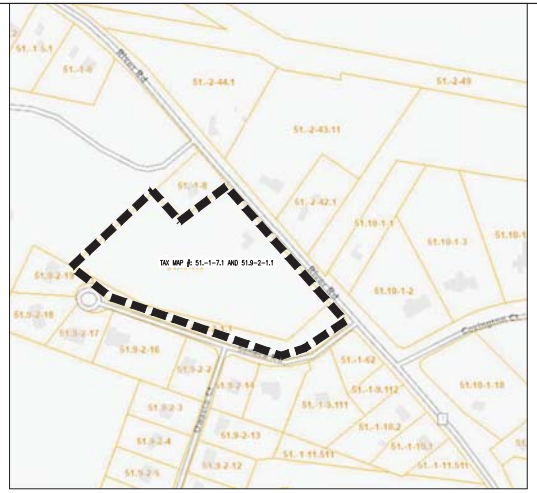
12/11/23 Planning Board (PB) meeting – Mr. Ryan and his design team were present at the meeting. They described the revised plans and documents that were emailed to the Planning Office on Friday afternoon 12/8/23 (the plans were received too late to be included in the documentation packet for the 12/11/23 PB meeting so they were emailed separately to the PB members). Chairman Walsh noted the documents will be included in the meeting packet for the 1/8/24 PB meeting. It was noted that the CAC did not make a SEQR recommendation at their 12/6/23 meeting. LR explained that the applicant described design revisions that were underway on 12/6/23 but no documentation of the revised design was provided to the CAC. Therefore, the CAC decided to table making a SEQR recommendation until after they received and reviewed the design documents. After a general discussion the PB called for a tentative resolution for the 1/8/24 PB meeting to make a SEQR determination and call for a public hearing for the 1/22/24 meeting.

12/28/23 – 2nd TDE comment letter -- The TDE provided a 5-page comment letter regarding the following documents.

- The applicant's response letter dated 12/6/23
- Revised site plans dated 12/6/23
- Updated SWPPP dated 12/6/23

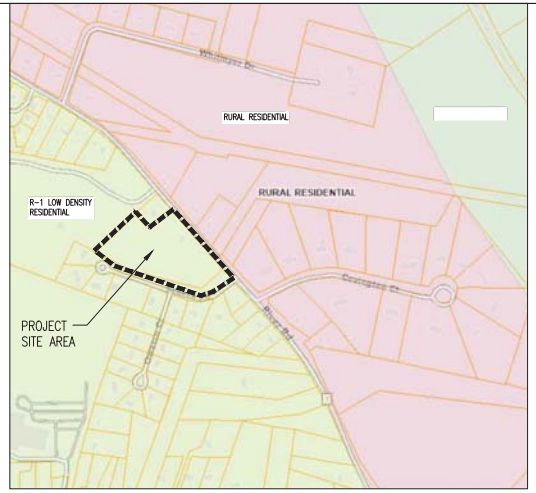
- Subdivision application dated 12/4/23
- Revised Short Form EAF dated 6/22/23

The CAC should review the documents referenced in the TDE's 2nd comment letter and make a SEQR Recommendation to the Planning Board.



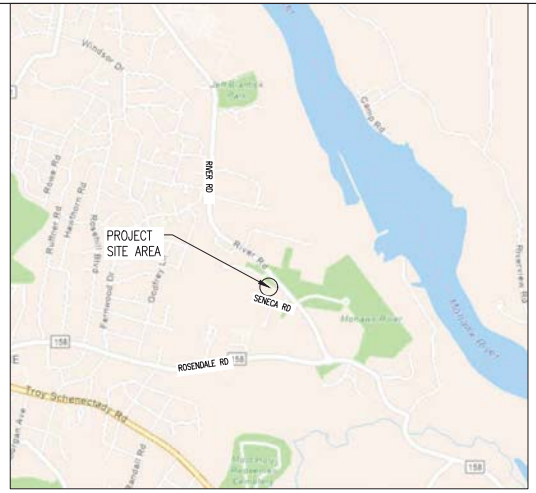
TAX MAP

SCALE: 1"=200'



ZONING MAP

SCALE: 1"=400'



VICINITY MAP

SCALE: 1"=1500'

GENERAL NOTES

1. EXACT OBJECT LOCATIONS MAY DIFFER FROM THAT AS SHOWN, AND ADDITIONAL SUB-SURFACE AND SURFACE UTILITIES AND STRUCTURES MAY EXIST. THE CONTRACTOR IS TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK.
2. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES. ALL DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND ENGINEER. SITE CONTRACTOR SHALL CALL UTILITY LOCATOR SERVICE AND UTILITY OWNERS 72 HOURS, EXCLUSIVE OF WEEKENDS AND HOLIDAYS, PRIOR TO ANY DIGGING, DRILLING, OR BLASTING:
   A. DIG SAFE (TEL: #811)
   B. NON DIG SAFE MEMBER FACILITY OPERATORS IF KNOWN. (A LIST OF DIG SAFE MEMBERS BY STATE CAN BE FOUND ON THE DIG SAFE WEB SITE WWW.DIGSAFE.COM)
   C. TOWN OF NISKAYUNA WATER AND SEWER DEPARTMENT (518-386-4520)
3. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
4. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
5. THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
7. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS. THE CONTRACTORS SHALL BE RESPONSIBLE FOR ALL WORK PERMITS, INSPECTIONS, AND CERTIFICATES.
8. THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A NEW YORK STATE LICENSED LAND SURVEYOR.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
11. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS FOR CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK. DEWATERING METHOD MUST BE APPROVED BY THE OWNER AND COORDINATED WITH THE CITY OF GLENS FALLS DEPARTMENT OF PUBLIC WORKS
13. MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
14. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AND TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.
17. BY ISSUANCE OF A BUILDING PERMIT, THE TOWN OF NISKAYUNA DOES NOT ASSUME ANY LIABILITY FOR STORM WATER DAMAGE BY GENERAL APPROVAL OF THESE PLANS. THE OWNER MUST ASSUME ANY AND ALL LIABILITIES FOR DAMAGE CLAIMED ARISING OUT OF INCREASED STORM WATER FLOW.
18. ALL ON-SITE SANITATION AND WATER SUPPLY FACILITIES SHALL BE DESIGNED TO MEET THE MINIMUM SPECIFICATIONS OF THE STATE DEPARTMENT OF HEALTH.

SHEET INDEX

SUBJECT PROPERTY:

TAX MAP PARCELS 51.-1-7.1 AND 51.9-2-1.1
2890 RIVER RD
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NEW YORK

APPLICANT/OWNER:

RPL FAMILY TRUST
2505 WHARNER LANE
NISKAYUNA, NY 12309

SURVEY NOTES

1. EXISTING PHYSICAL FEATURES, BOUNDARIES, AND TOPOGRAPY SHOWN HEREIN ARE BASED OFF A PLAN ENTITLED "SURVEY LANDS OF RPL FAMILY TRUST #2890 RIVER ROAD", PREPARED BY GILBERT VANGUILDER LAND SURVEYOR, PLLC AND DATED DECEMBER 01, 2022.
2. ENGINEERING VENTURES HAS NOT PERFORMED ANY BOUNDARY OR TOPOGRAPHIC SURVEYS. THE PROPERTY LINES, EASEMENTS, AND OTHER REAL PROPERTY DESCRIPTIONS PROVIDED ON THESE PLANS DO NOT DEFINE LEGAL RIGHTS OR MEET LEGAL REQUIREMENTS FOR A LAND SURVEY AS DESCRIBED IN NY STATUTES, AND SHALL NOT BE USED AS THE BASIS OF ANY LAND TRANSFER OR ESTABLISHMENT OF ANY PROPERTY RIGHT.
3. CONTOUR INTERVAL DEPICTED HEREIN IS TWO (2) FOOT.
4. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITIES SHOWN ON THE PLANS WERE TAKEN FROM FIELD OBSERVATIONS OF VISIBLE UTILITIES AND PREVIOUS MAPS AND RECORD UTILITY DRAWINGS AND NOT GUARANTEED TO BE ACCURATE OR COMPLETE.

Dig Safely. New York Call 811 before you dig

SYMBOL LEGEND

PROPOSED FEATURES		EXISTING FEATURES
⊡	BOUND	⊡ BOUND
◒	BENCHMARK	◒ BENCHMARK
●	DRILL HOLE	● DRILL HOLE
▲	SURVEY POINT	△ SURVEY POINT
○	IRON PIN	○ IRON PIN
TP1	TEST PIT	TP1 TEST PIT
B1	BORING	B1 BORING
P1	PERC TEST	P1 PERC TEST
▦	CATCH BASIN (SQUARE)	▦ CATCH BASIN (SQUARE)
●	CATCH BASIN (ROUND)	● CATCH BASIN (ROUND)
⌒	HEADWALL	⌒ HEADWALL
△	FLARED END SECTION	△ FLARED END SECTION
⩓	STONE APRON	⩓ STONE APRON
Ⓓ	DRAIN MANHOLE (DMH)	Ⓓ DRAIN MANHOLE (DMH)
○ C/O	DRAINAGE CLEAN OUT	○ C/O DRAINAGE CLEAN OUT
Ⓢ	SANITARY SEWER MANHOLE (SMH)	Ⓢ SANITARY SEWER MANHOLE (SMH)
○ C/O	SANITARY CLEAN OUT	○ C/O SANITARY CLEAN OUT
⋇	HYDRANT	⋇ HYDRANT
⋈	WATER SHUTOFF	⋈ WATER SHUTOFF
⋈	TAPPING SLEEVE & VALVE	⋈ TAPPING SLEEVE & VALVE
⋈	GATE VALVE	⋈ GATE VALVE
Ⓦ	WELL	Ⓦ WELL
⌁	UTILITY POLE	⌁ UTILITY POLE
◂	GUY POLE	◂ GUY POLE
Ⓔ	ELECTRICAL MANHOLE	Ⓔ ELECTRICAL MANHOLE
◀	FLOOD LIGHT	◀ FLOOD LIGHT
☼	LIGHT POST	☼ LIGHT POST
Ⓣ	TELEPHONE MANHOLE	Ⓣ TELEPHONE MANHOLE
Ⓖ	NATURAL GAS MANHOLE	Ⓖ NATURAL GAS MANHOLE
Ⓒ	COMMUNICATION MANHOLE	Ⓒ COMMUNICATION MANHOLE
●	BOLLARD	● BOLLARD
⊤	SINGLE POLE SIGN	⊤ SINGLE POLE SIGN
⊤⊤	DOUBLE POLE SIGN	⊤⊤ DOUBLE POLE SIGN
+100.5	SPOT ELEVATION	+100.00 SPOT ELEVATION
♿	ACCESSIBLE PARKING STALL	♿ ACCESSIBLE PARKING STALL
⟹	DRAINAGE FLOW	⟹ DRAINAGE FLOW
	DECIDUOUS TREE	DECIDUOUS TREE
	CONIFEROUS TREE	CONIFEROUS TREE
		26B NRCS SOIL CLASSIFICATION
	WETLAND SETBACK	WETLAND

LINETYPE LEGEND

PROPOSED FEATURES		EXISTING FEATURES
100	MAJOR CONTOUR	100 MAJOR CONTOUR
98	MINOR CONTOUR	98 MINOR CONTOUR
	PROPERTY LINE	PROPERTY LINE
	SETBACK	SETBACK
	EASEMENT	EASEMENT
	CENTERLINE	CENTERLINE
	EDGE OF PAVEMENT	EDGE OF PAVEMENT
	EDGE OF GRAVEL	EDGE OF GRAVEL
	EDGE OF CONCRETE	EDGE OF CONCRETE
	CURB	CURB
X X	FENCE (BARBED WIRE)	X X FENCE (BARBED WIRE)
O O	FENCE (CHAIN LINK)	O O FENCE (CHAIN LINK)
□ □	FENCE (WOODEN)	□ □ FENCE (WOODEN)
	GUARD RAIL	GUARD RAIL
	TREE LINE	TREE LINE
	STONE WALL	STONE WALL
S	SANITARY SEWER	S SANITARY SEWER
		(S) SANITARY SEWER APPROX.
FM	SEWER FORCEMAIN	FM SEWER FORCEMAIN
SD	STORM LINE	SD STORM LINE
		(SD) STORM LINE APPROX.
UD	UNDER DRAIN	UD UNDER DRAIN
FD	FOUNDATION DRAIN	FD FOUNDATION DRAIN
RD	ROOF DRAIN	RD ROOF DRAIN
	DITCH/SWALE	DITCH/SWALE
UGT	UNDERGROUND TELECOMM	UGT UNDERGROUND TELECOMM
OHT	OVERHEAD TELECOMM	OHT OVERHEAD TELECOMM
UGE	UNDERGROUND ELECTRIC	UGE UNDERGROUND ELECTRIC
OHE	OVERHEAD ELECTRIC	OHE OVERHEAD ELECTRIC
6" W	6" WATER LINE	W WATER LINE
8" W	8" WATER LINE	(W) WATER APPROX.
		NRCS SOIL BOUNDARY

Planning Board Chairman — Date

Town Engineer — Date

ENGINEERING VENTURES PC
28 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802.863.6225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603.442.8833
414 Union Street, Schenectady, NY 12305 • 518.505.9141
www.engineeringventures.com

No.	Description	Date

Stamp

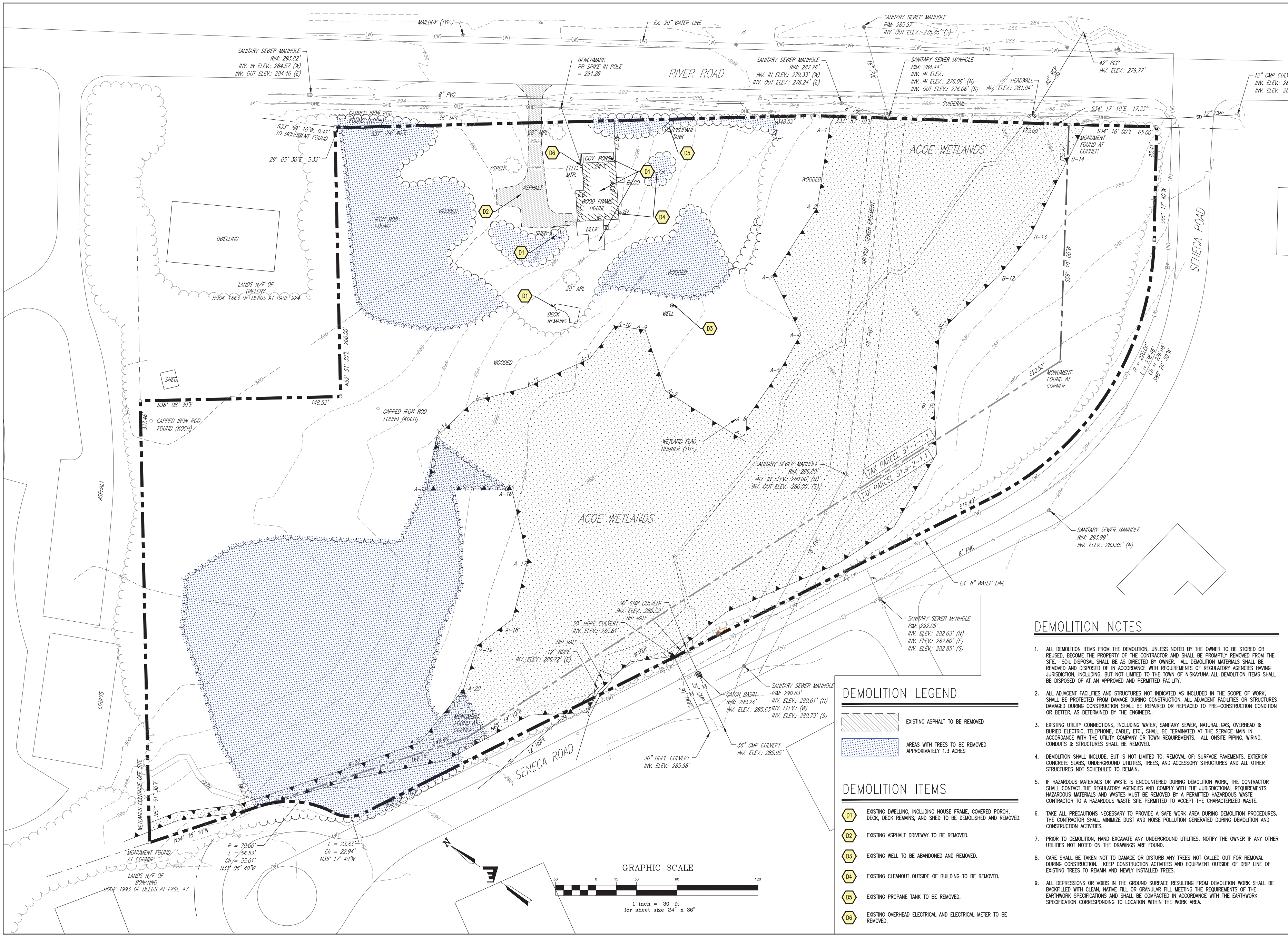
RPL Family Trust
2505 Wharner Lane
Niskayuna, NY 12309

Sheet Title: SITE LEGEND AND NOTES

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C001



DEMOLITION LEGEND

EXISTING ASPHALT TO BE REMOVED

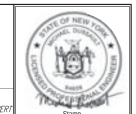
AREAS WITH TREES TO BE REMOVED APPROXIMATELY 1.3 ACRES

DEMOLITION ITEMS

- D1 EXISTING DWELLING, INCLUDING HOUSE FRAME, COVERED PORCH, DECK, DECK REMAINS, AND SHED TO BE DEMOLISHED AND REMOVED.
- D2 EXISTING ASPHALT DRIVEWAY TO BE REMOVED.
- D3 EXISTING WELL TO BE ABANDONED AND REMOVED.
- D4 EXISTING CLEANOUT OUTSIDE OF BUILDING TO BE REMOVED.
- D5 EXISTING PROPANE TANK TO BE REMOVED.
- D6 EXISTING OVERHEAD ELECTRICAL AND ELECTRICAL METER TO BE REMOVED.

DEMOLITION NOTES

1. ALL DEMOLITION ITEMS FROM THE DEMOLITION, UNLESS NOTED BY THE OWNER TO BE STORED OR REUSED, BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE. SOIL DISPOSAL SHALL BE AS DIRECTED BY OWNER. ALL DEMOLITION MATERIALS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH REQUIREMENTS OF REGULATORY AGENCIES HAVING JURISDICTION, INCLUDING, BUT NOT LIMITED TO THE TOWN OF NISKAYUNA ALL DEMOLITION ITEMS SHALL BE DISPOSED OF AT AN APPROVED AND PERMITTED FACILITY.
2. ALL ADJACENT FACILITIES AND STRUCTURES NOT INDICATED AS INCLUDED IN THE SCOPE OF WORK, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. ALL ADJACENT FACILITIES OR STRUCTURES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO PRE-CONSTRUCTION CONDITION OR BETTER, AS DETERMINED BY THE ENGINEER..
3. EXISTING UTILITY CONNECTIONS, INCLUDING WATER, SANITARY SEWER, NATURAL GAS, OVERHEAD & BURIED ELECTRIC, TELEPHONE, CABLE, ETC., SHALL BE TERMINATED AT THE SERVICE MAIN IN ACCORDANCE WITH THE UTILITY COMPANY OR TOWN REQUIREMENTS. ALL ONSITE PIPING, WIRING, CONDUITS & STRUCTURES SHALL BE REMOVED.
4. DEMOLITION SHALL INCLUDE, BUT IS NOT LIMITED TO, REMOVAL OF: SURFACE PAVEMENTS, EXTERIOR CONCRETE SLABS, UNDERGROUND UTILITIES, TREES, AND ACCESSORY STRUCTURES AND ALL OTHER STRUCTURES NOT SCHEDULED TO REMAIN.
5. IF HAZARDOUS MATERIALS OR WASTE IS ENCOUNTERED DURING DEMOLITION WORK, THE CONTRACTOR SHALL CONTACT THE REGULATORY AGENCIES AND COMPLY WITH THE JURISDICTIONAL REQUIREMENTS. HAZARDOUS MATERIALS AND WASTES MUST BE REMOVED BY A PERMITTED HAZARDOUS WASTE CONTRACTOR TO A HAZARDOUS WASTE SITE PERMITTED TO ACCEPT THE CHARACTERIZED WASTE.
6. TAKE ALL PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK AREA DURING DEMOLITION PROCEDURES. THE CONTRACTOR SHALL MINIMIZE DUST AND NOISE POLLUTION GENERATED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
7. PRIOR TO DEMOLITION, HAND EXCAVATE ANY UNDERGROUND UTILITIES. NOTIFY THE OWNER IF ANY OTHER UTILITIES NOT NOTED ON THE DRAWINGS ARE FOUND.
8. CARE SHALL BE TAKEN NOT TO DAMAGE OR DISTURB ANY TREES NOT CALLED OUT FOR REMOVAL DURING CONSTRUCTION. KEEP CONSTRUCTION ACTIVITIES AND EQUIPMENT OUTSIDE OF DRIP LINE OF EXISTING TREES TO REMAIN AND NEWLY INSTALLED TREES.
9. ALL DEPRESSIONS OR VOIDS IN THE GROUND SURFACE RESULTING FROM DEMOLITION WORK SHALL BE BACKFILLED WITH CLEAN, NATIVE FILL OR GRANULAR FILL MEETING THE REQUIREMENTS OF THE EARTHWORK SPECIFICATIONS AND SHALL BE COMPACTED IN ACCORDANCE WITH THE EARTHWORK SPECIFICATION CORRESPONDING TO LOCATION WITHIN THE WORK AREA.



Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-205-9141
www.engineeringventures.com

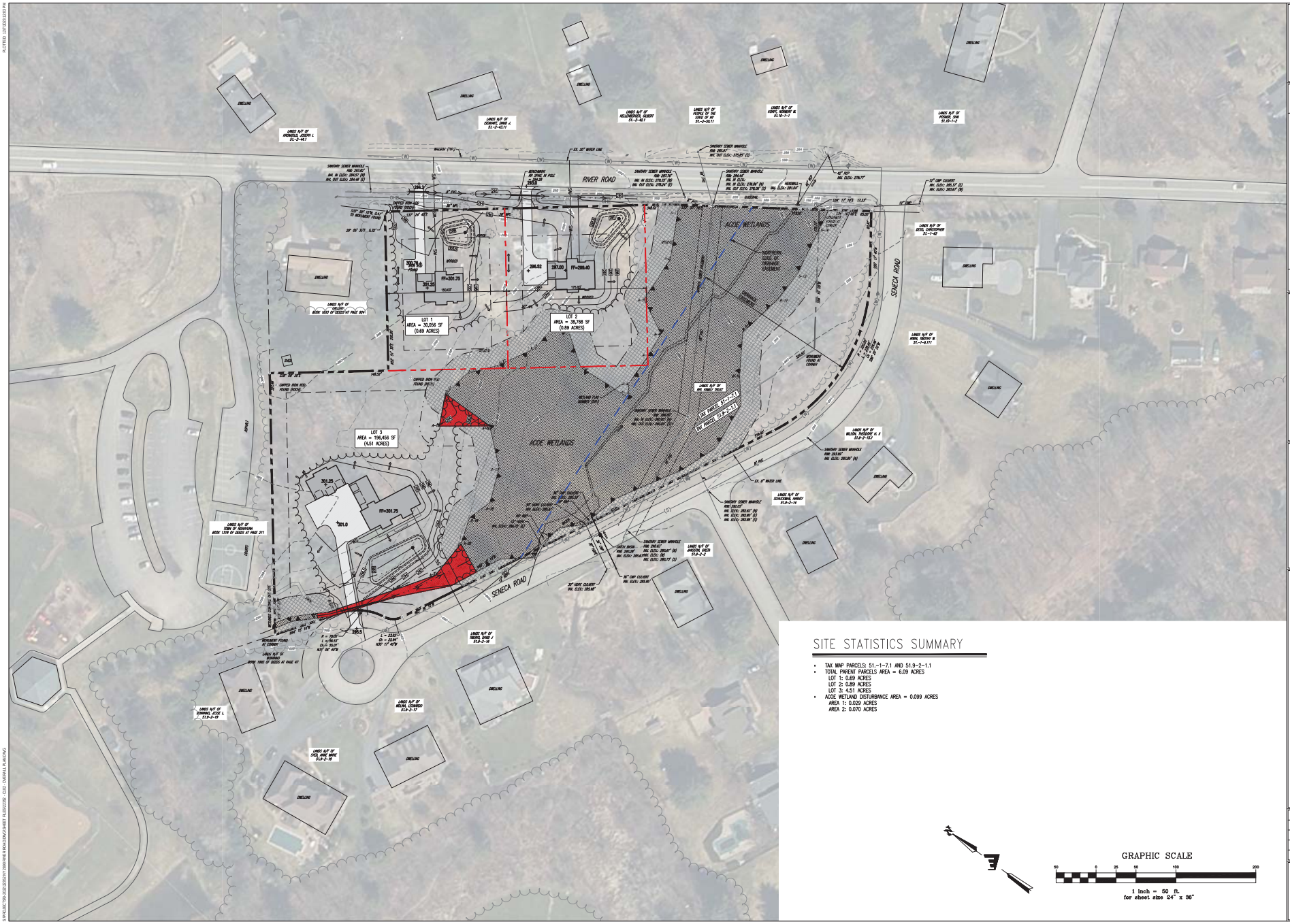
RPL Family Trust
2505 Whamer Lane
Niskayuna, NY 12309

Sheet Title: EXISTING CONDITIONS AND DEMOLITIONPLAN

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY , NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C101



SITE STATISTICS SUMMARY

- TAX MAP PARCELS: 51.-1-7.1 AND 51.9-2-1.1
- TOTAL PARENT PARCELS AREA = 6.09 ACRES
  - LOT 1: 0.69 ACRES
  - LOT 2: 0.89 ACRES
  - LOT 3: 4.51 ACRES
- ACOE WETLAND DISTURBANCE AREA = 0.099 ACRES
  - AREA 1: 0.029 ACRES
  - AREA 2: 0.070 ACRES

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
239 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802.863.6225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603.442.8833
414 Union Street, Schenectady, NY 12305 • 518.705.9141
www.engineeringventures.com

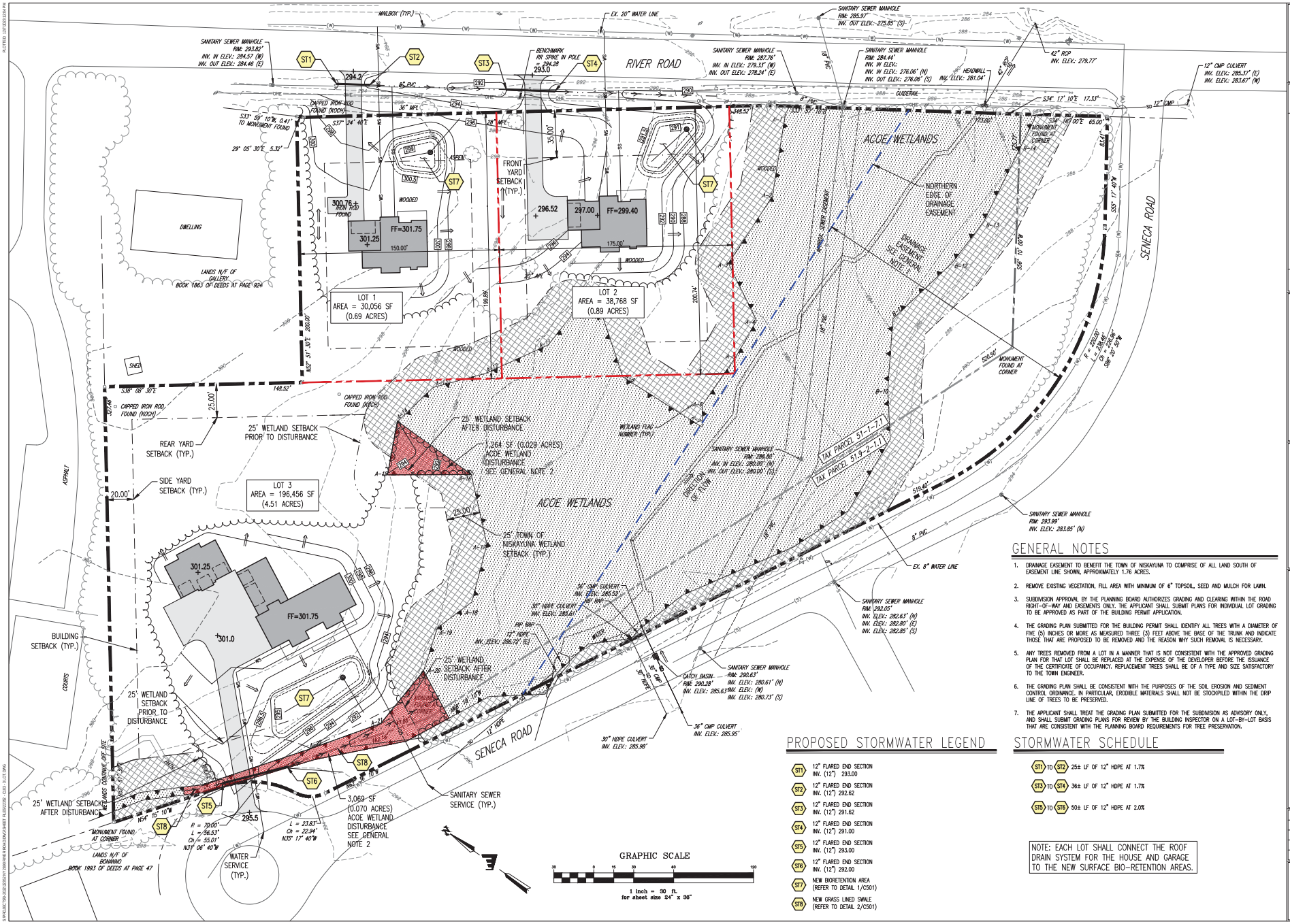
RPL Family Trust
2305 Whitney Lane
Niskayuna, NY 12309

Sheet Title: OVERALL SUBDIVISION PLAN
PROPOSED 3-LOT

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C102



GENERAL NOTES

1. DRAINAGE EASEMENT TO BENEFIT THE TOWN OF NISKAYUNA TO COMPRISE OF ALL LAND SOUTH OF EASEMENT LINE SHOWN, APPROXIMATELY 1.76 ACRES.
2. REMOVE EXISTING VEGETATION, FILL AREA WITH MINIMUM OF 6" TOPSOIL, SEED AND MULCH FOR LAWN.
3. SUBDIVISION APPROVAL BY THE PLANNING BOARD AUTHORIZES GRADING AND CLEARING WITHIN THE ROAD RIGHT-OF-WAY AND EASEMENTS ONLY. THE APPLICANT SHALL SUBMIT PLANS FOR INDIVIDUAL LOT GRADING TO BE APPROVED AS PART OF THE BUILDING PERMIT APPLICATION.
4. THE GRADING PLAN SUBMITTED FOR THE BUILDING PERMIT SHALL IDENTIFY ALL TREES WITH A DIAMETER OF FIVE (5) INCHES OR MORE AS MEASURED THREE (3) FEET ABOVE THE BASE OF THE TRUNK AND INDICATE THOSE THAT ARE PROPOSED TO BE REMOVED AND THE REASON WHY SUCH REMOVAL IS NECESSARY.
5. ANY TREES REMOVED FROM A LOT IN A MANNER THAT IS NOT CONSISTENT WITH THE APPROVED GRADING PLAN FOR THAT LOT SHALL BE REPLACED AT THE EXPENSE OF THE DEVELOPER BEFORE THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY. REPLACEMENT TREES SHALL BE OF A TYPE AND SIZE SATISFACTORY TO THE TOWN ENGINEER.
6. THE GRADING PLAN SHALL BE CONSISTENT WITH THE PURPOSES OF THE SOIL EROSION AND SEDIMENT CONTROL ORDINANCE. IN PARTICULAR, ERODIBLE MATERIALS SHALL NOT BE STOCKPILED WITHIN THE DRIP LINE OF TREES TO BE PRESERVED.
7. THE APPLICANT SHALL TREAT THE GRADING PLAN SUBMITTED FOR THE SUBDIVISION AS ADVISORY ONLY, AND SHALL SUBMIT GRADING PLANS FOR REVIEW BY THE BUILDING INSPECTOR ON A LOT-BY-LOT BASIS THAT ARE CONSISTENT WITH THE PLANNING BOARD REQUIREMENTS FOR TREE PRESERVATION.

PROPOSED STORMWATER LEGEND

- ST1 — 12" FLARED END SECTION INV. (12") 293.00
- ST2 — 12" FLARED END SECTION INV. (12") 292.62
- ST3 — 12" FLARED END SECTION INV. (12") 291.62
- ST4 — 12" FLARED END SECTION INV. (12") 291.00
- ST5 — 12" FLARED END SECTION INV. (12") 293.00
- ST6 — 12" FLARED END SECTION INV. (12") 292.00
- ST7 — NEW BIORETENTION AREA (REFER TO DETAIL 1/C501)
- ST8 — NEW GRASS LINED SWALE (REFER TO DETAIL 2/C501)

STORMWATER SCHEDULE

- ST1 TO ST2 — 25± LF OF 12" HDPE AT 1.7%
- ST3 TO ST4 — 36± LF OF 12" HDPE AT 1.7%
- ST5 TO ST6 — 50± LF OF 12" HDPE AT 2.0%

NOTE: EACH LOT SHALL CONNECT THE ROOF DRAIN SYSTEM FOR THE HOUSE AND GARAGE TO THE NEW SURFACE BIO-RETENTION AREAS.

GRAPHIC SCALE
30 0 15 30 40 120
1 inch = 30 ft.
for sheet size 24" x 36"

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
239 Fonn Avenue, Suite 2A, Burlington, VT 05401 • 802.863.4225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603.442.9833
414 Union Street, Schenectady, NY 12305 • 518.505.9141
www.engineeringventures.com

RPI Family Trust
2305 Whitney Lane
Niskayuna, NY 12309

Sheet Title: SUBDIVISION PLAN
PROPOSED 3-LOT

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C103

EROSION CONTROL NOTES

1. DAMAGE TO SURFACE WATERS RESULTING FROM EROSION AND SEDIMENTATION SHALL BE MINIMIZED BY STABILIZING DISTURBED AREAS AND BY REMOVING SEDIMENT FROM CONSTRUCTION SITE DISCHARGES.
2. INSOFAR AS PRACTICABLE, EXISTING VEGETATION SHALL BE PRESERVED.
3. SITE PREPARATION ACTIVITIES SHALL BE PLANNED TO MINIMIZE THE AREA AND DURATION OF SOIL DISRUPTION.
4. PERMANENT TRAFFIC CORRIDORS SHALL BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED.
5. CONSTRUCTION TRAFFIC SHALL NOT CROSS STREAMS OR DITCHES EXCEPT AT SUITABLE CROSSING FACILITIES, AND SHALL NOT OPERATE UNNECESSARILY WITHIN WATERWAYS OR DRAINAGE DITCHES.
6. THE DEVELOPER/CONTRACTOR OR HIS BUILDER SHALL INSPECT AND MAINTAIN THE INTEGRITY AND FUNCTION OF ALL TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE DEVELOPMENT PROCESS. TO ASSURE PROPER FUNCTION, SILTATION BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION AND REINFORCED, EXTENDED, REPAIRED, RE-SEEDED AND PROTECTED FROM FURTHER EROSION. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED AND CONTAINED IN APPROPRIATE SPOIL AREAS. WATER SHALL BE APPLIED TO NEWLY SEEDED AREAS AS NEEDED UNTIL GRASS COVER IS WELL ESTABLISHED.

DUST CONTROL
DUST SHALL BE CONTROLLED THROUGH APPLICATION OF WATER, AS REQUIRED TO PREVENT MIGRATION BEYOND THE PROJECT LIMITS. CONTROL OF DUST REMAINS AN ONGOING RESPONSIBILITY OF THE CONTRACTOR UNTIL THE SITE IS FULLY STABILIZED.

INSPECTION REQUIREMENTS
THE SITE WORK CONTRACTOR IS RESPONSIBLE FOR INSPECTION OF ALL EROSION AND SEDIMENT CONTROL MEASURES EVERY 7 DAYS AND AS SOON AS REASONABLY POSSIBLE DURING OR AFTER RUNOFF EVENTS RESULTING IN RUNOFF FROM THE SITE.

FULL COMPLIANCE WITH THE REQUIREMENTS OF NEW YORK STATE EROSION AND SEDIMENT CONTROL MANUAL (2016) AND THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES (GP-0-20-001) IS THE RESPONSIBILITY OF THE SITE CONTRACTOR.

IT IS THE RESPONSIBILITY OF THE SITE CONTRACTOR TO PROVIDE AND COMPENSATE A "QUALIFIED INSPECTOR", AS DEFINED IN THE NYSDEC GENERAL PERMIT GP-0-20-001. (SEE WRITTEN SPECIFICATIONS AND THE STORMWATER POLLUTION PREVENTION PLAN REPORT FOR ADDITIONAL INFORMATION). A THIRD-PARTY "QUALIFIED INSPECTOR" MAY BE HIRED AND COMPENSATED BY THE SITE CONTRACTOR.

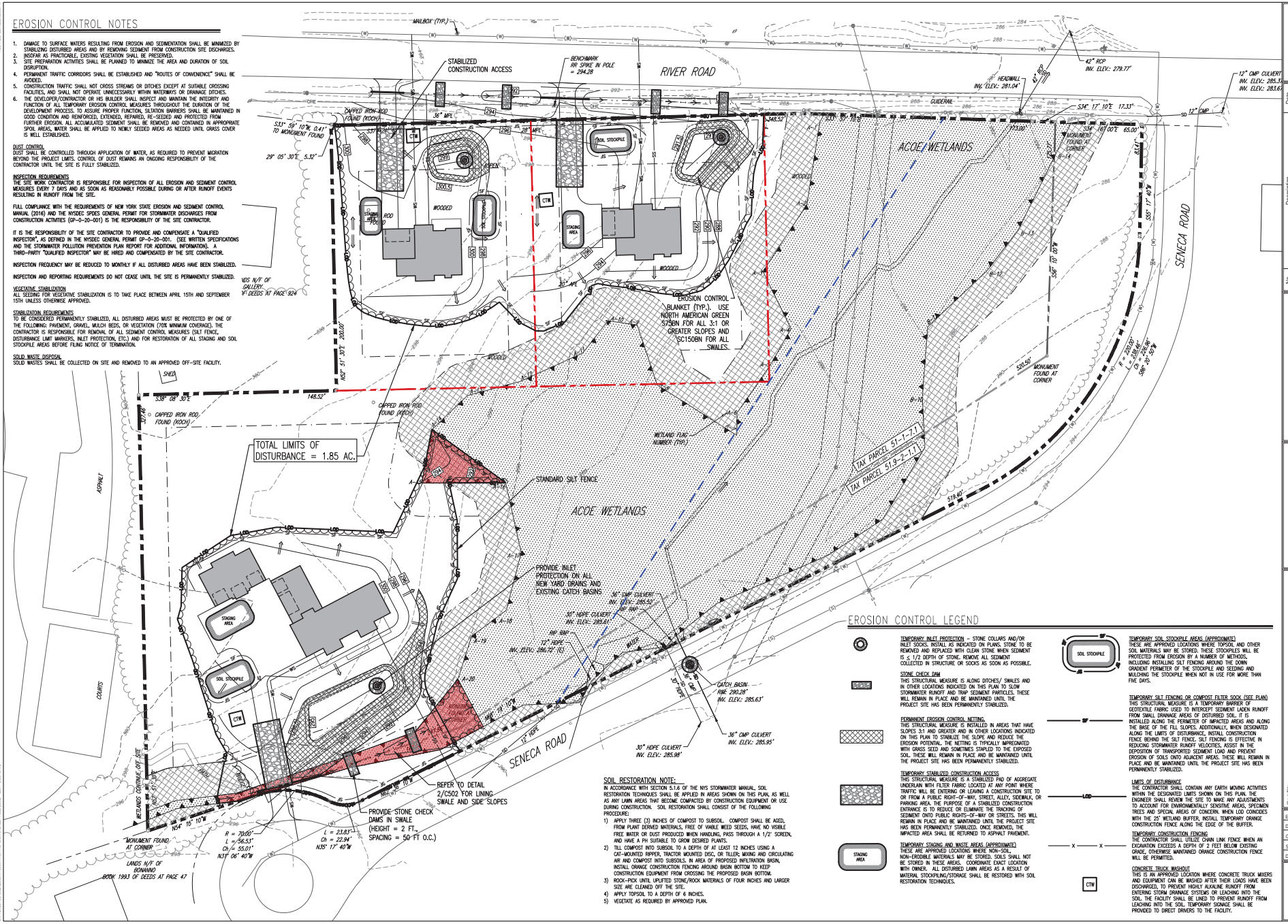
INSPECTION FREQUENCY MAY BE REDUCED TO MONTHLY IF ALL DISTURBED AREAS HAVE BEEN STABILIZED.

INSPECTION AND REPORTING REQUIREMENTS DO NOT CEASE UNTIL THE SITE IS PERMANENTLY STABILIZED.

VEGETATIVE STABILIZATION
ALL SEEDING FOR VEGETATIVE STABILIZATION IS TO TAKE PLACE BETWEEN APRIL 15TH AND SEPTEMBER 15TH UNLESS OTHERWISE APPROVED.

STABILIZATION REQUIREMENTS
TO BE CONSIDERED PERMANENTLY STABILIZED, ALL DISTURBED AREAS MUST BE PROTECTED BY ONE OF THE FOLLOWING: PAVEMENT, GRAVEL, MULCH BEDS, OR VEGETATION (70% MINIMUM COVERAGE). THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL SEDIMENT CONTROL MEASURES (SILT FENCE, DISTURBANCE LIMIT MARKERS, INLET PROTECTION, ETC.) AND FOR RESTORATION OF ALL STAGING AND SOIL STOCKPILE AREAS BEFORE FILING NOTICE OF TERMINATION.

SOLID WASTE DISPOSAL
SOLID WASTES SHALL BE COLLECTED ON SITE AND REMOVED TO AN APPROVED OFF-SITE FACILITY.



SOIL RESTORATION NOTE:

IN ACCORDANCE WITH SECTION 5.1.6 OF THE NYS STORMWATER MANUAL, SOIL RESTORATION TECHNIQUES SHALL BE APPLIED IN AREAS SHOWN ON THIS PLAN, AS WELL AS ANY LAWN AREAS THAT BECOME COMPACTED BY CONSTRUCTION EQUIPMENT OR USE DURING CONSTRUCTION. SOIL RESTORATION SHALL CONSIST OF THE FOLLOWING PROCEDURE:

1) APPLY THREE (3) INCHES OF COMPOST TO SUBSOIL. COMPOST SHALL BE AGED, FROM PLANT DERIVED MATERIALS, FREE OF VIABLE WEED SEEDS, HAVE NO VISIBLE FREE WATER OR DUST PRODUCED WHEN HANDLING, PASS THROUGH A 1/2" SCREEN, AND HAVE A PH SUITABLE TO GROW DESIRED PLANTS.
2) TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12 INCHES USING A CAT-MOUNTED RIPPER, TRACTOR MOUNTED DISC, OR TILLER; MIXING AND CIRCULATING AIR AND COMPOST INTO SUBSOILS. IN AREA OF PROPOSED INFILTRATION BASIN, INSTALL ORANGE CONSTRUCTION FENCING AROUND BASIN BOTTOM TO KEEP CONSTRUCTION EQUIPMENT FROM CROSSING THE PROPOSED BASIN BOTTOM.
3) ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF FOUR INCHES AND LARGER SIZE ARE CLEANED OFF THE SITE.
4) APPLY TOPSOIL TO A DEPTH OF 6 INCHES.
5) VEGETATE AS REQUIRED BY APPROVED PLAN.

EROSION CONTROL LEGEND

TEMPORARY INLET PROTECTION – STONE COLLARS AND/OR INLET SOCKS. INSTALL AS INDICATED ON PLANS. STONE TO BE REMOVED AND REPLACED WITH CLEAN STONE WHEN SEDIMENT IS ≤ 1/2 DEPTH OF STONE. REMOVE ALL SEDIMENT COLLECTED IN STRUCTURE OR SOCKS AS SOON AS POSSIBLE.

STONE CHECK DAM
THIS STRUCTURAL MEASURE IS ALONG DITCHES/ SWALES AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO SLOW STORMWATER RUNOFF AND TRAP SEDIMENT PARTICLES. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

PERMANENT EROSION CONTROL NETTING
THIS STRUCTURAL MEASURE IS INSTALLED IN AREAS THAT HAVE SLOPES 3:1 AND GREATER AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. THE NETTING IS TYPICALLY IMPREGNATED WITH GRASS SEED AND SOMETIMES STAPLED TO THE EXPOSED SOIL. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

TEMPORARY STABILIZED CONSTRUCTION ACCESS
THIS STRUCTURAL MEASURE IS A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER FABRIC LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE REMOVED, THE IMPACTED AREA SHALL BE RETURNED TO ASPHALT PAVEMENT.

TEMPORARY STAGING AND WASTE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE NON-SOIL, NON-ERODIBLE MATERIALS MAY BE STORED. SOILS SHALL NOT BE STORED IN THESE AREAS. COORDINATE EXACT LOCATION WITH OWNER. ALL DISTURBED LAWN AREAS AS A RESULT OF MATERIAL STOCKPILING/STORAGE SHALL BE RESTORED WITH SOIL RESTORATION TECHNIQUES.

TEMPORARY SOIL STOCKPILE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE TOPSOIL AND OTHER SOIL MATERIALS MAY BE STORED. THESE STOCKPILES WILL BE PROTECTED FROM EROSION BY A NUMBER OF METHODS, INCLUDING INSTALLING SILT FENCING AROUND THE DOWN GRADIENT PERIMETER OF THE STOCKPILE AND SEEDING AND MULCHING THE STOCKPILE WHEN NOT IN USE FOR MORE THAN FIVE DAYS.

TEMPORARY SILT FENCING OR COMPOST FILTER SOCK (SEE PLAN)
THIS STRUCTURAL MEASURE IS A TEMPORARY BARRIER OF GEOTEXTILE FABRIC USED TO INTERCEPT SEDIMENT LADEN RUNOFF FROM SMALL DRAINAGE AREAS OF DISTURBED SOIL. IT IS INSTALLED ALONG THE PERIMETER OF IMPACTED AREAS AND ALONG THE BASE OF THE FILL SLOPES. ADDITIONALLY, WHEN DESIGNATED ALONG THE LIMITS OF DISTURBANCE, INSTALL CONSTRUCTION FENCE BEHIND THE SILT FENCE. SILT FENCING IS EFFECTIVE IN REDUCING STORMWATER RUNOFF VELOCITIES, ASSIST IN THE DEPOSITION OF TRANSPORTED SEDIMENT LOAD AND PREVENT EROSION OF SOILS ONTO ADJACENT AREAS. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

LIMITS OF DISTURBANCE
THE CONTRACTOR SHALL CONTAIN ANY EARTH MOVING ACTIVITIES WITHIN THE DESIGNATED LIMITS SHOWN ON THIS PLAN. THE ENGINEER SHALL REVIEW THE SITE TO MAKE ANY ADJUSTMENTS TO ACCOUNT FOR ENVIRONMENTALLY SENSITIVE AREAS, SPECIMEN TREES AND SPECIAL AREAS OF CONCERN. WHEN LOD COINCIDES WITH THE 25' WETLAND BUFFER, INSTALL TEMPORARY ORANGE CONSTRUCTION FENCE ALONG THE EDGE OF THE BUFFER.

TEMPORARY CONSTRUCTION FENCING
THE CONTRACTOR SHALL UTILIZE CHAIN LINK FENCE WHEN AN EXCAVATION EXCEEDS A DEPTH OF 2 FEET BELOW EXISTING GRADE, OTHERWISE MAINTAINED ORANGE CONSTRUCTION FENCE WILL BE PERMITTED.

CONCRETE TRUCK WASHOUT
THIS IS AN APPROVED LOCATION WHERE CONCRETE TRUCK MIXERS AND EQUIPMENT CAN BE WASHED AFTER THEIR LOADS HAVE BEEN DISCHARGED, TO PREVENT HIGHLY ALKALINE RUNOFF FROM ENTERING STORM DRAINAGE SYSTEMS OR LEACHING INTO THE SOIL. THE FACILITY SHALL BE LINED TO PREVENT RUNOFF FROM LEACHING INTO THE SOIL. TEMPORARY SIGNAGE SHALL BE PROVIDED TO DIRECT DRIVERS TO THE FACILITY.

ENGINEERING VENTURES PC
28 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802.863.6225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603.442.8833
414 Union Street, Schenectady, NY 12305 • 518.205.9141
www.engineeringventures.com

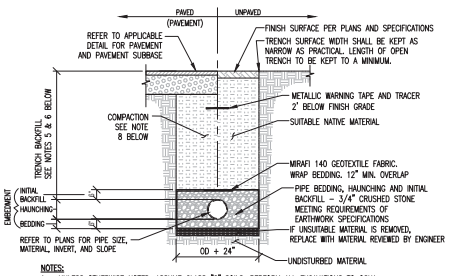
RPL Family Trust
2305 Whitaker Lane
Niskayuna, NY 12309

Sheet Title: EROSION AND SEDIMENT CONTROL PLAN
PROPOSED 3-LOT SUBDIVISION

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

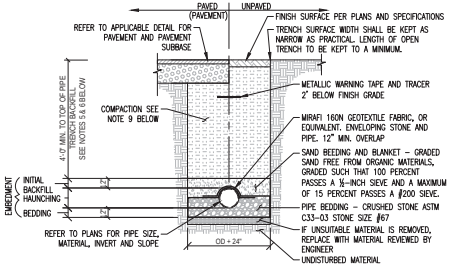
EV Project #: 22352
Drawn By: HMB
Checked By: MHD
Scale: AS NOTED
Date: 12/6/2023

C104



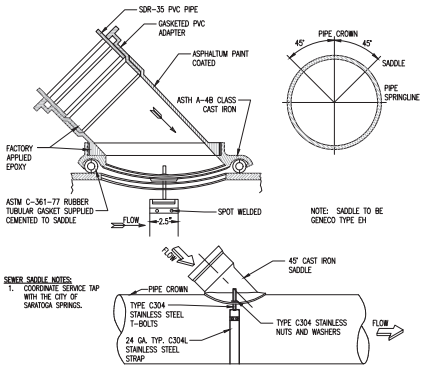
NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.
4. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED BY THE EARTHWORK SPECIFICATIONS AND NYSDOT STANDARDS.
6. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
7. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

TYPICAL STORM DRAIN TRENCH DETAIL
NOT TO SCALE (1)



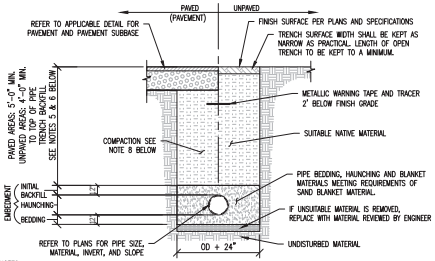
GRAVITY AND SEWER FORCE MAIN TRENCH NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
3. FOR SEWER FORCE MAINS THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 4'-0".
4. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
5. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED BY THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
6. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW SEWER FORCE MAIN SYSTEM DURING CONSTRUCTION.
7. ALLOWABLE TRENCH WIDTH AT A PLANE 12 INCHES ABOVE THE PIPE SHALL BE NO MORE THAN 36 INCHES FOR SEWER PIPE LESS THAN 15 INCHES IN DIAMETER.
8. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
9. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

GRAVITY AND SEWER FORCE MAIN TRENCH DETAIL
NOT TO SCALE (2)



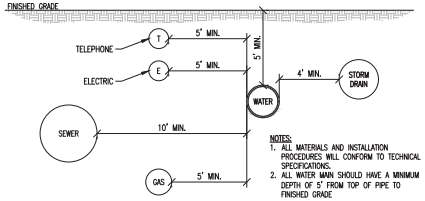
SEWER SADDLE NOTES:
1. COORDINATE SERVICE TAP WITH THE CITY OF SARATOGA SPRINGS.

SEWER SADDLE DETAIL
SCALE: NONE (3)



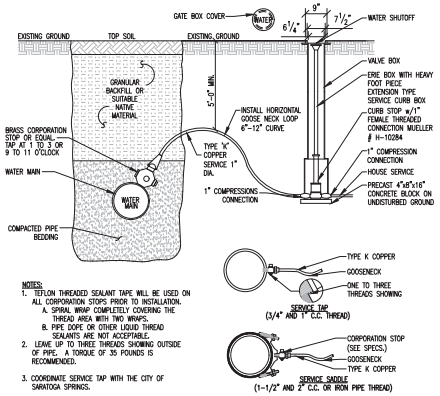
NOTES:
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR FULL LENGTH OF PIPE.
3. PROVIDE MINIMUM COVER AS SHOWN OVER WATER PIPE. OTHERWISE, REFER TO INSULATION OVER SHALLOW WATER LINE DETAIL.
4. INSTALL WATER PIPE IN ACCORDANCE WITH AWWA STANDARD C600.
5. LEDGE, ROCK, BOULDERS AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
6. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED IN THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
7. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
8. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

WATER TRENCH DETAIL
NOT TO SCALE (4)



NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES WILL CONFORM TO TECHNICAL SPECIFICATIONS.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISHED GRADE

WATER MAIN UTILITY SEPARATIONS
NOT TO SCALE (5)



NOTES:
1. TEFLON THREADED SEALANT TAPE WILL BE USED ON ALL CORPORATION STOPS PRIOR TO INSTALLATION.
   A. SPIRAL WRAP COMPLETELY COVERING THE THREAD AREA WITH TWO WRAPS.
   B. PIPE DOPE OR OTHER LIQUID THREAD SEALANTS ARE NOT ACCEPTABLE.
2. LEAVE UP TO THREE THREADS SHOWING OUTSIDE OF PIPE. A TORQUE OF 35 POUNDS IS RECOMMENDED.
3. COORDINATE SERVICE TAP WITH THE CITY OF SARATOGA SPRINGS.

COPPER SERVICE CONNECTION DETAIL
NOT TO SCALE (6)

ENGINEERING VENTURES PC
239 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802.863.6225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603.442.8833
414 Union Street, Schenectady, NY 12305 • 518.935.9141
www.engineeringventures.com

No.	Description	Date

RPL Family Trust
2305 Whitney Lane
Niskayuna, NY 12309

Sheet Title: SITE DETAILS

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

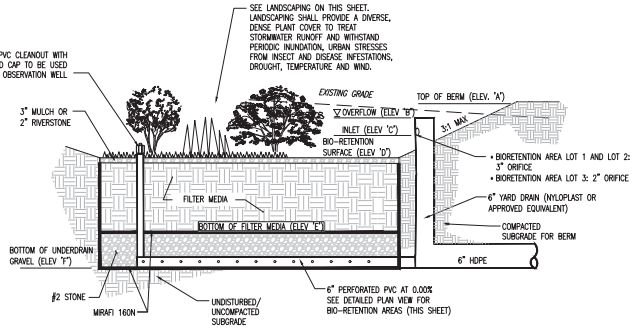
EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C501

PLOTTED: 12/7/2023 12:08 PM

BIO-RETENTION NOTES:
1. UPGRADIENT AREAS DRAINING TO BIO-RETENTION AREA SHALL BE FULLY STABILIZED PRIOR TO DIRECTING RUNOFF INTO THE PROPOSED BIO-RETENTION AREA.

	BIO-RETENTION AREA LOT 1	BIO-RETENTION AREA LOT 2	BIO-RETENTION AREA LOT 3
TOP OF BERM (ELEV 'A')	300.50	292.50	296.50
OVERFLOW (ELEV 'B')	300.40	292.40	296.40
INLET (ELEV 'C')	299.50	291.50	295.50
BIO-RET SURFACE (ELEV 'D')	299.00	291.00	295.00
BOT. OF FILTER MEDIA (ELEV 'E')	296.50	288.50	292.50
BOT. OF UNDERDRAIN GRAVEL/ INV OUT (ELEV 'F')	296.00	288.00	292.00
SURFACE AREA OF FILTER MED.	417 SF	608 SF	1,450 SF



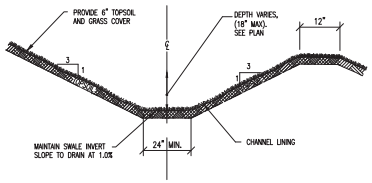
MATERIALS SPECIFICATIONS:

PARAMETER	SPECIFICATION		SIZE		NOTES
FILTER MEDIA [DEPTH= 36"		PERCENT OF MIXTURE	GRADATION OF MATERIAL		
	COMPONENT MATERIAL	BY VOLUME	SIEVE NO.	% PASSING	
	BARK MULCH (HARDWOOD)	20% TO 30%	200	<5	BARK MULCH SHALL BE MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED.
	LOAMY COARSE SAND	70% TO 80%	10 20 60 200	85 to 100 70 to 100 15 to 40 8 to 15	USDA SOIL TYPE FOR LOAMY COARSE SAND
MULCH [3" DEEP]	SHREDDED HARDWOOD				AGED 6 MONTHS, MINIMUM
UNDERDRAIN GRAVEL	AASHTO M-43		NO. 67 (1/4"" TO 3/4")		

FILTER MEDIA:
THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 1/2 INCH. NO OTHER MATERIALS OR SUBSTANCES SHOULD BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE FILTER MEDIA SHOULD BE FREE OF NOXIOUS WEEDS. THE FILTER MEDIA SHOULD BE TESTED AND SHOULD MEET THE FOLLOWING CRITERIA:
- PH RANGE 5.2 – 7.0
- ORGANIC MATTER 1.5 – 4%
- MAGNESIUM 35 LB./AC
- PHOSPHORUS P2O5 75 LB./AC
- POTASSIUM K2O 85 LB./AC
- SOLUBLE SALTS NOT TO EXCEED 500 PPM

BIO-RETENTION AREA SECTION VIEW DETAIL

NOT TO SCALE (1)



GRASSED SWALE NOTES:
1. PROVIDE CHANNEL LINING SC150 BY NORTH AMERICAN GREEN AS REQUIRED TO STABILIZE NEW VEGETATED SWALES. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

GRASSED SWALE DETAIL

NOT TO SCALE (2)

S:\PROJECTS\8-2022\2352-NY 2890 RIVER ROAD\DWG\SHEET FILES\2352-C502 - DETAILS.DWG

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802.863.6225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603.442.8833
414 Union Street, Schenectady, NY 12305 • 518.705.9141
www.engineeringventures.com

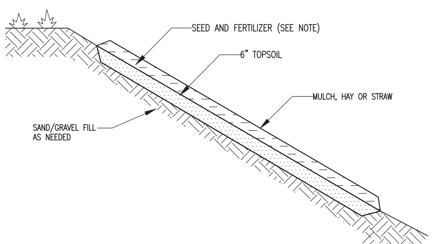
RPL Family Trust
2925 Wherret Lane
Niskayuna, NY 12309

Sheet Title: STORM DETAILS

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C502



NOTES FOR SEEDED AND MULCHED AREAS

1. MULCH: HAY OR STRAW MAY BE UTILIZED AND SHALL BE APPLIED AT A RATE OF 2 TONS PER ACRE.
2. SEED: SHALL BE OF THE FOLLOWING MIXTURE

KENTUCKY BLUE GRASS ----------20 POUNDS / ACRE
CREEPING RED FESCUE ----------20 POUNDS / ACRE
RYE GRASS -------------------5 POUNDS / ACRE

3. COVER SEED WITH ¼ INCH SOIL UNLESS A HYDROSEEDER IS USED.
4. MULCH ANCHORING: SHALL BE ACCOMPLISHED BY DEGRADABLE MULCH NETTING. USE WHEN SLOPES ARE GREATER THAN 10%.
5. TOPSOIL AND MULCHING NOT TO BE APPLIED IN AREAS OF TRAVEL WAYS.
6. SEEDING AND MULCHING OF DISTURBED AREAS SHALL TAKE PLACE WITHIN 48 HOURS OF FINAL GRADING.

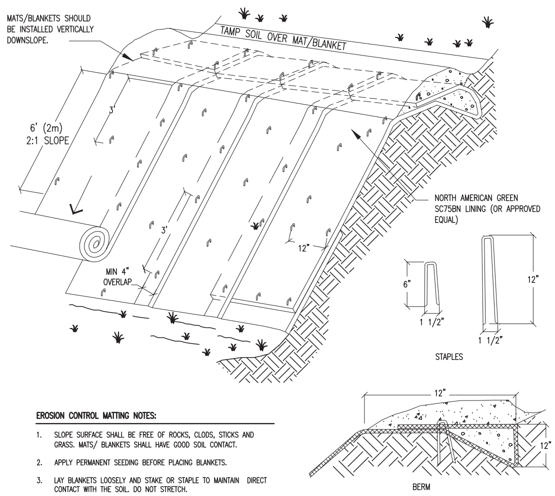
FERTILIZER- 10 LBS. PER 1000S.F.
SPRING SEEDING
FALL SEEDING

LIME- 90 LBS. PER 1000S.F.
DOLOMITIC GROUND LIMESTONE
NOT LESS THAN 85% OF THE TOTAL CARBONATE

TOP SOIL
6" MINIMUM APPROVED TOPSOIL

STRAW MULCH- 2 BALES PER 1000S.F.
APPLY BINDER OR NETTING AS NEEDED

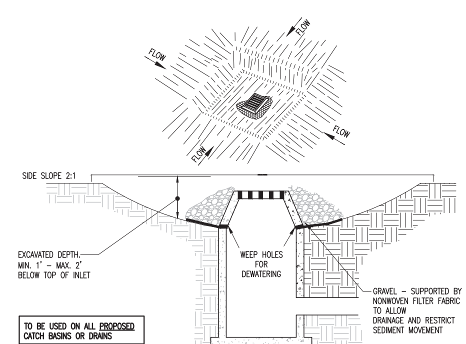
SEED AND MULCHED AREAS DETAIL 1
NOT TO SCALE



EROSION CONTROL MATTING NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION CONTROL MATTING DETAIL 3
NOT TO SCALE

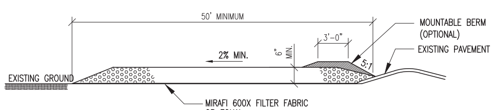


TO BE USED ON ALL PROPOSED CATCH BASINS OR DRAINS

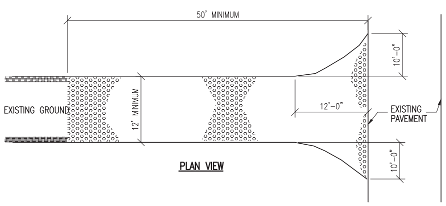
CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. GRAVEL BAGS, GRATE GUARDS, FILTREXX OR SEDIGUARD INLET PROTECTION DEVICES MAY BE USED. SUBMIT PRODUCT INFORMATION TO ENGINEER FOR REVIEW PRIOR TO USE. INSTALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE LATEST EDITION OF THE NY EPSC STANDARDS AND SPECIFICATIONS.

EXCAVATED INLET PROTECTION DETAIL 5
NOT TO SCALE



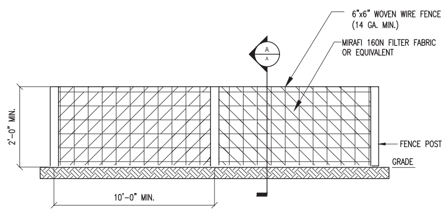
PROFILE

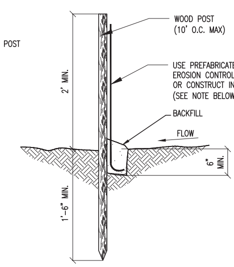


PLAN VIEW

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. STONE SIZE: USE 1-1/2" CRUSHED STONE.
2. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
3. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. REPAIR AND/OR CLEANOUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.
4. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
5. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.



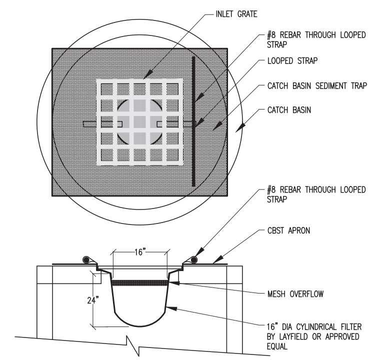


SECTION A-A
NTS

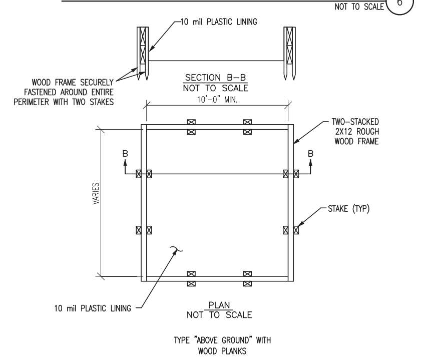
SILT FENCE NOTES:

1. SILT FENCE SHALL BE PRE-FABRICATED EROSION CONTROL FENCE BY MIRAFI OR EQUAL, OR CONSTRUCTED IN PLACE AS SPECIFIED HEREIN.
2. CONSTRUCTED IN PLACE SILT FENCE:
   A. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
   B. FILTER FABRIC TO BE FASTENED SECURELY TO WOVEN WIRE FENCE TIES SPACED EVERY 24" AT TOP OF MID SECTION.
   C. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6", FOLDED AND STAPLED.
3. INSPECTION SHALL BE FREQUENT (MINIMUM ONCE A WEEK AND AFTER EVERY RAINFALL). MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND SEDIMENT REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.

SILT FENCE DETAIL 4
NOT TO SCALE



FABRIC INLET PROTECTION DETAIL 6
NOT TO SCALE



TYPE "ABOVE GROUND" WITH WOOD PLANKS

WOOD FRAME CONCRETE WASHOUT DETAIL 4
NOT TO SCALE

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-205-9141
www.engineeringventures.com

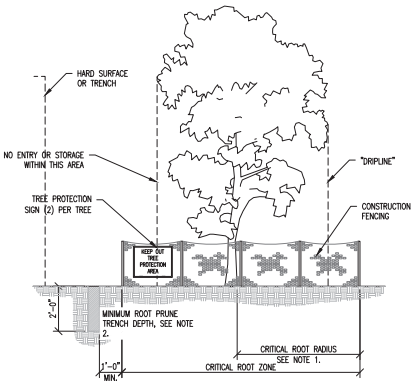
RPL Family Trust
2505 Wharner Lane
Niskayuna, NY 12309

Sheet Title: EROSION AND SEDIMENT CONTROL DETAILS (1 OF 2)

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C503

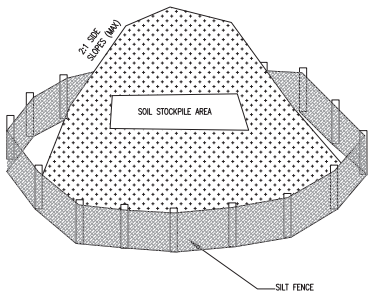


TREE PROTECTION NOTES:

1. TO CALCULATE THE CRITICAL ROOT RADIUS, ESTIMATE THE TREE'S HEIGHT AND MULTIPLE BY 40 PERCENT (0.40). THE RESULT IS THE APPROXIMATE DISTANCE FROM THE TREE TRUNK TO THE EDGE OF THE CONSTRUCTION FENCING.
2. FENCE SPECIMEN TREES AND GROUPS OF TREES. WHERE ROOT LOSS WILL OCCUR, ROOT PRUNE ONE FOOT BEYOND THE CONSTRUCTION FENCE USING A VIBRATING KNIFE OR NARROW TRENCHER – ALWAYS WITH SHARP BLADES TO MAKE CLEAN CUTS. BACKFILL IMMEDIATELY AND COVER WITH 3 INCHES OF MULCH.
3. INSTALL SILT FENCE ON THE INTERIOR OF THE CONSTRUCTION FENCING TO KEEP SOIL FROM DISTURBED AREAS OUT OF THE ROOT ZONES OF TREES TO BE SAVED.
4. FERTILIZE, WATER, AERATE AND OTHERWISE AID TREE HEALTH.
5. COORDINATE THE FINAL LOCATION OF THE CONSTRUCTION FENCING AND ROOT PRUNING WITH THE OWNER.

TREE PROTECTION FENCING DETAIL

NOT TO SCALE (1)

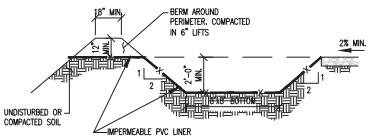


STOCKPILE NOTES

1. STOCKPILES TO HAVE MAXIMUM 2:1 SIDE SLOPES.
2. SILT FENCE SHALL BE PLACED AROUND THE PERIMETER OF STOCKPILE AREA.
3. STOCKPILE AREA TO BE STABILIZED WITH VEGETATION, GEOTEXTILE, OR COVER. IF COVER TO BE USED, COVER SHALL BE SECURED WITH USE OF SAND BAGS OR OTHER MEASURES TO PREVENT COVER FROM BLOWING OFF STOCKPILE.
4. STOCKPILES SHALL BE PLACED ON DRY AND STABLE AREAS.

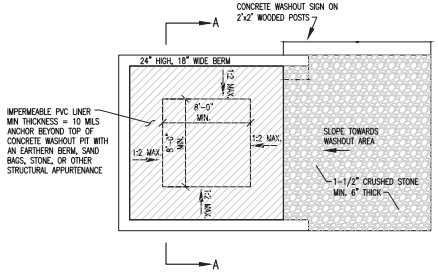
TOPSOIL STOCKPILE AREA

NOT TO SCALE (2)



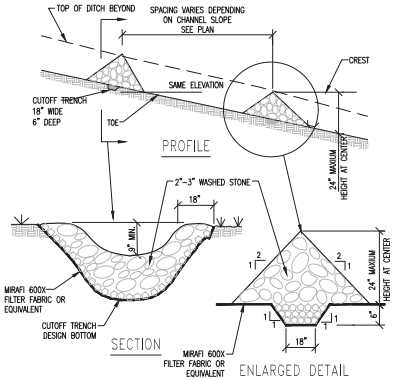
CONCRETE WASHOUT AREA NOTES

1. ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED/REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHOULD BE PUMPED TO A STABILIZED AREA, SUCH AS A GRASS FILTER STRIP.
2. ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF-SITE.
3. DISPOSE OF THE HARDENED MATERIAL OFF-SITE IN AN APPROPRIATE FACILITY. ON-SITE DISPOSAL MAY BE ALLOWED IF THIS HAS BEEN APPROVED AND ACCEPTED AS PART OF THE PROJECTS SWPPP. IN THAT CASE, THE MATERIAL SHALL BE RECYCLED AS SPECIFIED, OR BURIED AND COVERED WITH A MINIMUM OF 2 FEET OF CLEAN COMPACTED EARTHFILL. THAT IS PERMANENTLY STABILIZED TO PREVENT EROSION.
4. THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.
5. INSPECT THE PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.
6. IN LIEU OF CONCRETE WASHOUT AREA, A PRE-FABRICATED WASHOUT MAY BE USED. CONTRACTOR SHALL SUBMIT SHOP DRAWING OF SUCH PRE-FABRICATED WASHOUT AREA TO DESIGN ENGINEER FOR REVIEW AND APPROVAL.



EXCAVATED CONCRETE TRUCK WASHOUT DETAIL

NOT TO SCALE (3)



NOTES:

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN PLANS.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATIONS OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
6. REMOVE ACCUMULATED SEDIMENT BEHIND CHECK DAM WHEN 1/2 THE HEIGHT OF THE DAM. REPLACE STONES AS NECESSARY.

STONE CHECK DAM DETAIL

NOT TO SCALE (6)

GENERAL EROSION CONTROL NOTES

GENERAL NOTES

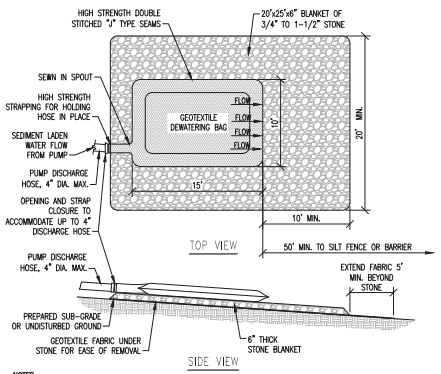
1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE PRESENT ON-SITE FROM DAY-TO-DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ONSITE AT ALL TIMES.
2. EROSION CONTROL MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS", DATED NOVEMBER 2016, OR LATEST EDITION.
3. DISTURBANCE LIMITS ARE TO BE MARKED, AND THE FOLLOWING MANAGEMENT PRACTICES INSTALLED, PRIOR TO BEGINNING EARTH WORK IN ANY GIVEN AREA; SILT FENCE, CONSTRUCTION ENTRANCE, INLET PROTECTION, AND TREE PROTECTION FENCING.
4. THE PERIOD BETWEEN OCTOBER 15TH AND APRIL 15TH IS CONSIDERED THE "WINTER CONSTRUCTION PERIOD'. A PLAN FOR WINTER CONSTRUCTION MUST BE DEVELOPED BY THE CONTRACTOR, AND SUBMITTED TO THE ENGINEER AT LEAST 30 DAYS IN ADVANCE OF PROPOSED EARTH DISTURBANCE DURING THIS PERIOD.
5. ALL DISTURBED AREAS ARE TO BE STABILIZED (TEMPORARY OR FINAL) WITHIN 7 DAYS OF INITIAL DISTURBANCE. AFTER THIS TIME, ANY DISTURBANCE WITHIN THIS WORK AREA MUST BE STABILIZED AT THE END OF EACH WORK DAY, WITH THE FOLLOWING EXCEPTIONS:
   a. STABILIZATION IS NOT REQUIRED IF WORK IS TO CONTINUE IN THE AREA WITHIN 24 HOURS AND NO PRECIPITATION IS FORECAST DURING THAT PERIOD.
   b. WORK IS OCCURRING WITHIN A SELF-CONTAINED EXCAVATION, 2 FEET OR MORE IN DEPTH.
   IN NO CASE SHALL SOIL BE EXPOSED FOR MORE THAN 14 DAYS WITHOUT BEING STABILIZED.
6. THE CONTRACTOR IS RESPONSIBLE FOR DAILY INSPECTION OF THE ADJACENT ROADWAYS FOR OFF-SITE TRACKING OF SOIL MATERIALS. SOIL, STONE, AND DEBRIS FOUND LEAVING THE SITE ARE TO BE REMOVED (WHEN FOUND) BY SWEEPING AT THE END OF EACH CONSTRUCTION DAY, OR MORE FREQUENTLY WHEN NEEDED TO PREVENT IMPACTS TO ADJACENT ROADS AND SIDEWALKS.
7. IF DEWATERING IS REQUIRED FOR CONSTRUCTION, THE CONTRACTOR MUST UTILIZE SEDIMENT FILTER BAGS (OR ALTERNATE APPROVED BY THE ENGINEER) TO PREVENT DISCHARGE OF SEDIMENT-LADEN WATER OFF SITE.

TEMPORARY/CONSTRUCTION EROSION CONTROL MEASURES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE DISTURBED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS DISTURBED, THE DISTURBANCE SHALL BE KEPT TO THE SHORTEST PRACTICAL DURATION AS APPROVED BY THE ENGINEER.
2. DUST SHALL BE CONTROLLED WITH WATER DISTRIBUTED BY A TRUCK-MOUNTED SPRAY BAR. CALCIUM CHLORIDE (AASHTO M 144) OR SODIUM CHLORIDE (AASHTO M 143) SHALL BE USED AS DIRECTED BY THE ENGINEER.
3. SILT FENCES SHALL BE INSTALLED GENERALLY TO FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE PLANS. THESE SHALL REMAIN IN PLACE UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
4. EXCAVATED MATERIAL FROM EARTH EXCAVATION AND DITCH DIGGING SHALL BE PLACED ONSITE IN A LOCATION TO BE APPROVED OF BY THE OWNER AND/OR THE ENGINEER OR USED FOR PROJECT FILL MATERIAL IF DETERMINED SUITABLE BY THE OWNER'S REPRESENTATIVE.
5. STOCKPILED MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. THE STOCKPILED MATERIAL SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.
6. SLOPES GREATER THAN 3:1 SHALL HAVE EROSION CONTROL NETTING INSTALLED TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. NETTING SHALL BE BIODEGRADABLE WITH A 12 MONTH LONGEVITY, S150BN AS MANUFACTURED OR APPROVED EQUIVALENT. INSTALL NETTING OVER MULCHED SLOPES SO THAT ALL PARTS ARE IN CONTACT WITH THE SOIL AND MULCH. PIN NETTING WITH WIRE STAPLES 3 FEET O.C. TO ENSURE FULL BONDING WITH SOIL SURFACE. THE SLOPE SURFACES SHOULD BE LEFT SLIGHTLY ROUGHENED AND NOT SMOOTH. IF LARGE AMOUNTS OF OFFSITE WATER WILL DRAIN OVER THESE SLOPES, TEMPORARY DIVERSION SWALES SHALL BE INSTALLED UP SLOPE UNTIL THE SLOPE VEGETATION STABILIZES.

PERMANENT EROSION CONTROL MEASURES

1. WHEN FINAL GRADES ARE REACHED IN AN AREA, IT SHALL BE SEEDED AND MULCHED WITHIN 48 HOURS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF ALL DISTURBED AREAS, INCLUDING WATERING UNTIL THE AREA IS INSPECTED AND ACCEPTED BY THE OWNER OR ENGINEER.
3. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
4. RE-SEEDING SHALL BE DONE UNTIL ALL AREAS ARE COMPLETELY COVERED WITH A MATURE STRAND OF GRASS. AN AREA SHALL BE CONSIDERED COVERED WHEN THE ENTIRE SURFACE CONTAINS A VERDUROUS STAND OF GRASS. AREAS THAT, IN THE OPINION OF THE ENGINEER, ARE PREDOMINATELY WEEDS SHALL BE PLOWED UP AND REMOVED, FINE GRADED, FERTILIZED AND RE-SEEDED IN THE MANNER SPECIFIED PREVIOUSLY, EXERCISING CAUTION NOT TO CAUSE DAMAGE TO NEW OR EXISTING PLANT MATERIAL.
5. ALL STABILIZATION INVOLVING SEEDING IS TO BE COMPLETED BY SEPTEMBER 15TH.



NOTES:

1. ALL PROJECT DEWATERING PUMPS SHALL DISCHARGE INTO A PUMPED SEDIMENT CONTROL DEVICE.
2. GEOTEXTILE BAG MATERIAL BASED ON PARTICLE SIZE IN PUMPED WATER, I.E., FOR COARSE PARTICLES A WOVEN MATERIAL, FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
3. LIFTING STRAPS SHALL BE INCLUDED WITH THE PUMPED SEDIMENT CONTROL DEVICE FOR REMOVAL WHEN FULL.
4. DO NOT OVER PRESSURIZED BAG OR USE BEYOND CAPACITY.
5. LOCATE DISCHARGE SITE ON LEVEL UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
6. DOWNGRADIENT FROM RECEIVING AREA MUST BE WELL VEGETATED OR OTHERWISE STABLE FROM EROSION, E.G., FOREST FLOOR, GRASS LAWN OR COARSE GRAVEL/STONE.
7. DISCHARGE LOCATION SHALL MEET ALL REGULATORY SETBACKS FROM WETLANDS AND OTHER WATER COURSES.
8. HEAVY EQUIPMENT ACCESS TO THE THE PUMPED SEDIMENT CONTROL DEVICE SITE SHALL BE MAINTAINED FOR REPLACEMENT AND DISPOSAL.
9. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION, CLEANING AND REMOVAL.

PUMPED WATER FILTER BAG

NOT TO SCALE (5)

WINTER EROSION CONTROL NOTES

WINTER CONSTRUCTION STANDARDS AND EROSION AND SEDIMENT CONTROL MEASURES APPLY TO ALL CONSTRUCTION ACTIVITIES INVOLVED WITH ONGOING LAND DISTURBANCE AND EXPOSURE BETWEEN OCTOBER 15TH TO THE FOLLOWING APRIL 1ST.

WINTER CONSTRUCTION PROCEDURES

1. DURING WINTER CONSTRUCTION, INSPECTIONS BY THE ON-SITE PLAN COORDINATOR SHALL OCCUR DAILY WHEN AREAS ARE UN-STABLE, AND WEEKLY PRIOR TO ANY FORECASTED RAIN, THAW OR SPRING MELT WHEN TEMPORARY STABILIZATION IS IN PLACE.
2. IF THE SITE WILL NOT HAVE EARTH DISTURBING ACTIVITIES ONGOING DURING THE WINTER CONSTRUCTION PERIOD, ALL BARE EXPOSED SOIL MUST BE STABILIZED BY ESTABLISHING VEGETATION, STRAW OR OTHER ACCEPTABLE MULCH, MATTING, ROCK, OR OTHER APPROVED MATERIAL SUCH AS ROLLED EROSION CONTROL PRODUCTS. SEEDING OF AREAS WITH MULCH COVER IS PREFERRED BUT SEEDING ALONE IS NOT ACCEPTABLE FOR PROPER STABILIZATION.
3. PREPARE A SNOW MANAGEMENT PLAN WITH ADEQUATE STORAGE FOR SNOW AND CONTROL OF MELT WATER, REQUIRING CLEARED SNOW TO BE STORED IN A MANNER NOT AFFECTING ONGOING CONSTRUCTION ACTIVITIES.
4. ENLARGE AND STABILIZE ACCESS POINTS TO PROVIDE FOR SNOW MANAGEMENT AND STOCKPILING. SNOW MANAGEMENT ACTIVITIES MUST NOT DESTROY OR DEGRADE INSTALLED EROSION AND SEDIMENT CONTROL PRACTICES.
5. LIMITS OF DISTURBANCE SHALL BE MOVED OR REPLACED TO REFLECT BOUNDARY OF WINTER WORK.
6. A MINIMUM 25-FT BUFFER SHALL BE MAINTAINED FROM ALL PERIMETER CONTROLS (SUCH AS SILT FENCE) TO ALLOW FOR CLEARING AND MAINTENANCE. MARK SILT FENCE WITH TALL STAKES THAT ARE VISIBLE ABOVE THE SNOW PACK.
7. SNOW IS TO BE REMOVED FROM ALL STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES FOLLOWING EACH SIGNIFICANT SNOWFALL. NO SNOW STORAGE UP-GRADIENT OF DISTURBANCE. NO SNOW DISPOSAL IN SEDIMENT PONDS/BASINS. IF NECESSARY, SNOW/ICE MUST BE REMOVED PRIOR TO STABILIZATION OF DISTURBED AREAS.
8. EDGES OF DISTURBED AREAS THAT DRAIN TO A WATERBODY WITHIN 100 FT SHALL HAVE 2 ROWS OF SILT FENCE, 5 FEET APART, INSTALLED ON THE CONTOUR.
9. DRAINAGE STRUCTURES SHALL BE KEPT OPEN AND FREE OF SNOW AND ICE DAMS. ALL DEBRIS, ICE DAMS, OR DEBRIS FROM FLOWING OPERATIONS, THAT RESTRICT THE FLOW OF RUNOFF AND MELTWATER, SHALL BE REMOVED.
10. SEDIMENT BARRIERS MUST BE INSTALLED AT ALL APPROPRIATE PERIMETER AND SENSITIVE LOCATIONS. SILT FENCE AND OTHER PRACTICES REQUIRING EARTH DISTURBANCE MUST BE INSTALLED BEFORE THE GROUND FREEZES.
11. SOIL STOCKPILES MUST BE PROTECTED BY THE USE OF ESTABLISHED VEGETATION, ANCHORED STRAW MULCH, ROLLED STABILIZATION MATTING, OR OTHER DURABLE COVERING. A BARRIER MUST BE INSTALLED AT LEAST 15 FT FROM THE TOE OF THE STOCKPILE TO PREVENT SOIL MIGRATION AND TO CAPTURE LOOSE SOIL.
12. IN AREAS WHERE SOIL DISTURBANCE ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED, THE APPLICATION OF SOIL STABILIZATION MEASURES SHOULD BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN THREE (3) DAYS. ROLLED EROSION CONTROL BLANKETS MUST BE USED ON ALL SLOPES 1:3 OR STEEPER.
13. IF STRAW MULCH ALONE IS USED FOR TEMPORARY STABILIZATION, IT SHALL BE APPLIED AT DOUBLE THE STANDARD RATE OF 2 TONS PER ACRE, MAKING THE APPLICATION RATE 4 TONS PER ACRE. OTHER MANUFACTURED MULCHES SHOULD BE APPLIED AT DOUBLE THE MANUFACTURER'S RECOMMENDED RATE.
14. TO ENSURE ADEQUATE STABILIZATION AND COVER OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL SHOULD BE STABILIZED AT THE END OF EACH WORK DAY WITH THE FOLLOWING EXCEPTIONS:
   a. WORK WILL RESUME WITHIN 24 HOURS IN THE SAME AREA AND NO PRECIPITATION IS FORECAST OR;
   b. THE WORK IS IN DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, FOUNDATION EXCAVATIONS, OR WATER MANAGEMENT AREAS.
15. USE STONE PATHS TO STABILIZE ACCESS PERIMETERS OF BUILDINGS UNDER CONSTRUCTION AND AREAS WHERE CONSTRUCTION VEHICLE TRAFFIC IS ANTICIPATED. STONE PATHS SHOULD BE A MINIMUM 10 FT IN WIDTH BUT WIDER AS NECESSARY TO ACCOMMODATE EQUIPMENT.
16. ALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ARE TO BE IN PLACE BY OCTOBER 15, OR IF NOT POSSIBLE, THEN PRIOR TO GROUND FREEZE.
17. SNOW AND ICE SHALL BE REMOVED TO LESS THAN 1" THICKNESS PRIOR TO STABILIZATION.

CONSTRUCTION SEQUENCING

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A DETAILED CONSTRUCTION SEQUENCE DETAILING THE SPECIFIC WORK THAT WILL BE PERFORMED. THE SEQUENCE PROVIDED IS FOR GENERAL WORK ITEMS TO ENSURE THAT SEDIMENT LADEN RUNOFF IS NOT DISCHARGED FROM SITE. CONTRACTOR TO ENSURE THAT NO MORE THAN 5 ACRES IS DISTURBED AT ANY ONE TIME WITHOUT AREAS BEING FULLY STABILIZED.

1. OBTAIN ALL NECESSARY APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCIES INCLUDING THE NYSDEC, ACOE, AND THE TOWN OF NISKAYUNA.
2. HOLD PRE-CONSTRUCTION MEETING WITH ALL NECESSARY PARTICIPANTS AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCE. MARK LIMITS OF DISTURBANCE WITH FLAGGING/TAPING OR APPROPRIATE MEASURES. INSTALL SILT FENCING DOWNSLOPE OF WORK AREAS AS SHOWN ON THE PLAN. INSTALL INLET PROTECTION ON EXISTING CATCH BASIN IN SENECA ROAD.
4. CLEAR AND GRUBB EXISTING VEGETATION TO THE LIMITS SHOWN ON THE PLAN.
5. BEGIN DEMOLITION OF EXISTING STRUCTURES AND UTILITIES AS SHOWN ON THE DEMOLITION PLAN. CONTRACTOR TO STORE EXCAVATED SUBBASE MATERIAL FOR RE-USE ON SITE IN DESIGNATED STAGING AREA, IF DEEMED SUITABLE BY ENGINEER.
6. STRIP TOPSOIL FROM AND BEGIN FOUNDATION EXCAVATION AND ROUGH GRADING. FUTURE BIO-RETENTION BASIN AREAS NOT TO BE EXCAVATED AT THIS TIME TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE BASINS.
7. BEGIN CONSTRUCTION OF BUILDING FOUNDATIONS. CONCRETE WASHOUT AREA TO BE INSTALLED AND FUNCTIONING PRIOR TO ANY CONCRETE BEING POURED FOR THE BUILDING FOUNDATION. BUILDING WORK MAY CONTINUE THROUGH REMAINING DURATION OF PROJECT.
8. INSTALL PROPOSED WATERLINE AND SANITARY SEWER LINE.
9. INSTALL ALL REMAINING UNDERGROUND UTILITIES, INCLUDING STORM CONVEYANCE SYSTEMS.
10. FINAL GRADE PAVEMENT AREAS AND INSTALL PAVEMENT BASE COURSES.
11. ONCE ALL UPSLOPE TRIBUTARY AREAS HAVE BEEN STABILIZED, THE BIO-RETENTION BASINS MAY BE INSTALLED. SPECIAL CARE TO BE TAKEN TO NOT COMPACT THE NATIVE SOILS AT THE BOTTOM OF THE BIO-RETENTION BASINS
12. INSTALL LANDSCAPING AND IMMEDIATELY STABILIZE ALL 3:1 SLOPES WITH EROSION CONTROL BLANKET.
13. INSTALL ANY REMAINING HARDSCAPE.
14. ONCE ALL DISTURBED AREAS HAVE ACHIEVED FINAL STABILIZATION, THE REMAINING EROSION CONTROL FEATURES SHALL BE REMOVED. STABILIZE ANY AREAS DISTURBED DURING THE REMOVAL OF TEMPORARY E&S MEASURES. INSTALL PERMANENT SEED AND MULCH ON ANY AREAS NOT ALREADY STABILIZED.
15. INSTALL BINDER AND WEARING COURSES FOR ALL PAVEMENT AREAS.

Stamp

No.	Description	Date

ENGINEERING VENTURES PC
28 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
86 Merchant Street, Suite E2-3, Lebanon, NH 03766 • 603-442-8833
414 Union Street, Schenectady, NY 12305 • 518-505-9141
www.engineeringventures.com

RPL Family Trust
2305 Whitney Lane
Niskayuna, NY 12309

Sheet Title: EROSION AND SEDIMENT CONTROL DETAILS (2 OF 2)

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

C504

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:
2890 River Road Subdivision

Project Location (describe, and attach a location map):
2890 River Rd, Niskayuna, New York 12309

Brief Description of Proposed Action:
The Applicant proposes a 4-lot subdivision of Town of Niskayuna tax parcels 51.-1-7.1 and 51.9-2-1.1. Each new lot will have a single family residence per lot. The proposed dwellings will be serviced by public water and sanitary sewer systems.

Name of Applicant or Sponsor:	Telephone: 518-374-1461
RPL Family Trust	E-Mail: ryan@midstateltd.com

Address:
2505 Whamer Lane

City/PO:	State:	Zip Code:
Niskayuna	NY	12309

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: US ACOE Nationwide Permit #29 for disturbance to freshwater wetlands.	☐	☑

3. a. Total acreage of the site of the proposed action? 6.09 acres
   b. Total acreage to be physically disturbed? 2.00 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 6.09 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☑ Residential (suburban)
   ☑ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☑ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☑	☐
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☑	☐

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____	☐	☑

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☑	☐
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐	☑

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☑
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____		
The proposed action does not plan to exceed 0.1 acre of freshwater wetland disturbance.		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☑ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☑ Wetland ☐ Urban ☑ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☑	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☐	☑
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☑
If Yes, briefly describe: Site storm water will be directed through roadside ditches and pipe conveyance systems to public storm sewer.		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☑	☐

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

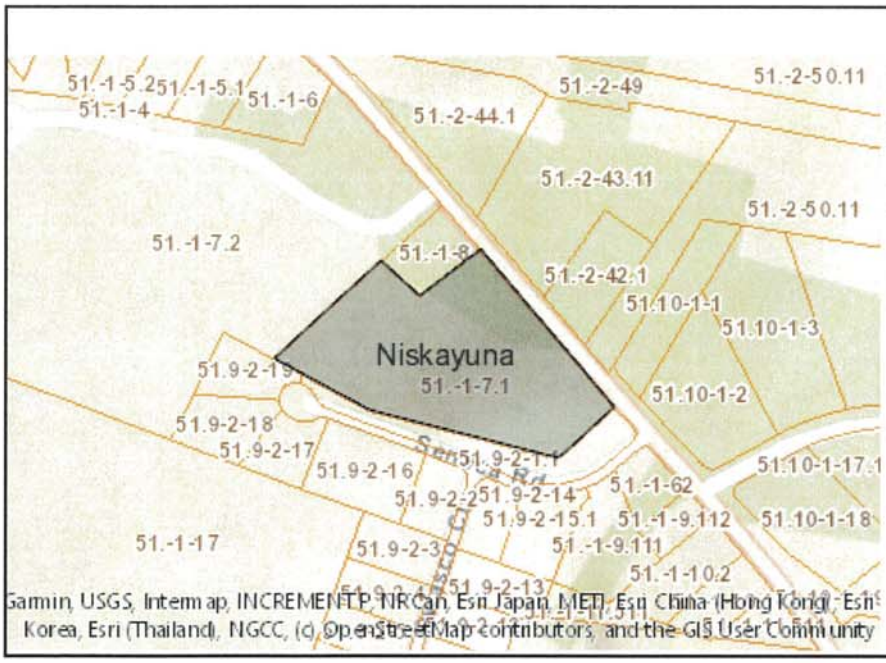
Applicant/sponsor/name: RPL Family Trust - Ryan Lucy Date: 6/22/2023

Signature: R Lucy Title: TRUSTEE

PRINT FORM

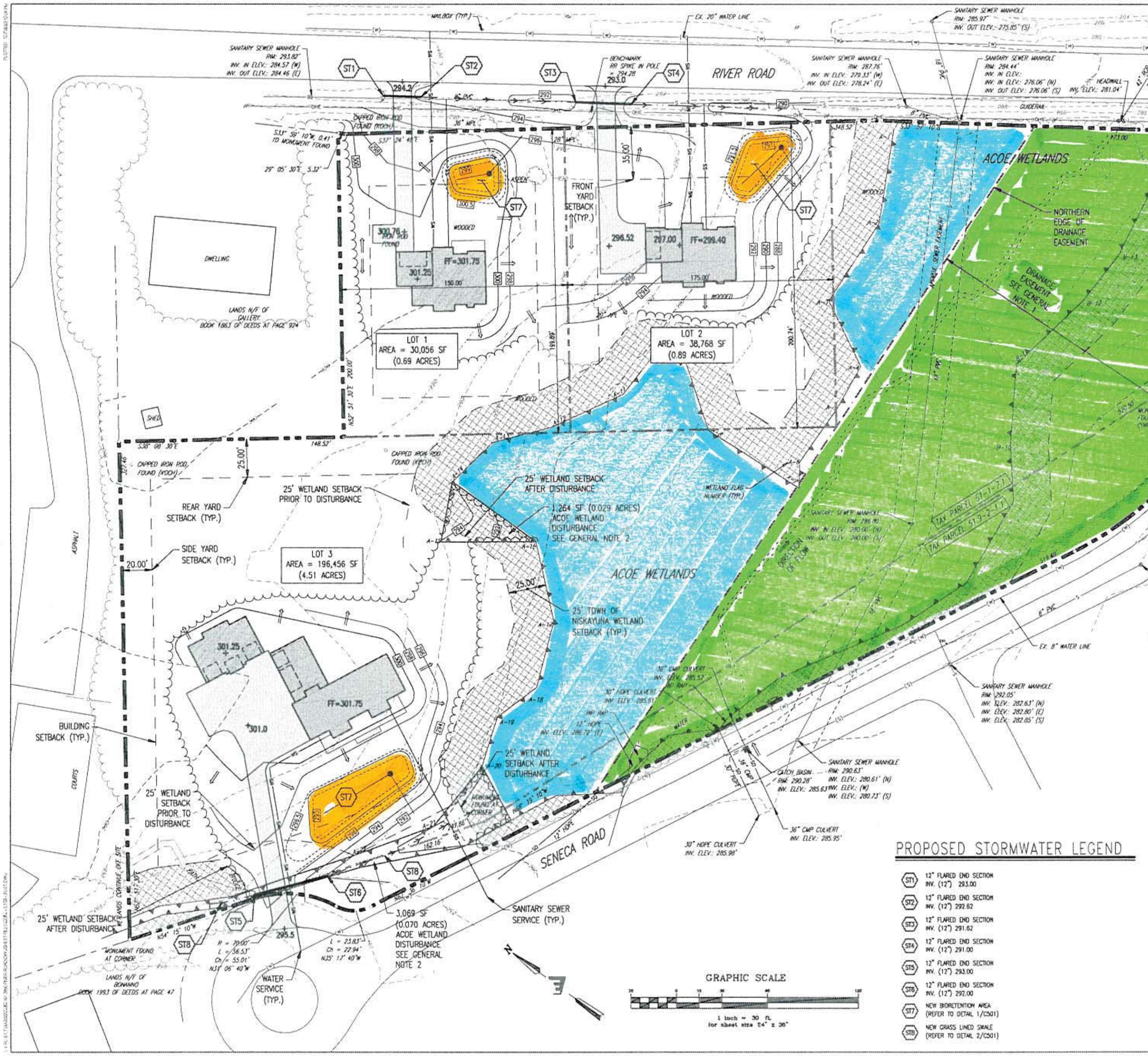
EAF Mapper Summary Report

Wednesday, April 12, 2023 1:27 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	No



PROPOSED STORMWATER LEGEND

- ST1 — 12" FLARED END SECTION INV. (12") 293.00
- ST2 — 12" FLARED END SECTION INV. (12") 292.62
- ST3 — 12" FLARED END SECTION INV. (12") 291.62
- ST4 — 12" FLARED END SECTION INV. (12") 291.00
- ST5 — 12" FLARED END SECTION INV. (12") 293.00
- ST6 — 12" FLARED END SECTION INV. (12") 292.00
- ST7 — NEW BIORETENTION AREA (REFER TO DETAIL 1/C501)
- ST8 — NEW GRASS LINED SWALE (REFER TO DETAIL 2/C501)

GENERAL NOTES

1. DRAINAGE EASEMENT TO BENEFIT THE TOWN OF NISKAYUNA TO COMPRISE OF ALL LAND SOUTH OF EASEMENT LINE SHOWN, APPROXIMATELY 1.76 ACRES.
2. REMOVE EXISTING VEGETATION, FILL AREA WITH MINIMUM OF 6" TOPSOIL, SEED AND MULCH FOR LAWN.
3. SUBDIVISION APPROVAL BY THE PLANNING BOARD AUTHORIZES GRADING AND CLEARING WITHIN THE ROAD RIGHT-OF-WAY AND EASEMENTS ONLY. THE APPLICANT SHALL SUBMIT PLANS FOR INDIVIDUAL LOT GRADING TO BE APPROVED AS PART OF THE BUILDING PERMIT APPLICATION.
4. THE GRADING PLAN SUBMITTED FOR THE BUILDING PERMIT SHALL IDENTIFY ALL TREES WITH A DIAMETER OF FIVE (5) INCHES OR MORE AS MEASURED THREE (3) FEET ABOVE THE BASE OF THE TRUNK AND INDICATE THOSE THAT ARE PROPOSED TO BE REMOVED AND THE REASON WHY SUCH REMOVAL IS NECESSARY.
5. ANY TREES REMOVED FROM A LOT IN A MANNER THAT IS NOT CONSISTENT WITH THE APPROVED GRADING PLAN FOR THAT LOT SHALL BE REPLACED AT THE EXPENSE OF THE DEVELOPER BEFORE THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY. REPLACEMENT TREES SHALL BE OF A TYPE AND SIZE SATISFACTORY TO THE TOWN ENGINEER.
6. THE GRADING PLAN SHALL BE CONSISTENT WITH THE PURPOSES OF THE SOIL EROSION AND SEDIMENT CONTROL ORDINANCE. IN PARTICULAR, ERODIBLE MATERIALS SHALL NOT BE STOCKPILED WITHIN THE DRIP LINE OF TREES TO BE PRESERVED.
7. THE APPLICANT SHALL TREAT THE GRADING PLAN SUBMITTED FOR THE SUBDIVISION AS ADVISORY ONLY, AND SHALL SUBMIT GRADING PLANS FOR REVIEW BY THE BUILDING INSPECTOR ON A LOT-BY-LOT BASIS THAT ARE CONSISTENT WITH THE PLANNING BOARD REQUIREMENTS FOR TREE PRESERVATION.

STORMWATER SCHEDULE

- ST1 TO ST2 25± LF OF 12" HDPE AT 1.7%
- ST3 TO ST4 36± LF OF 12" HDPE AT 1.7%
- ST5 TO ST6 50± LF OF 12" HDPE AT 2.0%

NOTE: EACH LOT SHALL CONNECT THE ROOF DRAIN SYSTEM FOR THE HOUSE AND GARAGE TO THE NEW SURFACE BIO-RETENTION AREAS.

ENGINEERING VENTURES PC

208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-205-8141
www.engineeringventures.com

RPL Family Trust
2505 Wharnar Lane
Niskayuna, NY 12309

Sheet Title: SUBDIVISION PLAN PROPOSED 3-LOT

Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By	HMB
Checked By	MHD
Scale	AS NOTED
Date	12/6/2023

C103

Albany Office
100 Great Oaks Boulevard, Suite 114, Albany, NY 12203
P: 1.833.723.4768

December 28, 2023

Laura Robertson, AICP
Town Planner
One Niskayuna Circle
Niskayuna, NY 12309

Re: Town of Niskayuna
2890 River Road Subdivision Review
Our Project No. 230322-000R

Dear Mrs. Robertson,

We are in receipt of Response Letter dated 12/8/2023, Revised Plans dated 12/6/2023, Updated Storm Water Pollution Prevention Plan (SWPPP) dated 12/6/2023, Subdivision Application dated 12/4/2023, and Revised Short Form EAF dated 6/22/2023. The applicant proposes to construct up to three (3) new residential single-family homes on a total of 6.09 acres of land located at 2890 River Road tax parcels 51.-1-7.1 and 51.9-2-1.1, with 0.099 acres of ACOE wetland disturbance. Two homes will have frontage on River Road, and one will have frontage on Seneca Road. One home that would have had frontage on River Road has been removed from this updated plan we received on 11/6/2023 (previously 4 lot subdivision). Based on our review of the materials provided we have the following comments:

Any comments that are crossed out have been previously addressed.

Response Letter Dated 12/8/2023

1. Item 3 under the River Road Drainage Report mentions that "It is our understanding that the Town will engage an engineering firm to provide further analysis and subsequent design to improve the drainage at Seneca and River Roads ..." and similar statement are made in the SWPPP. Statements that appear to be saying the Planning Board has or will commit the Town Board or any Town Department to take action should be reworded or removed from any correspondence or reports.

Short Environmental Assessment Form:

1. The Applicant has indicated in their answer to question 14 that wetlands and suburban habitats are typically found on the project site, however the Subdivision Site Plan shows large areas of wooded lands. We ask the Applicant to include Forest in their answer to question 14. ***The Applicant has added Forest to their answer to question 14. No further comments.***

Applicant for Sketch Plan Approval-4 Lots or Less

1. Reviewed and no comments.

Application for Approval of Plat Plan- Minor Subdivision

1. Reviewed and no comments.

Site Plan:

1. ~~The Site Plan scale is 1-inch equals 30 feet, meeting the Map Requirements for a Minor Subdivision of no less than 1-inch equals 100 feet.~~
2. The Town code requires direction of drainage flow to be indicated on the plan. ***The Applicant has revised the site plan (C-103) to show the direction of drainage flow from each of the three proposed parcels, as well as the direction of flow for the wetland area and Seneca Road and River Road culverts. Some of the large paved driveway/parking area on Lot 3 appears to shed water to the West, however, this new impervious area should be directed to the proposed bioretention area.***
3. ~~The Applicant has provided the Survey of the Lands of RPL Family Trust which includes the corner monuments for both parcels 51.-1-7.1 and 51.9-2-1.1, dated 12/1/2022 and prepared by Gilbert VanGuilder Land Surveyor, PLLC.~~
4. Sheet C100 Existing Conditions and Demolition Plan shows a wood framed home to be razed in the general location of the proposed home on Lot 2 with a similar first floor elevation of about 297'. If this home has a basement that is accessible, it would be advisable to perform an inspection to look for past water intrusion. ***The Applicant has advised that an inspection of the basement of the wood framed home to be razed is not possible due to the structures existing condition. Photos of the basement were reviewed, and the Applicant determined that no signs of past water intrusion were seen. The Applicant also states that the new homes will be constructed with waterproofing construction techniques and sump pump back up. We find this to be acceptable and it can be confirmed through Town building permit inspections during construction.***
5. We had originally begun review of the 4-Lot Subdivision Plan Sheet C101 dated 8/23/2023 which contained different lot layouts on the stand-alone version and the version included as Attachment 7 of the Drainage Report. The applicant has since provided a new version of the Plan dated 11/3/2023 which now shows only 3 Lots. The Plan in the Drainage Report will need to be replaced with the latest version. ***The Applicant has provided an updated SWPPP for review (formally called the Drainage Report). See comments in the SWPPP Section of this letter.***
6. The Site Plan does not show all structures, wooded areas, streams, and other significant physical features within 200ft of the portion to be subdivided, particularly the structures present along Seneca Road. The name of the owner and all adjoining property owners should be identified. ***The Applicant has revised the site plan to show structures, significant physical features, and adjoining property owners within 200 ft of the project. No further comments.***
7. The area of proposed wetland disturbance near the edge of Seneca Road at lot 3 is approximately 235 ft long and the proposed driveway culvert pipe is 30 ft long. It is believed that a long stretch of the lot 3 parcel is planned to have the wetlands filled to create lawn area, however, fill is not specifically called for on the plan. We would ask the applicant to clarify the extent of wetland disturbance along the frontage for this lot, how the drainage will be maintained and how much wetland disturbance is actually necessary. ***The applicant has advised that the wetland disturbance at the front of Lot 3 is necessary to create the bioretention area which has recently been added to the plans, which justifies some of the wetland disturbance. The remaining wetland impacts on the lot are to allow for the preferred position of the home to maximize the vegetated buffer with neighbors and the Town Park. The wetland disturbance remains under 0.1 acres allowing for an ACOE NW29 permit, and the plan has been updated to show a grass lined swale upstream and downstream of the proposed 50 ft of 12" diameter driveway culvert along Seneca Road. This culvert has been sized for the 25-year 24-***

hour storm event, which is the minimum required by the Town code. We ask that the driveway culverts for all 3 lots be sized to convey the 100-year 24-hour storm event and include velocity dissipation features at the outlets.

8. The proposed finished floor elevation for the house on lot 2 is 297.15, which has been raised by 3.4' over the previous plan and is now about 11' above the ground surface elevation of the existing wetland edge (286.0'). Additionally, the ground elevation at the southeast (rear) corner of the house is proposed to be 292.0', which is only 6' above the ground surface elevation of the existing wetland. The Town has indicated that the wetland often has standing water and does not completely drain. Furthermore, basement floor elevations are typically at least 8 feet below the first floor. Therefore, there is a possibility of basement flooding at the house on lot 2. The Applicant should indicate how this issue will be addressed to meet the applicable requirements of the Niskayuna Town Code (Building Construction subsection 75-40), which state that "*Buildings built in soil which is water-bearing at any time of the year shall be maintained so that ground- and surface water will not penetrate into the habitable space*." ***The lowest finished floor elevation of the 3 proposed homes is shown on Lot 2 at an elevation of 299.40. The basement floor elevation is stated to be approximately 291.40, which is essentially at proposed grade at the rear of the home and would still be about 12" above the anticipated water level in the wetland during the 100-year storm event. The analysis was performed under the conservative assumption that the culvert crossing at Seneca Road and the wetlands adequately convey flows to the inlet of the River Road culvert (control point). The Applicant also states that the new homes will be constructed with waterproofing construction techniques and sump pump back up. We find this to be acceptable and it can be confirmed through Town building permit inspections during construction. No further comments.***
9. ~~The Site Plan states that the wetland disturbance area will be 0.099 acres, which is less than the 1/2 acre wetland disturbance threshold for Army Corps of Engineers Nationwide Permit #29 - Residential Developments and is therefore acceptable.~~
10. The Site Plan shows the 25' wetland setback at both of the proposed impact areas on lot 3 after the loss of wetlands. The applicant should show the 25' buffer along the existing wetland boundary for a true picture of the impact. ***The Applicant has revised the site plan drawing C103 to show the 25' wetland setback along the existing wetland boundary in the areas of proposed impact. No further comments.***
11. Sheet C500 contains details for "Insulation over shallow drain detail", "Shallow sewer line insulation detail" and "Insulation over shallow water line detail". It is not clear on the Site Plan where these details are proposed to be used. We will also have to check with the Town Engineering Department to see if these details are allowed. ***The Applicant has removed Detail 1-Insulation Over Shallow Drain Detail, Detail 4- Shallow Sewer Line Insulation Details, and Details 6- Insulation Over Shallow Water Line Details from Drawing C501 (previously C500). No further comments.***
12. The Town multi-use path easement needs to be shown on lot 3. The Town will also require the applicant to prepare and show on the plan a utility easement between the Seneca Road right-of-way and the Town Park property for potential future utility installation.
13. The Town would like to see a Street Tree Planting Plan as part of the next drawing set revisions. The code states that the trees shall have a minimum of 2.5" caliper at 5 feet above grade and be planted parallel to the street with a minimum of 2 trees per lot or one tree every 60 feet of road frontage.

SWPPP (formally called the River Road Drainage Report)

1. The Report will need to be updated to account for the change from 4 lots to 3 lots. The following comments refer to the lot numbering shown on the 11/3/2023 drawings. ***The project plans dated 12/6/2023 have been added as Attachment 8 to the SWPPP. No further comments.***
2. Study Point 1 in the report is the inlet of the 30" and 36" culverts under Seneca Road, which is upstream of the project area. This area has been included in the study due to existing drainage concerns that the Town has and with the intent to make sure they do not worsen due to this development project. The analysis was performed for the 25 year storm event, with and without improvements to the wetland "channel" between the outlet of the 2 culverts and the inlet of the 42" culvert (Study Point 2). Both conditions showed that the culverts are undersized for the 25 year storm event and Seneca Road would be overtopped by as much as 18" of water, with only slight improvement when the wetland "channel" was improved. ***The updated plans include bioretention areas on each of the proposed lots to ensure pre-development condition site runoff is not increased for the post-construction site development condition as the practice provides water quality and quantity controls. No further comments.***
3. Study Point 2 is the inlet of the 42" culvert under River Road, which is downstream of the proposed development project. As such, the Town code only requires initial evaluation during the 5 year storm event. The result of this analysis shows that the culvert cannot handle the 5 year storm event flow under existing or proposed conditions and water would eventually overflow River Road. This situation will only worsen under higher intensity rainfall events that should be modeled to determine a proper culvert size. An increase in through-put of the 42" culvert would require further study of potential impacts downstream of the culvert outlet. ***The applicant has offered a drainage easement on lot 3 to the Town along the Southeasterly portion of the lot, however, a transfer of ownership of this land to the Town may be best for the long-term. See item 2 above regarding this project adding stormwater management areas on each parcel to provide a zero net increase in runoff rates to the existing watershed. No further comments.***
4. The report shows stormwater flowing directly offsite from all 3 proposed lots without any detention or treatment that would be necessary for the increased impervious surfaces of roofs and driveways, which is contrary to the requirements of the New York State Stormwater Design Manual (SWDM). Please recheck the CN for pre and post-development area F, as it is shown as 79 for both***. See item 2 above regarding this project adding stormwater management areas on each parcel to provide a zero net increase in runoff rates to the existing watershed. We have verified that the post-development composite CN value of 79 is accurate for the land uses. No further comments.***
5. As the development of the three lots includes new impervious surfaces from roofs and driveways, the Applicant needs to provide peak flow numbers for the pre-developed and post-developed lots for the 1-year, 10-year, and 100-year storm events, as required by the SWDM, to show that the post-development peak flows will be less than or equal to the pre-development peak flows for each event, as other subdivisions have been required to do in the Town. ***Post-construction stormwater management practices (bioretention) have been added to each lot and we have verified the calculations show attenuation of the 1-year, 10-year and 100-year storm event peak flows (obtained***

from the Extreme Precipitation Tables from the NE Regional Climate Center) to less than pre-development conditions. No further comments.

6. The Applicant needs to show stormwater management practices that will provide for water quality treatment in addition to the quantity controls. Sediment removal and clearing debris from the wetland to improve a "flow channel" should not be factored into the flow calculations because over time these conditions will return resulting in a reduction of the storage and transmission capacity of the wetland back to its current state or less, and periodic maintenance of a natural wetland cannot be assumed due to future State or Federal requirements. Thus, the existing wetland cannot be used as a "practice" for reducing flows leaving the developed areas of the site and the flows that would leave the proposed lots and enter the wetland after development must not exceed the existing flows leaving those same areas of the site and going into the wetland prior to development. ***Please see items 2 & 5 above***. ***No further comments.***
7. ~~Proposed Lot 2 may be able to take advantage of the redevelopment section of the SWDM, as there is an existing home and driveway that are to be removed prior to construction of a new home.~~
8. The Applicant should provide analysis of the 100-year storm through the unimproved wetland and culverts to ensure that these existing features can pass the peak flows from upstream, the new lots, and the wetland itself without flooding the proposed houses and lots. ***See Site Plan item 8 above for review comments on this response. No further comments.***
9. Additional materials, including as-built mapping, plans and reports for Iroquois Middle School, Campo Court and Owasco Court stormwater management systems would be helpful in checking accuracy of the HydroCAD model in the Report. ***This information would be needed for a future study of the drainage in this general area.***
10. In Section IX.C. Maintenance, Inspections and Record Keeping, Permanent E&SC Practices and Post Construction Features, "Infiltration Bains" is mentioned, however, no infiltration basins are proposed. The applicant should remove and replace with a section describing "Bioretention" practice requirements, as well as add a section for "Vegetated Swale" for the frontage area along Lot 3.

If you have any questions, please feel free to contact me.

Sincerely,

KB Group of NY, Inc. dba PRIME AE Group of NY

Douglas P. Cole, P.E.
Senior Director of Engineering

cc: Matthew Yetto, Superintendent of Water, Sewer, and Engineering
Clark A. Henry, Assistant Town Planner

TOWN OF NISKAYUNA
WATER & SEWER DEPARTMENT
HIGHWAY DEPARTMENT

One Niskayuna Circle
Niskayuna, New York 12309

Matthew J. Yetto, P.E.
Superintendent of Water, Sewer,
and Engineering

Ray Smith
Superintendent of Highway

(518) 386-4500

December 5, 2023

RE: 2890 River Rd. 3-Lot Subdivision

The proposed plan dated 11/3/23 includes an 80' wide drainage easement to be granted to the Town. If possible, it would be preferable for the eastern portion of the site to be conveyed to the Town. This portion of the property already contains an easement for an existing sewer trunk main and a significant amount of federal wetlands. Ownership of this land would provide improved access for the maintenance of the sewer line as well provide space for any future drainage improvements that may be necessary.

The plan to utilize private stormwater control practices on the proposed building lots is the preferred method for handling the increased amount of stormwater expected to be generated by the development. The practices must be designed to handle the runoff from of a 100 year or greater storm event.

The addition of a multipurpose easement running between the River Road Park property and Seneca Road should be requested across the southwest corner of lot #3. The purpose of the easement would be to maintain the existing walking path to the park and for the installation of a water service to the River Road Park property from Seneca Road.

Sincerely,

Matthew J. Yetto, P.E.
Superintendent of Water, Sewer, and Engineering

Ray Smith
Superintendent of Highway

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

December 4, 2023

Hannah Buscemi
Staff Engineer
Engineering Ventures
414 Union St
Schenectady, NY 12305

Re: USACE
2890 River Road Subdivision and Three New Single-effecFamily Homes
2890 River Rd, Niskayuna, NY 12309
23PR05721

Dear Hannah Buscemi:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation 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.

SHPO has reviewed the Phase I Archaeological Survey Report prepared for this project (November 2023; 23SR00626). No archaeological sites were identified by the survey. Therefore, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If you have any questions, I can be reached at Jessica.Schreyer@parks.ny.gov.

Sincerely,

Jessica E. Schreyer

Jessica Schreyer
Archaeology Unit Program Coordinator

PHASE 1 ARCHAEOLOGICAL SURVEY
2890 RIVER ROAD
TOWN OF NISKAYUNA
SCHENECTADY COUNTY
23PR05721

prepared by

Timothy J. Abel, PhD
33512 SR 26
Carthage, NY 13619

for
RPL Family Trust
2505 Whamer Ln
Niskayuna, NY 12309

November 21, 2023

MANAGEMENT SUMMARY

PROJECT NAME/PIN: 2890 River Road/23PR05721

PROJECT TYPE/FUNDING: new construction/ private
CULTURAL RESOURCE SURVEY TYPE: Phase 1 archaeological survey

LOCATION: Town of Niskayuna, Schenectady County

SURVEY AREA (APE): 2.3 ha (5.7 ac)
U.S.G.S. QUAD NAME: Niskayuna, NY

SENSITIVITY ASSESSMENT:
Prehistoric: High based on proximity to known sites and streams
Historic: High based on MDS

ARCHAEOLOGICAL SURVEY METHODS:
Number of STPs: 66
Number of Units: 0
Surface survey: n/a

RESULTS OF ARCHAEOLOGICAL SURVEY:
Number of prehistoric sites identified: 0
Number of historic sites identified: 0
Number of NR listed/eligible sites that may be impacted: 0

AUTHOR: Timothy J. Abel, PhD

DATE: November 21, 2023

SPONSOR: SEQRA

TABLE OF CONTENTS

LIST OF FIGURES

1.0 INTRODUCTION

This report documents a Phase 1 archaeological survey of 2890 River Road, Niskayuna, New York (NY), a residential parcel of 5.74 ac (tax lot 51.00-1-7.1) (Figure 1, Photo 1-2). The survey was requested by NYS Office of Parks, Recreation and Historic Preservation (OPRHP) to aid in their review of project 23PR05721, 2890 River Road Subdivision and One New Single Family Home. The survey was performed under contract with the lot owner, RPL Family Trust of Niskayuna, NY.

All aspects of the investigation were directed by Timothy J. Abel, PhD, who is the author of this report. The author is qualified as a consulting archaeologist under Section 36 CFR 61 of the National Parks Service Regulations, and under Section 14.09 of the State Parks, Recreation and Historic Preservation Law.

The purpose of the Phase 1 archaeological survey is to determine the effect of the proposed undertaking on archaeological resources within an area or potential effect (APE). The APE was defined based on client request and consultation with OPRHP. The survey was conducted in accordance with OPRHP's *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* (OPRHP 1994).

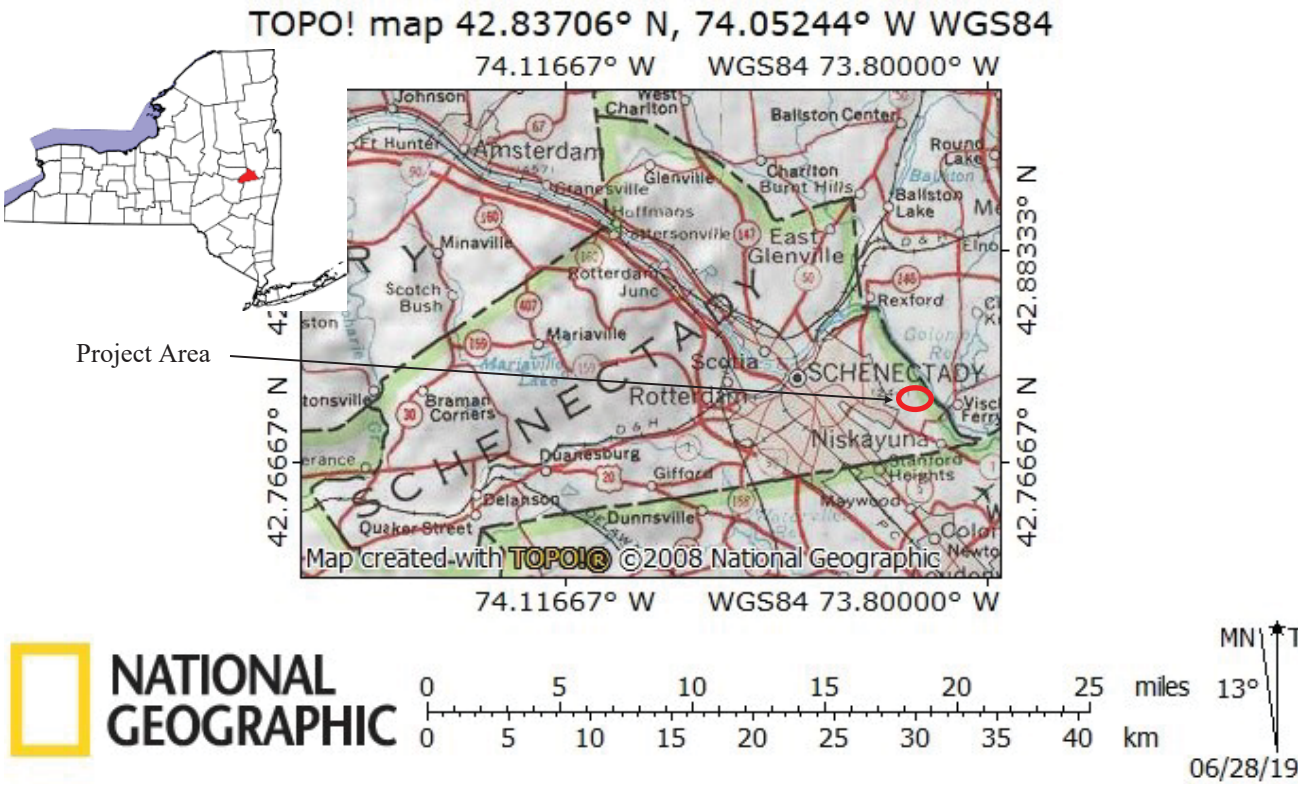


Figure 1– General project area location in Schenectady County.

Photo 1– View of typical ground cover within the PA.

Photo 2– View of overgrowth within the PA.

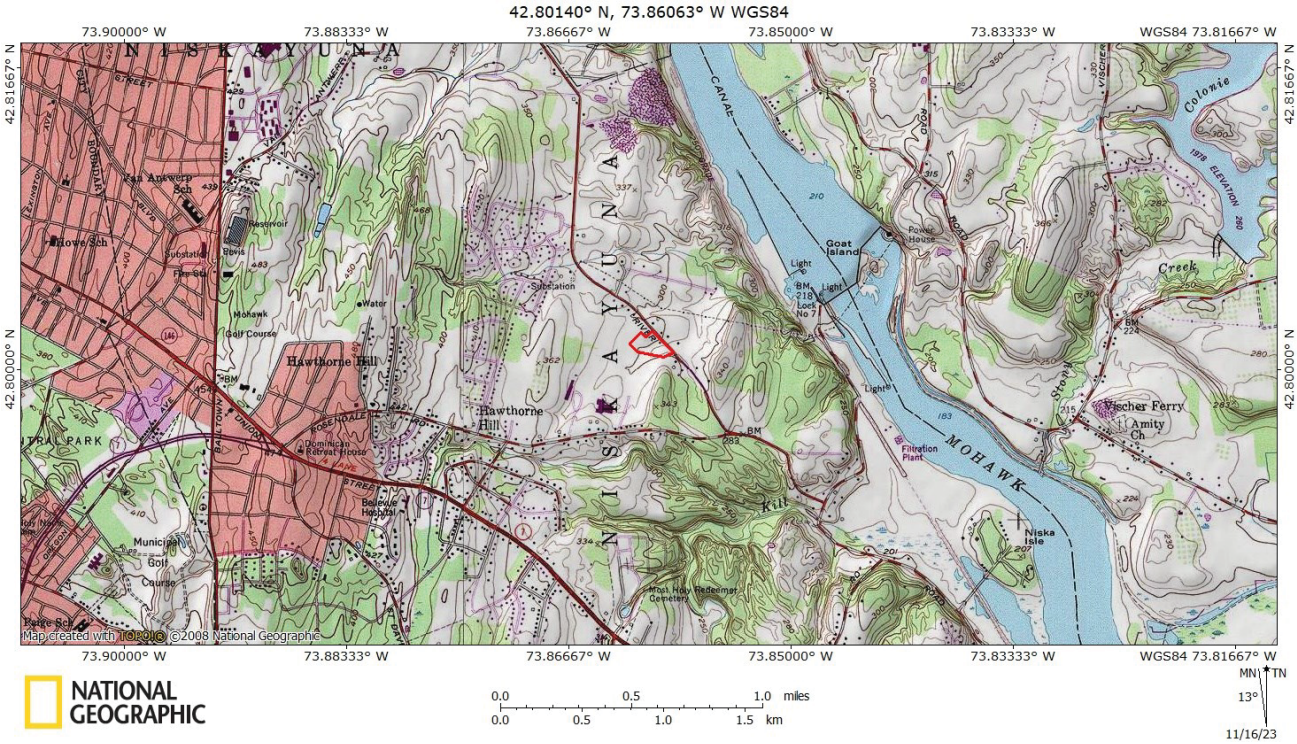


Figure 2– Project area location on the 1980 USGS 7.5" topographic map.

1.1 Project Area/Area of Potential Effect Definition

The project area (PA) is situated within the Town of Niskayuna, Schenectady County, NY, encompassing tax lot 51.00-1-7.1. The PA is located on the southwest side of River Road at the Seneca Road intersection. The lot encompasses 5.74 ac.

The area of potential effect (APE) for this undertaking was determined based on development plans provided by the client. It includes the entire tax parcel bounded by River Road on the northeast and parcel boundaries on all other sides. The APE encompasses 2.3 ha (5.74 ac) (Figure 3).

1.2 Physical Setting

The PA is situated within the Mohawk Valley section of the Hudson-Mohawk Lowland physiographic region (Cressey 1977). This region formed a significant corridor for transportation, commerce and communication throughout human history. The area is characterized by floodplains, terraces and lowland hills along the Mohawk River. Though the river flows in a narrow channel, the section is generally 16-48 km (10-30 mi) wide, bounded by steep erosion escarpments on either side that slope upward to the Appalachian and Adirondack Uplands.

The PA is situated on rolling lake plain topography between 86-91 m (282-300) ft above mean sea level (Figure 2). Slopes within the PA generally range from 3-8%. The PA drains into an unnamed wetland and swale that runs east-west through the PA and slopes eastward into the Mohawk River (Figure 2).

The soils of the PA are silt loams and channery silt loams created by run-off and sedimentation following the last de-glaciation (Figure 4). These soils consist of a silty loam to loam topsoil, or in this case a plow zone, roughly 20-30 cm (10-12 in) in depth, above a silty loam to clay loam subsoil. Characteristics of the soils are summarized in Table 1. Deposition generally ended c. 15,300 cal BP with the drainage of the last of the pro-glacial lakes in the Mohawk Valley (Franzi, et al. 2016).

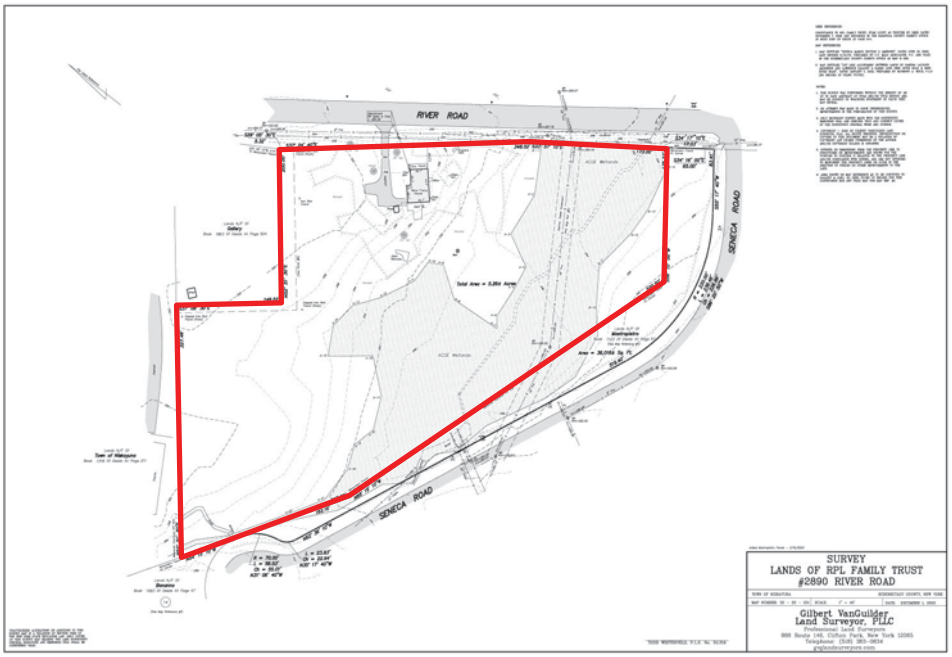


Figure 3– Project area boundaries.

Figure 4– Project area soils.

Table 1– Project area soils data summary.

Soil Type/ Symbol	Soil Horizon Depth	Color	Texture	Slope	Drainage	Landform
Fluvaquents, loamy; FL	A1- 0-13 cm (0-5 in) A2- 13-183 cm (5-72 in)	7.5YR2/1 10YR2/1	MuSiLo VGvSa	0-3%	Well	Floodplains
Madalin silt loam; Ma	Ap-0-23 cm (0-9 in) Eg-23-35 cm (9-14 in) Btg1-35-51 cm (14-20 in)	10YR3/2 10YR4/2 10YR5/2	SiLo SiLo SiCl	0%	poor to very poor	Lake Plains
Mardin channery silt loam; MrD	Ap- 0-20 cm (0-8 in) BE- 20-30 cm (8-12 in) Bw1- 30-41 cm (12-16 in) Bw2- 41-51 cm (16-20 in) Bx1- 51-91 cm (20-36 in)	10YR4/3 2.5YR5/4 10YR5/4 10YR4/3 10YR4/4	Ch Si Lo Ch Si Lo Ch Si Lo Ch Si Lo Ch Si Lo	15-25%	Moderately well	Hills, slopes
Scio silt loam; ScB	Ap- 0-23 cm (0-9 in) Bw1- 23-48 cm (9-19 in) Bw2-48-79 cm (19-32 in) C- 79-102 cm (32-40 in) 2Cg- 102-183 cm (40-72 in)	10YR4/2 10YR5/6 10YR5/4 10YR5/3 2.5Y5/2	SiLo SiLo SiLo SiLo GvLoSa	3-8%	Moderately well	Outwash plains
Unadilla silt loam; UnB	Ap- 0-20 cm (0-8 in) Bw1- 20-30 cm (8-12 in) Bw2- 30-46 cm (12-18 in) Bw3- 46-79 cm (18-31 in) BC- 79-102 cm (31-42 in) 2C- 102-150 cm (42-65 in)	10YR4/3 10YR6/4 10YR5/6 10YR6/4 10YR5/4 10YR4/2	SiLo SiLo SiLo SiLo SaLo GvSa	3-8%	well	Lake Plain

1.3 Current Land Use and Integrity

The PA is situated in a suburban setting on a single residence lot. The residence at 2890 River Road has been unoccupied for some time, and is now condemned by the local Health Department. The rest of the lot is overgrown with woods and dense scrub thicket dominated by honeysuckle. There is a modern occupied residence adjacent to the north, and another across River Road to the east.

2.0 BACKGROUND RESEARCH

2.1 Site File Review

A search of the CRIS system at the time of survey revealed that the PA is within the polygon of one precontact archaeological site (NYSM 4750/9303.000128). The site is described as traces of occupation along the Mohawk River (Parker 1920). No further documentation is provided. These "traces" generally refer to reports of scattered artifact finds in an area, and not to discretely-defined sites. There may or may not be archaeological deposits present within the PA. There are five other inventoried archaeological sites within 1.6 km (1 mi) of the PA (Table 2).

There is one inventoried structure within the PA (2890 River Road/09303.000330). It is described as a single-family residence that has been determined National Register *not eligible*. There is one inventoried structure (2851 River Road/09303.000332) adjacent to the PA that is of undetermined National Register status. There are 25 other inventoried structures within 1.6 km (1 mi) of the PA. There are no properties listed on or eligible for the National Register of Historic Places within or adjacent to the PA.

2.2 Historic Map Review

Seven historic maps were reviewed for this survey ranging from 1856 to 1980 (Figures 2, 5-10). The lot appears in a rural agrarian setting from at least 1856. No structures are depicted within the PA on maps before 1930. Beginning in 1930, what is likely the extant residence at 2890 River Road is depicted consistently through 1980. Two farmsteads, one of which is consistent with the above inventoried structure at 2851 River Road, are depicted across River Road from the PA throughout the map sequence as W. van Vranken and J. van Vranken.

Table 2– List of known archaeological sites within 1.6 km (1 mi) of the project area.

USN	Name	Within/Adjacent	NR Status
9103.000102	UNNAMED SITE (NYSM 6235)		Undetermined
9303.000128	UNNAMED SITE (NYSM 4750)	Within	Undetermined
9303.000131	UNNAMED SITE (NYSM 6236)		Undetermined
9303.000132	UNNAMED SITE (NYSM 6237)		Undetermined
9303.000134	UNNAMED SITE (NYSM 6239)		Undetermined
9303.000245	Whitmyer Drive Precontact Site		Undetermined

2.3 Occupation History

There is little information available to assess the occupation history of the PA. Site file reviews document precontact occupation in the area generally, but few discrete archeological sites have been recorded. Though there are several pre-contact sites inventoried within 1.6 km (1 mi) of the PA, few have documented diagnostic artifacts associated with them. The area has generally been occupied by Native Americans since the end of the last glaciation c. 14,500 cal BP (Lothrop et al. 2016).

The Dutch, invited by the Mahicans, established Fort Orange at Albany in 1614. The Mahicans ceded territory in the lower Mohawk Valley to the Mohawk, and Fort Orange became a major trade link between the Mohawks and the Dutch. The Mohawk increasingly allowed Dutch settlement around the fort to develop. The settlement of Beverwijck around Fort Orange grew quickly, and Dutch settlers clamored for more land. Large parcels south of the Mohawk River and west of Beverwijck were secured by the Dutch Crown from the Mohawk by the mid-17th century and carved up for sale to Dutch aristocrats. Among the early settlers around the PA were the Clutes, Vedders, van Vrankens, Groots, Tymesons, Pearces, Jansens, and van Bockhoovens. The van Vrankens depicted on mid-19th century maps are no doubt descendants of those early van Vranken Dutch settlers (French 1860; Howell and Munsell 1886).

A major Dutch settlement developed at Schenectady beginning in 1661. When the English assumed control of Dutch lands in New York in 1664, they allowed Dutch settlers to stay, as long as they became English subjects. Schenectady gained municipal status in 1684. Throughout the early 18th century, the area was terrorized by attacks from French and French-allied Native Americans, and the city became a refuge for displaced area farmers and their families. These hostilities culminated in the French and Indian War, which ended in 1764 with the British in sole control of the northeast Americas. Schenectady was incorporated as a borough a year later.

With French depredations in the Valley resolved, settlement and development in the area resumed until the outbreak of hostilities between the colonies and Great Britain. The Mohawk sided with the British in the Revolutionary War and were forced to seek refuge with them in Canada. From bases in the St. Lawrence Valley, Mohawks under Joseph Brant and British under Sir John Johnson waged guerilla warfare against the Rebel settlers of the Mohawk Valley. Settlements were again abandoned or curtailed during the conflict.

After the Revolutionary War, settlement quickly returned to the Mohawk Valley. As a major artery into the western portions of New York, it was quickly developed as a transportation route bringing the young nation's rich agricultural produce to world markets. The Albany-Schenectady Turnpike opened in 1797, followed by the Erie Canal, completed in 1825. The Erie Canal crossed the Mohawk River on a great aqueduct just east of the PA. The Hudson-Mohawk Railroad followed in 1831. With these improvements, settlement in the Mohawk Valley exploded, and the infrastructure for manufacturing and freight transport was firmly developed.

The area that became the Town of Niskayuna remained in a rural agrarian setting throughout much of the 19th and early 20th century. Beginning in the mid-20th century, the area around the PA developed a suburban context as the City of Schenectady continued to grow. Much of what was farmland in the town is now, or soon will be consumed by housing developments.

3.0 ARCHAEOLOGICAL ASSESSMENT

3.1 Prior Surveys

A search within the CRIS system reveals that there have been no Phase 1b archaeological surveys conducted within the APE. No Phase 1b archaeological surveys have been conducted since 2000 in areas adjacent to the APE. There have been only two block Phase 1 archaeological surveys in the general vicinity, neither of which produced significant evidence of archaeological potential.

Figure 5– Project area location on the Fagan 1856 map..

Figure 6– Detail of the Beers and Beers 1866 map.

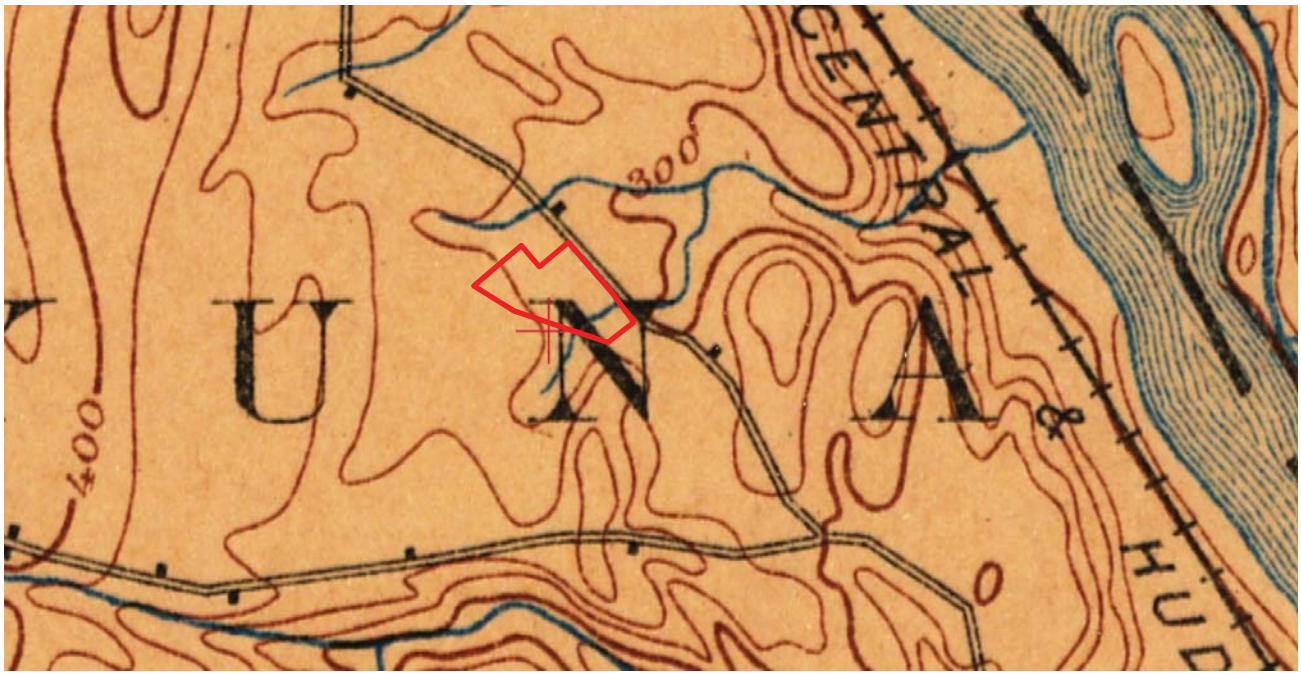


Figure 7– Detail of the 1895 USGS map.

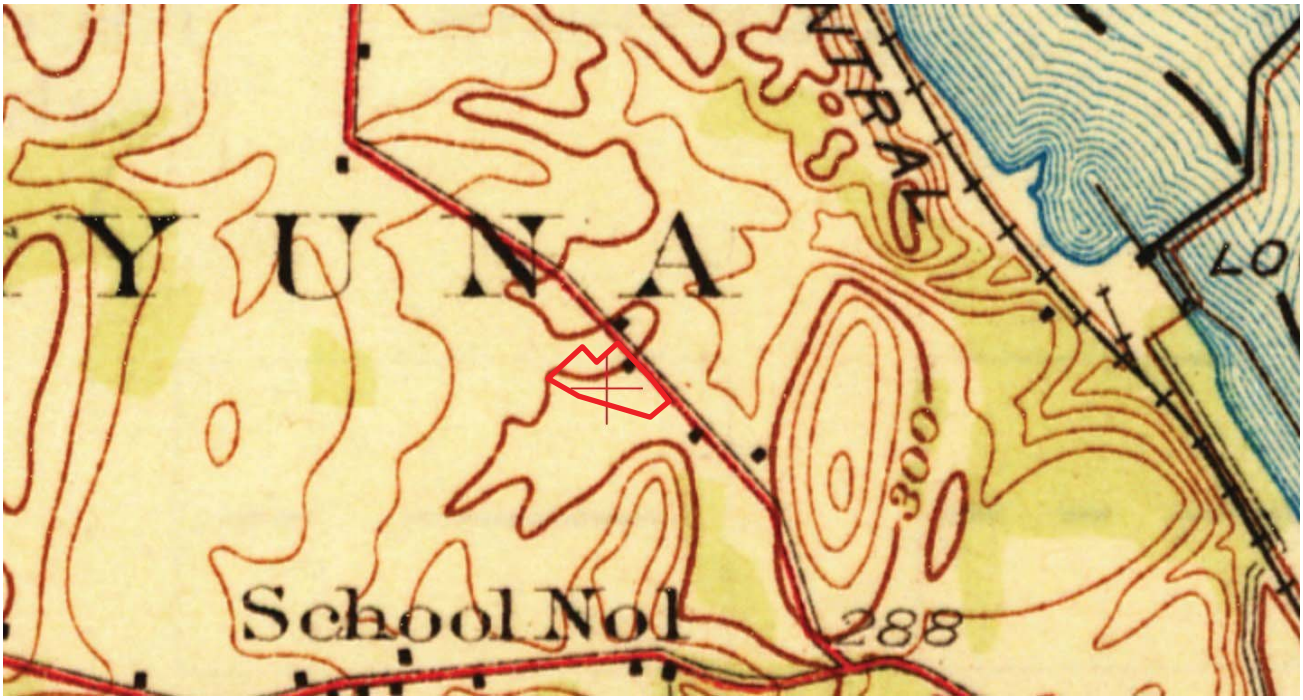


Figure 8– Detail of the 1930 USGS map.

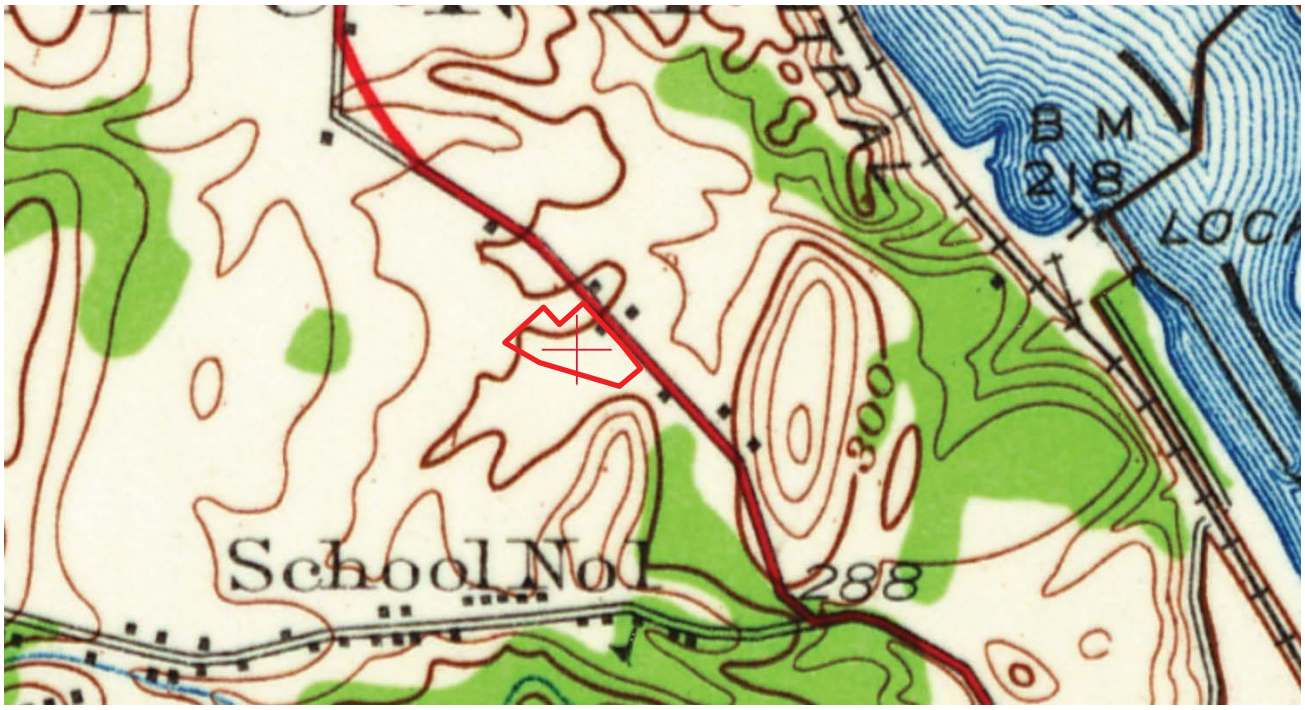


Figure 9– Detail of the 1947 USGS map.

Figure 10– Detail of the 1954 USGS map.

3.2 Site Walkover

Prior to survey the PA was walked to locate significant landmarks and define the PA boundary. Corners of the PA were located by survey markers. All landmarks were geo-referenced using a Trimble R1 handheld GPS receiver.

The residence at 2890 River Road was photodocumented (Photo 3-4). It is a two story, side-gable and rear wing frame house on a concrete foundation with cellar. The foundation appears to be plank-formed, which is consistent with a 1920s construction. The structure has seen a number of recent updates including vinyl windows, an asphalt shingle roof, vinyl siding and wood decks. It has been abandoned for some time. There is modern (less than 20 years old) trash strewn on the surface all around the structure.

3.3 Assessment

The PA has not been previously surveyed for archaeological deposits. Given its history, topography and the results of the CRIS and map review, it seems likely that there would be undocumented archaeological resources within the PA. The PA was likely deciduous mast forest prior to agricultural development in the early 19th century, but since then it appears to have remained consistently agricultural until the 1920s. The lack of archaeological sites in the area is likely due to the a lack of systematic archaeological surveys. A Phase 1b field reconnaissance was determined to be warranted for this investigation.

4.0 ARCHAEOLOGICAL SURVEY

4.1 Survey methods

The field reconnaissance was conducted by the author and Ryan Devanny between 11/4-11/11/2023. All personnel meet 36CFR61 standards for their roles in this reconnaissance. Based on the topography and layout, it was determined that the archaeological reconnaissance of the PA could be best accomplished by a systematic shovel test survey.

Shovel test units (STPs) were excavated at 15 m (50 ft) intervals along each of 13 transects (A-M). Transects A-F were based 20 off Seneca Road from the north running south and heading 43^{o} mag parallel to the north parcel boundary with the Town of Niskayuna recreation park. Transects G-M ran from north to south beginning 15 m (50 ft) off the shoulder of River Road. At the northeast corner of the APE. The STPs were numbered sequentially along each transect.

Each STP was excavated by hand to a depth sufficient to reach sterile subsoils, unless stopped by rocks or roots. Soils from each STP were screened through 1/4 inch mesh to search for artifacts. Notes were made of the depth and stratigraphy of each STP.

4.2 Survey results

Archaeologists excavated 66 STPs across the APE. The tested area covered 69% of the PA. The remaining 1.6 ac was not tested because it lay within delineated wetland and will not be developed, or it was at the east end of the APE, which will not be developed. Almost all STPs reached sterile subsoils. Those that did not could be explained by visual disturbance.

The STPs had a uniform profile characterized by 10-30 cm (4-12 in) of dark yellow-brown (10YR4/2) silty loam above a tan to brown (10YR6/4-6/6) silty loam subsoil. These profiles were considered to be typical for the soil types documented within the PA.

There were surprisingly few artifacts in any of the STs. ST B7 was disturbed and contained modern construction fill (PVC and modern nails). ST H2 encountered rock that may be part of a garage foundation. STs I2 and I3 contained 20th century window glass, coal and light bulb sockets consistent with the age of the residence. ST J2 contained coal ash. ST J3 contained modern glass and nails consistent with the age of the remodel. The cultural material evinces a light-density architectural midden within the A horizon of the parcel, concentrated around the structure. It is of limited research potential.

5.0 IMPACTS AND RECOMMENDATIONS

The Phase 1b systematic reconnaissance of the APE revealed evidence of a light density architectural midden within the A horizon surrounding the structure at 2890 River Road in Niskayuna, NY. The survey encountered no unexpected deposits. The midden is of limited research potential based on the recovered assemblage. No site was inventoried.

Photo 3– View of 2890 River Road, looking southwest.

Photo 4– View of 2890 River Road from the rear, looking toward the road.

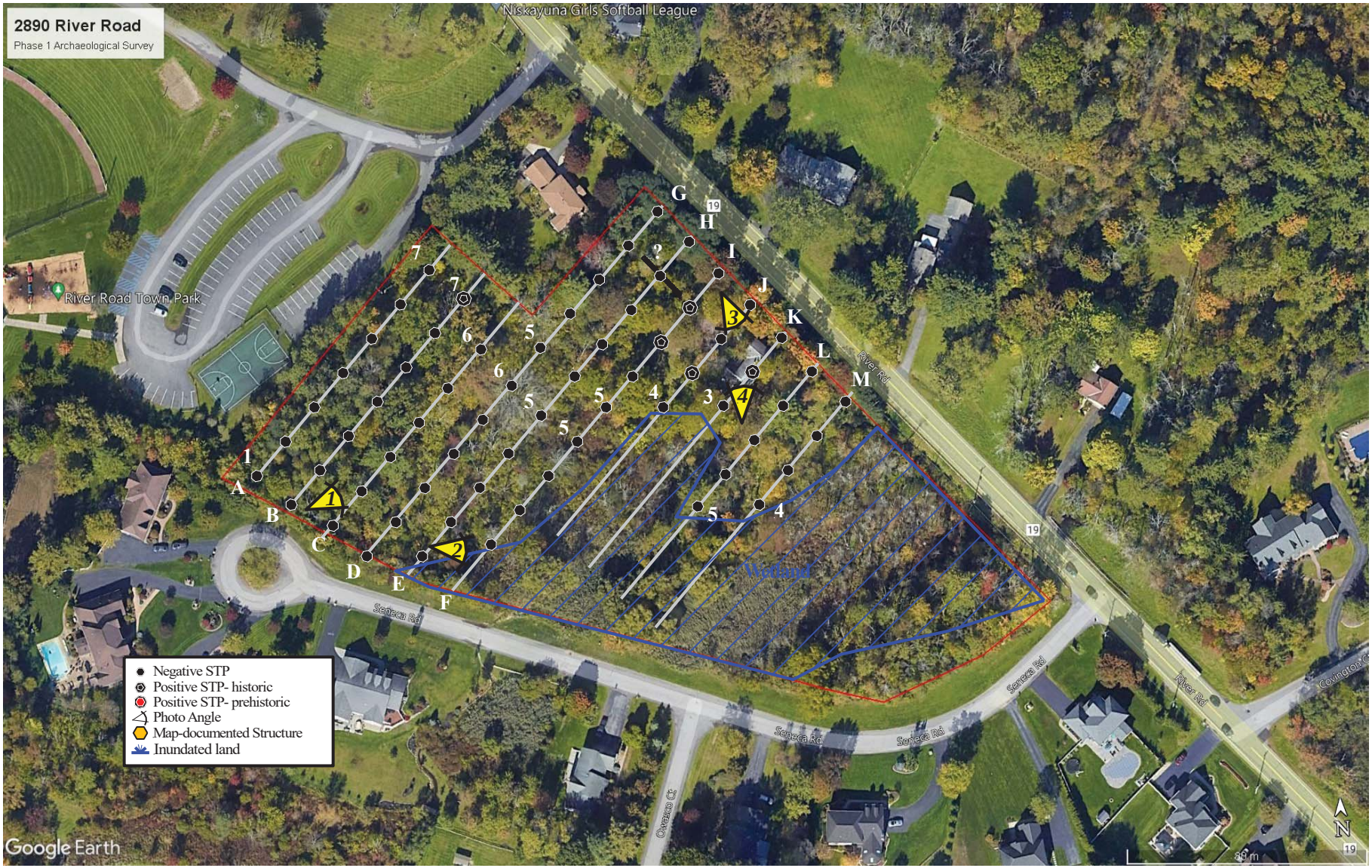


Figure 11– Survey methodology and results

Based on this investigation, there appear to be no cultural resources within the APE eligible for listing on the National Register of Historic Places. It is recommended that the proposed undertaking will have no impact on any currently listed or eligible National Register properties. This recommendation refers to the area defined as the APE in Section 1.1, and is contingent upon this and any future undertakings remaining within the footprint of that APE. If future regulated undertakings are proposed that lie outside of the APE defined in Section 1.1, the OPRHP will need to be consulted for further action.

Like all surveys, this one has relied on a sampling of the project area based on an accepted standard methodology. No sampling strategy can be 100% failsafe against the possibility of cultural resources being actually found in the course of construction. Should this occur, the client is advised to stop construction and contact the OPRHP immediately for recommendations before continuing with construction. If any human remains should be discovered, all work should cease immediately. Contact the OPRHP and the local coroner to begin mitigation procedures.

REFERENCES CITED

Beers, S.N. and D.G. Beers
1866 *New Topographical Atlas of the Counties of Albany and Schenectady, New York*. Stone & Stewart, Philadelphia.

Cressey, G. B.
1977 Land Forms. In Geography of New York State, edited by J. H. Thompson, pp. 19-53. Syracuse University Press, Syracuse, NY.

Fagan, L.
1856 Map of Schenectady County, New York. Dumcke & Keil, New York, NY.

Franzi, David A., John C. Ridge, Donald L. Pair, David DeSimone, John A. Rayburn and David J. Barclay
2016 Post-Valley Heads Deglaciation of the Adirondack Mountains and Adjacent Lowlands. *The Adirondack Journal of Environmental Studies* 21:119-146.

French, J.H.
1860 *Historical and Statistical Gazetteer of the State of New York, 1860*. R.P. Smith, Syracuse.

Howell, George Rogers and John H. Munsell
1886 *History of the County of Schenectady, N. Y., From 1662 to 1886*. W.W. Munsell & Co., New York.

Lothrop, Jonathan C., Darrin L. Lowery, Arthur E. Spiess and Christopher J. Ellis
2016 Early Human Settlement of Northeastern North America. *PaleoAmerica* 2(3):192-251.

OPRHP
1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. The New York Archaeological Council, Albany.

APPENDIX 1– SHOVEL TEST PROFILE DATA

STP	DEPTH (cm) SOIL ARTIFACTS	DEPTH (cm) SOIL ARTIFACTS	DEPTH (cm) SOIL ARTIFACTS
A1	40 dk gr br si lo	50 yl br si lo	
A2	20 dk gr br si lo	30 yl br si lo	
A3	30 dk gr br si lo	40 yl br si lo	
A4	20 dk gr br si lo	30 yl br si lo	
A5	30 dk gr br si lo	40 yl br si lo	
A6	25 dk gr br si lo	35 yl br si lo	
A7	25 dk gr br si lo	35 yl br si lo	
B1	45 dk gr br si lo		
B2	25 dk gr br si lo	35 yl br si lo	
B3	20 dk gr br si lo	30 yl br si lo	
B4	20 dk gr br si lo	30 yl br si lo	
B5	20 dk gr br si lo	30 yl br si lo	
B6	25 dk gr br si lo	35 yl br si lo	
B7	30 mott dk gr br si lo	fill	
C1	50 dk gr br si lo		
C2	12 dk gr br si lo	25 yl br si lo	
C3	25 dk gr br si lo	35 yl br si lo	
C4	24 dk gr br si lo	35 yl br si lo	
C5	12 dk gr br si lo	25 yl br si lo	
C6	25 dk gr br si lo	35 yl br si lo	
D1	30 dk gr br si lo	40 yl br si lo	
D2	17 dk gr br si lo	27 yl br si lo	
D3	25 dk gr br si lo	35 yl br si lo	
D4	25 dk gr br si lo	35 yl br si lo	
D5	25 dk gr br si lo	35 yl br si lo	

STP	DEPTH (cm) SOIL ARTIFACTS	DEPTH (cm) SOIL ARTIFACTS	DEPTH (cm) SOIL ARTIFACTS
D6	25 dk gr br si lo	35 yl br si lo	
E1	20 dk gr br si lo	30 yl br si lo	
E2	30 dk gr br si lo	40 yl br si lo	
E3	50 dk gr br si lo		
E4	30 dk gr br si lo	40 yl br si lo	
E5	20 dk gr br si lo	30 yl br si lo	
F2	20 dk gr br si lo	30 yl br si lo	
F3	20 dk gr br si lo	30 yl br si lo	
F4	20 dk gr br si lo	30 yl br si lo	
F5	23 dk gr br si lo	roots	
G1	30 dk gr br si lo	40 yl br si lo	
G2	20 dk gr br si lo	30 yl br si lo	
G3	20 dk gr br si lo	30 yl br si lo	
G4	30 dk gr br si lo	40 yl br si lo	
G5	30 mott dk gr br si lo	40 yl br si lo	
H1	30 dk gr br si lo	40 yl br si lo	
H2	30 dk gr br si lo	40 yl br si lo	poss foundation
H3	30 dk gr br si lo	40 yl br si lo	
H4	20 dk gr br si lo	30 yl br si lo	
H5	20 dk gr br si lo	30 yl br si lo	
I1	30 dk gr br si lo	40 yl br si lo	
I2	25 dk gr br si lo coal, window glass	35 yl br si lo	
I3	25 dk gr br si lo light bulb glass	35 yl br si lo	

STP	DEPTH (cm) SOIL ARTIFACTS	DEPTH (cm) SOIL ARTIFACTS	DEPTH (cm) SOIL ARTIFACTS
I4	25 dk gr br si lo	35 yl br si lo	
I5	30 dk gr br si lo	40 yl br si lo	
J1	20 dk gr br si lo	30 yl br si lo	
J2	25 dk gr br si lo	35 yl br si lo	
J3	30 dk gr br si lo nails, glass	40 yl br si lo	
J4	40 dk gr br si lo	push	
K1	23 dk gr br si lo	33 yl br si lo	
K2	40 coal ash		
K3	35 dk gr br si lo	45 yl br si lo	
L1	30 dk gr br si lo	40 yl br si lo	
L2	15 dk gr br si lo	30 yl br si lo	
L3	20 dk gr br si lo	30 yl br si lo	
L4	23 dk gr br si lo	33 yl br si lo	
L5	25 dk gr br si lo	35 yl br si lo	
M1	45 dk gr br si lo	fill	
M2	30 dk gr br si lo	40 yl br si lo	
M3	30 dk gr br si lo	40 yl br si lo	
M4	27 dk gr br si lo	37 yl br si lo	

KEY :

dk-dark ; br=brown ; gr=grey ; yl=yellow ;
mott=mottled ; lo=loam ; si=silt

Gilbert VanGuilder
Land Surveyor, PLLC
988 Route 146, Clifton Park, NY 12065
383-0634
FAX 371-8437

Members
Robert Wilklow, PLS
Kevin Weed, PLS

September 22, 2023

Endangered Species
Habitat Suitability Assessment Report

To whom it may concern,

This letter and enclosed information were prepared in summary of a habitat study performed on September 22, 2023, TMP # 51.-1-7.1 (2890 River Road). The subject parcel is located on the southwest side of River Road, and the north side of Seneca Road in the Town of Niskayuna. The parcel is approximately 5.26± acres in size, currently consists of a single-family home, associated asphalt driveway, lawn area, brushy areas with the remaining land being forested. The proposed project includes approximately 1.30± acres of tree clearing/grubbing, with the construction of four single family residential homes, associated private driveways, with connection to public water and sanitary services.

An inquiry was submitted to U.S. Fish and Wildlife Service through the IPaC website to identify any potential threatened/endangered species that may occur within the subject parcel. The Service identified the Northern Long-eared Bat *(Myotis septentrionalis)* as potentially being present.

Species Requirements:

Northern Long- Eared Bat:

According to the U.S. Fish and Wildlife Service's website, "Suitable summer habitat for the NLEB consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches DBH that have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. NLEBs are nocturnal foragers and use hawking (catching insects in flight) and gleaning (picking insects from surfaces) behaviors in conjunction with passive acoustic cues (Nagorsen and Brigham 1993, p. 88; Ratcliffe and Dawson 2003, p. 851). NLEB seem to prefer intact mixed-type forests with small gaps (i.e., forest trails, small roads, or forest-covered creeks) in forest with sparse or medium vegetation for foraging and commuting rather than fragmented habitat

or areas that have been clear cut (USFWS 2015, p. 17992). Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested/wooded habitat28. The NLEB has also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. NLEBs typically occupy their summer habitat from mid-May through mid-August each year30 and the species may arrive or leave some time before or after this period. Examples of unsuitable habitat: Individual trees that a greater than 1,000 feet from forested/wooded areas; Trees found in highly developed urban areas (e.g., street trees, downtown areas); and A pure stand of less than 3-inch DBH trees that are not mixed with larger trees. Suitable roosting habitat is defined as forest patches with trees of 5-inch (12.7 cm) DBH or larger."

Habitat Suitability:

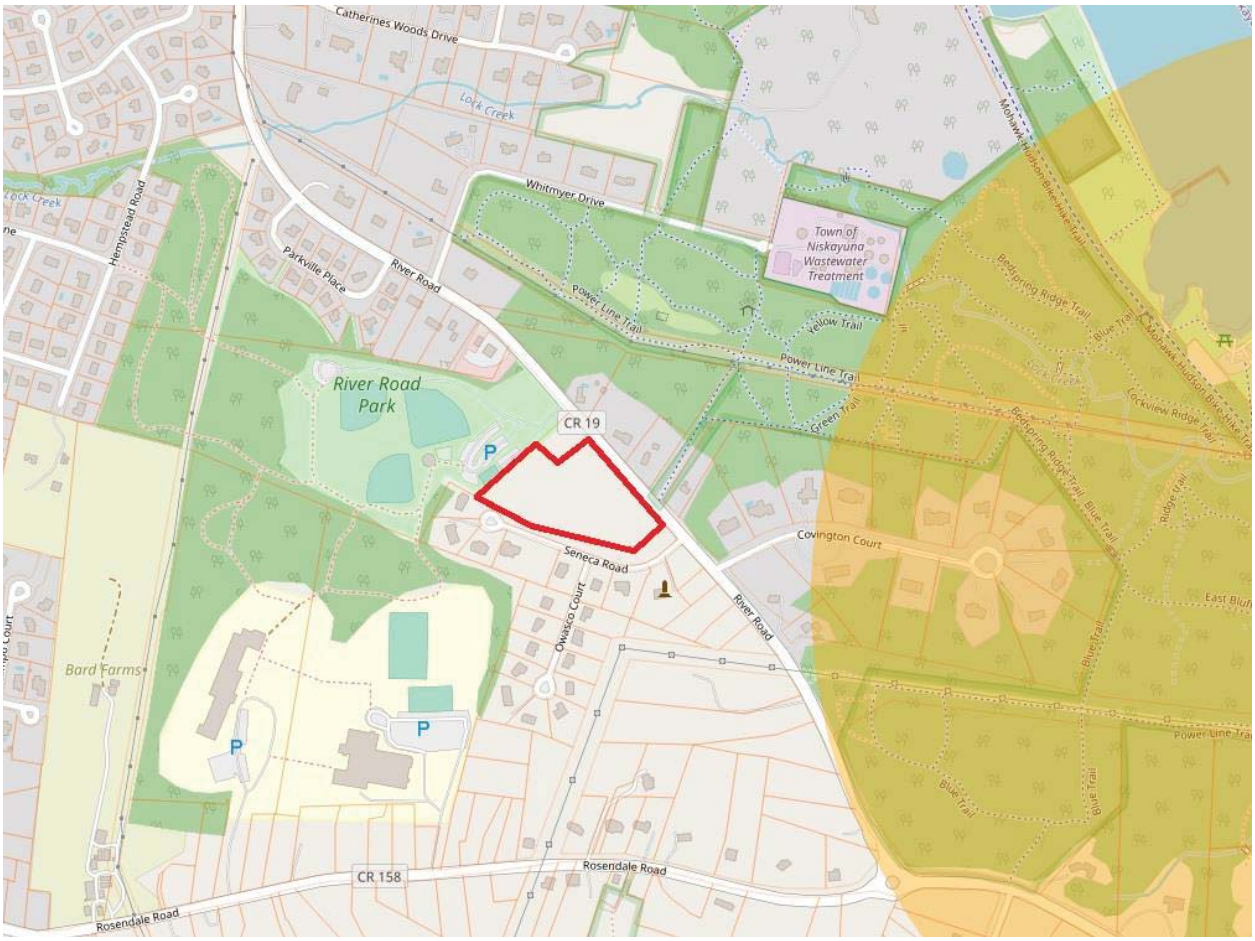
For the proposed project there is approximately 1.30± acres of tree clearing proposed. The majority of trees present within the project APE consist of trees with relatively smooth bark such as Red Maple *(Acer rubrum)*, White Pine *(Pinus strobus)*, Aspen Big Tooth *(Populus grandidentata)* and Northern Red Oak *(Quercus rubra)* which do not exhibit characteristics of suitable habitat. However, there are four trees within the project APE that possess exfoliating bark or crevice's that are proposed to be harvested. Within the wetland onsite there is an abundance of standing dead timber that possess crevices or exfoliating bark that are not proposed to be harvested and will remain intact. If tree clearing is conducted within winter months when Northern Long-eared Bats are likely to be in a hibernaculum and are not likely to occur in forested habitat (November 1 – March 31), we feel this project will have minimal effect on Northern Long-eared Bat roosting habitat.

The wetlands onsite will provide an abundance of flying insects, and therefore potential foraging habitat for the Bat. For the proposed project there are two small areas of wetland impact proposed, the majority of the wetlands onsite will remain intact. Therefore, we feel this project will have minimal effect on Northern Long-eared Bat foraging habitat for the Bat. There are no known maternal roost trees onsite, and the project site is not located within 0.25 miles of a hibernaculum.

The project sponsor proposes to minimize and mitigate for potential impacts by, 1.) Site clearing will occur during winter months November 1 – March 31. 2.) Installation of construction fence around the perimeter of the proposed clearing to eliminate incidental additional clearing. 3.) Prohibiting the use of pesticides and herbicides onsite. 4.) Construction activities will not be performed after sunset.

Respectfully,
Jackie Pitts
Jackie Pitts
Environmental Technician

Figure 1: N.Y.S.D.E.C. Rare Plant or Animals Mapping



NYSDEC Rare Plants or Animals Layer

Figure 2: IPaC Resource List

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Schenectady County, New York

Local office

New York Ecological Services Field Office

(607) 753-9334
(607) 753-9699
fw5es_nyfo@fws.gov

3817 Luker Road
Cortland, NY 13045-9385

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

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 from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey

effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

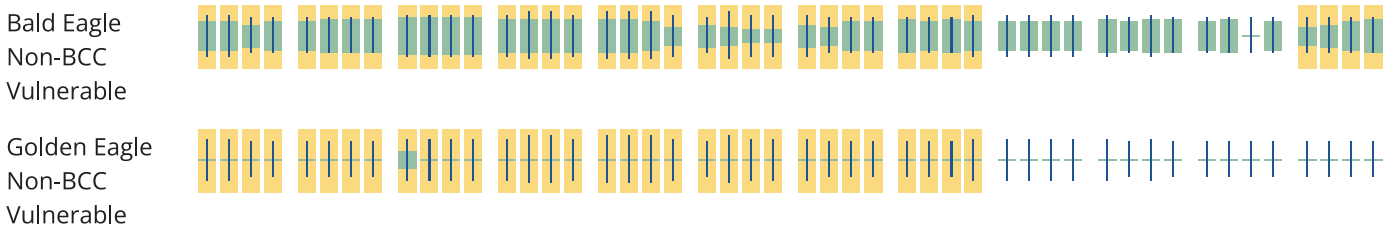
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Belted Kingfisher *Megaceryle alcyon* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 15 to Jul 25

Black-billed Cuckoo *Coccyzus erythropthalmus* — Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9399

Blue-winged Warbler *Vermivora pinus* — Breeds May 1 to Jun 30

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Bobolink *Dolichonyx oryzivorus* — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Canada Warbler *Cardellina canadensis* — Breeds May 20 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cerulean Warbler *Dendroica cerulea* — Breeds Apr 20 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/2974

Chimney Swift *Chaetura pelagica* — Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Meadowlark *Sturnella magna* — Breeds Apr 25 to Aug 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Eastern Whip-poor-will *Antrostomus vociferus* — Breeds May 1 to Aug 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak *Coccothraustes vespertinus* — Breeds May 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prairie Warbler *Dendroica discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Upland Sandpiper *Bartramia longicauda* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9294	Breeds May 1 to Aug 31
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey

effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

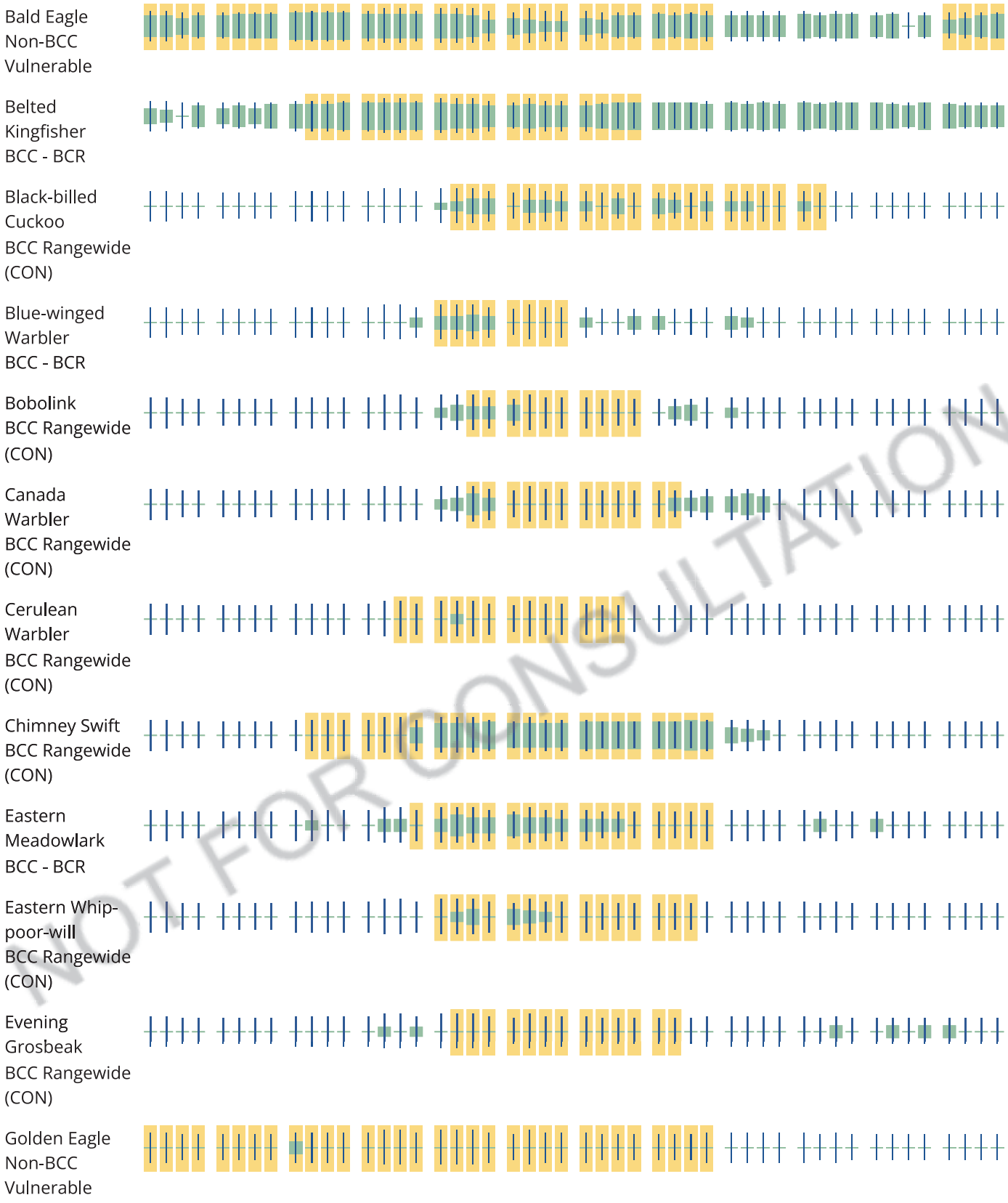
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

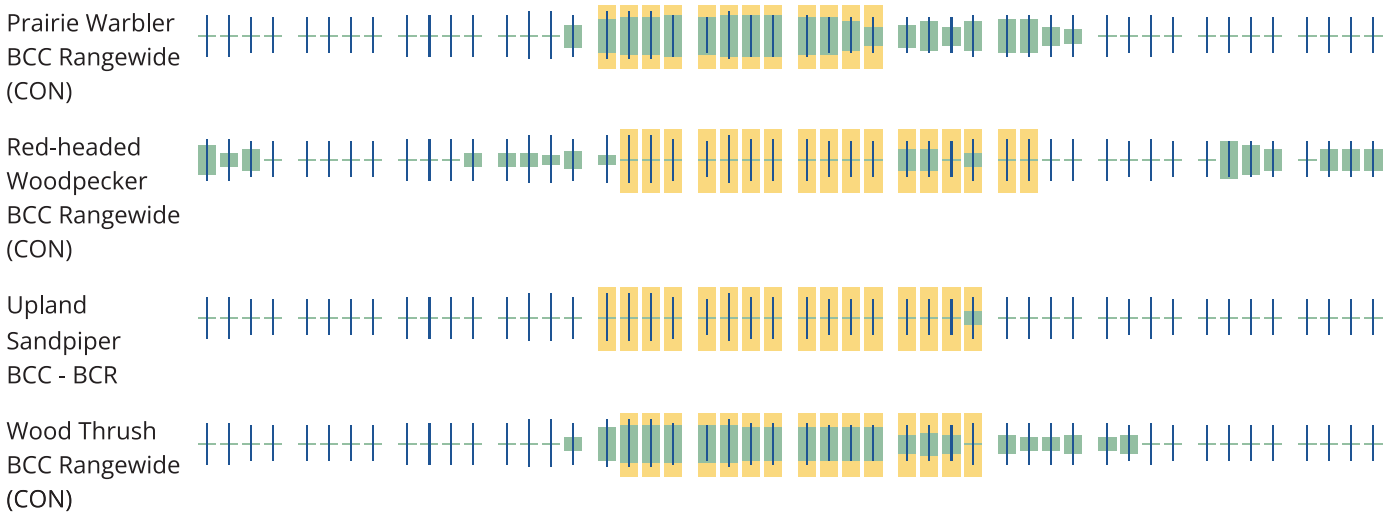
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort – no data

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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.

2890 River Road Minor Subdivision Stormwater Pollution Prevention Plan

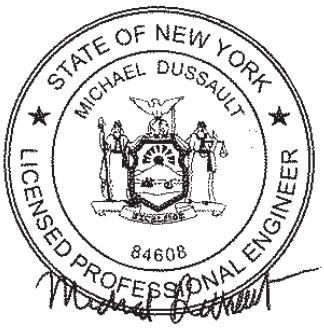
Town of Niskayuna, Schenectady County, New York

Prepared for:

RPL Family Trust

2505 Whamer Lane
Niskayuna, NY 12309

Issued:	October 11, 2023
Revision 1:	October 17, 2023
Revision 2:	December 6, 2023



Prepared by:

ENGINEERING VENTURES PC

414 Union Street
Schenectady, NY 12305

208 Flynn Avenue, Suite 2A
Burlington, VT 05401

85 Mechanic Street, Suite E2-3
Lebanon, NH 03766

TABLE OF CONTENTS

Attachment7: 2890 River Road Subdivision Stormwater Calculations

Attachment 8: 2890 River Road Minor Subdivision Plans

Attachment 9: Endangered Species Habitat Suitability Assessment
Phase 1 Archeological Survey
NYS Historic Preservation Office (SHPO) Letter

Attachment 10: Erosion and Sediment Control

- Owner Certification
- Preparer Certification
- Contactor Certification
- Pre-Construction Meeting Documents
- Construction Duration Inspections
- Monthly Summary of Site Inspections Activities
- Bioretention Area Construction Inspection Checklist
- Bioretention Area Post-Construction Inspection Checklist

Attachment 11: Copy of General Permit 0-20-001

I. INTRODUCTION

This drainage report has been prepared on behalf of the RPL Family Trust for a proposed 3-lot residential subdivision of two adjoining parcels.

The owner can be reached via the following contact information.

RPL Family Trust, c/o Ryan Lucey, Trustee
2505 Whamer Lane, Niskayuna, New York 12309
Email: ryan@midstateltd.com

II. EXISTING SITE CONDITIONS

The project site is located approximately 0.5 miles west of the Mohawk River, north of Rosendale Road, between Whitmeyer Drive and Covington Court on the west side of River Road. The site is bounded by River Road on the west, River Road Town Park on the north and Seneca Road to the south and east. See Attachment 1 for the Site Location Map. The involved parcels include wooded areas, approximately 2.14 acres of federally regulated freshwater wetlands, and an abandoned single-family residence with associated drives, lawns, and outbuildings. The existing home will be demolished as part of this project.

III. PROJECT DESCRIPTION

The project involves the construction of a 3-lot residential subdivision of two existing parcels (combined and subdivided). Parcel 51-1-7.1 is 5.26 acres in size with the abandoned single-family residence. Parcel 51.9-2-1.1 is 0.83 acres in size and is currently vacant. The combined parcels have frontage on Seneca Road and River Road. Each proposed lot will have a new single-family residence constructed with driveway, municipal water and sewer connections, local utility connection to electric, natural gas, and communications. Lots 1 and 2 will have access from River Road. The lot sizes are approximately 0.69 acres and 0.89 acres respectively. Lot 3 is approximately 4.51 acres. As part of the project, the owner will create a permanent drainage easement along the south edge of lot 3 to benefit the Town of Niskayuna. The easement will provide approximately 1.76 acres of land to make improvements to or maintain existing drainage paths through the involved properties.

IV. RECEIVING WATERBODY

The project site ultimately drains to the Mohawk River, located approximately 0.5 miles to the west of the site. See Attachment 1 for the Site Location Map showing the location of the Mohawk River in relation to the project site.

V. POTENTIAL IMPACTS TO NATURAL RESOURCES

There are no critical environmental areas, national or state register of historic places or state eligible sites, threatened or endangered species, 100-year flood plains, or remediation sites located in the project area according to the New York State EAF Mapping Tool (see Attachment 1 for the project Short EAF Form).

There are federally regulated freshwater wetlands located onsite according to the New York State EAF Mapping Tool. Construction on Lot 3 will fill in less than 1/10th of the 2.14 acres of federally regulated freshwater wetlands to create access to the lot from Seneca Road by using previously authorized ACOE Nationwide Permit #29. The ACOE requested an Endangered Species Habitat Suitability Assessment for the potential presence of the Northern Long Eared Bat. The assessment was completed and indicated no adverse impacts to the habitats from the proposed project. A copy of the study is included in Attachment 9.

The project area is in or adjacent to an area designated as sensitive for archaeological sites on the NYS Historic Preservation Office (SHPO) archeological site inventory according to the New York State EAF Mapping Tool. A Phase 1 Archeology Survey was conducted on the project area which indicated no adverse impact to historical sites from the proposed project. A letter concurring with this finding has been received from the NYS Historic Preservation Office (SHPO). A copy of the survey and letter are included in Attachment 9.

VI. SOILS INFORMATION

Soils were mapped using the NRCS Web Soil Survey. According to the NRCS Soil Mapper, soil at the project site and surrounding area, including upstream drainage areas, are considered hydrologic soil group C/D. For this analysis, hydrologic soil group C was used for soils in upland areas and hydrologic soil group D was used for soils in wetland areas where soils may be saturated for long periods. See Attachment 2 for the Soils Resource Report.

VII. OFFSITE HYDROLOGY

The project site is included in the drainage path for the Iroquois Middle School and the Berkley Avenue neighborhood watershed. Stormwater runoff from the upstream watershed flows to the northeast corner of the Iroquois Middle School property. Runoff then flows overland across a residential lot at 8 Seneca Road and enters two culverts (30" and 36") installed under Seneca Road, approximately 146 acres of contributing area. Runoff then flows northeasterly through the onsite federally regulated wetlands contained on the project site. The wetland area discharges to a 42" culvert installed under River Road, approximately 158 acres of contributing area and ultimately flows the Mohawk River to the east.

The project site is located downstream of a drainage challenged area as designated by the Town of Niskayuna. The challenged area is contained on or adjacent to the residential lot at 8 Seneca Road. The Town of Niskayuna has indicated to the applicant the challenged drainage condition may be a result of deposited silt and debris in the onsite federally regulated wetland area, impeding free drainage across the project area. The Town of Niskayuna has requested this report to study the impact of the silted in onsite wetland area on the capacity of the 30" and 36" culverts at Seneca Road (upstream).

The Town of Niskayuna Subdivision Regulations require a study of the impact of the proposed development on the existing culvert at River Road (downstream). The project will include post-construction stormwater management practices on each lot as detailed in Section VIII – Onsite Hydrology. The stormwater management practice on each lot has been sized to provide a zero net increase in runoff rates from the contributing areas to the watershed of the existing culvert at River Road, thus removing the influence of the development on the performance of the existing River Road culvert.

For the purposes of this report, the 30” and 36” culverts at Seneca Road will be Study Point 1 and the 42” culvert at River Road will be Study Point 2.

Using the established Study Points, drainage areas were delineated utilizing available online contour data from the NYS GIS data website and design information contained in the Stormwater Management Report and Stormwater Pollution Prevention Plan (Iroquois SWPPP Report) for the recent improvements at the Iroquois Middle School, prepared by Appel Osborne Landscape Architecture dated January 2023. Time of concentrations and runoff curve numbers were determined for the drainage areas. A model was developed using SCS TR-20 Method as provided by *HydroCAD version 10.20*. See Attachment 3 – Figure 3 (River Road Watershed – Post-Development) for the drainage map for the study areas.

A. Study Point 1 – 30” and 36” Culverts at Seneca Road

The drainage area for Study Point 1 was divided into several sub catchments that align with the Iroquois SWPPP Report because of the presence of buried stormwater chambers in the school parking areas. Curve numbers for the upstream contributing drainage areas were determined under total potential development permitted by the current zoning ordinance for the watershed. Although not a new culvert for the proposed subdivision, the 25-year, 24-hour storm event was used for Study Point 1 per the Town of Niskayuna Subdivision Regulations (Chapter 189, Article IV, Section 189-20-B). The precipitation value for the 25-year storm was obtained from the Extreme Precipitation Tables from the Northeast Regional Climate Center. See Attachment 4 (Table B) for the referenced table.

The anticipated flow for the 25-year storm at Study Point 1 is 291.2 cfs. See Attachment 6 for HydroCAD input and output for River Road Watershed (Study Point 1).

Two capacity checks were performed for the 30” and 36” culverts for the 25-year storm event. The first check included an unimproved channel between the Seneca Road culvert outlets and the River Road culvert inlet. See Figure A – Unimproved Channel at Project Site below.

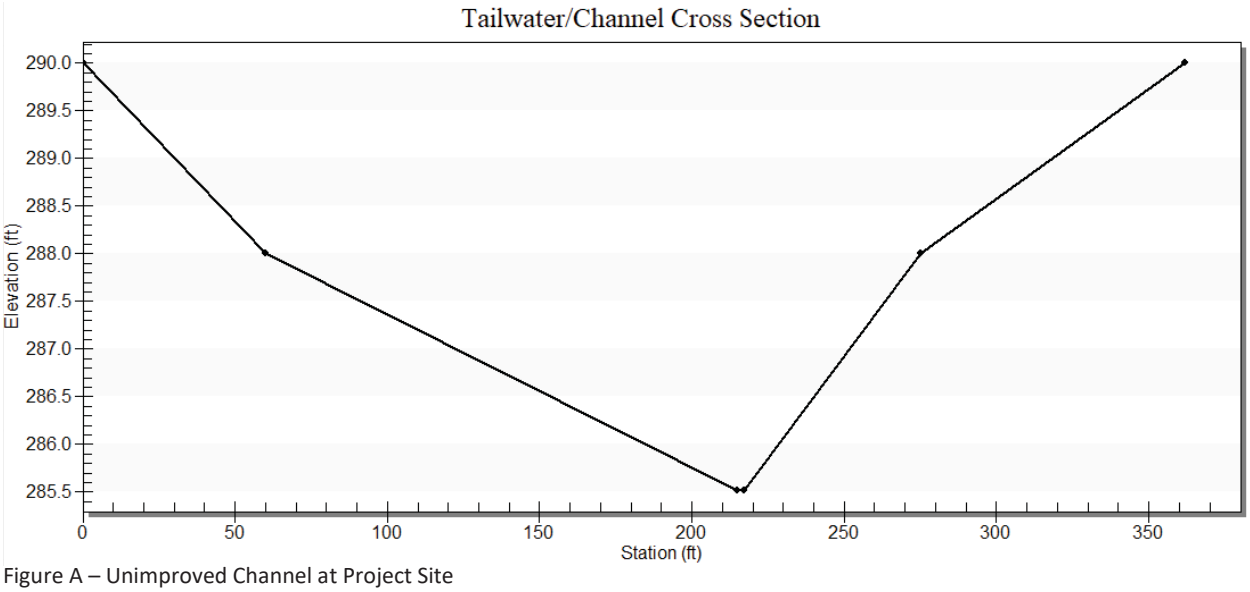


Figure A – Unimproved Channel at Project Site

Utilizing the HY-8 Culvert Hydraulic Analysis Program from the US Department of Transportation Federal Highway Administration, the combined capacity of the 30" and 36" culverts at Seneca Road cannot adequately accommodate the 25-year storm event under current conditions. The available capacity of the 30" culvert is 30.94 cfs and the 36" culvert is 44.75 cfs for a total of 75.69 cfs. The available capacity is substantially below the 25-year flow of 291.2 cfs. The remaining flow, approximately 215.51 cfs, discharges over the road at the existing low point (~elevation 288.17 feet) northwest of the culverts. Peak headwater elevation is approximately 289.56 feet. See Figure B – Seneca Road Culverts Summary and Figure C – Seneca Road Profile.

Headwater Elevation (ft)	Total Discharge (cfs)	36" Culvert Discharge (cfs)	30" Culvert Discharge (cfs)	Roadway Discharge (cfs)
289.56	291.20	44.75	30.94	215.51

Figure B – Seneca Road Culverts Summary

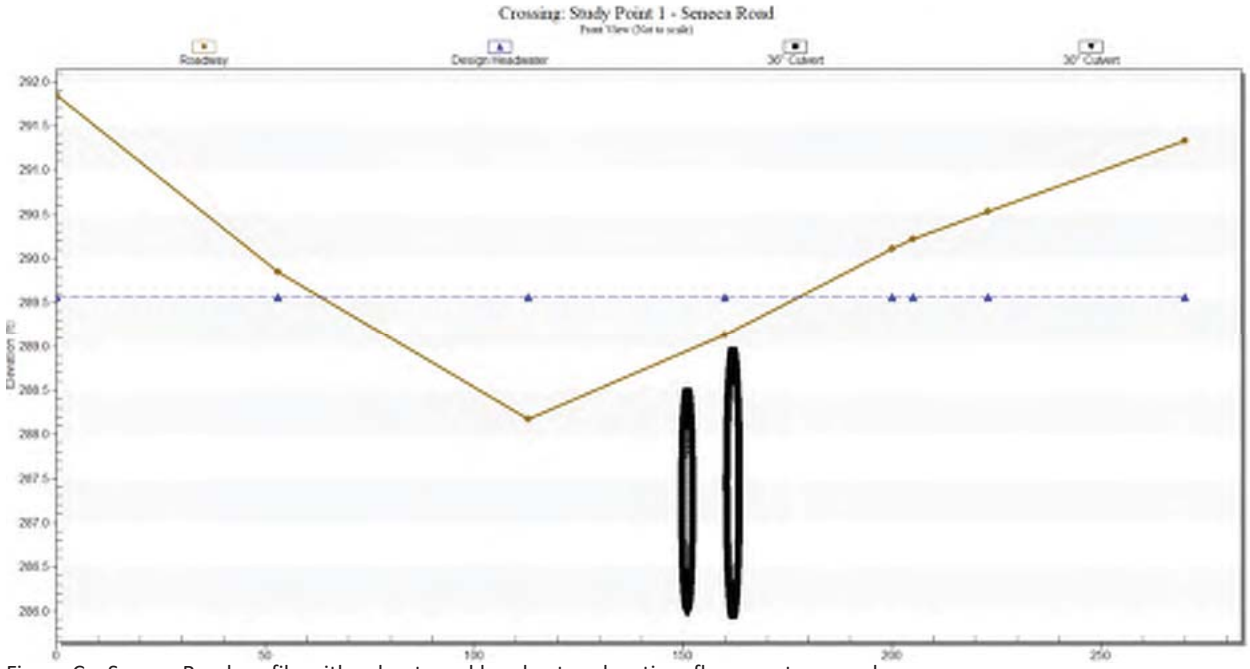
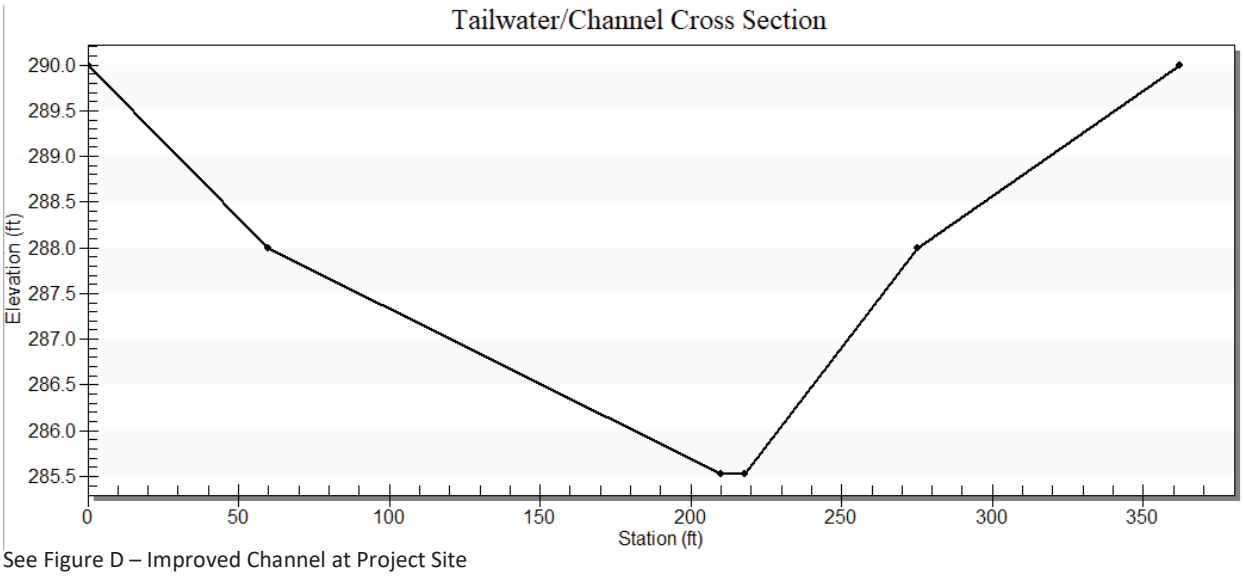


Figure C – Seneca Road profile with culverts and headwater elevation, flow overtops roadway.

See Attachment 5 for complete HY-8 input and output for the analysis.

The second check included an improved channel between the Seneca Road culvert outlets and the River Road culvert inlet. See Figure D – Improved Channel at Project Site below.



See Figure D – Improved Channel at Project Site

Utilizing the HY-8 Culvert Hydraulic Analysis Program from the US Department of Transportation Federal Highway Administration, the combined capacity of the 30" and 36" culverts at Seneca Road cannot adequately accommodate the 25-year storm event under improved conditions of the downstream channel. The available capacity of the 30" culvert increased to 32.78 cfs and the 36" culvert increased to 44.69 cfs for a total of 77.47 cfs (net increase of 1.78 cfs). The available capacity continues to be substantially below the 25-year flow of 291.2 cfs. The remaining flow, approximately 213.73 cfs, discharges over the road at the existing low point (~elevation 288.17 feet) northwest of the culverts. The peak headwater elevation is approximately 289.55 feet. See Figure E – Seneca Road Culverts Summary and Figure F – Seneca Road Profile below.

Headwater Elevation (ft)	Total Discharge (cfs)	36" Culvert Discharge (cfs)	30" Culvert Discharge (cfs)	Roadway Discharge (cfs)
289.55	291.20	44.69	32.78	213.73

Figure E – Seneca Road Culverts Summary

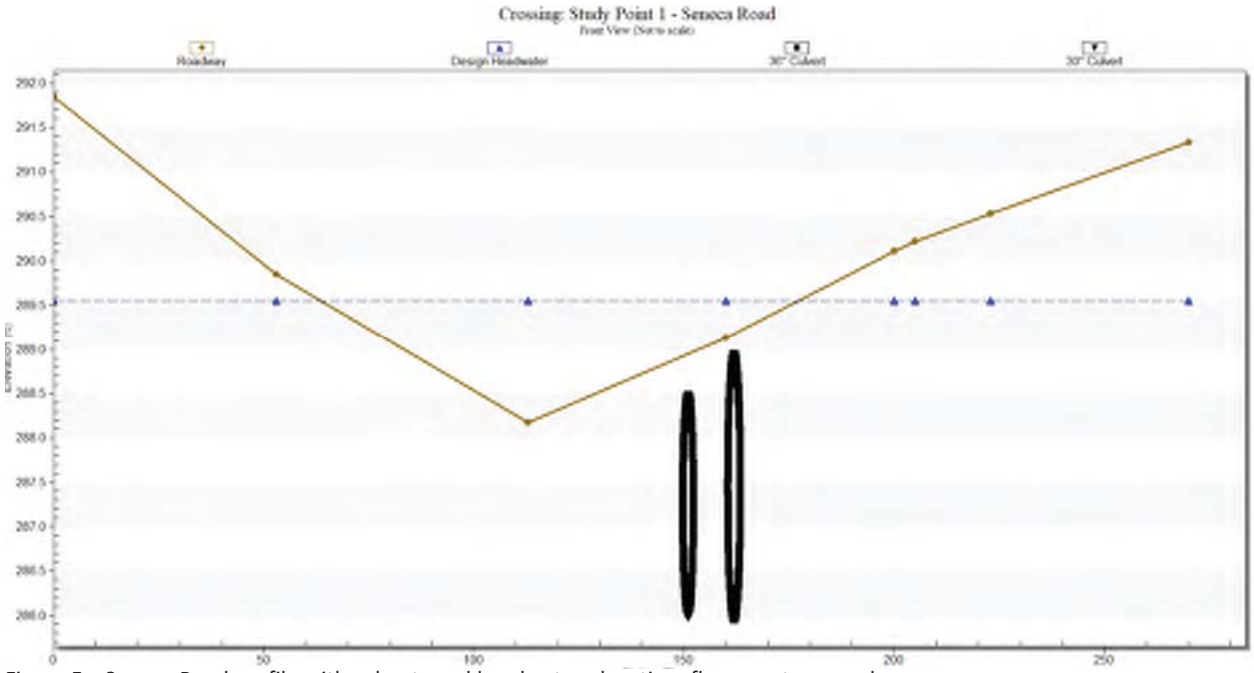


Figure F – Seneca Road profile with culverts and headwater elevation, flow overtops roadway.

The 30" and 36" culverts at Seneca Road are undersized and should be replaced or improved to increase the available capacity. Since there is slight improvement in the capacity, improving the channel between Study Points 1 and 2 would be beneficial, but should be done in conjunction with replacement or improvement of the upstream, offsite culvert crossing at Seneca Road to increase the capacity of the crossing and help eliminate the drainage challenged area at 8 Seneca Road. The design of an appropriately sized culvert is outside the scope of this report.

As mentioned previously, the owner will create a permanent drainage easement along the south edge of lot 3 to benefit the Town of Niskayuna. The easement will provide approximately 1.7 acres of land to make improvements to or maintain existing drainage paths through the involved properties.

B. Study Point 2 – 42" Culvert at River Road

The capacity of the 42" culvert at River Road was studied for the 25-year and 100-year, 24-hour storm events. The 25-year storm event was studied to meet the requirements of the Subdivision Regulations (Town of Niskayuna Subdivision Regulations - Chapter 189, Article IV, Section 189-20-C requires the 5-year event, but this is the minimum per the Town Planning Staff). The 100-year storm event was studied to determine the peak headwater/flood elevation at the culvert and the impact of the headwater on Lots 1, 2, and 3. *Each analysis assumes that the culvert crossing at Seneca Road and the onsite wetlands adequately convey flows to the inlet of the River Road culvert.*

The precipitation values for the 25-year and 100-year storms were obtained from the Extreme Precipitation Tables from the Northeast Regional Climate Center. See Attachment 4 (Table B) for the referenced table.

The 25-year, 24-hour storm event was analyzed for Study Point 2. Per the regulations, the proposed development cannot overload an existing downstream drainage facility during the

analyzed storm event. As described previously, each lot will employ a stormwater management practice to provide a zero net increase in runoff rates from the contributing areas to the watershed of the existing culvert at River Road, thus removing the influence of the development on the performance of the existing River Road culvert.

The anticipated flow for the 25-year storm at Study Point 2 is 314.5 cfs. See Attachment 6 for HydroCAD input and output for River Road Watershed (Study Point 2).

Utilizing the HY-8 Culvert Hydraulic Analysis Program from the US Department of Transportation Federal Highway Administration, the 42" culvert at River Road cannot adequately accommodate the 25-year storm event. The available capacity of the 42" culvert is 125.11 cfs. The remaining flow, approximately 189.35 cfs, discharges over the road at the corner of River Road and Seneca Road at an existing low point (~elevation 288.66 feet). The peak headwater elevation is approximately 290.06 feet. See Figure G – Seneca Road Culverts Summary and Figure H – River Road Profile below.

Headwater Elevation (ft)	Total Discharge (cfs)	42" Culvert Discharge (cfs)	Roadway Discharge (cfs)
290.06	314.50	125.11	189.35

Figure G – Seneca Road Culverts Summary

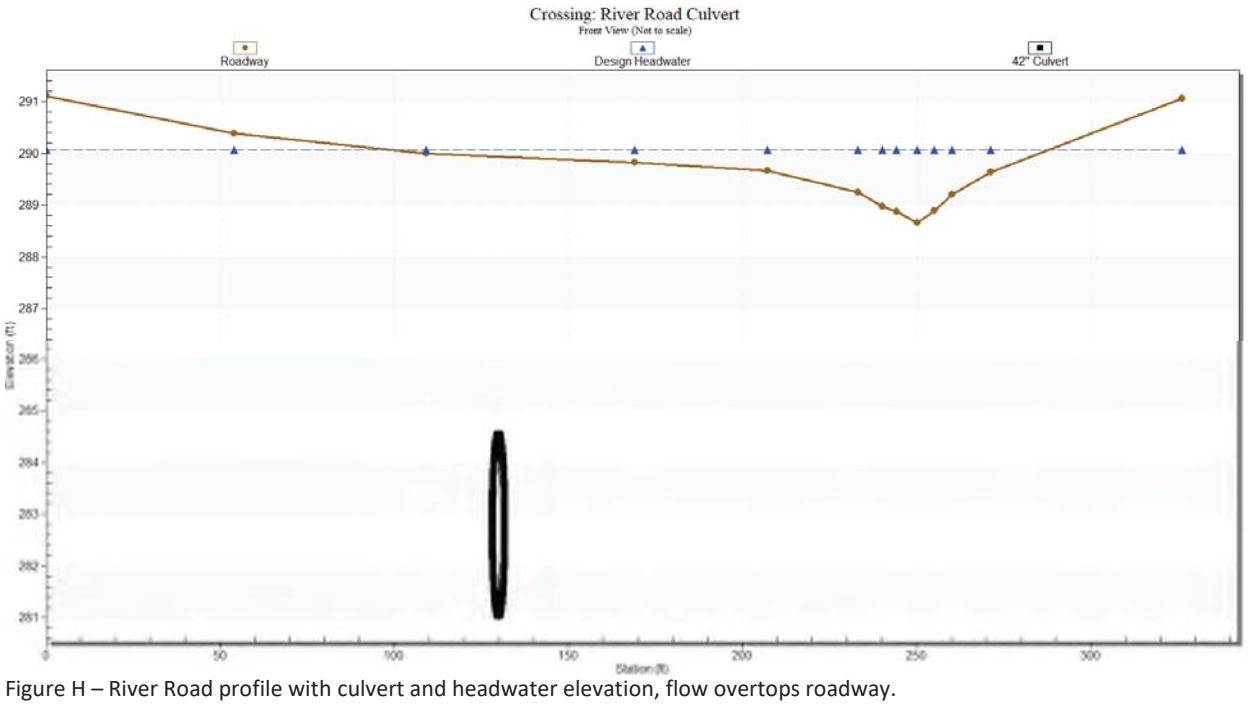


Figure H – River Road profile with culvert and headwater elevation, flow overtops roadway.

The 100-year storm event was studied to determine the peak headwater/flood elevation at the River Road culvert and the impact of the headwater on Lots 1, 2, and 3.

The anticipated flow for the 100-year storm at Study Point 2 is 509.47 cfs. See Attachment 6 for HydroCAD input and output for River Road Watershed (Study Point 2).

Utilizing the HY-8 Culvert Hydraulic Analysis Program from the US Department of Transportation Federal Highway Administration, the 42" culvert at River Road cannot adequately accommodate the 100-year storm event. The available capacity of the 42" culvert is 127.85 cfs. The remaining flow, approximately 381.60 cfs, discharges over the road at the corner of River Road and Seneca Road at an existing low point (~elevation 288.66 feet). The peak headwater elevation is approximately 290.36 feet. See Figure J – Seneca Road Culverts Summary and Figure K – River Road Profile below.

Headwater Elevation (ft)	Total Discharge (cfs)	42" Culvert Discharge (cfs)	Roadway Discharge (cfs)
290.36	509.47	127.85	381.60
290.36	509.47	127.85	381.60

Figure J – Seneca Road Culverts Summary

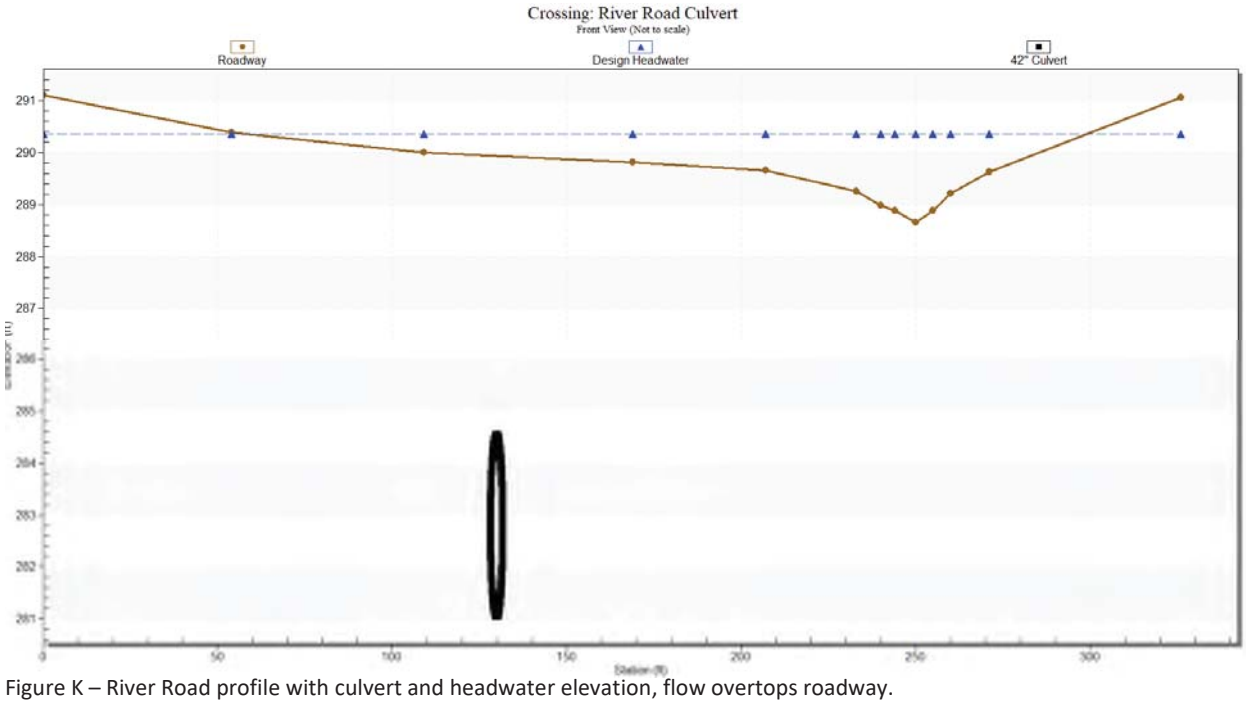


Figure K – River Road profile with culvert and headwater elevation, flow overtops roadway.

The homes on lots 1 and 3 have a proposed finished floor elevation of 301.75. The basement floor elevations will be approximately 293.75 (typical 8' between finished floor and basement floor). The basement levels are approximately 3.4' above the 100-year headwater elevation of 290.36 feet. The home on lot 2 will have a proposed finished floor elevation of 299.40. The basement floor elevations will be approximately 291.40 (typical 8' between finished floor and basement floor). The basement level is approximately 1' above the 100-year headwater elevation of 290.36 feet.

VIII. ONSITE HYDROLOGY

A. Lots 1, 2, & 3 Driveway Culverts

Each lot will have a new culvert installed at the location where the new driveway crosses an existing drainage path. Each culvert is sized for the 25-year storm event per the Town of Niskayuna Subdivision Regulations (Chapter 189, Article IV, Section 189-20-B). See below for a summary of calculations for each lot.

Lot 2 – See Attachment 3 – Figure 1 (Lot 2 Culvert Watershed) for post-development drainage area map for Lot 2. The Rational Method will be utilized to determine the peak runoff rate to the driveway culvert at Lot 3.

A = 0.95 acres

- Lawn (2-7%, C= 0.20) = 0.68 acres
- Impervious area (C=0.90) = 0.24 acres
- Woods (C=0.15) = 0.03 acres

C = (0.68 ac x 0.20) + (0.24 ac x 0.90) + (0.03 ac x 0.15) / 0.95 ac = 0.36 / 0.95 = 0.38
Tc = 9.6 minutes, use 9 minutes
I = 5.24 in/hr (see Attachment 4, Table A for IDF curve)
Q= CIA = 0.38 x 5.24 x 0.95 = 1.89 cfs

Utilizing Mannings Equation, a 12" diameter HDPE culvert sloped at 1.7% has sufficient capacity (4.64 cfs) to convey the 25-year storm at the Lot 2 driveway culvert. See Attachment 5 for calculations. A 12" diameter HDPE culvert sloped at 1.7% will also be installed at the Lot 1 driveway, which has a smaller contributing drainage area than Lot 2.

Lot 3 – See Attachment 3 – Figure 2 (Lot 3 Culvert Watershed) for post-development drainage area map for Lot 3. The Rational Method will be utilized to determine the peak runoff rate to the driveway culvert at Lot 3.

A = 2.95 acres

- Lawn (2-7%, C= 0.20) = 1.41 acres
- Impervious area (C=0.90) = 0.50 acres
- Woods (C=0.15) = 1.04 acres

C = (1.41 ac x 0.20) + (0.50 ac x 0.90) + (1.04 ac x 0.15) / 2.95 ac = 0.89 / 2.95 = 0.30
Tc = 18.3 minutes, use 18 minutes
I = 3.80 in/hr (see Attachment 4, Table A for IDF curve)
Q= CIA = 0.30 x 3.80 x 2.95 = 3.36 cfs

Utilizing Mannings Equation, a 12" diameter HDPE culvert sloped at 2% has sufficient capacity (5.04 cfs) to convey the 25-year storm at the Lot 3 driveway culvert. See Attachment 5 for calculations.

See Attachment 8 for Drawing C103 showing locations of the three new culverts.

B. Post-Construction Stormwater Management

Stormwater Management Methodology
The stormwater design was prepared in accordance with the New York State Stormwater Management Manual. The following objectives were established in the development of the Stormwater Management Plan for the proposed project:

1. Reduce the total post-development peak discharges to pre-development discharges for the 1-YR, 10-YR, and 100-YR storms in accordance with the New York State Stormwater Management Manual.

2. Provide water quality (WQv) and runoff reduction (RRv) for the 90% storm event, Channel Protection (CPv), Overbank Flood Control (Qp), and Extreme Flood Control (Qf) in accordance with the New York State Stormwater Management Manual.

The total drainage area used for the analysis is 3.454 acres and includes some off-site areas. Table 1 below shows the pre-development and post-development areas for the total area.

Table 1: Summary of Total Areas for Hydrologic Analysis

	PRE-DEVELOPMENT *(Nodes 1S and 2S)*	POST-DEVELOPMENT *(Nodes 3S, 4S, 5S, 6S, and 7S)*
Woods, B-soils	2.776 Ac.	1.554 Ac.
Lawn, B-soils	0.545 Ac.	1.430 Ac.
Impervious Surfaces	0.133 Ac.	0.470 Ac.
TOTAL ON-SITE AREA	3.454 Ac.	3.454 Ac.

For analyzing the development from this project, two (2) points of interest were established.

- *Point of Interest #1 (POI #1)*
  POI#1 is the point where runoff from the site (Lots 1 and 2) is discharged directly to the wetland (to the south and east of the site). Table 1.1 below shows the pre-development and post-development areas for POI#1:

Table 1.1: Summary of Total Areas for Hydrologic Analysis of POI#1

	PRE-DEVELOPMENT *(Node 1S)*	POST-DEVELOPMENT *(Nodes 3S, 4S, and 5S)*
Woods, B-soils	0.974 Ac.	0.563 Ac.
Lawn, B-soils	0.545 Ac.	0.844 Ac.
Impervious Surfaces	0.133 Ac.	0.245 Ac.
TOTAL ON-SITE AREA	1.652 Ac.	1.652 Ac

To mitigate the increase in runoff, two (2) surface bioretention areas on Lots 1 and 2 have been designed to reduce both peak runoff rates and volumes in the post-development condition to acceptable pre-development levels prior to discharging from the site. This practice is described further in Post-Construction Stormwater Management Practices below.

- *Point of Interest #2 (POI #2)*
  POI#2 is the point where runoff from the site (Lot 3) is directly discharged to the wetland (to the south and east of the site). Table 1.2 below shows the pre-development and post-development areas for POI#2:

Table 1.2: Summary of Total Areas for Hydrologic Analysis of POI#2

	PRE-DEVELOPMENT *(Node 2S)*	POST-DEVELOPMENT *(Node 6S and 7S)*
Woods, B-soils	1.802 Ac.	0.991 Ac.
Lawn, B-soils	0 Ac.	0.586 Ac.
Impervious Surfaces	0 Ac.	0.225 Ac.
TOTAL ON-SITE AREA	1.802 Ac.	1.802 Ac

To mitigate the increase in runoff, one (1) surface bioretention area on Lot 3 has been designed to reduce both runoff rates and volumes in the post-development condition to acceptable pre-development levels prior to discharging from the site. This practice is described further in Post-Construction Stormwater Management Practices below.

Pre-Development Hydrology

Using the established points of interest, drainage areas were delineated. Time of concentrations and runoff curve numbers were determined for the drainage areas and input into HydroCAD. Pre-Development conditions were analyzed for the 1-, 10-, and 100-year frequency storm events using SCS TR-20 Method as provided by *HydroCAD version 10.20*. All program input and output can be found in Attachment 6 of this report.

Post-Development Hydrology

Post-Development drainage areas were established to the points of interest. For each point of interest, drainage areas were delineated to each of the proposed stormwater practices as well as any areas bypassing any stormwater practices. The runoff curve numbers, and time of concentration values were determined for the post-development conditions. A minimum time of concentration value of 6 minutes was utilized for the post-development calculations in the developed areas, due to the large amount of impervious area compared to the drainage area sizes. Again, by using the SCS TR-20 method as provided by *HydroCAD version 10.20,* the peak runoff rates were determined for the 1-, 10-, and 100-year frequency storm events.

Stormwater Objectives

The following section outlines how the stated stormwater objectives above were satisfied for the project.

Objective 1: Reduction of Peak Runoff Rates

Table 2 summarizes the results of the stormwater management analysis for the total site area concerning the pre-development and post-development runoff rate and volume control.

Table 2: Summary of Peak Flows at Study Point for Entire Site
(HydroCAD Link Nodes 3Lv and 3Lc)

	1-YR	10-YR	100-YR
	Rate	Rate	Rate
PRE-DEV	*0.03 CFS*	*1.03 CFS*	*5.29 CFS*
POST-DEV	0.02 CFS	0.94 CFS	5.02 CFS
% decrease	*33.3%*	*8.7%*	*5.1%*

As summarized in Table 2, the peak rates for all design storms for the project area have been reduced to less than pre-development levels. Therefore, Objective 1 has been satisfied.

To further demonstrate that the proposed development will not adversely impact the hydrology at each point of interest, Tables 2.1-2.2 summarize the results of the stormwater management analysis at each point of interest concerning the pre-development and post-development runoff rate and volume control.

Table 2.1: Summary of Peak Flows at POI#1
(HydroCAD Link Nodes 1Lv and 1Lc)

	1-YR	10-YR	100-YR
	Rate	Rate	Rate
PRE-DEV	*0.03 CFS*	*0.65 CFS*	*2.82 CFS*
POST-DEV	0.02 CFS	0.55 CFS	2.82 CFS

Table 2.2: Summary of Peak Flows at POI#2
(HydroCAD Link Nodes 2Lv and 2Lc)

	1-YR	10-YR	100-YR
	Rate	Rate	Rate
PRE-DEV	*0.01 CFS*	*0.38 CFS*	*2.48 CFS*
POST-DEV	0.01 CFS	0.39 CFS	2.21 cfs

As summarized by Table 2.1 there is no net increase in peak flows from pre-development to post-development. As summarized by Table 2.2, there is a very slight increase in flows in the post-development condition for the 10-YR storm compared to pre-development. The negligible increase in flows at POI#2 is due to the 1.338 acres of bypass areas that discharge directly to the wetland. The project has been designed to direct as much of the proposed impervious areas as practically possible into the proposed bio-retention areas. 97% of the new impervious surfaces in POI#2 have been directed to the surface bioretention basin at Lot 3. Table 2 demonstrates that the total flow to the wetland, for the 10-YR storm, is decreased in the post-development condition. Therefore, Objective 1 has been satisfied.

Objective 2: Water Quality Volume, Runoff Reduction Volume, and Compliance with Requirements of the NYS Stormwater Manual

- Water Quality Volume (WQv)/ Reduction Volume (RRv) Calculation
  The design has made every possible attempt to direct the new impervious areas to one of the stormwater management practices. It was assumed that infiltration on the entire site is not feasible due to the proximity of the site to the freshwater wetlands. WQv will be achieved in the three (3) proposed surface bioretention areas on the site. The minimum RRv will be achieved within the proposed bio-retention areas. Refer to Attachment 7 of this report for supporting WQv and RRv calculations.

  Required WQv:

  WQv was calculated using the equation WQv = (P)(Rv)(A)/12 (from Section 4.2 of the New York State Stormwater Manual). The Required Water Quality Volume to each practice is as follows:

  - Surface Bioretention Area Lot 1: 311 CF
  - Surface Bioretention Area Lot 2: 390 CF
  - Surface Bioretention Area Lot 3: 876 CF

  TOTAL for Site: 1,577 CF

Required RRv:

The minimum RRv for the site was calculated using the equation RRv = (P)(Rv)(Aic)(S)/12 (from Section 4.3 of the New York State Stormwater Manual).

P = 1.10”
Aic = Total Area of New Impervious = 0.388 Ac.
I = 100%
Rv = 0.05 +0.009(I) = 0.95
S (for HSG B) = 0.40
Min. RRv = (P)(Rv)(Aic)(S)/12 = 0.0756 Ac-ft = 589 CF

Table 3 below shows the WQv/RRv volumes achieved in each of these devices:

Table 3: WQv/RRv Achieved

Stormwater Practice	RRv Achieved by Practice	Runoff not treated by RRv but treated by WQv	Total WQv Achieved by Practice
Bioretention Area Lot 1	176	135	311
Bioretention Area Lot 2	264	126	390
Bioretention Area Lot 3	638	238	876
TOTALS	1,078 CF		1,577 CF

- Channel Protection Volume (CPv)

Due to infiltration not being utilized for this practice, the proposed bio-retention structures have been oversized to store the 1-YR, 24-hour storm within the 6” of above ground ponding. Therefore, all of the runoff from a 1-YR 24-hour storm event will filter through the bio-retention area and will not utilize the overflow, which results in 0.00 CFS of runoff being discharged from the site. Therefore, we would consider the Cpv requirement to be met.

- Total Overbank Flood Control Criteria (Qp)

The post-development peak runoff rate during the 10-year storm event for the entire site has been reduced to less than pre-development levels. The flows are as follows:

Pre-Development (Node 3Lv) = 1.03 CFS
Post-Development (Node 3Lc) = 0.94 CFS

- Total Extreme Flood Control Criteria (Qf)

The post-development peak runoff rate during the 100-year storm event for the entire site has been reduced to less than pre-development levels. The flows are as follows:

Pre-Development (Node 3Lv) = 5.29 CFS
Post-Development (Node 3Lc) = 5.02 CFS

Post-Construction Stormwater Management Treatment Practices

Bioretention Areas Lot 1, Lot 2, and Lot 3:

Bio-Retention Areas #1, #2, and #3 have been designed to treat runoff from each developed lot of the proposed 3-lot subdivision. These areas consist of 6” of above ground/surface ponding, 18” max extended detention for extreme flood control, 30” of amended soil mix, and 6” of underdrain gravel. A 6” underdrain has been designed at the bottom of the underdrain gravel to allow the treated WQv to be conveyed to the proposed storm system. A 6” diameter riser, with a cut out low-flow orifice, has been designed as an overflow for each bio-retention area to allow the larger storm events to be conveyed overland to the wetland. The bio-retention areas

will filter the runoff through the amended soil/filter media while promoting evapotranspiration through surface plantings. The following table shows the specific information for the three bio-retention areas:

Table 4: Bio-retention Area Table

	BIO–RETENTION AREA LOT 1	BIO–RETENTION AREA LOT 2	BIO–RETENTION AREA LOT 3
TOP OF BERM (ELEV 'A')	300.50	292.50	296.50
OVERFLOW (ELEV 'B')	300.40	292.40	296.40
INLET (ELEV 'C')	299.50	291.50	295.50
BIO–RET SURFACE (ELEV 'D')	299.00	291.00	295.00
BOT. OF FILTER MEDIA (ELEV 'E')	296.50	288.50	292.50
BOT. OF UNDERDRAIN GRAVEL/ INV OUT (ELEV 'F')	296.00	288.00	292.00
SURFACE AREA OF FILTER MED.	417 SF	608 SF	1,450 SF

Pre-treatment: Runoff from the proposed roofs and driveways will flow overland into the bio-retention areas. Pre-treatment will be achieved by stone drip edges along the end of pavement areas and grass-filter strips between the drip edges and the bottom of the basins.

Soil Restoration (per Section 5.1.6 of the NYS Stormwater Manual):

In accordance with Section 5.1.6 of the NYS Stormwater Manual, Soil Restoration techniques shall be applied in all proposed lawn areas where native soils have been compacted due to construction activities. Soil Restoration shall consist of the following procedure:

1) Apply three (3) inches of compost to subsoil. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a 1/2" screen, and have a pH suitable to grow desired plants.
2) Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor mounted disc, or tiller, mixing, and circulating air and compost into subsoils. In area of proposed infiltration basin, install orange construction fencing around basin bottom to keep construction equipment from crossing the proposed basin bottom.
3) Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site.
4) Apply topsoil to a depth of 6 inches.
5) Vegetate as required by approved plan.

IX. EROSION AND SEDIMENT CONTROL

A. Erosion and Sediment Control Design

Typical Erosion and Sediment Control facilities, details, specifications, and construction sequencing are shown on the attached subdivision plans, see Attachment 8. These measures are intended to minimize the impact of the project on surrounding and downstream properties, both during and after construction. All erosion and sediment control measures will be installed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Erosion and sediment control measures provided on the site include:

Temporary Measures

- Silt Fence
  Silt Fence has been designed downslope of any disturbed areas and/or around the perimeter of the site unless another sediment trapping device is noted. The silt fence provided shall meet the specifications in the NYS E&S Manual. Silt fence shall remain in place until all upslope areas have achieved permanent stabilization.
- Stabilized Construction Access
  A Stabilized Construction Access will be provided to prevent the tracking of sediment onto River Road and Seneca Road. The stabilized construction access shall remain in place until the site has been stabilized and there is no potential for sediment to be tracked off-site from construction vehicles.
- Erosion Control Blanket
  Erosion Control Blanket will be provided on all steep sloped areas and within conveyance swales. North American Green S75BN, or approved equivalent, shall be provided on all berms and disturbed/proposed 3:1 slopes or greater. North American Green S150BN shall be provided within all conveyance swales.
- Stone Check Dams
  Stone check dams will be provided within proposed swales as shown on the plan. In addition, stone check dams will be provided at all inlet flared end sections.
- Dust Control
  Dust shall be controlled through the application of water, as required to prevent migration beyond the project limits. Control of dust remains an ongoing responsibility of the contractor until the site is fully stabilized.
- Concrete Truck Washout
  This is an approved location where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into the soil. The facility shall be lined to prevent runoff from leaching into the soil. Temporary signage shall be provided to direct drivers to the facility.

Vegetative Measures

- Topsoiling/Seeding/Mulching
  All proposed grass/lawn areas will be covered with 4”-6” of topsoil to achieve final grade. These areas will be seeded and mulched within 48 hours of final grading per the details and specs shown on the plan.

B. General Housekeeping & Spill Prevention and Procedures

During Construction activities, the following materials are anticipated to be stored on-site:

- Construction Debris: Existing asphalt pavement/concrete debris, tress/vegetation, stumps, on-site fill and gravel materials.

- Construction/Building Materials: Roofing materials, steel and/or wood framing, building materials, concrete structures, riprap, gravel, sand, mulch, topsoil, asphalt sealants, piping
- Chemicals: Pesticides, fertilizers, herbicides
- Hazardous/Toxic Materials: Paints, caulks, sealants, solvents, petroleum products, wood preservatives, additives.

The Owner/ and Contractor shall implement general house-keeping measures, as listed below, during construction activities:

- All stockpile materials, including gravel, sand, topsoil, etc. shall be stored in designated stockpile areas located upslope of disturbed areas and shall be surrounded with the appropriate erosion and sedimentation controls to prevent pollution from the materials, including, but not limited to, silt fence around the perimeter of the stockpile areas. The Contractor shall notify the Qualified Inspector if additional stockpile areas or a different location is required.
- Construction materials, debris, and equipment shall be stored in designated staging areas as shown on the Erosion and Sediment Control Plan. The Contractor shall notify the Qualified Inspector if additional staging areas or a different location is required. The location of the storage/staging areas shall be located away from existing or proposed storm catch basins, pipe inlets, or other devices that have an adverse impact to water quality of the surrounding areas.
- Trash and waste materials shall be stored in the appropriate trash receptacles or containers.
- Chemicals, solvents, paints, sealants, fertilizers, and other toxic materials shall be contained and stored within the appropriate containers. Any runoff discovered to contain any of these materials must be disposed of at an approved NYSDEC off-site facility.
- All concrete trucks must utilize the concrete truck washout as described in Section IX-A. The Contractor shall locate the concrete washout area as shown on the Erosion and Sediment Control Plan. The Contractor shall notify the Qualified Inspector if a different location is required. The Contractor shall maintain the concrete washout area as noted on the plans.
- The Contractor shall ensure that spilled oil/grease from construction vehicles/equipment are cleaned up immediately. Any re-fueling of construction vehicles shall take place in an area designated by the Qualified Inspector/Qualified Professional, to be determined at the pre-construction meeting.
- On-site sanitary facilities shall be in an approved area by the Qualified Inspector/Qualified Professional, to be determined at the pre-construction meeting.

The Contractor shall immediately notify the Owner/Operator and the Town of Niskayuna Stormwater Management Officer or designated agent in the event of any non-stormwater related spill within two (2) hours of the spill release. All non-stormwater related spills more than two (2) gallons shall be reported to the NYSDEC Spill Hotline (1-800-457-7362) within two (2) hours of the spill release. The following spill prevention and procedures shall be implemented during construction:

- Comply with all manufacturer's recommended methods for spill cleanup and storage. All manufacturer spill prevention/cleanup recommended methods shall be posted on-site at an appropriate location, such as the construction trailer.
- A Spill Response Contractor shall be designated at the pre-construction meeting.
- All spill management personnel shall be properly qualified and shall wear appropriate hazardous waste clothing and safety appliances. The names of all qualified on-site

personnel to handle spill cleanups shall be posted on-site at an appropriate location, such as the construction trailer.

- The names and phone numbers of the Owner/Operator and the Town of Niskayuna Stormwater Management Officer or designated agent, as well as the NYSDEC Spill Hotline noted above, shall be posted on-site at an appropriate location, such as the construction trailer.
- All materials and equipment for spill cleanup shall be kept in the appropriate staging/storage area onsite.
- Once properly cleaned, all spill materials shall be stored in the appropriate containers and disposed of at an approved NYSDEC facility.

C. Maintenance, Inspections, and Record Keeping

The Owner/Operator and Contractor shall comply with all aspects of the following regarding maintenance, inspections, and record keeping:

1) New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001). A copy of the General permit is included in Attachment 11.
2) New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
3) New York State Stormwater Management Design Manual, dated January 2015 (or most current).
4) Town of Niskayuna Soil Erosion and Sediment Controls Regulations (Chapter 180 of the Town of Niskayuna Code).
5) The Owner/Operator shall certify their understanding of the permit conditions of the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001). A certification form is included in Attachment 10. A copy of the certification must remain with this report.
6) The Contactor shall make a certification statement before undertaking any land development activity. A certification form is included in Attachment 10. A copy of the certification must remain with this report.
7) A copy of the preparer's certification must remain with this report. A copy of certification is included in Attachment 10.
8) A copy of the Notice of Intent (NOI) and a brief description of the project shall be posted at the construction site in a prominent place for public viewing. A copy of SWPPP shall be retained at the site of the land development activity during construction from the beginning of construction activities to the date of final stabilization. The SWPPP and inspection reports are public documents that the operator must make available for inspection, review, and copying by any person within five business days of the operator receiving a written request by such person to review the SWPPP and/or the inspection reports. Copying of the documents will be done at the requester's expense. The Stormwater Management Officer or designated agent shall enter the property of the applicant as deemed necessary to make regular inspections to ensure the validity of the reports filed.
9) The Owner/Operator shall maintain a record of all inspection reports in a site logbook. The site logbook shall be maintained on site and be made available to the Town of Niskayuna upon request. The operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis.
10) The Town Stormwater Management Officer or designated agent is responsible for conducting inspections of stormwater management practices (permanent water quantity/quality improvement structures).The Owner/Operator shall submit as-built plans certified by a licensed/certified professional for any permanent stormwater

management practices located on site after final stabilization. The Owner/Operator shall also provide the owner(s) of each lot with a manual describing the operation and maintenance practices that will be necessary in order for the structure to function as designed. The Owner/Operator must also certify that the permanent structure(s) have been constructed as described in this SWPPP. This certification can be accomplished by providing the Town of Niskayuna with a copy of the notice of termination (NOT) filed with the NYSDEC.

11) Upon certification by the Owner/Operator's licensed/certified professional that a final site inspection has been conducted and that final stabilization has been accomplished and all stormwater management practices have been constructed as described in this SWPPP, the operator shall complete and file an NOT as prescribed by the NYSDEC and file a copy with the Town of Niskayuna to notify them that they have complied with item 10 above and that the project is complete.

Please Note:

- The Owner/Operator shall notify the Town of Niskayuna Stormwater Management Officer or designated agent at least 48-hours before the following project milestones:
    - Start of construction and initial installation of sediment and erosion controls.
    - Installation of sediment and erosion measures as site clearing and grading progresses.
    - Completion of site clearing.
    - Completion of rough grading.
    - Completion of final grading.
    - Close of the seasonal lad development activity.
    - Completion of final landscaping.
- SWPPP Inspections must be performed by a qualified professional (see below) and all reports must be available on-site.
- A pre-construction meeting with the Owner/Operator, Contactor, Town of Niskayuna Stormwater Management Officer or designated agent, and the qualified professional is required prior to any construction activities. A copy of the pre-construction meeting documents is included in Attachment 10.
- A site assessment that certifies erosion and sediment controls described in the SWPPP are in place prior to construction commencement must be completed by a qualified professional.

<u>Requirements for the Qualified Inspector and Qualified Professional</u>

The operator is responsible for designating a “qualified inspector” to perform the inspections for the site during construction. Per the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001), a qualified inspector means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individuals.

A qualified inspector can also be someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that the person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

A qualified inspector can also be a person that meets the "qualified professional" qualifications in addition to the qualified inspector qualifications. Per the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001), a qualified professional means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Inspections

At a minimum, the qualified inspector shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, and all points of discharge. The qualified inspector shall prepare an inspection report subsequent to each and every inspection, including all aspects listed within Part IV.C.4 of the General Permit and the following information.

- On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next fourteen-day period.
- Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization.
- Indicate all disturbed site areas that have not undergone active site work during the previous fourteen-day period.
- Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of the sediment storage volume.
- Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier ordiversion systems and containment systems. Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
- All deficiencies that are identified with the implementation of the SWPPP.

Within one (1) business day of the completion of an inspection, the qualified inspector shall notify the owner or operator and appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

During Construction, all inspections shall be conducted as follows:

- During construction and when soil disturbance is on-going, the qualified inspector shall conduct a site inspection at least every seven (7) calendar days and within 24-hours of the end of a storm event 0.5 inches or greater.

- When soil disturbances have been temporarily suspended (e.g., winter shutdown, etc.), and temporary measures have been applied to all disturbed areas, the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.

- When soil disturbances have been stopped with partial project completion, the qualified inspector can stop conducting inspections if all areas disturbed as part of the project shutdown date have achieved final stabilization and all post construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. If soil disturbances are not resumed within two (2) years from the date of the shutdown, the owner or operator shall have the qualified inspector perform a final inspection and certify that all disturbed activities have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformation with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The owner or operator shall then submit the completed NOT form.

Construction duration inspections forms, monthly summary of site inspection activities forms, and the biorientation area construction inspection checklists are included in Attachment 10 of this report.

After construction, the bioretention areas on each lot shall be inspected on an annual basis to ensure that they are functioning properly. A copy of the bioretention area post-construction inspection checklist is included in Attachment 10 of this report.

Maintenance

- Temporary Erosion and Sediment Control Practices
  Maintenance procedures and guidelines for specific temporary erosion and sediment control features are detailed in the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. The following detail maintenance procedures for temporary measures at a minimum:

  - Silt Fence:
    Damaged silt fence shall be repaired as needed. Maintenance shall be performed, and sediment shall be removed when sediment is visibly built up behind the silt fence (typically to a height of about 1/2 the fence height).

  - Inlet Protection:
    Remove sediment as needed and maintain stone around inlet to ensure that runoff passes over the stone into the catch basin and not past the structure. After rain storms, remove sediment to provide accurate storage volume for subsequent rain storms. Fabric over catch basins shall be maintained to ensure that runoff is not bypassing the catch basin.

  - Stabilized Construction Access:

The stabilized construction access shall be maintained in a condition which will prevent tracking of sediment onto public right-of-way. When washing is required, it shall be done on the area stabilized with aggregate, which drains to an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

- Stone Check Dams:
  The stone check dams should be inspected after each runoff event. Correct all the damage immediately. If significant erosion has occurred between structures, a liner of stone or other suitable material should be installed in that portion of the channel or additional check dams added. Remove sediment accumulated behind the dam as needed to allow channel to drain through the stone check dam and prevent large flows from carrying sediment over the dam.

- Erosion Control Blanket:
  Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a uniform 80% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 2 calendar days.

- Concrete Truck Washout:
  1. All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area.
  2. Accumulated hardened material shall be removed when 75% of the storage capacity of the structure is filled. Any excess water shall be pumped into a containment vessel and properly disposed of off-site.
  3. Dispose of the hardened material off-site in an approved construction/demolition landfill.
  4. The plastic lining shall be replaced with each cleaning of the washout facility.
  5. Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

- Permanent Erosion and Sediment Control Practices and Post Construction Stormwater Features
  Maintenance procedures and guidelines for specific permanent erosion and sediment control features are detailed in the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016 and the New York State Stormwater Management Design Manual, dated January 2015 (or most current). The following detail maintenance procedures for permanent measures at a minimum:

  - Infiltration Basin
    During, construction, special care shall be taken not to allow sediment laden runoff from entering the infiltration basin. This can be achieved with diversion berms around the basin, and/or immediately stabilizing all disturbed areas draining directly to the facility. When the filtering capacity of the infiltration basin diminishes substantially (i.e., when water ponds on the surface of the area for more than 48 hours), maintenance is required. The top few inches of soil shall be removed and replaced with fresh material in order to promote infiltration. The design engineer shall monitor the basin as needed after any repairs to ensure that the design infiltration rate has been restored.

  - Rock Outlet Protection (Rip Rap Aprons):

Repairs shall be made as needed if scour beneath the riprap or dislodged stones are discovered during inspection.

- Drip Edges
  The surface of drip edges shall be swept as needed to prevent leaves, debris, etc. from accumulating on the surface. If sediment is observed flowing over grassed areas, the stone shall be removed and clean, washed stone shall be installed.

- Catch Basins
  Catch basins shall be inspected annually and shall be cleaned out when sediment has accumulated to within 6 inches of the invert out.

D. Winter Construction Standards and Procedures

Winter construction standards and erosion and sediment control measures apply to all construction activities involved with ongoing land disturbance and exposure between November 15th to the following April 1st.

Winter Construction Procedures

1. During winter construction, inspections by the On-Site Plan Coordinator shall occur daily when areas are un-stable, and weekly prior to any forecasted rain, thaw or spring melt when temporary stabilization is in place.

2. If the site will not have earth disturbing activities ongoing during the winter construction period, all bare exposed soil must be stabilized by establishing vegetation, straw or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.

3. Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.

4. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.

5. Limits of disturbance shall be moved or replaced to reflect boundary of winter work.

6. A minimum 25-ft buffer shall be maintained from all perimeter controls (such as silt fence) to allow for clearing and maintenance. Mark silt fence with tall stakes that are visible above the snow pack.

7. Snow is to be removed from all structural erosion and sediment control measures following each significant snowfall. No snow storage up-gradient of disturbance. No snow disposal in sediment ponds/basins. If necessary, snow/ice must be removed prior to stabilization of disturbed areas.

8. Edges of disturbed areas that drain to a waterbody within 100 ft shall have 2 rows of silt fence, 5 feet apart, installed on the contour.

9. Drainage structures shall be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.

10. Sediment barriers must be installed at all appropriate perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.

11. Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 ft from the toe of the stockpile to prevent soil migration and to capture loose soil.

12. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3h:1v or steeper.

13. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.

14. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:
    a. Work will resume within 24 hours in the same area and no precipitation is forecast or;

    b. The work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.

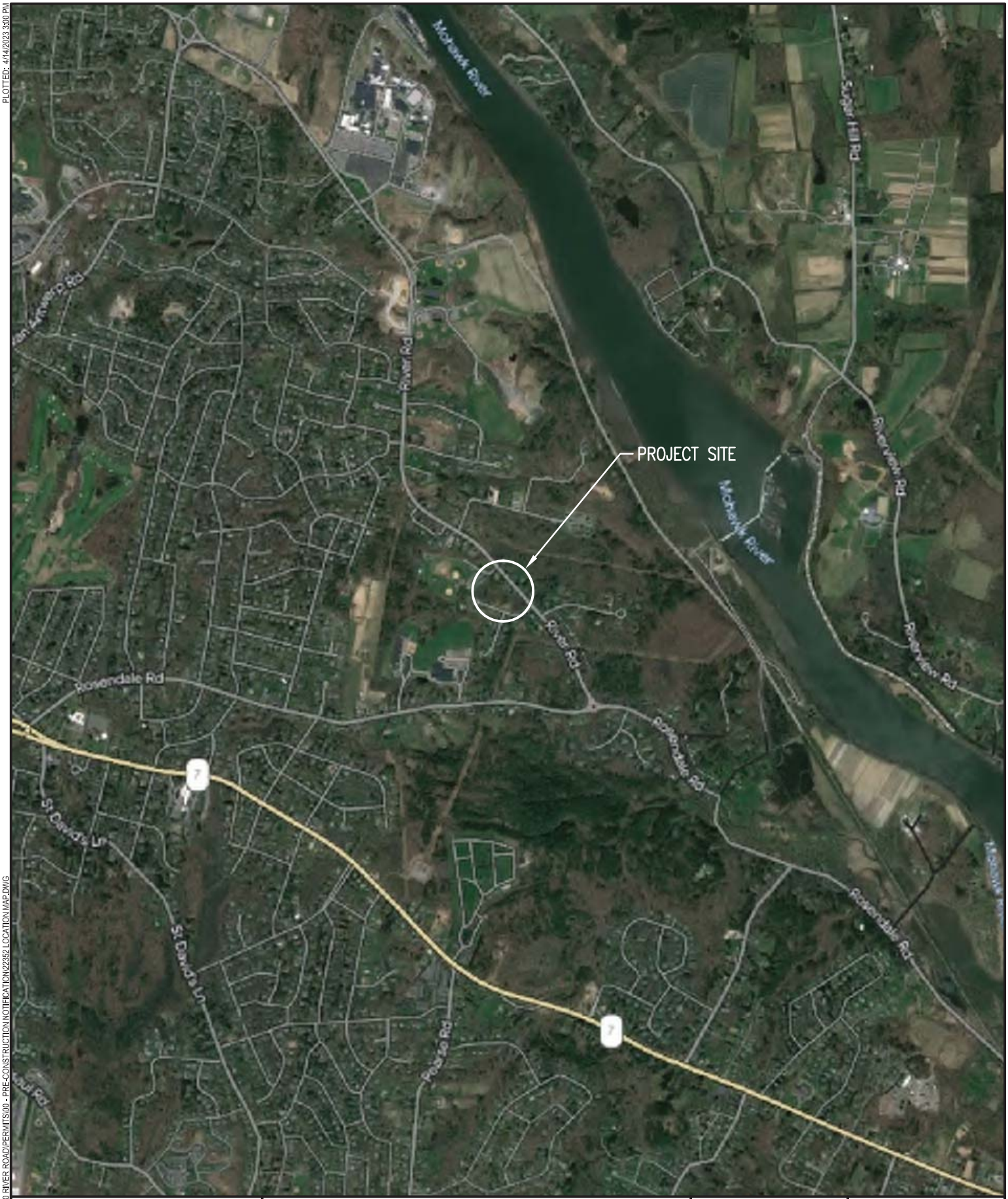
15. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 ft in width but wider as necessary to accommodate equipment.

16. All erosion prevention and sediment control measures are to be in place by October 15, or if not possible, then prior to ground freeze.

17. Snow and ice shall be removed to less than 1" thickness prior to stabilization.

Attachment 1

Site Location Map
Short Environmental Assessment Form



ENGINEERING VENTURES PC
208 Flynn Ave, Suite 2A, Burlington, VT 05401
85 Mechanic St, Suite E2-3, Lebanon, NH 03766
414 Union St, Schenectady, NY 12305
www.engineeringventures.com

Sheet Title:	SITE LOCATION MAP
Project Title:	2890 RIVER ROAD

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	1" = 2000'
Date:	04/12/2023

Figure: C1

PLOTTED: 4/14/2023 3:30 PM
S:\PROJECTS\0-2022\22352 NY 2890 RIVER ROAD\PERMITS\00 - PRE-CONSTRUCTION NOTIFICATION\22352 LOCATION MAP.DWG

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 – Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 – Project and Sponsor Information

Name of Action or Project:
2890 River Road Subdivision

Project Location (describe, and attach a location map):
2890 River Rd, Niskayuna, New York 12309

Brief Description of Proposed Action:
The Applicant proposes a 4-lot subdivision of Town of Niskayuna tax parcels 51.-1-7.1 and 51.9-2-1.1. Each new lot will have a single family residence per lot. The proposed dwellings will be serviced by public water and sanitary sewer systems.

Name of Applicant or Sponsor:	Telephone: 518-374-1461
RPL Family Trust	E-Mail: ryan@midstateltd.com

Address:
2505 Whamer Lane

City/PO:	State:	Zip Code:
Niskayuna	NY	12309

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: US ACOE Nationwide Permit #29 for disturbance to freshwater wetlands.	☐	☑

3. a. Total acreage of the site of the proposed action? 6.09 acres
   b. Total acreage to be physically disturbed? 2.00 acres
   c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 6.09 acres

4. Check all land uses that occur on, are adjoining or near the proposed action:

5. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☑ Residential (suburban)
   ☑ Forest ☐ Agriculture ☐ Aquatic ☐ Other(Specify):
   ☑ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?	☐	☑	☐
b. Consistent with the adopted comprehensive plan?	☐	☑	☐

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?		
If Yes, identify: _____	☑	☐

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐
b. Are public transportation services available at or near the site of the proposed action?	☑	☐
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	☑	☐

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements?		
If the proposed action will exceed requirements, describe design features and technologies:	☐	☑

	NO	YES
10. Will the proposed action connect to an existing public/private water supply?		
If No, describe method for providing potable water: _____	☐	☑

	NO	YES
11. Will the proposed action connect to existing wastewater utilities?		
If No, describe method for providing wastewater treatment: _____	☐	☑

	NO	YES
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	☑	☐
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☐	☑

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	☐	☑
If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____		
The proposed action does not plan to exceed 0.1 acre of freshwater wetland disturbance.		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☐ Shoreline ☑ Forest ☐ Agricultural/grasslands ☐ Early mid-successional

☑ Wetland ☐ Urban ☑ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	☑	☐
16. Is the project site located in the 100-year flood plan?	☑	☐
17. Will the proposed action create storm water discharge, either from point or non-point sources?	☐	☑
If Yes,		
a. Will storm water discharges flow to adjacent properties?	☑	☐
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	☐	☑
If Yes, briefly describe: Site storm water will be directed through roadside ditches and pipe conveyance systems to public storm sewer.		
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20.Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	☑	☐

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

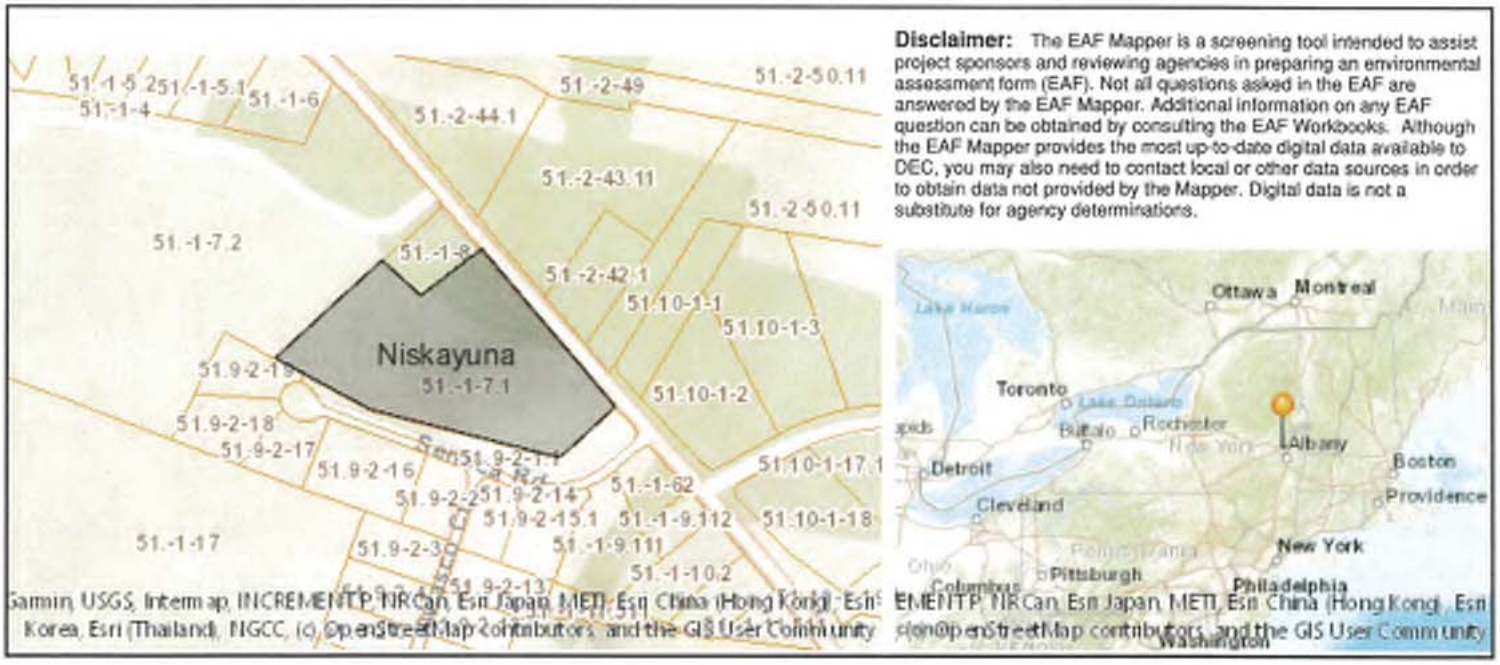
Applicant/sponsor/name: RPL Family Trust - Ryan Lucy Date: 6/22/2023

Signature: Title: TRUSTEE

PRINT FORM

EAF Mapper Summary Report

Wednesday, April 12, 2023 1:27 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	No

Attachment 2

Soils Resource Report

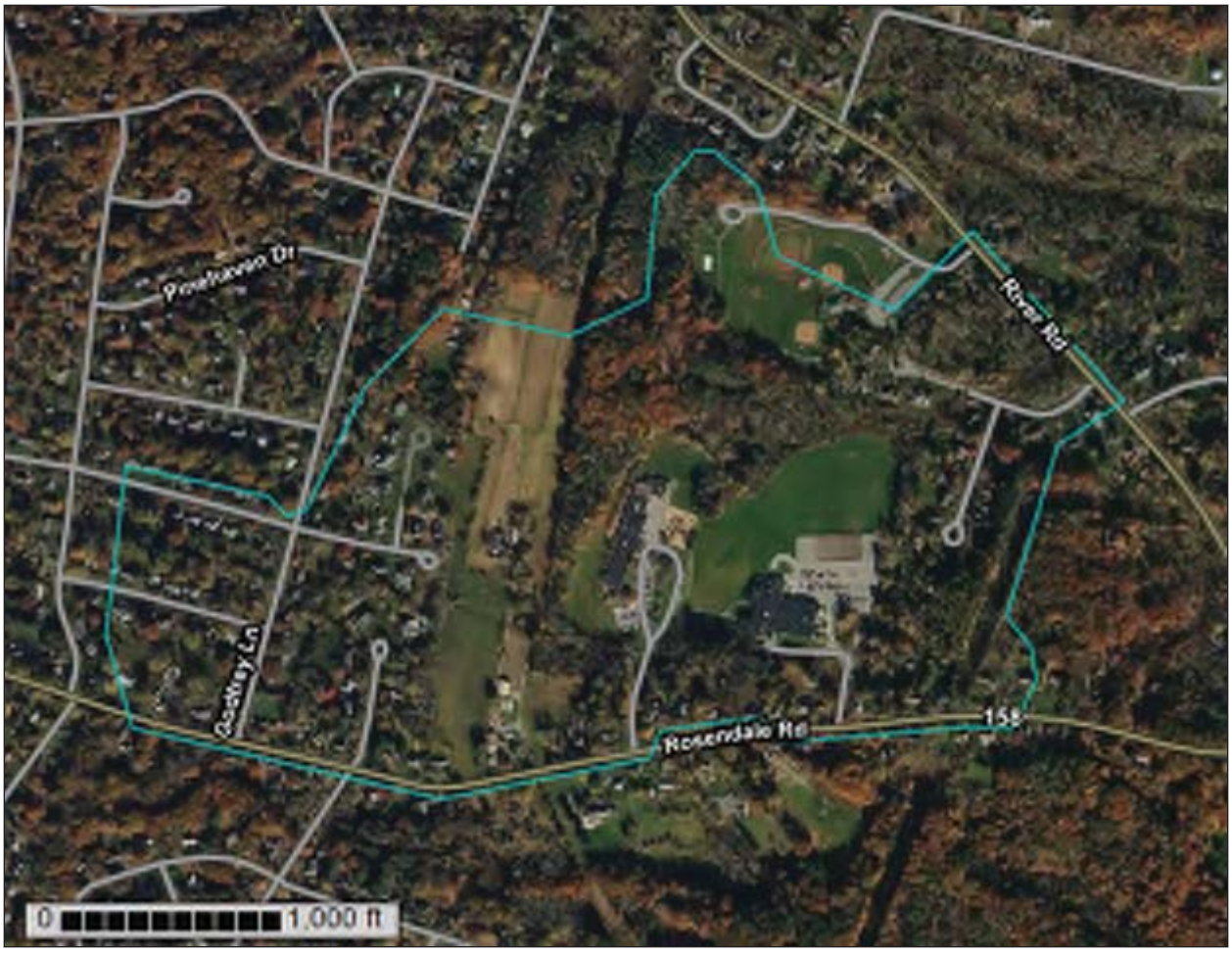
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Schenectady County, New York



October 5, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


73° 52' 37" W
73° 51' 22" W
42° 48' 16" N
42° 47' 41" N
591900
592000
592100
592200
592300
592400
592500
592600
592700
592800
592900
593000
593100
593200
593300
593400
593500
4739700
4739600
4739500
4739400
4739300
4739200
4739100
4739000
4738900
4738800
4738700
Sweetbrier Rd
Rosendale Rd
Mohegan Rd
158
RhA
FL
Ma
NuB
BvA
RhA
FL
ScB
FL
Ma
UnB
FL
NuC
NuB
NuB
NuB
IIB
CoA
CoC
ScA
BvA
NuC
IIA
OtB
BvA
CIB
ScB
ScB
MrD
Ce
Cu
ClA
BvA
NuB
RhB
ScB
ClB
NuB
RhB
Soil Map may not be valid at this scale.
Map Scale: 1:7,780 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
350
700
1400
2100
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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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:
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: Schenectady County, New York
Survey Area Data: Version 22, Sep 5, 2023

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

Date(s) aerial images were photographed: Aug 15, 2021—Nov 8, 2021

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.

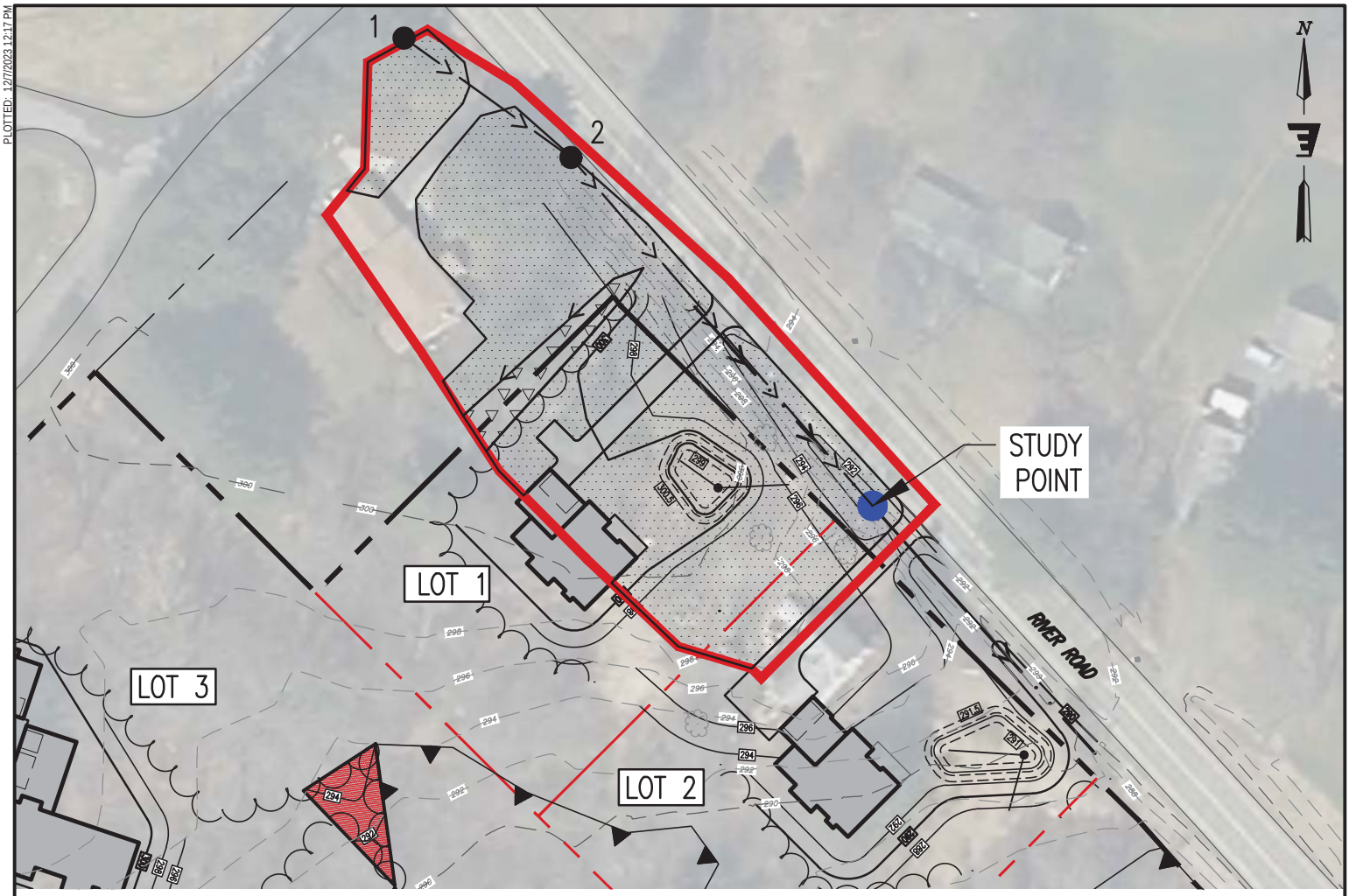
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BvA	Burdett-Scriba channery silt loams, 0 to 3 percent slopes	17.6	9.4%
Ce	Cheektowaga fine sandy loam	8.6	4.6%
ClA	Claverack loamy fine sand, 0 to 3 percent slopes	2.8	1.5%
ClB	Claverack loamy fine sand, 3 to 8 percent slopes	8.0	4.3%
CoA	Colonie loamy fine sand, 0 to 3 percent slopes	1.7	0.9%
CoC	Colonie loamy fine sand, 3 to 15 percent slopes	1.2	0.6%
Cu	Cut and fill land	10.5	5.6%
FL	Fluvaquents, loamy	1.6	0.8%
IlA	Ilion silt loam, 0 to 3 percent slopes	6.6	3.5%
IlB	Ilion silt loam, 3 to 8 percent slopes	2.2	1.2%
Ma	Madalin silty clay loam, 0 to 3 percent slopes	6.9	3.7%
MrD	Mardin gravelly silt loam, 15 to 25 percent slopes	4.7	2.5%
NuB	Nunda channery silt loam, 3 to 8 percent slopes	57.7	30.9%
NuC	Nunda channery silt loam, 8 to 15 percent slopes	1.8	1.0%
OtB	Otisville gravelly loamy sand, 0 to 8 percent slopes	7.5	4.0%
RhA	Rhinebeck silty clay loam, 0 to 3 percent slopes	2.8	1.5%
RhB	Rhinebeck silty clay loam, 3 to 8 percent slopes	19.2	10.3%
ScA	Scio silt loam, 0 to 3 percent slopes	5.1	2.7%
ScB	Scio silt loam, 3 to 8 percent slopes	18.3	9.8%
UnB	Unadilla silt loam, 0 to 8 percent slopes	2.1	1.1%
Totals for Area of Interest		**186.9**	**100.0%**

Attachment 3

Drainage Area Maps

Figure 1 – Lot 2 Culvert Drainage Area Map
Figure 2 – Lot 3 Culvert Drainage Area Map
Figure 3 – River Road Watershed
Figure 4 – 2890 River Road Subdivision – Pre-Development Drainage Area Map
Figure 5 – 2890 River Road Subdivision – Post-Development Drainage Area Map



PLAN VIEW LOT 1 AND LOT 2

SCALE: 1" = 80'

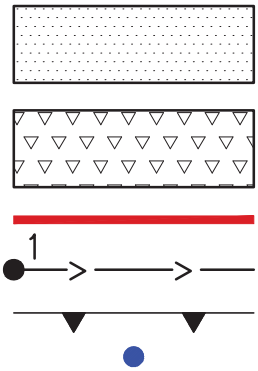
II DRAINAGE AREA

SURFACE CONDITIONS	=	0.95 AC
LAWN	=	0.68 AC
IMPERVIOUS	=	0.24 AC
WOODS	=	0.03 AC

TIME OF CONCENTRATION	=	9.6 MIN

1. 100' LAWN SHEET FLOW AT 4.8%
2. 220' GRASS WATERWAY SHALLOW CONCENTRATED FLOW AT 1.6%

LEGEND



LAWN

WOODS

WATERSHED BOUNDARY

TIME OF CONCENTRATION

WETLAND BOUNDARY

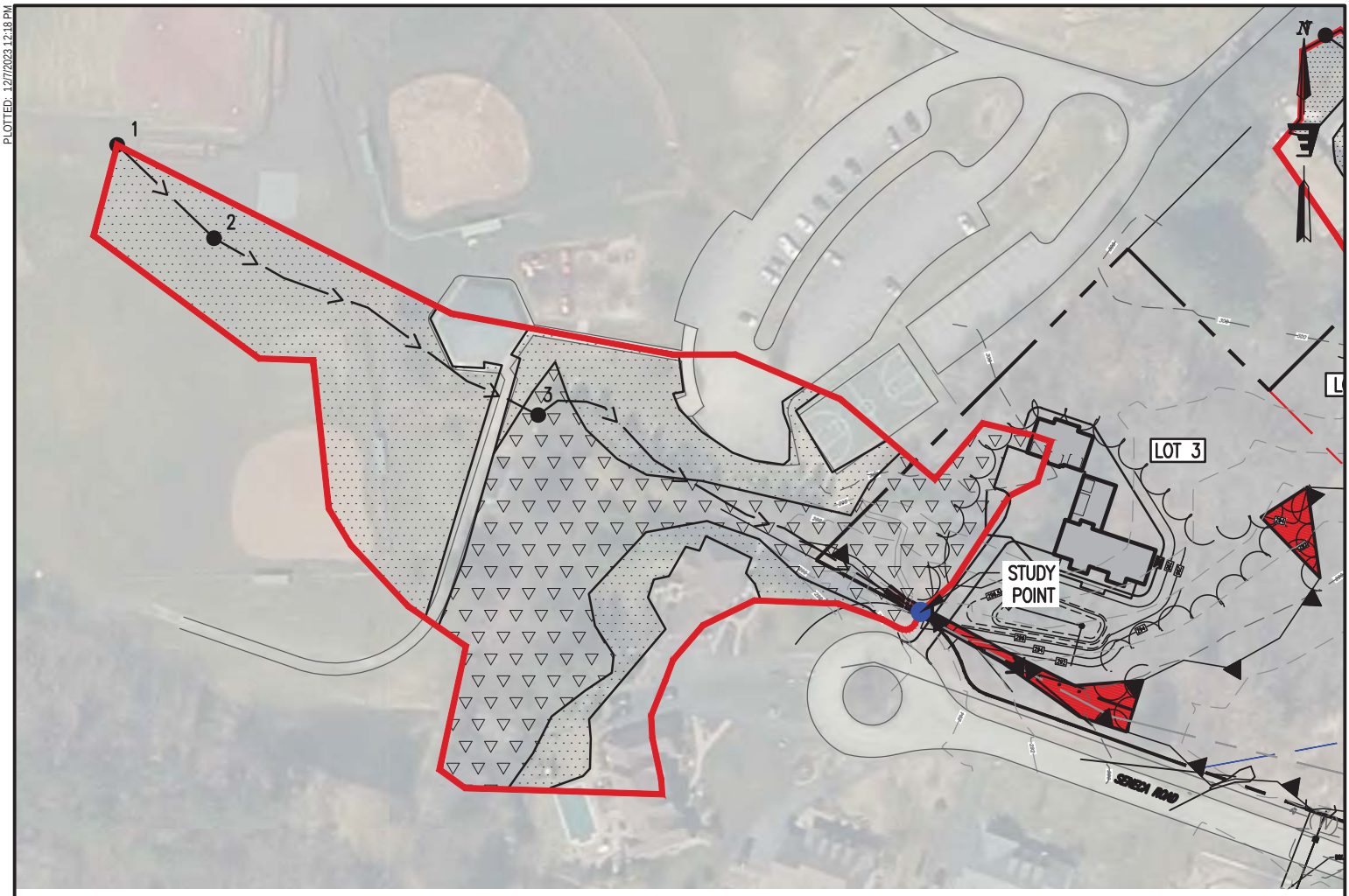
STUDY POINT

ENGINEERING VENTURES PC
208 Flynn Ave, Suite 2A, Burlington, VT 05401
85 Mechanic St, Suite E2-3, Lebanon, NH 03766
414 Union St, Schenectady, NY 12305
www.engineeringventures.com

Sheet Title:	LOT 2 CULVERT DRAINAGE AREA MAP
Project Title:	2890 RIVER ROAD MINOR SUBDIVISION TOWN OF NISKAYUNA, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

Figure: Fig. 1



PLAN VIEW LOT 3

SCALE: 1" = 125'

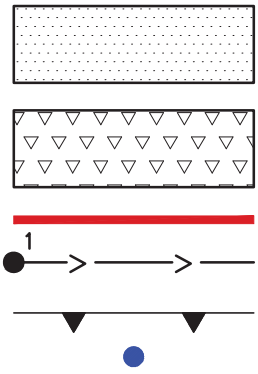
II DRAINAGE AREA

SURFACE CONDITIONS	=	2.95 AC
LAWN	=	1.41 AC
IMPERVIOUS	=	0.50 AC
WOODS	=	1.04 AC

TIME OF CONCENTRATION	=	18.3 MIN

1. 100' LAWN SHEET FLOW AT 1%
2. 275' GRASS PARKLAND SHALLOW CONCENTRATED FLOW AT 2.6%
3. 335' GRASS SWALE SHALLOW CONCENTRATED FLOW AT 3.3%

LEGEND



LAWN

WOODS

WATERSHED BOUNDARY

TIME OF CONCENTRATION

WETLAND BOUNDARY

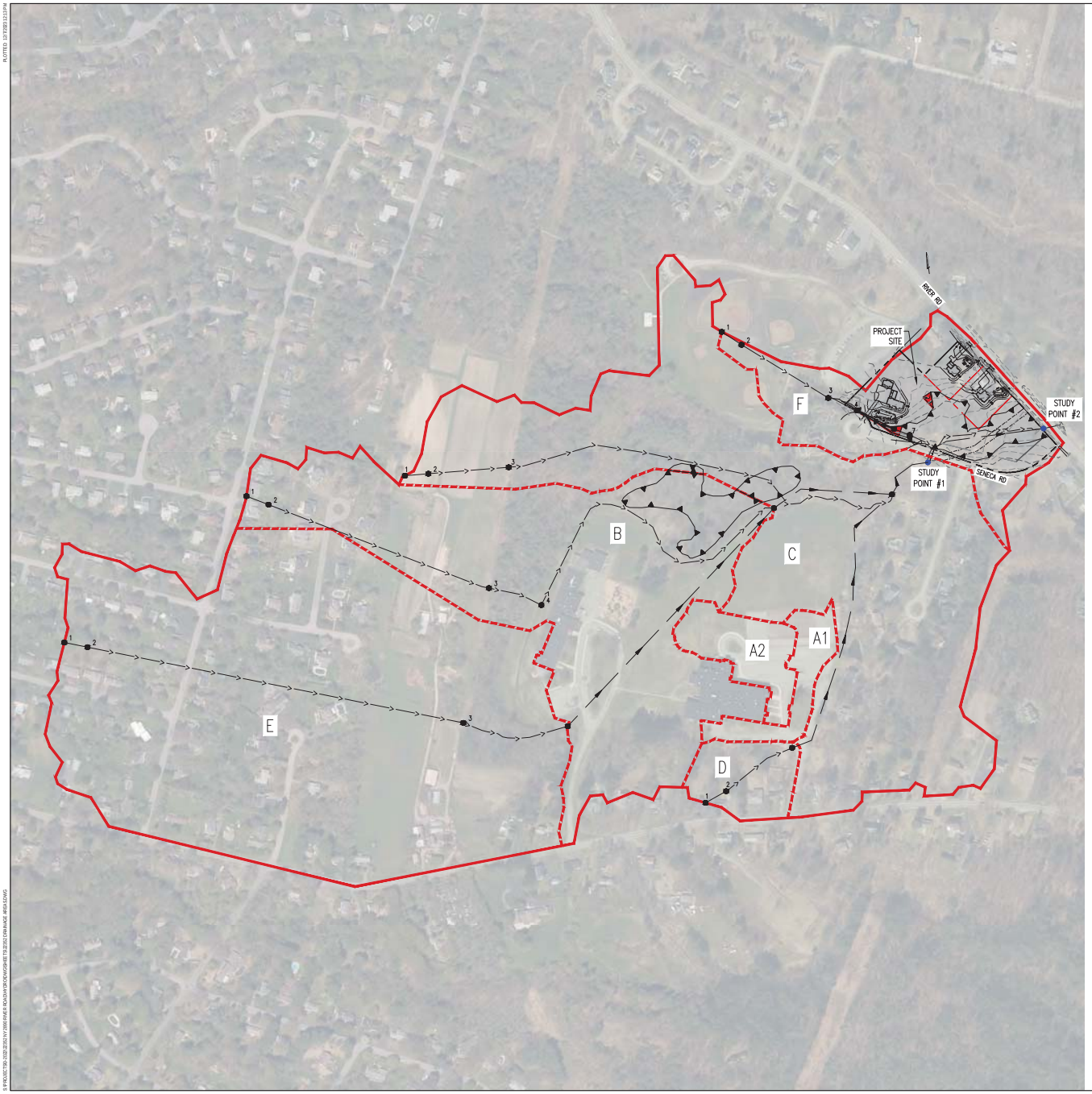
STUDY POINT

ENGINEERING VENTURES PC
208 Flynn Ave, Suite 2A, Burlington, VT 05401
85 Mechanic St, Suite E2-3, Lebanon, NH 03766
414 Union St, Schenectady, NY 12305
www.engineeringventures.com

Sheet Title:	LOT 3 CULVERT DRAINAGE AREA MAP
Project Title:	2890 RIVER ROAD MINOR SUBDIVISION TOWN OF NISKAYUNA, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

Figure: Fig. 2



A DRAINAGE AREA

A1 DRAINAGE AREA (SEE NOTE 5)

SURFACE CONDITIONS	=	2.31 AC	CN
LAWN (C SOILS)	=	0.97 AC	74
PAVEMENT	=	1.34 AC	98
		COMPOSITE	88
TIME OF CONCENTRATION	=	18.7 MIN	

1. 100' LAWN SHEET FLOW AT 1.5%
2. 100' UNPAVED SHALLOW CONCENTRATED FLOW AT 1.5%

A2 DRAINAGE AREA (SEE NOTE 5)

SURFACE CONDITIONS	=	3.15 AC	CN
LAWN (C SOILS)	=	0.81 AC	74
PAVEMENT	=	2.01 AC	98
ROOF	=	0.33 AC	98
		COMPOSITE	92
TIME OF CONCENTRATION	=	14.3 MIN	

1. 14' LAWN SHEET FLOW AT 2.0%
2. 8' PAVEMENT SHEET FLOW AT 1.5%
3. 69' LAWN SHEET FLOW AT 2.5%

B DRAINAGE AREA

SURFACE CONDITIONS	=	34.868 AC	CN
GRAVEL	=	0.14 AC	89
LAWN (C SOILS)	=	11.17 AC	74
PAVEMENT	=	2.74 AC	98
RESIDENTIAL	=	8.56 AC	80
ROOF	=	2.60 AC	98
WETLAND	=	1.96 AC	89
WOODS	=	7.70 AC	70
		COMPOSITE	79
TIME OF CONCENTRATION	=	32.9 MIN	

1. 100' LAWN SHEET FLOW AT 2.5%
2. 897' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%
3. 233' UNPAVED SHALLOW CONCENTRATED FLOW AT 8%
4. 1463' UNPAVED SHALLOW CONCENTRATED FLOW AT 1.6%

C DRAINAGE AREA

SURFACE CONDITIONS	=	44.572 AC	CN
GRAVEL	=	0.05 AC	89
PAVEMENT	=	1.02 AC	98
RESIDENTIAL	=	26.65 AC	80
WETLAND	=	0.69 AC	89
WOODS	=	16.16 AC	70
		COMPOSITE	77
TIME OF CONCENTRATION	=	25.8 MIN	

1. 100' LAWN SHEET FLOW AT 3%
2. 250' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%
3. 1750' UNPAVED SHALLOW CONCENTRATED FLOW AT 2.8%

D DRAINAGE AREA

SURFACE CONDITIONS	=	3.025 AC	CN
RESIDENTIAL	=	1.77 AC	80
WOODS	=	1.26 AC	70
		COMPOSITE	76
TIME OF CONCENTRATION	=	17.1 MIN	

1. 100' LAWN SHEET FLOW AT 2.5%
2. 424' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%

E DRAINAGE AREA

SURFACE CONDITIONS	=	58.206 AC	CN
RESIDENTIAL	=	54.32 AC	80
WOODS	=	3.89 AC	70
		COMPOSITE	79
TIME OF CONCENTRATION	=	26.2 MIN	

1. 100' LAWN SHEET FLOW AT 2.75%
2. 1640' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%
3. 460' UNPAVED SHALLOW CONCENTRATED FLOW AT 3.9%

F DRAINAGE AREA

SURFACE CONDITIONS	=	12.422 AC	CN
LAWN (C SOILS)	=	1.75 AC	74
IMPERVIOUS	=	0.63 AC	98
RESIDENTIAL	=	4.55 AC	80
WETLAND	=	2.11 AC	89
WOODS	=	3.38 AC	70
		COMPOSITE	79
TIME OF CONCENTRATION	=	32.1 MIN	

1. 100' LAWN SHEET FLOW AT 0.8%
2. 430' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%
3. 89' UNPAVED SHALLOW CONCENTRATED FLOW AT 2.4%
4. 30' GRASSED WATERWAY SHALLOW CONCENTRATED FLOW AT 2.4%
5. 50' PIPE CHANNEL FLOW AT 2%
6. 95' GRASSED WATERWAY SHALLOW CONCENTRATED FLOW AT 2.4%
7. 615' EARTH, DENSE WEEDS CHANNEL FLOW AT 1.14%

LEGEND

- WATERSHED BOUNDARY
- SUBCATCHMENT BOUNDARY
- TIME OF CONCENTRATION
- REACH ROUTE (NOT MODELED)
- WETLAND BOUNDARY
- STUDY POINT
- A — SUBCATCHMENT

RAINFALL

5 YR	=	3.14
25 YR	=	4.49

GRAPHIC SCALE

200 0 100 200 400 600

1 inch = 200 ft.
for sheet size 24" x 36"

N

No.	Description	Date:

Stamp

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-658-9225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9933
414 Union Street, Schenectady, NY 12305 • 518-355-9141
www.engineeringventures.com

RPL Family Trust
2305 Whitaker Lane
Niskayuna, NY 12309

Sheet Title: RIVER ROAD WATERSHED

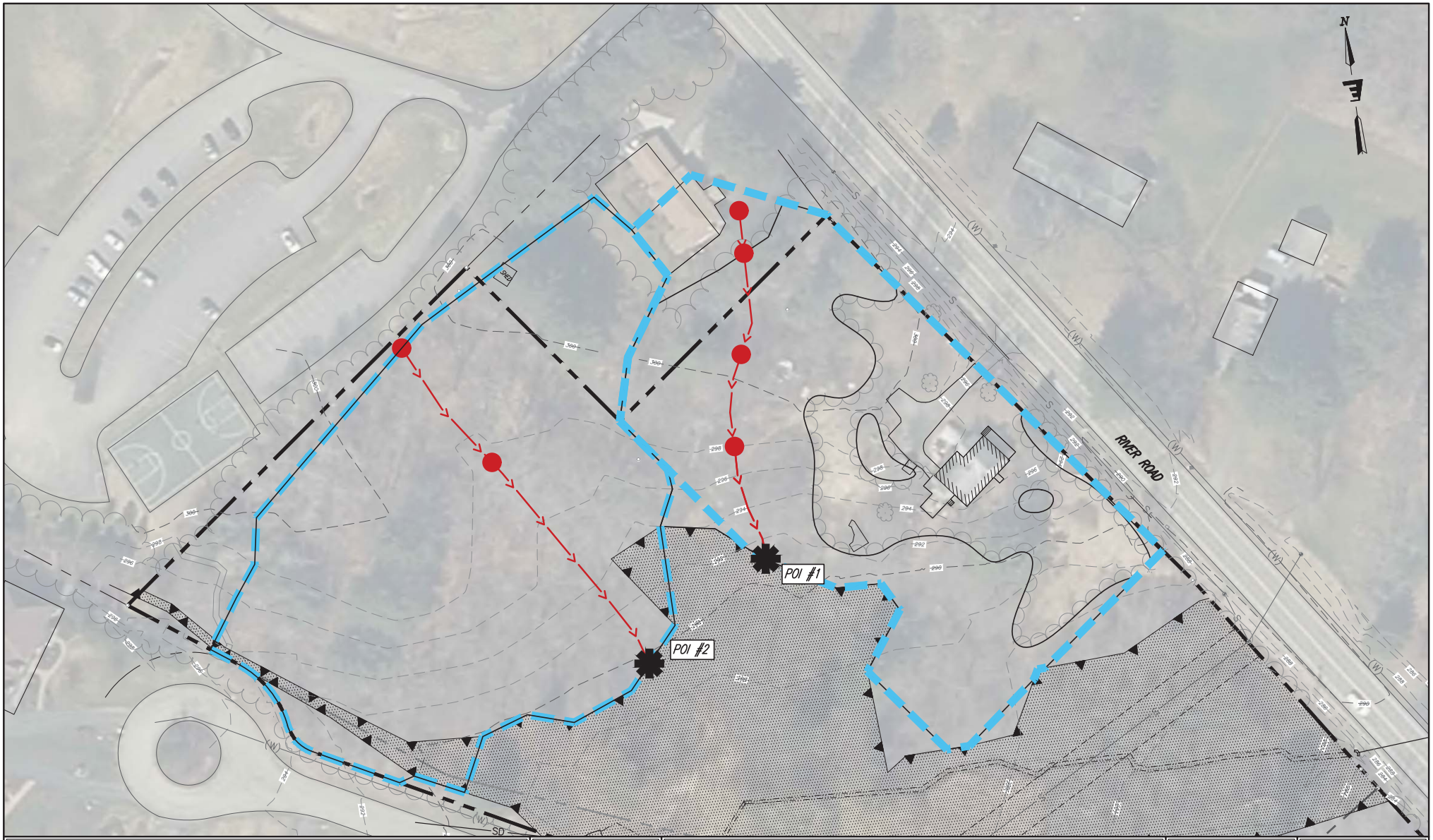
Project Title: 2890 RIVER ROAD MINOR SUBDIVISION
TOWN OF NISKAYUNA, SCHENECTADY COUNTY, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	12/6/2023

Fig. 3

PLOTTED: 12/7/2023 12:15 PM

S:\PROJECTS\0-2022\22352 NY 2890 RIVER ROAD\HYDRO\DWG\SHEETS\22352 DRAINAGE AREAS - POST CONSTRUCTION.DWG



ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

RPL Family Trust

2505 Whamer Lane
Niskayuna, NY 12309

Sheet Title: PRE-DEVELOPMENT DRAINAGE AREA MAP

Project Title: 2890 RIVER ROAD SUBDIVISION MINOR SUBDIVISION
TOWN OF NISKAYUNA, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	1"=60'
Date:	12/6/2023

Figure: Fig. 4

PLOTTED: 12/7/2023 12:15 PM

S:\PROJECTS\0-2022\22352 NY 2890 RIVER ROAD\HYDRO\DWG\SHEETS\22352 DRAINAGE AREAS - POST CONSTRUCTION.DWG

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

RPL Family Trust

2505 Whamer Lane
Niskayuna, NY 12309

Sheet Title: POST-DEVELOPMENT DRAINAGE AREA MAP

Project Title: 2890 RIVER ROAD SUBDIVISION MINOR SUBDIVISION
TOWN OF NISKAYUNA, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	1"=60'
Date:	12/6/2023

Figure: **Fig 5.**

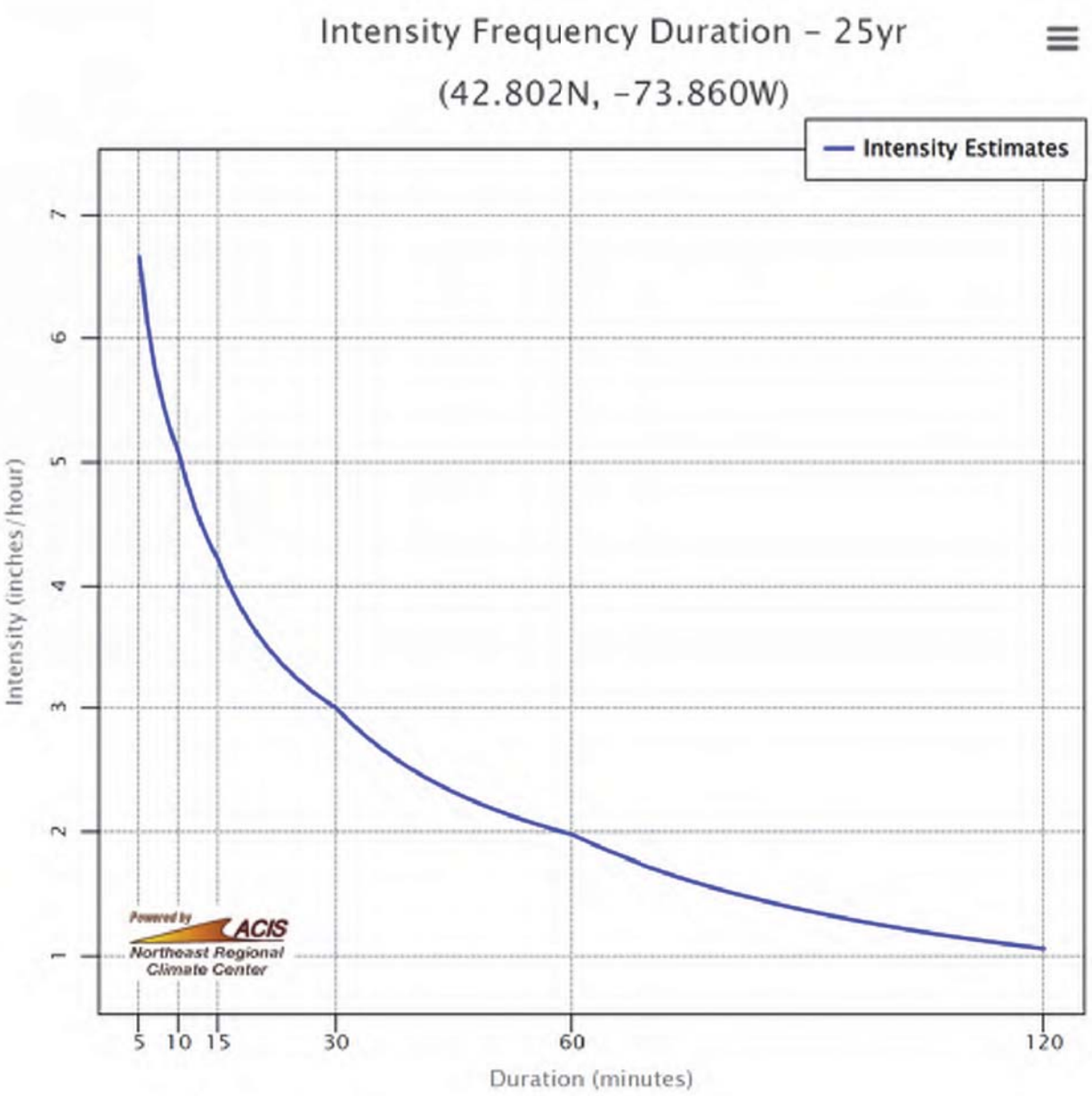
Attachment 4

Extreme Precipitation Values

Table A – Intensity Frequency Duration Curve (25-year)
Table B – Extreme Precipitation Tables

Table A

2890 River Road, Niskayuna, NY



Time (hours)	Intensity (in/hr)	
5*	6.65	
6	6.12	
7*	5.74	
8*	5.46	
9*	5.24	Lot 2
10*	5.06	
11*	4.83	
12	4.63	
13*	4.47	
14*	4.32	
15*	4.20	
16*	4.05	
17*	3.92	
18*	3.80	Lot 3
19*	3.70	
20*	3.60	
21*	3.51	
22*	3.44	
23*	3.37	
24	3.30	
25*	3.24	
26*	3.19	
27*	3.13	
28*	3.09	
29*	3.04	
30*	3.00	
31*	2.93	
32*	2.87	
33*	2.81	
34*	2.76	
35*	2.71	
36*	2.66	
37*	2.61	
38*	2.57	
39*	2.53	
40*	2.49	

Extreme Precipitation Tables

Table B

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point

Smoothing	Yes
State	New York
Location	New York, United States
Latitude	42.801 degrees North
Longitude	73.86 degrees West
Elevation	80 feet
Date/Time	Wed Sep 27 2023 10:33:53 GMT-0400 (Eastern Daylight Time)

2890 River Road
Niskayuna, NY

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10
1yr	0.26	0.41	0.50	0.66	0.82	1.03	**1yr**	0.71	0.97	1.18	1.45	1.78	2.18	2.49	**1yr**	1.93	2.40	2.80	3.38	3.
2yr	0.33	0.51	0.63	0.83	1.05	1.30	**2yr**	0.90	1.16	1.48	1.79	2.15	2.57	2.90	**2yr**	2.28	2.79	3.26	3.87	4.
5yr	0.39	0.61	0.77	1.03	1.32	1.64	**5yr**	1.14	1.43	1.87	2.25	2.67	3.14	3.58	**5yr**	2.78	3.44	3.99	4.65	5.
10yr	0.45	0.70	0.89	1.21	1.57	1.96	**10yr**	1.35	1.67	2.24	2.68	3.15	3.66	4.19	**10yr**	3.24	4.03	4.65	5.35	6.
25yr	0.53	0.85	1.08	1.49	1.97	2.47	**25yr**	1.70	2.06	2.82	3.35	3.91	4.49	5.17	**25yr**	3.97	4.97	5.71	6.44	7.
50yr	0.60	0.97	1.24	1.75	2.35	2.97	**50yr**	2.03	2.41	3.38	3.99	4.61	5.23	6.06	**50yr**	4.63	5.83	6.66	7.41	8.
100yr	0.70	1.13	1.46	2.06	2.81	3.54	**100yr**	2.42	2.82	4.02	4.73	5.43	6.11	7.12	**100yr**	5.41	6.84	7.78	8.54	9.
200yr	0.80	1.31	1.69	2.43	3.35	4.23	**200yr**	2.89	3.30	4.80	5.62	6.40	7.14	8.36	**200yr**	6.32	8.04	9.10	9.84	10
500yr	0.97	1.60	2.08	3.02	4.23	5.35	**500yr**	3.65	4.08	6.06	7.04	7.94	8.78	10.35	**500yr**	7.77	9.95	11.20	11.87	12

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10
1yr	0.21	0.32	0.39	0.53	0.65	0.85	**1yr**	0.56	0.83	0.93	1.28	1.51	1.90	2.16	**1yr**	1.68	2.07	2.43	3.05	3.
2yr	0.31	0.49	0.60	0.81	1.00	1.15	**2yr**	0.86	1.12	1.29	1.66	2.05	2.50	2.81	**2yr**	2.21	2.71	3.16	3.77	4.
5yr	0.36	0.55	0.69	0.94	1.20	1.34	**5yr**	1.04	1.31	1.52	1.94	2.47	2.94	3.30	**5yr**	2.60	3.17	3.69	4.33	4.
10yr	0.40	0.61	0.76	1.06	1.37	1.51	**10yr**	1.18	1.48	1.71	2.18	2.74	3.30	3.69	**10yr**	2.92	3.55	4.14	4.80	5.
25yr	0.46	0.69	0.86	1.23	1.62	1.76	**25yr**	1.40	1.72	2.02	2.55	3.16	3.87	4.27	**25yr**	3.43	4.11	4.81	5.49	6.
50yr	0.50	0.76	0.95	1.37	1.84	1.99	**50yr**	1.59	1.94	2.28	2.87	3.51	4.37	4.77	**50yr**	3.86	4.59	5.39	6.05	6.
100yr	0.56	0.84	1.05	1.52	2.09	2.24	**100yr**	1.80	2.19	2.58	3.22	3.89	4.92	5.33	**100yr**	4.36	5.13	6.04	6.66	7.
200yr	0.62	0.93	1.17	1.70	2.37	2.53	**200yr**	2.05	2.47	2.94	3.62	4.32	5.56	5.92	**200yr**	4.92	5.69	6.76	7.32	8.
500yr	0.71	1.06	1.36	1.98	2.81	2.97	**500yr**	2.43	2.90	3.49	4.22	4.97	6.53	6.75	**500yr**	5.78	6.49	7.85	8.27	9.

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10
1yr	0.29	0.44	0.54	0.73	0.90	1.07	**1yr**	0.77	1.04	1.22	1.52	1.96	2.35	2.70	**1yr**	2.08	2.60	3.04	3.68	4.
2yr	0.35	0.53	0.66	0.89	1.10	1.23	**2yr**	0.95	1.21	1.38	1.77	2.28	2.66	3.03	**2yr**	2.35	2.92	3.38	4.02	4.
5yr	0.43	0.67	0.83	1.14	1.45	1.58	**5yr**	1.25	1.55	1.77	2.24	2.80	3.37	3.86	**5yr**	2.98	3.71	4.31	4.96	5.
10yr	0.52	0.80	1.00	1.39	1.80	1.91	**10yr**	1.55	1.87	2.14	2.68	3.30	4.05	4.66	**10yr**	3.58	4.49	5.18	5.88	6.
25yr	0.68	1.03	1.28	1.83	2.41	2.45	**25yr**	2.08	2.40	2.74	3.42	4.12	5.17	6.01	**25yr**	4.57	5.78	6.63	7.35	8.
50yr	0.82	1.24	1.55	2.23	3.00	2.96	**50yr**	2.59	2.89	3.30	4.11	4.88	6.22	7.30	**50yr**	5.51	7.02	8.01	8.71	9.
100yr	1.00	1.51	1.89	2.72	3.74	3.58	**100yr**	3.22	3.50	3.97	4.93	5.77	7.50	8.88	**100yr**	6.64	8.54	9.68	10.33	11
200yr	1.21	1.83	2.32	3.35	4.68	4.33	**200yr**	4.04	4.24	4.79	5.93	6.84	9.06	10.80	**200yr**	8.01	10.39	11.70	12.28	13
500yr	1.59	2.37	3.05	4.43	6.31	5.58	**500yr**	5.44	5.45	6.13	7.57	8.61	11.63	14.04	**500yr**	10.29	13.50	15.06	15.48	16

Attachment 5

Culvert Calculations

Lot 2 Culvert Calculation
Lot 3 Culvert Calculation
Seneca Road Culverts Calculations – Unimproved Channel (Study Point 1)
Seneca Road Culverts Calculations – Improved Channel (Study Point 1)
River Road Culvert Calculations (Study Point 2, 25-Year Storm)
River Road Culvert Calculations (Study Point 2, 100-Year Storm)

Manning Formula Uniform Pipe Flow at Given Slope and Depth

2890 River Road

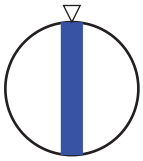
Lot 2 Driveway Culvert

Inputs

Pipe diameter, d_0	12	in
Manning roughness, n	0.013	
Pressure slope (possibly ? equal to pipe slope), S_0	0.017	rise/run
Relative flow depth, y/d_0	100	%

Results

Flow depth, y	12.0000	in
Flow area, a	0.7854	ft^2
Pipe area, a0	0.7854	ft^2
Relative area, a/a0	1.0000	fraction
Wetted perimeter, P_w	3.1416	ft
Hydraulic radius, R_h	0.2500	ft
Top width, T	0.0000	ft
Velocity, v	5.9142	ft/sec
Velocity head, h_v	0.5436	ft H2O
Froude number, F	0.00	
Average shear stress (tractive force), tau	0.2653	psf
Flow, Q (See notes)	4.6449	cfs
Full flow, Q0	4.6449	cfs
Ratio to full flow, Q/Q0	1.0000	fraction



Notes:

This is the flow and depth inside an *infinitely long* pipe.
Getting the flow into the pipe may require significantly higher headwater depth. Add at least 1.5 times the velocity head to get the headwater depth or see my 2-minute tutorial for standard culvert headwater calculations using HY-8.

Manning Formula Uniform Pipe Flow at Given Slope and Depth

2890 River Road

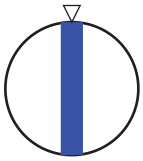
Lot 3 Driveway Culvert

Inputs

Pipe diameter, d_0	12	in
Manning roughness, n	0.013	
Pressure slope (possibly ? equal to pipe slope), S_0	0.02	rise/run
Relative flow depth, y/d_0	100	%

Results

Flow depth, y	12.0000	in
Flow area, a	0.7854	ft^2
Pipe area, a0	0.7854	ft^2
Relative area, a/a0	1.0000	fraction
Wetted perimeter, P_w	3.1416	ft
Hydraulic radius, R_h	0.2500	ft
Top width, T	0.0000	ft
Velocity, v	6.4149	ft/sec
Velocity head, h_v	0.6396	ft H2O
Froude number, F	0.00	
Average shear stress (tractive force), tau	0.3121	psf
Flow, Q (See notes)	5.0381	cfs
Full flow, Q0	5.0381	cfs
Ratio to full flow, Q/Q0	1.0000	fraction



Notes:

This is the flow and depth inside an *infinitely long* pipe.
Getting the flow into the pipe may require significantly higher headwater depth. Add at least 1.5 times the velocity head to get the headwater depth or see my 2-minute tutorial for standard culvert headwater calculations using HY-8.

HY-8 Culvert Analysis Report for 30" and 36" Culverts at Seneca Road – Unimproved Channel

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 291.20 cfs

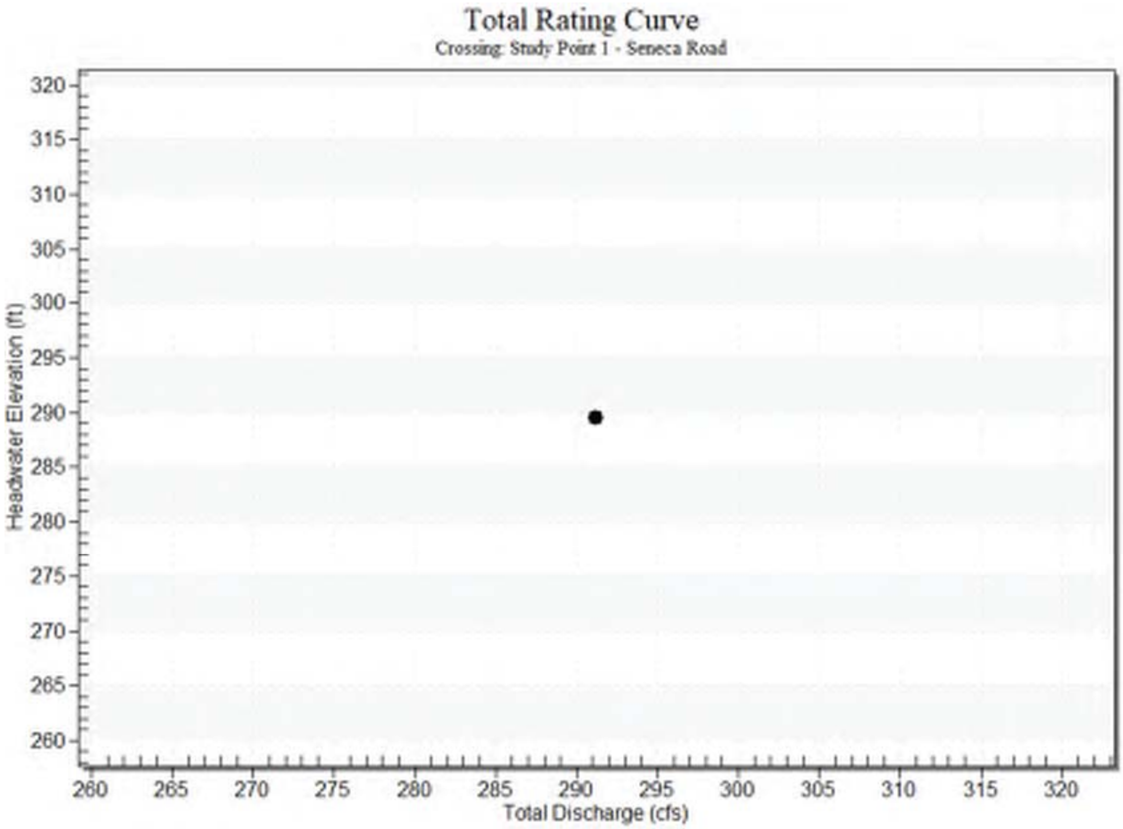
Design Flow: 291.20 cfs

Maximum Flow: 291.20 cfs

Table 1 - Summary of Culvert Flows at Crossing: Study Point 1 - Seneca Road

Headwater Elevation (ft)	Total Discharge (cfs)	36" Culvert Discharge (cfs)	30" Culvert Discharge (cfs)	Roadway Discharge (cfs)	Iterations
289.56	291.20	44.75	30.94	215.51	6
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
289.56	291.20	44.75	30.94	215.51	2
288.17	40.33	22.03	18.31	0.00	Overtopping

Rating Curve Plot for Crossing: Study Point 1 - Seneca Road



Culvert Data: 36" Culvert

Table 1 - Culvert Summary Table: 36" Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20	44.75	289.56	3.61	3.551	6-	1.96	2.18	2.80	2.80	6.52	0.85

cfs	cfs				FFt						
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.56	3.61	3.551	6-FFt	1.96	2.18	2.80	2.80	6.52	0.85

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

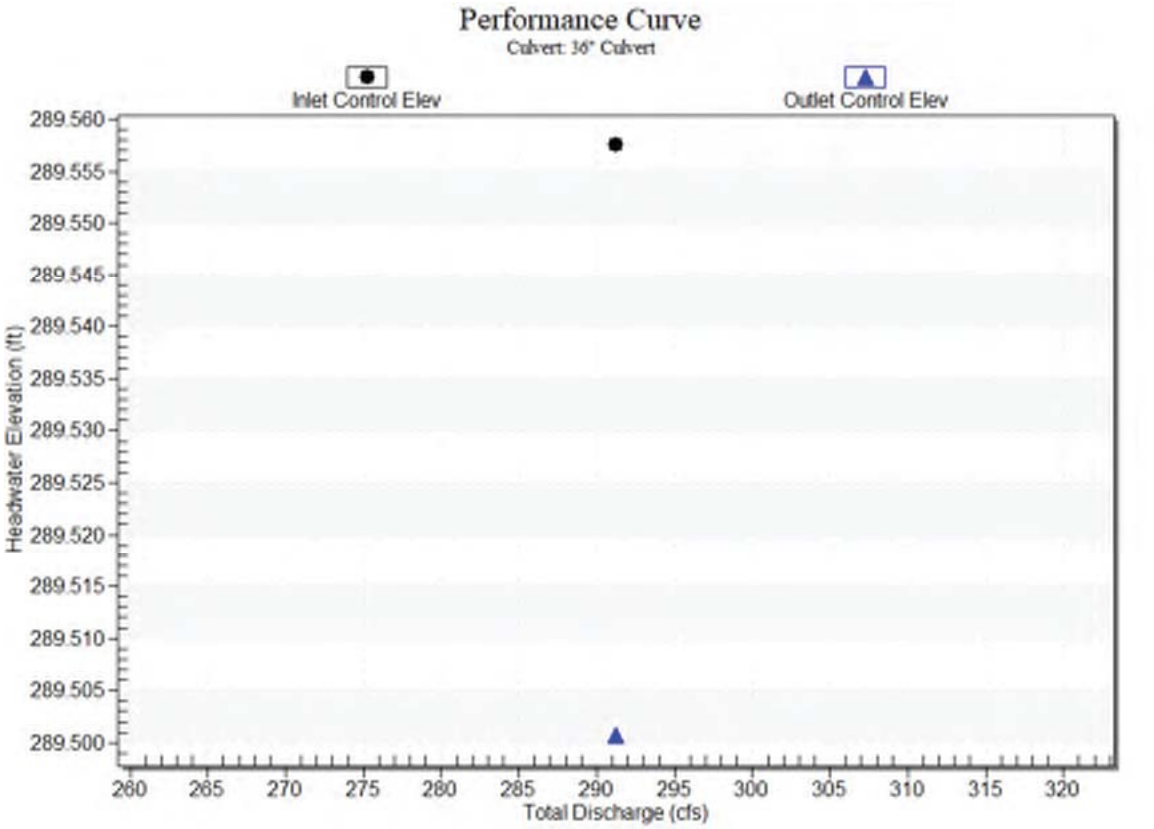
Inlet Elevation (invert): 285.95 ft,

Outlet Elevation (invert): 285.52 ft

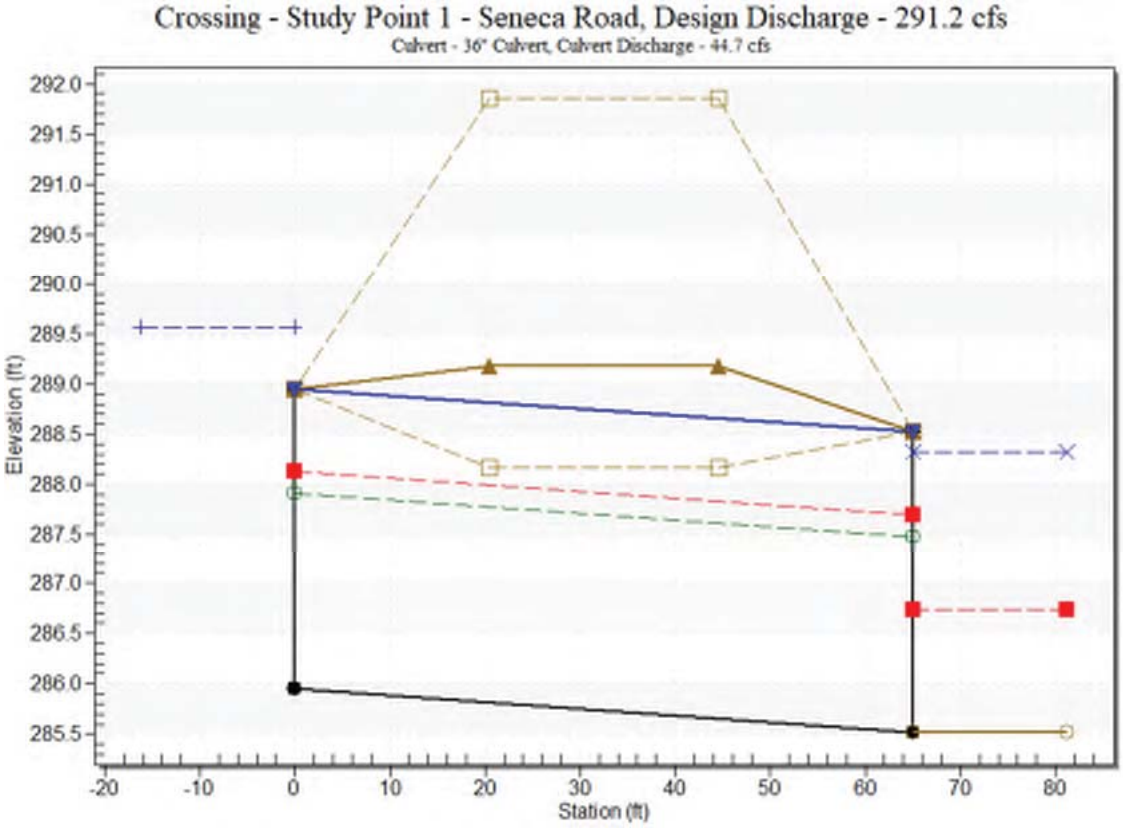
Culvert Length: 65.00 ft,

Culvert Slope: 0.0066

Culvert Performance Curve Plot: 36" Culvert



Water Surface Profile Plot for Culvert: 36" Culvert



Site Data - 36" Culvert

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 285.95 ft

Outlet Station: 65.00 ft

Outlet Elevation: 285.52 ft

Number of Barrels: 1

Culvert Data Summary - 36" Culvert

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Culvert Data: 30" Culvert

Table 2 - Culvert Summary Table: 30" Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85
291.20 cfs	30.94 cfs	289.56	3.25	3.578	4-FFf	1.89	1.90	2.50	2.80	6.30	0.85

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

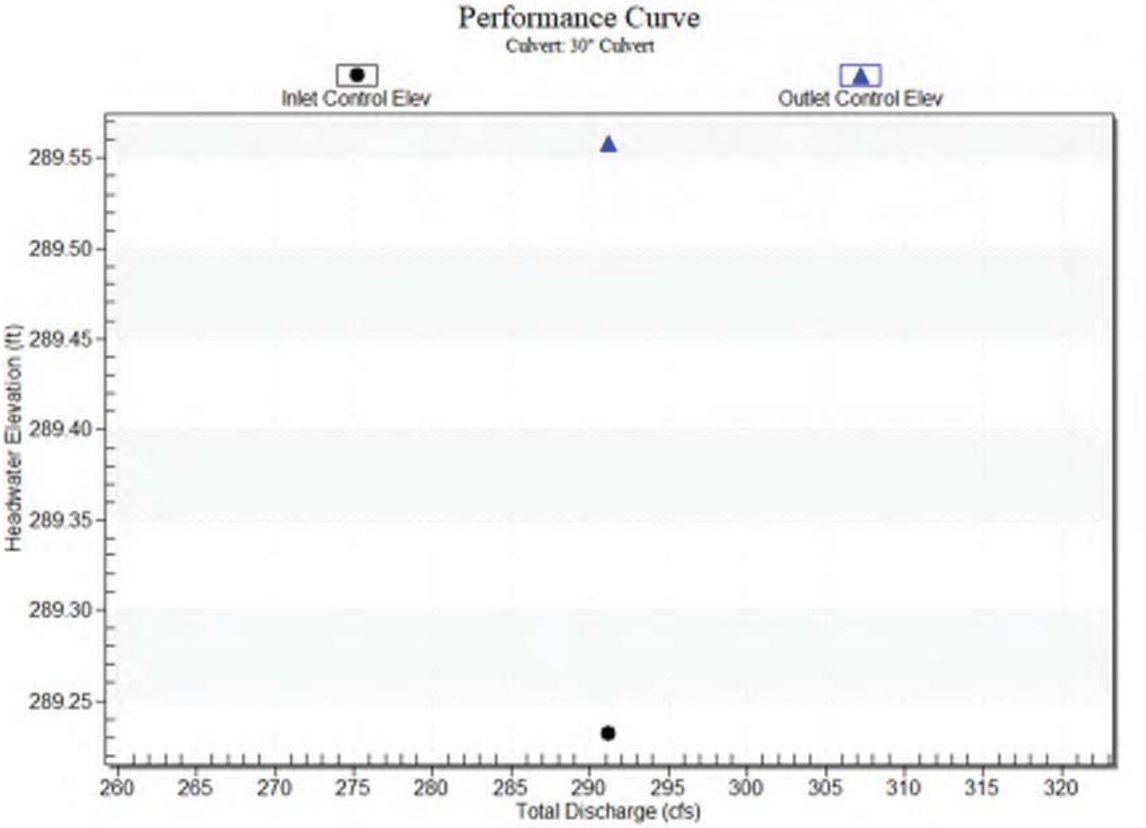
Inlet Elevation (invert): 285.98 ft,

Outlet Elevation (invert): 285.61 ft

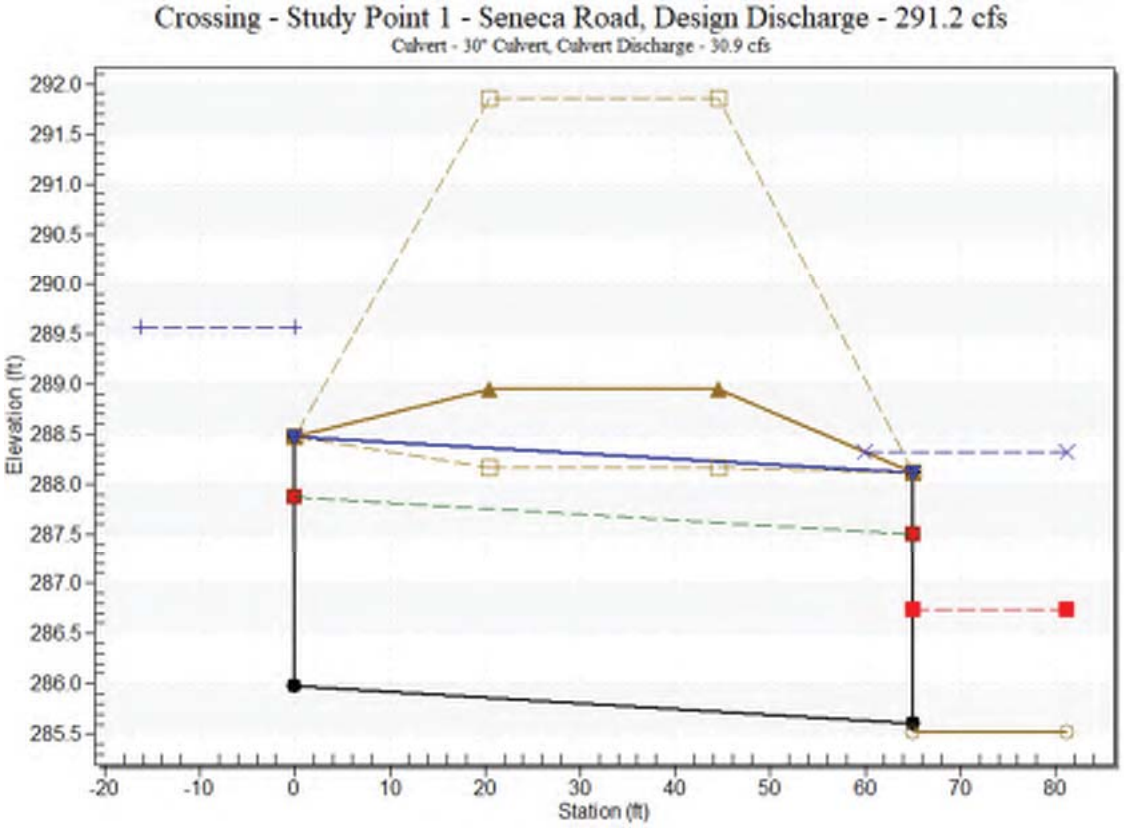
Culvert Length: 65.00 ft,

Culvert Slope: 0.0057

Culvert Performance Curve Plot: 30" Culvert



Water Surface Profile Plot for Culvert: 30" Culvert



Site Data - 30" Culvert

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 285.98 ft

Outlet Station: 65.00 ft

Outlet Elevation: 285.61 ft

Number of Barrels: 1

Culvert Data Summary - 30" Culvert

Barrel Shape: Circular

Barrel Diameter: 2.50 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Tailwater Data for Crossing: Study Point 1 - Seneca Road

Table 2 - Downstream Channel Rating Curve (Crossing: Study Point 1 - Seneca Road)

Flow (cfs)	Water Surface Elev (ft)	Velocity (ft/s)	Depth (ft)	Shear (psf)	Froude Number
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13
291.20	288.32	2.80	0.85	0.17	0.13

Tailwater Channel Data - Study Point 1 - Seneca Road

Tailwater Channel Option: Irregular Channel

Channel Slope: Irregular Channel

User Defined Channel Cross-Section

Coord No.	Station (ft)	Elevation (ft)	Manning's n
1	0.00	290.00	0.0700
2	60.00	288.00	0.0700
3	215.00	285.52	0.0700
4	217.00	285.52	0.0700
5	275.00	288.00	0.0700
6	362.00	290.00	0.0000

Roadway Data for Crossing: Study Point 1 - Seneca Road

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Irregular Roadway Cross-Section

Coord No.	Station (ft)	Elevation (ft)
0	0.00	291.85
1	53.00	289.85
2	113.00	288.17
3	160.00	289.13
4	200.00	290.11

5	205.00	290.22
6	223.00	290.53
7	270.00	291.33

Roadway Surface: Paved

Roadway Top Width: 24.00 ft

HY-8 Culvert Analysis Report for 30” and 36” Culverts at Seneca Road – Improved Channel

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 291.20 cfs

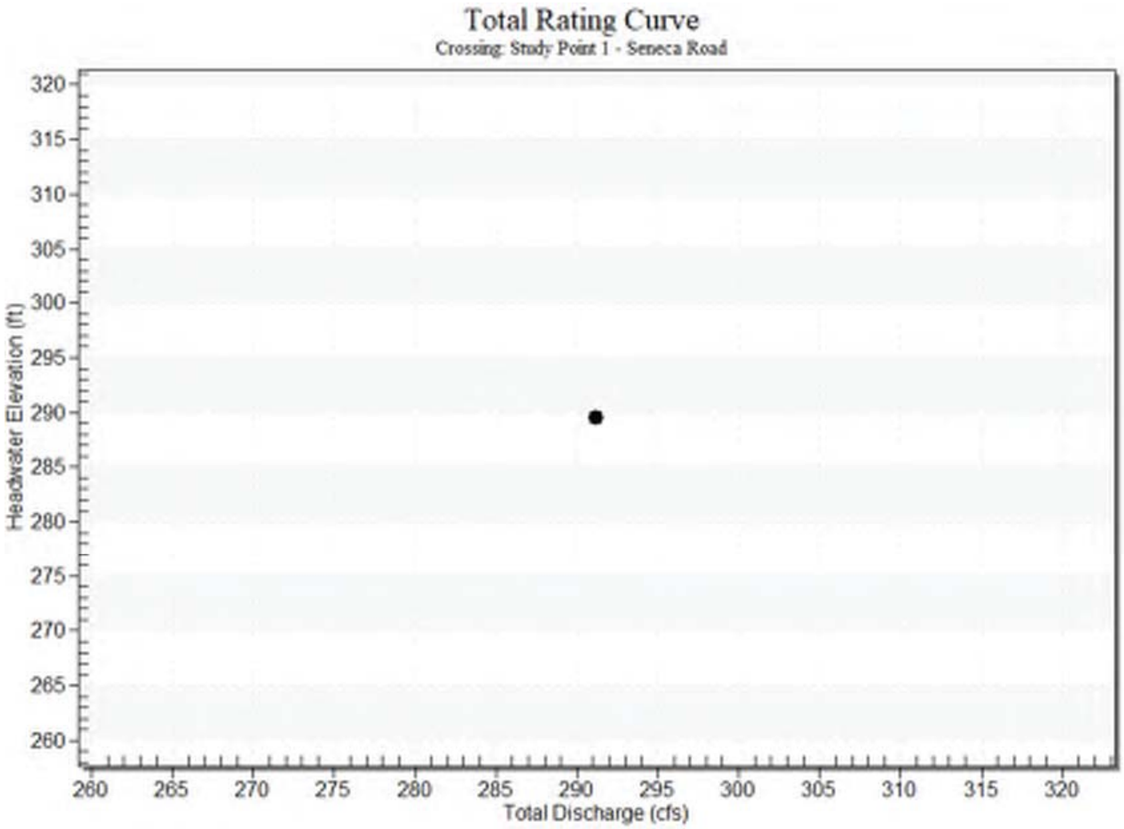
Design Flow: 291.20 cfs

Maximum Flow: 291.20 cfs

Table 1 - Summary of Culvert Flows at Crossing: Study Point 1 - Seneca Road

Headwater Elevation (ft)	Total Discharge (cfs)	36" Culvert Discharge (cfs)	30" Culvert Discharge (cfs)	Roadway Discharge (cfs)	Iterations
289.55	291.20	44.69	32.78	213.73	6
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
289.55	291.20	44.69	32.78	213.73	2
288.17	40.34	22.03	18.31	0.00	Overtopping

Rating Curve Plot for Crossing: Study Point 1 - Seneca Road



Culvert Data: 36" Culvert

Table 1 - Culvert Summary Table: 36" Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20	44.69	289.55	3.60	3.392	6-	1.95	2.18	2.64	2.64	6.78	0.93

cfs	cfs				FFt						
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93
291.20 cfs	44.69 cfs	289.55	3.60	3.392	6-FFt	1.95	2.18	2.64	2.64	6.78	0.93

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

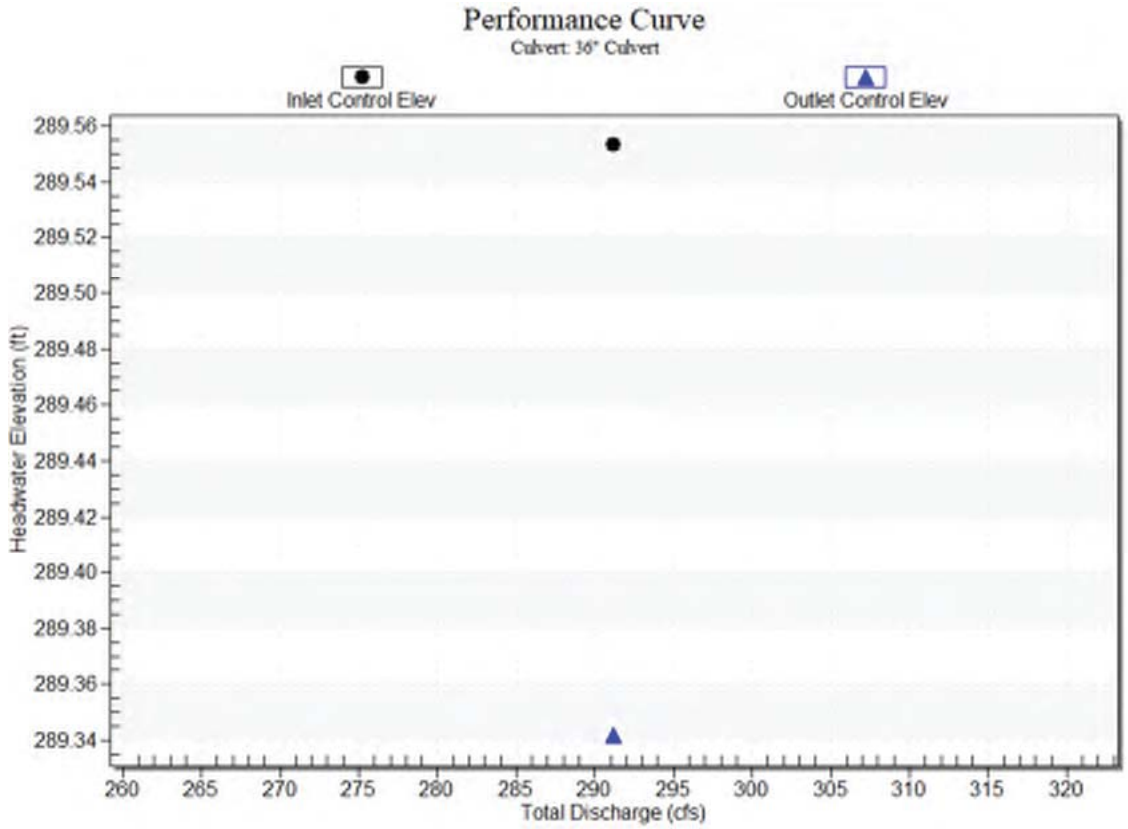
Inlet Elevation (invert): 285.95 ft,

Outlet Elevation (invert): 285.52 ft

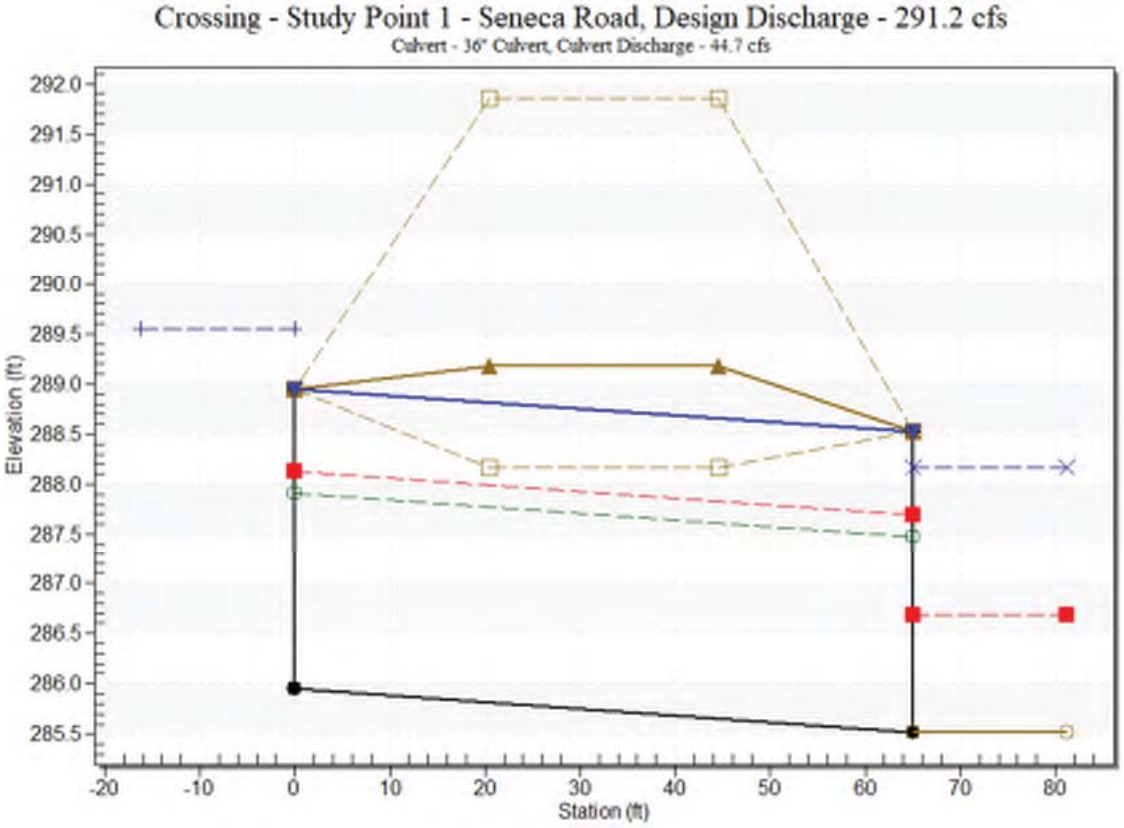
Culvert Length: 65.00 ft,

Culvert Slope: 0.0066

Culvert Performance Curve Plot: 36" Culvert



Water Surface Profile Plot for Culvert: 36" Culvert



Site Data - 36" Culvert

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 285.95 ft

Outlet Station: 65.00 ft

Outlet Elevation: 285.52 ft

Number of Barrels: 1

Culvert Data Summary - 36" Culvert

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall (Ke=0.5)

Inlet Depression: None

Culvert Data: 30" Culvert

Table 2 - Culvert Summary Table: 30" Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93
291.20 cfs	32.78 cfs	289.55	3.44	3.574	4-FFf	2.00	1.95	2.50	2.64	6.68	0.93

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

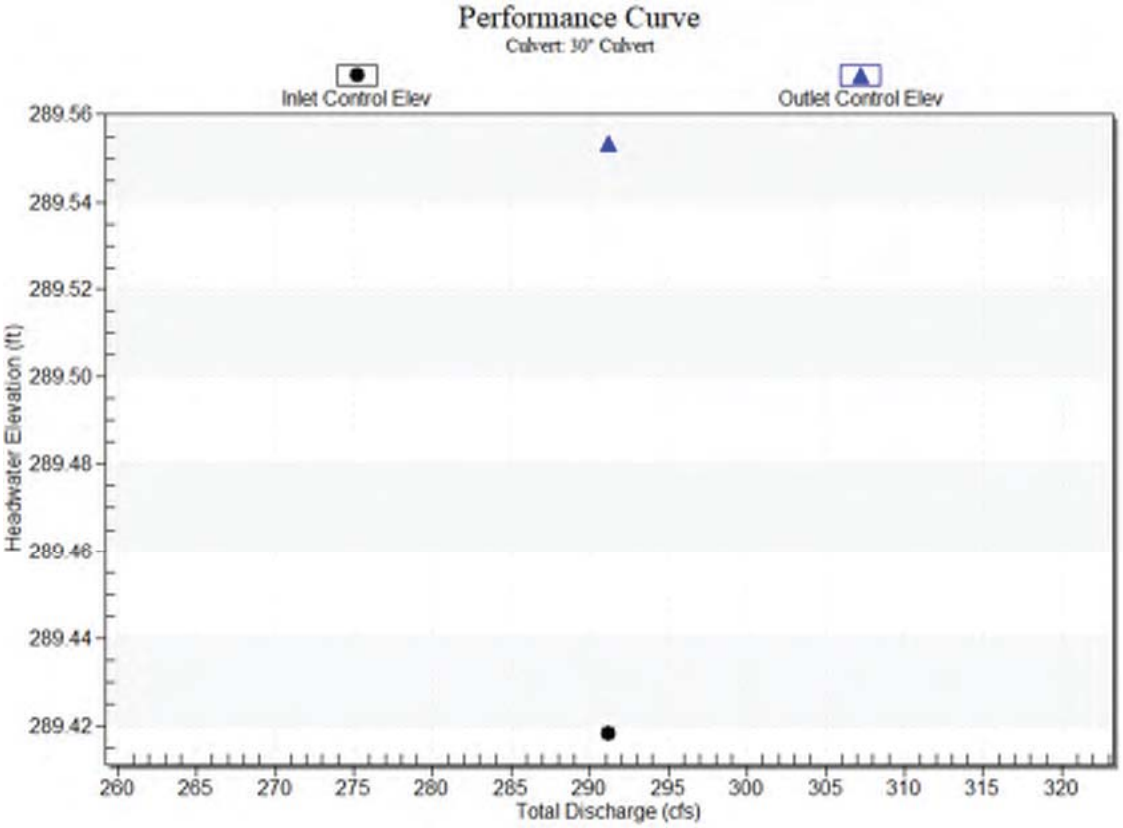
Inlet Elevation (invert): 285.98 ft,

Outlet Elevation (invert): 285.61 ft

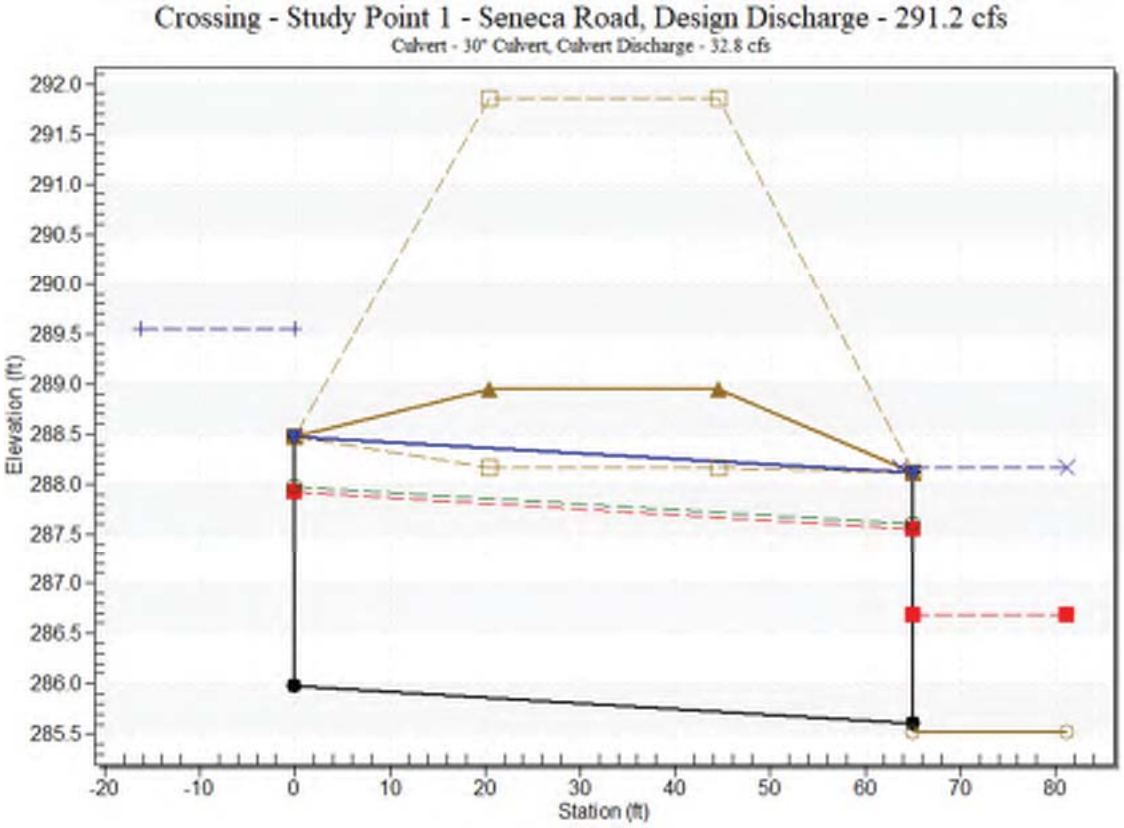
Culvert Length: 65.00 ft,

Culvert Slope: 0.0057

Culvert Performance Curve Plot: 30" Culvert



Water Surface Profile Plot for Culvert: 30" Culvert



Site Data - 30" Culvert

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 285.98 ft

Outlet Station: 65.00 ft

Outlet Elevation: 285.61 ft

Number of Barrels: 1

Culvert Data Summary - 30" Culvert

Barrel Shape: Circular

Barrel Diameter: 2.50 ft

Barrel Material: Smooth HDPE

Embedment: 0.00 in

Barrel Manning's n: 0.0120

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Tailwater Data for Crossing: Study Point 1 - Seneca Road

Table 2 - Downstream Channel Rating Curve (Crossing: Study Point 1 - Seneca Road)

Flow (cfs)	Water Surface Elev (ft)	Velocity (ft/s)	Depth (ft)	Shear (psf)	Froude Number
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14
291.20	288.16	2.64	0.93	0.16	0.14

Tailwater Channel Data - Study Point 1 - Seneca Road

Tailwater Channel Option: Irregular Channel

Channel Slope: Irregular Channel

User Defined Channel Cross-Section

Coord No.	Station (ft)	Elevation (ft)	Manning's n
1	0.00	290.00	0.0700
2	60.00	288.00	0.0700
3	210.00	285.52	0.0350
4	218.00	285.52	0.0700
5	275.00	288.00	0.0700
6	362.00	290.00	0.0000

Roadway Data for Crossing: Study Point 1 - Seneca Road

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Irregular Roadway Cross-Section

Coord No.	Station (ft)	Elevation (ft)
0	0.00	291.85
1	53.00	289.85
2	113.00	288.17
3	160.00	289.13
4	200.00	290.11

5	205.00	290.22
6	223.00	290.53
7	270.00	291.33

Roadway Surface: Paved

Roadway Top Width: 24.00 ft

HY-8 Culvert Analysis Report for 42” Culvert at River Road – 25-Year

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 314.50 cfs

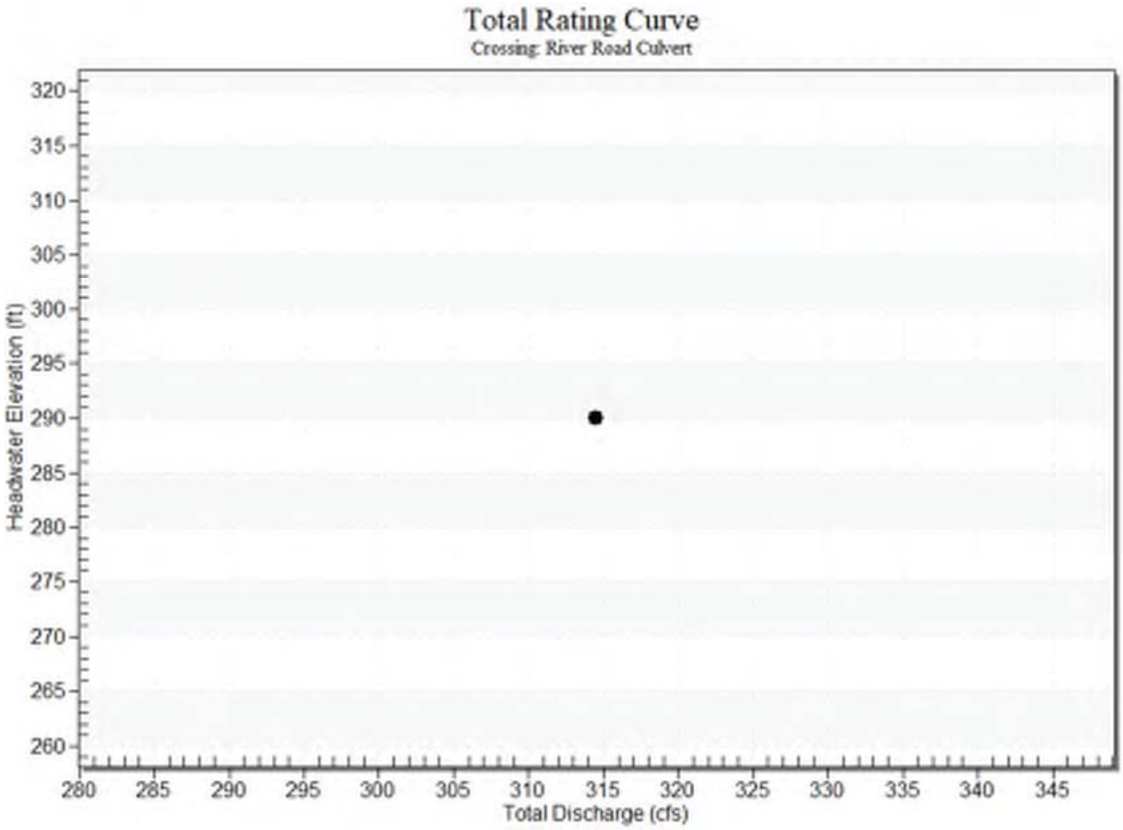
Design Flow: 314.50 cfs

Maximum Flow: 314.50 cfs

Table 1 - Summary of Culvert Flows at Crossing: River Road Culvert

Headwater Elevation (ft)	Total Discharge (cfs)	42" Culvert Discharge (cfs)	Roadway Discharge (cfs)	Iterations
290.06	314.50	125.11	189.35	13
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
290.06	314.50	125.11	189.35	2
288.66	111.46	111.46	0.00	Overtopping

Rating Curve Plot for Crossing: River Road Culvert



Culvert Data: 42" Culvert

Table 1 - Culvert Summary Table: 42" Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50	125.11	290.06	9.02	6.863	5-	2.36	3.28	2.72	0.00	15.62	0.00

cfs	cfs				S2n						
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00
314.50 cfs	125.11 cfs	290.06	9.02	6.863	5-S2n	2.36	3.28	2.72	0.00	15.62	0.00

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

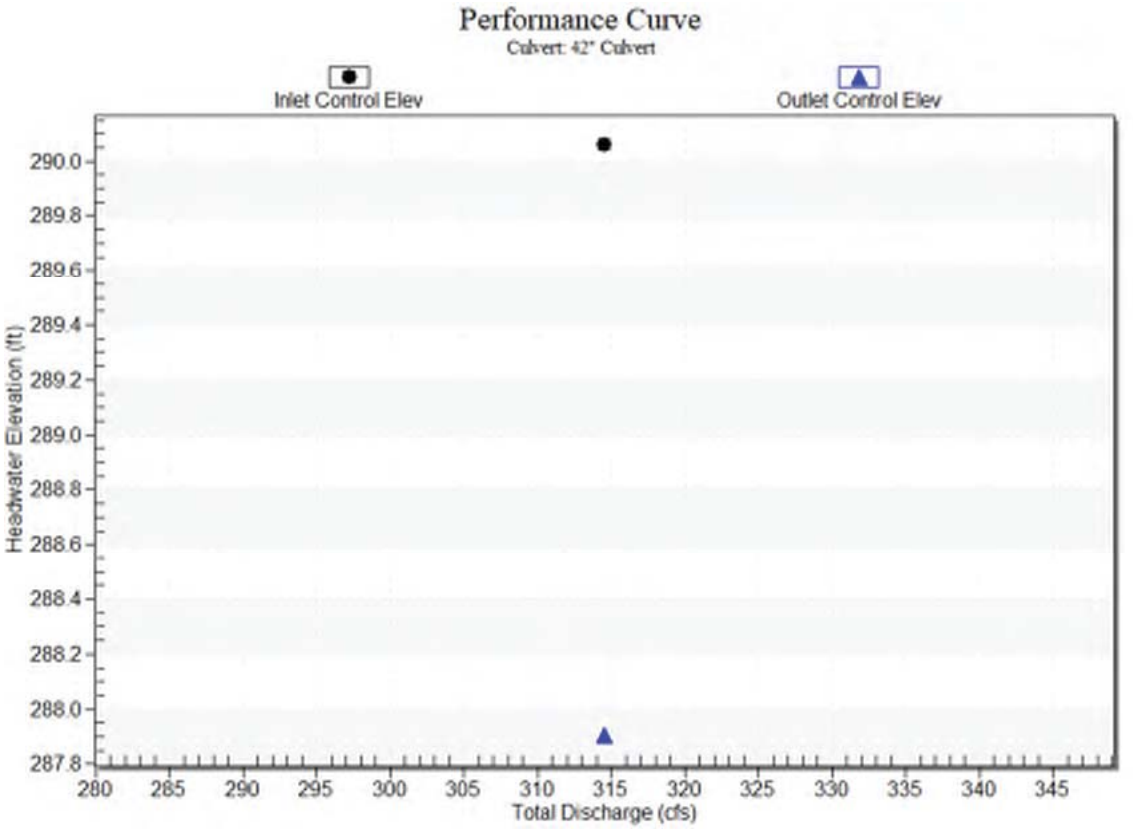
Inlet Elevation (invert): 281.04 ft,

Outlet Elevation (invert): 279.77 ft

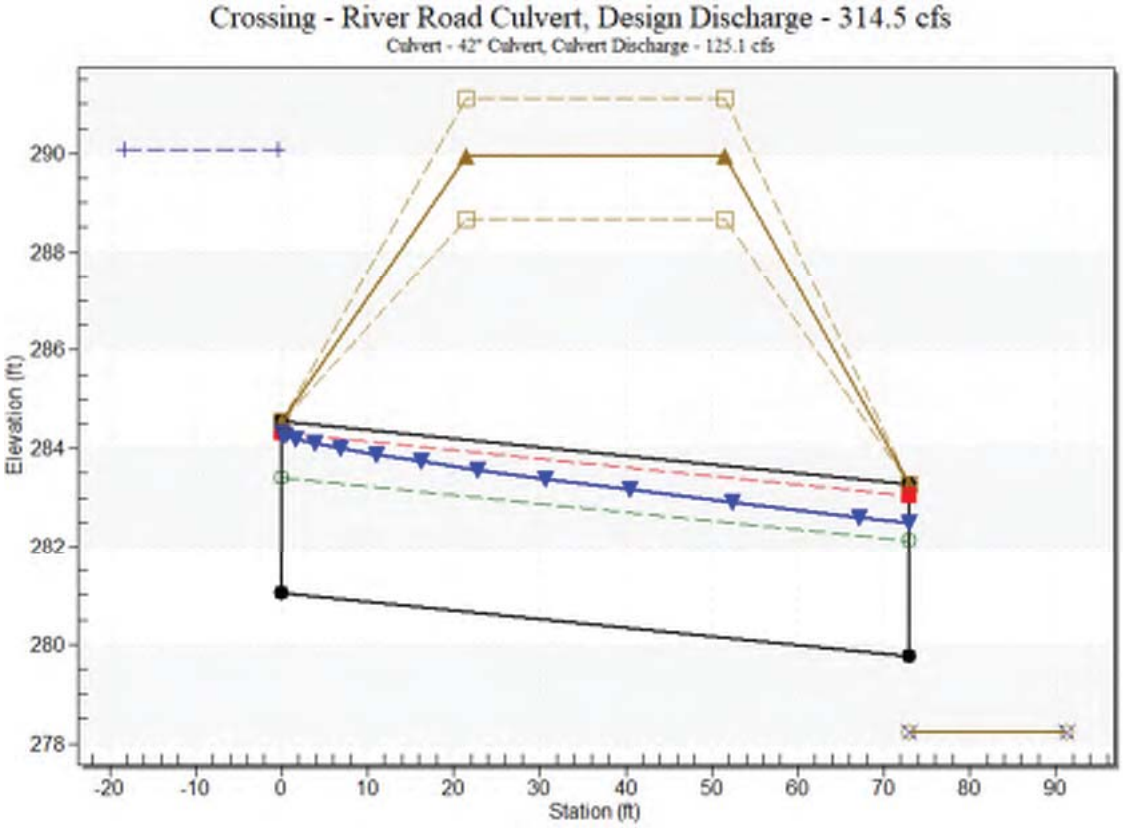
Culvert Length: 73.01 ft,

Culvert Slope: 0.0174

Culvert Performance Curve Plot: 42" Culvert



Water Surface Profile Plot for Culvert: 42" Culvert



Site Data - 42" Culvert

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 281.04 ft

Outlet Station: 73.00 ft

Outlet Elevation: 279.77 ft

Number of Barrels: 1

Culvert Data Summary - 42" Culvert

Barrel Shape: Circular

Barrel Diameter: 3.50 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0110

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall (Ke=0.5)

Inlet Depression: None

Tailwater Data for Crossing: River Road Culvert

Table 2 - Downstream Channel Rating Curve (Crossing: River Road Culvert)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00
314.50	278.23	0.00

Tailwater Channel Data - River Road Culvert

Tailwater Channel Option: Enter Constant Tailwater Elevation

Constant Tailwater Elevation: 278.23 ft

Roadway Data for Crossing: River Road Culvert

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Irregular Roadway Cross-Section

Coord No.	Station (ft)	Elevation (ft)
0	0.00	291.11
1	54.00	290.39
2	109.00	290.00
3	169.00	289.82
4	207.00	289.66
5	233.00	289.25
6	240.00	288.98
7	244.00	288.88
8	250.00	288.66
9	255.00	288.89
10	260.00	289.21
11	271.00	289.63
12	326.00	291.06

Roadway Surface: Paved

Roadway Top Width: 30.00 ft

HY-8 Culvert Analysis Report for 42” Culvert at River Road – 100-Year

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 509.47 cfs

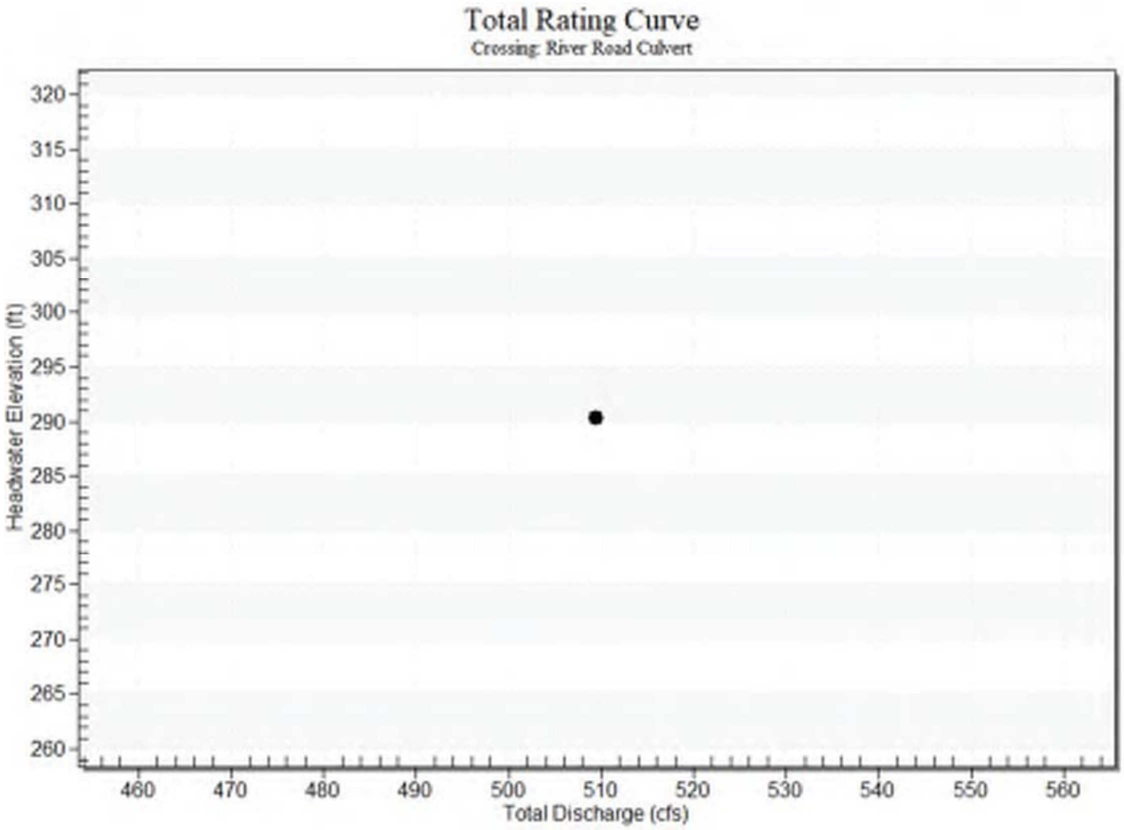
Design Flow: 509.47 cfs

Maximum Flow: 509.47 cfs

Table 1 - Summary of Culvert Flows at Crossing: River Road Culvert

Headwater Elevation (ft)	Total Discharge (cfs)	42" Culvert Discharge (cfs)	Roadway Discharge (cfs)	Iterations
290.36	509.47	127.85	381.60	14
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
290.36	509.47	127.85	381.60	2
288.66	111.46	111.46	0.00	Overtopping

Rating Curve Plot for Crossing: River Road Culvert



Culvert Data: 42" Culvert

Table 1 - Culvert Summary Table: 42" Culvert

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47	127.85	290.36	9.32	7.081	5-	2.40	3.30	2.75	0.00	15.76	0.00

cfs	cfs				S2n						
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00
509.47 cfs	127.85 cfs	290.36	9.32	7.081	5-S2n	2.40	3.30	2.75	0.00	15.76	0.00

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

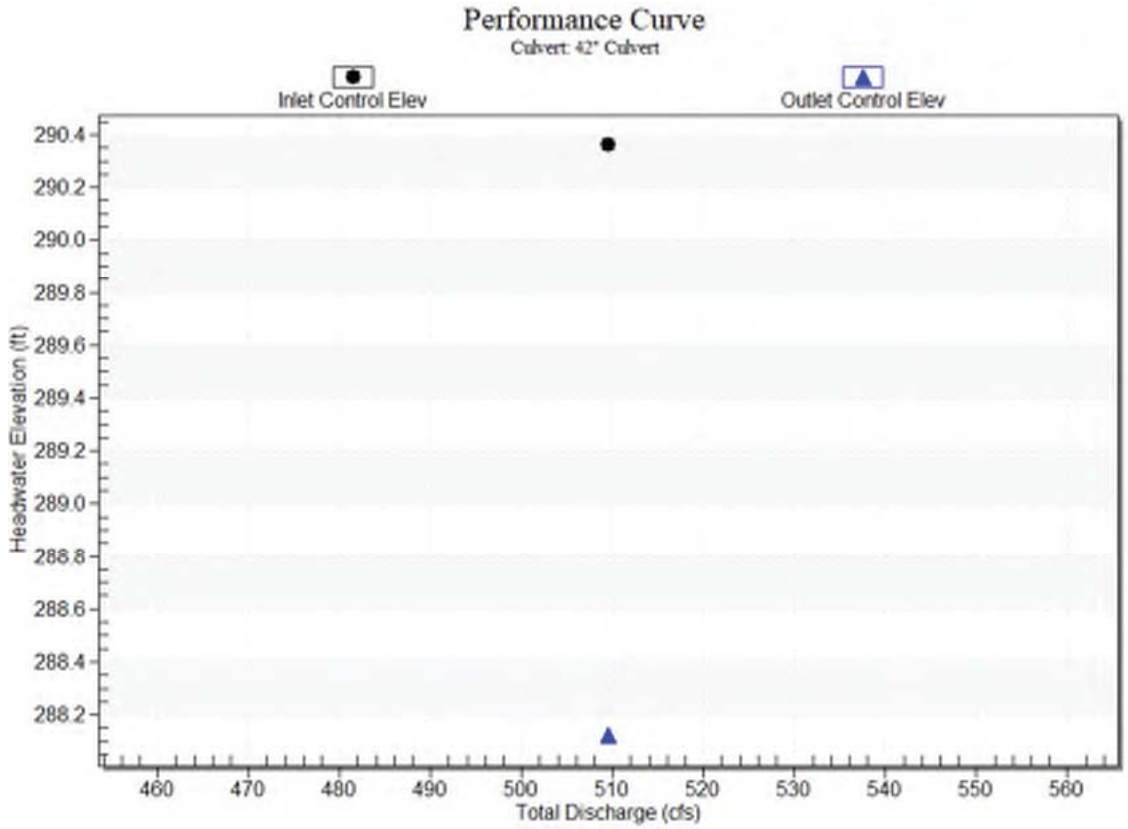
Inlet Elevation (invert): 281.04 ft,

Outlet Elevation (invert): 279.77 ft

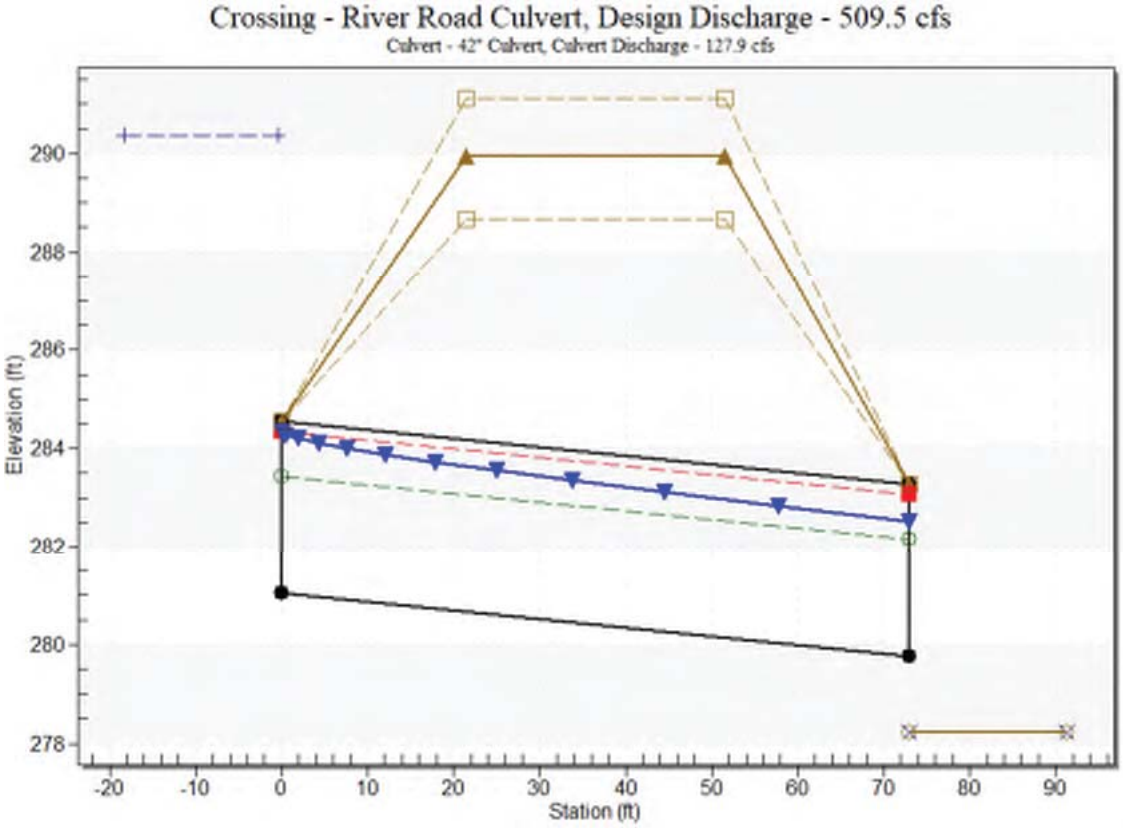
Culvert Length: 73.01 ft,

Culvert Slope: 0.0174

Culvert Performance Curve Plot: 42" Culvert



Water Surface Profile Plot for Culvert: 42" Culvert



Site Data - 42" Culvert

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 281.04 ft

Outlet Station: 73.00 ft

Outlet Elevation: 279.77 ft

Number of Barrels: 1

Culvert Data Summary - 42" Culvert

Barrel Shape: Circular

Barrel Diameter: 3.50 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0110

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Tailwater Data for Crossing: River Road Culvert

Table 2 - Downstream Channel Rating Curve (Crossing: River Road Culvert)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00
509.47	278.23	0.00

Tailwater Channel Data - River Road Culvert

Tailwater Channel Option: Enter Constant Tailwater Elevation

Constant Tailwater Elevation: 278.23 ft

Roadway Data for Crossing: River Road Culvert

Roadway Profile Shape: Irregular Roadway Shape (coordinates)

Irregular Roadway Cross-Section

Coord No.	Station (ft)	Elevation (ft)
0	0.00	291.11
1	54.00	290.39
2	109.00	290.00
3	169.00	289.82
4	207.00	289.66
5	233.00	289.25
6	240.00	288.98
7	244.00	288.88
8	250.00	288.66
9	255.00	288.89
10	260.00	289.21
11	271.00	289.63
12	326.00	291.06

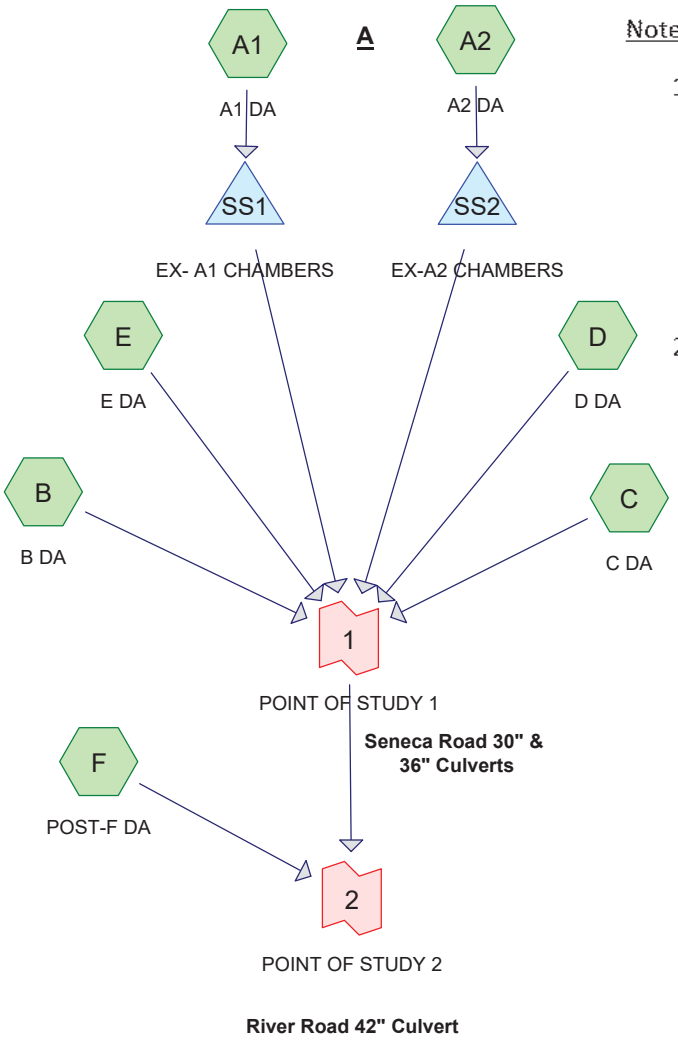
Roadway Surface: Paved

Roadway Top Width: 30.00 ft

Attachment 6

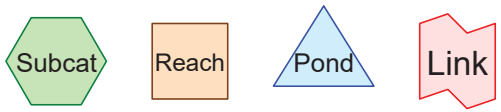
HydroCAD Models

River Road Watershed (Study Point 1 & 2)
2890 River Road Subdivision (Pre & Post-Development)



Notes:

1. Node SS1 (Existing A1 Chambers) is modeled after Pond No. 1 – A1 SUBSURFACE from the Stormwater Management Report and Stormwater Pollution Prevention Plan for Iroquois Middle School, prepared by Appel Osborne Landscape Architecture dated January 2023 (Pages 325-326).
2. Node SS2 (Existing A2 Chambers) is modeled after Pond No. 2 – A2 SUBSURFACE from the Stormwater Management Report and Stormwater Pollution Prevention Plan for Iroquois Middle School, prepared by Appel Osborne Landscape Architecture dated January 2023 (Pages 327-328).



Routing Diagram for 22352_River Road Watershed
Prepared by Engineering Ventures, Inc, Printed 12/5/2023
HydroCAD® 10.20-3g s/n 02106 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25-YR	Type II 24-hr		Default	24.00	1	4.49	2
2	100-YR	Type II 24-hr		Default	24.00	1	6.11	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
94.845	80	1/2 acre lots, 25% imp, HSG C (B, C, D, E, F)
14.700	74	>75% Grass cover, Good, HSG C (A1, A2, B, F)
3.380	70	Brush, Fair, HSG C (F)
0.190	89	Gravel roads, HSG C (B, C)
4.760	89	Pasture/grassland/range, Poor, HSG D (B, C, F)
7.742	98	Paved parking, HSG C (A1, A2, B, C, F)
2.930	98	Roofs, HSG C (A2, B)
29.010	70	Woods, Good, HSG C (B, C, D, E)
157.557	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
152.797	HSG C	A1, A2, B, C, D, E, F
4.760	HSG D	B, C, F
0.000	Other	
157.557		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	94.845	0.000	0.000	94.845	1/2 acre lots, 25% imp	B, C, D, E, F
0.000	0.000	14.700	0.000	0.000	14.700	>75% Grass cover, Good	A1, A2, B, F
0.000	0.000	3.380	0.000	0.000	3.380	Brush, Fair	F
0.000	0.000	0.190	0.000	0.000	0.190	Gravel roads	B, C
0.000	0.000	0.000	4.760	0.000	4.760	Pasture/grassland/range, Poor	B, C, F
0.000	0.000	7.742	0.000	0.000	7.742	Paved parking	A1, A2, B, C, F
0.000	0.000	2.930	0.000	0.000	2.930	Roofs	A2, B
0.000	0.000	29.010	0.000	0.000	29.010	Woods, Good	B, C, D, E
0.000	**0.000**	**152.797**	**4.760**	**0.000**	**157.557**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	F	0.00	0.00	30.0	0.0200	0.012	0.0	12.0	0.0	POST-F DA
2	SS1	298.25	296.50	296.0	0.0059	0.012	0.0	12.0	0.0	EX- A1 CHAMBERS
3	SS2	298.00	296.50	215.0	0.0070	0.012	0.0	12.0	0.0	EX-A2 CHAMBERS

Notes Listing (all nodes)

Line#	Node Number	Notes
1	SS1	Node SS1 (Existing A1 Chambers) is modeled after Pond No. 1 - A1 SUBSURFACE from the Stormwater Management Report and Stormwater Pollution Prevention Plan for Iroquois Middle School, prepared by Appel Osborne Landscape Architecture dated January 2023 (Pages 325-326).
2	SS2	Node SS2 (Existing A2 Chambers) is modeled after Pond No. 2 - A2 SUBSURFACE from the Stormwater Management Report and Stormwater Pollution Prevention Plan for Iroquois Middle School, prepared by Appel Osborne Landscape Architecture dated January 2023 (Pages 327-328).

Time span=0.00-98.00 hrs, dt=0.05 hrs, 1961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1: A1 DA Runoff Area=2.310 ac 58.01% Impervious Runoff Depth=3.19"
Flow Length=200' Slope=0.0150 '/' Tc=18.7 min CN=88 Runoff=8.32 cfs 0.613 af

SubcatchmentA2: A2 DA Runoff Area=3.150 ac 74.29% Impervious Runoff Depth=3.59"
Flow Length=91' Tc=14.3 min CN=92 Runoff=14.14 cfs 0.943 af

SubcatchmentB: B DA Runoff Area=34.870 ac 21.45% Impervious Runoff Depth=2.37"
Flow Length=2,693' Tc=32.9 min CN=79 Runoff=67.08 cfs 6.881 af

SubcatchmentC: C DA Runoff Area=44.572 ac 17.24% Impervious Runoff Depth=2.20"
Flow Length=2,100' Tc=25.8 min CN=77 Runoff=93.02 cfs 8.181 af

SubcatchmentD: D DA Runoff Area=3.025 ac 14.59% Impervious Runoff Depth=2.12"
Flow Length=524' Tc=17.1 min CN=76 Runoff=7.71 cfs 0.535 af

SubcatchmentE: E DA Runoff Area=57.210 ac 23.30% Impervious Runoff Depth=2.37"
Flow Length=2,200' Tc=26.2 min CN=79 Runoff=127.68 cfs 11.290 af

SubcatchmentF: POST-F DA Runoff Area=12.420 ac 14.23% Impervious Runoff Depth=2.37"
Flow Length=1,525' Tc=32.2 min CN=79 Runoff=24.22 cfs 2.451 af

Pond SS1: EX- A1 CHAMBERS Peak Elev=300.87' Storage=13,470 cf Inflow=8.32 cfs 0.613 af
Outflow=1.29 cfs 0.581 af

Pond SS2: EX-A2 CHAMBERS Peak Elev=300.64' Storage=24,900 cf Inflow=14.14 cfs 0.943 af
Outflow=0.58 cfs 0.943 af

Link 1: POINT OF STUDY 1 Inflow=291.20 cfs 28.410 af
Primary=291.20 cfs 28.410 af

Link 2: POINT OF STUDY 2 Inflow=314.50 cfs 30.861 af
Primary=314.50 cfs 30.861 af

Total Runoff Area = 157.557 ac Runoff Volume = 30.894 af Average Runoff Depth = 2.35"
78.18% Pervious = 123.174 ac 21.82% Impervious = 34.383 ac

Summary for Subcatchment A1: A1 DA

Runoff = 8.32 cfs @ 12.11 hrs, Volume= 0.613 af, Depth= 3.19"
Routed to Pond SS1 : EX- A1 CHAMBERS

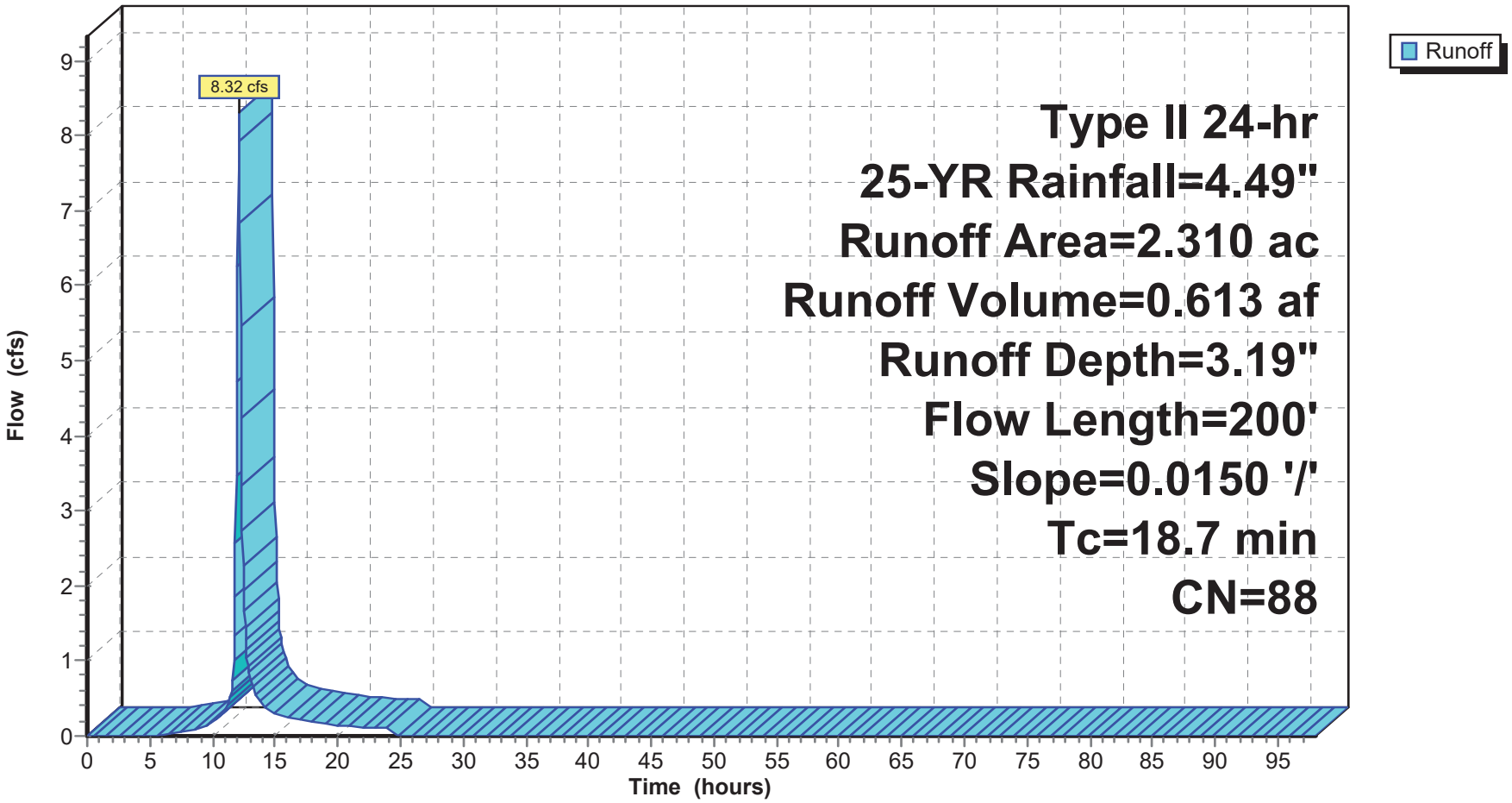
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=4.49"

Area (ac)	CN	Description
0.970	74	>75% Grass cover, Good, HSG C
1.340	98	Paved parking, HSG C
2.310	88	Weighted Average
0.970		41.99% Pervious Area
1.340		58.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	100	0.0150	0.09		**Sheet Flow, 100' Lawn sheet flow at 1.5%** Grass: Dense n= 0.240 P2= 2.57"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow, 100' Unpaved Shallow concentrated flow at 1.5%** Unpaved Kv= 16.1 fps
18.7	200	Total			

Subcatchment A1: A1 DA

Hydrograph



Summary for Subcatchment A2: A2 DA

Runoff = 14.14 cfs @ 12.06 hrs, Volume= 0.943 af, Depth= 3.59"
Routed to Pond SS2 : EX-A2 CHAMBERS

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YR Rainfall=4.49"

Area (ac)	CN	Description
0.810	74	>75% Grass cover, Good, HSG C
2.010	98	Paved parking, HSG C
0.330	98	Roofs, HSG C
3.150	92	Weighted Average
0.810		25.71% Pervious Area
2.340		74.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	14	0.0200	0.07		**Sheet Flow, 14' Lawn sheet flow at 2.0%** Grass: Dense n= 0.240 P2= 2.57"
0.2	8	0.0150	0.66		**Sheet Flow, 8' Pavement sheet flow at 1.5%** Smooth surfaces n= 0.011 P2= 2.57"
10.8	69	0.0250	0.11		**Sheet Flow, 69' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
14.3	91	Total			

Time span=0.00-98.00 hrs, dt=0.05 hrs, 1961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1: A1 DA Runoff Area=2.310 ac 58.01% Impervious Runoff Depth=4.73"
Flow Length=200' Slope=0.0150 '/' Tc=18.7 min CN=88 Runoff=12.15 cfs 0.911 af

SubcatchmentA2: A2 DA Runoff Area=3.150 ac 74.29% Impervious Runoff Depth=5.18"
Flow Length=91' Tc=14.3 min CN=92 Runoff=19.96 cfs 1.359 af

SubcatchmentB: B DA Runoff Area=34.870 ac 21.45% Impervious Runoff Depth=3.78"
Flow Length=2,693' Tc=32.9 min CN=79 Runoff=107.57 cfs 10.978 af

SubcatchmentC: C DA Runoff Area=44.572 ac 17.24% Impervious Runoff Depth=3.58"
Flow Length=2,100' Tc=25.8 min CN=77 Runoff=151.91 cfs 13.280 af

SubcatchmentD: D DA Runoff Area=3.025 ac 14.59% Impervious Runoff Depth=3.48"
Flow Length=524' Tc=17.1 min CN=76 Runoff=12.66 cfs 0.876 af

SubcatchmentE: E DA Runoff Area=57.210 ac 23.30% Impervious Runoff Depth=3.78"
Flow Length=2,200' Tc=26.2 min CN=79 Runoff=203.96 cfs 18.012 af

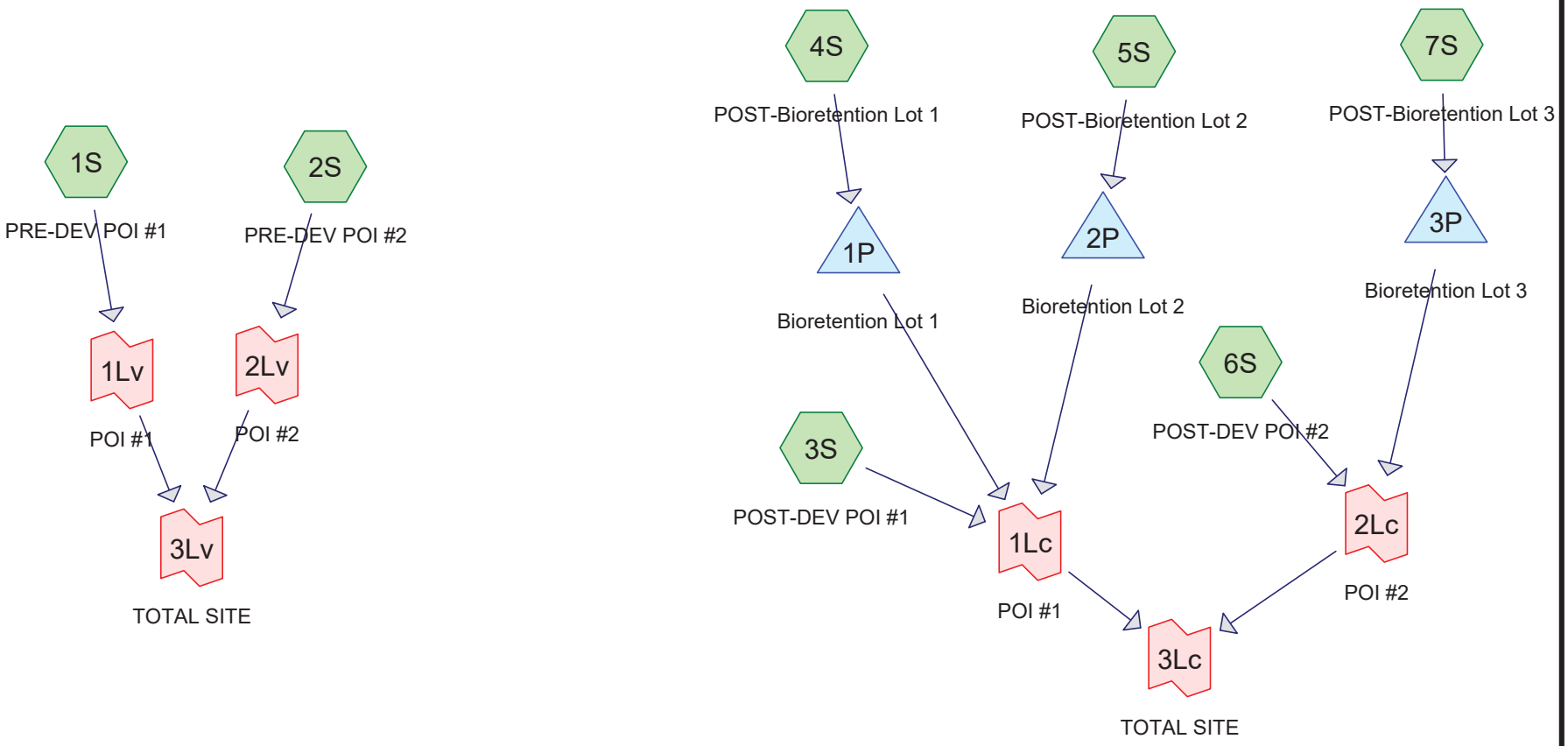
SubcatchmentF: POST-F DA Runoff Area=12.420 ac 14.23% Impervious Runoff Depth=3.78"
Flow Length=1,525' Tc=32.2 min CN=79 Runoff=38.78 cfs 3.910 af

Pond SS1: EX- A1 CHAMBERS Peak Elev=311.04' Storage=15,953 cf Inflow=12.15 cfs 0.911 af
Outflow=7.59 cfs 0.878 af

Pond SS2: EX-A2 CHAMBERS Peak Elev=301.53' Storage=34,132 cf Inflow=19.96 cfs 1.359 af
Outflow=1.84 cfs 1.359 af

Link 1: POINT OF STUDY 1 Inflow=471.90 cfs 45.383 af
Primary=471.90 cfs 45.383 af

Link 2: POINT OF STUDY 2 Inflow=509.47 cfs 49.293 af
Primary=509.47 cfs 49.293 af



Subcat Reach Pond Link

Routing Diagram for 22352 2890 River Road Subdivision
Prepared by Engineering Ventures, Inc, Printed 12/8/2023

Attachment 7

2890 River Road Subdivision Stormwater Calculations

WQv Calculations
Minimum RRv Calculation
Bioretention Area Calculations

Version 1.8
Last Updated: 11/09/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	No

Design Point:	POS 1 and 2	
P=	1.10	*inch*

Manually enter P, Total Area and Impervious Cover.

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	0.15	0.08	51%	0.51	311	Bioretention Lot 1
2	0.30	0.09	31%	0.33	390	Bioretention Lot 2
3	0.46	0.22	47%	0.47	876	Bioretention Lot 3
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	0.91	0.39	43%	0.43	**1,576**	**Subtotal 1**
Total	0.91	0.39	43%	0.43	**1,576**	**Initial WQv**	**0.04**	**af**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*		
"<<Initial WQv"	0.91	0.39	43%	0.43	1,576		
Subtract Area	0.00	0.00					
WQv adjusted after Area Reductions	**0.91**	**0.39**	43%	0.43	1,576		
Disconnection of Rooftops		0.00					
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.91	0.39	43%	0.43	**1,576**	**0.04**	**af**
WQv reduced by Area Reduction techniques					0	**0.00**	**af**

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B	0.91	40%
C		30%
D		20%
Total Area	0.91	
Calculate the Minimum RRv		
S =	**0.40**	
Impervious =	0.39	*acre*
Precipitation	1.1	*in*
Rv	0.95	
Minimum RRv	**589**	***ft3***
	0.01	af

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	**POS 1 and 2**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	0.15	0.08	0.51	0.51	310.66	1.10	Bioretention Lot 1
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	51%	0.51	311	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	ft^3	

Soil Information			
Soil Group	B		
Soil Infiltration Rate	0.00	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		311	ft^3	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.25	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**282**	ft^2	

Determine Actual Bio-Retention Area			
Filter Width	16	*ft*	
Filter Length	25	*ft*	
Filter Area	400	ft^2	
Actual Volume Provided	440	ft^3	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	
RRv	176			
RRv applied	**176**	ft^3	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	135	ft^3	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	ft^3	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor & Schueler, 1996)

Design Point:	**POS 1 and 2**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
2	0.30	0.09	0.31	0.33	389.52	1.10	Bioretention Lot 2
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	31%	0.33	390	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	ft^3	

Soil Information			
Soil Group	B		
Soil Infiltration Rate	0.00	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		390	ft^3	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.25	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**354**	ft^2	

Determine Actual Bio-Retention Area			
Filter Width	20	*ft*	
Filter Length	30	*ft*	
Filter Area	600	ft^2	
Actual Volume Provided	660	ft^3	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?			Select Practice	
RRv	264			
RRv applied	**264**	ft^3	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	126	ft^3	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	ft^3	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	**POS 1 and 2**

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
3	0.46	0.22	0.47	0.47	876.06	1.10	Bioretention Lot 3
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	47%	0.47	876	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	ft^3	

Soil Information			
Soil Group	B		
Soil Infiltration Rate	0.00	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		876	ft^3	
Enter Depth of Soil Media	*df*	2.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.25	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**796**	ft^2	

Determine Actual Bio-Retention Area			
Filter Width	29	*ft*	
Filter Length	50	*ft*	
Filter Area	1450	ft^2	
Actual Volume Provided	1595	ft^3	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?			Select Practice	
RRv	638			
RRv applied	**638**	ft^3	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	238	ft^3	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	ft^3	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Bioretention Worksheet

Total RRv Applied	1,078.00
Total Area	0.91
Total Impervious Area	0.39
Total Volume Treated	498.24
Rooftop Disconnect Impervious Area Total	0.00

Attachment 11

Copy of General Permit 0-20-001

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020 Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

RFP EVALUATION

NRI RFP (attached)

CHOOSE 1

1. JN Land Trust
2. Hudsonia

GHG/CAP RFP (attached)

CHOOSE 1

1. First Environmental
2. Weston & Sampson
3. Climate Action Associates / Yienger

Town of Niskayuna

Conservation Advisory Council

1 Niskayuna Circle
Niskayuna, NY 12309

OFFICIAL CONTACT
Laura Robertson
Town Planner
lrobertson@niskayuna.org

The Town of Niskayuna recently obtained a competitive grant from the Mohawk River Watershed Grants Program of the NYS Department of Environmental Conservation. The grant includes a $16,500 budget for the hiring of consultant services with responsibilities as outlined below.

The purpose of our grant is to develop a Natural Resources Inventory (NRI) by surveying 10 town-owned parcels. The grant period is from July 01, 2023 to June 30, 2025, with a final product – the NRI report – due by the end date. The NRI report must conform to the guidelines in the Mohawk River Basin Action agenda.[1] Maps of the parcels to be surveyed, along with their acreage, are attached to this RFP.

The Town will hire a consultant to assist us with the development of the NRI. A key aspect of our NRI is a strong passion for community involvement, especially high school students and underserved populations. Consultants who have experience in and a passion for involving the community in their surveying work are preferred.

The final NRI report is expected to include: (1) a detailed summary of the flora and fauna in the 10 parcels to be surveyed (2) recommendations for wildlife corridors (3) identify lands that are most valuable for conservation and (4) recommendations for improved community participation.

The consultant is expected to make a minimum of two trips to Niskayuna to survey the parcels. The CAC will assist with selecting dates and recruiting residents (to include high school students and underserved populations) to accompany the consultant on survey trips. The consultant is also expected to participate in regular meetings involving Town residents and representatives from the CAC and DEC. These meetings will be virtual.

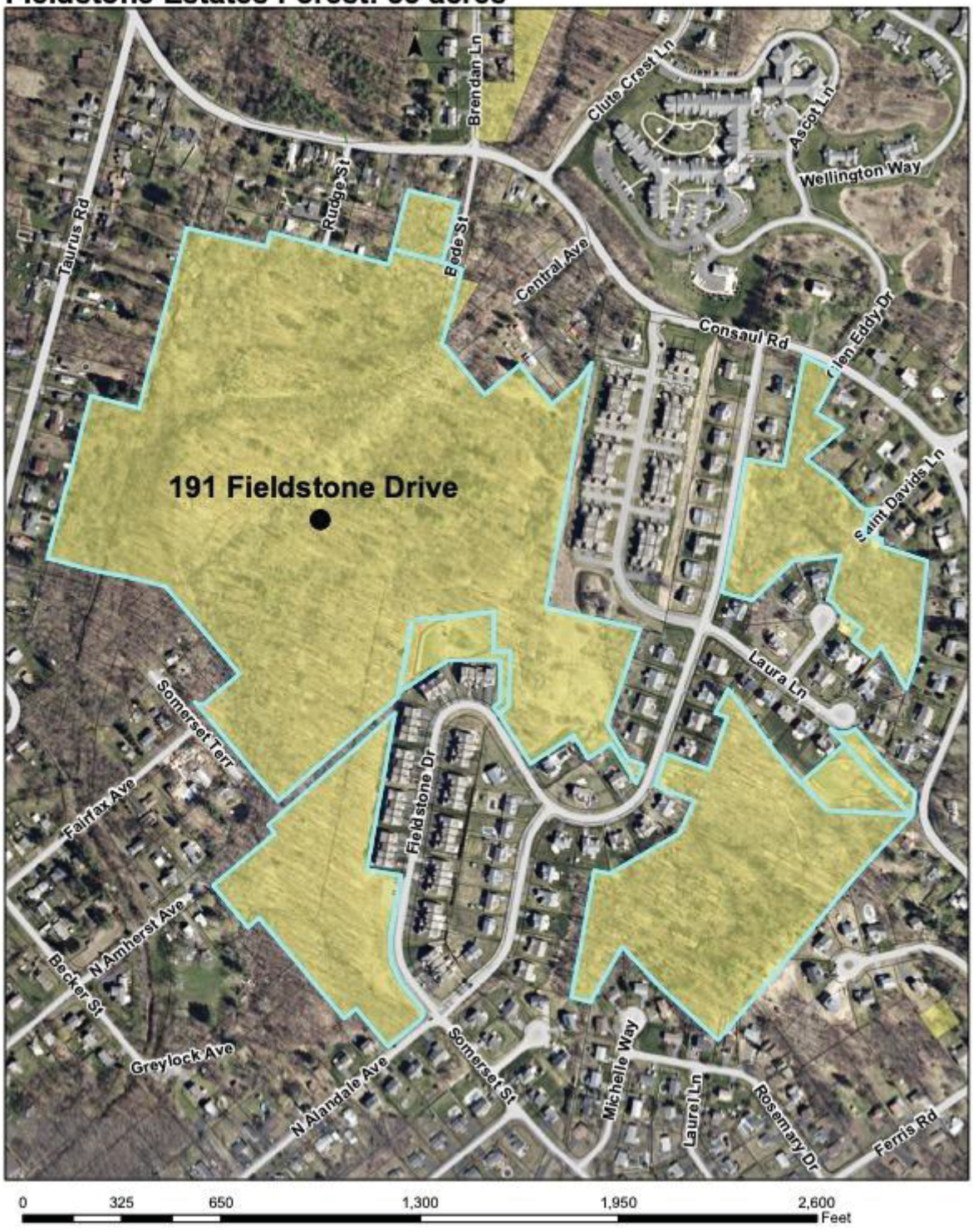
Interested parties are requested to submit a proposal by December 15 2023. Please include a detailed resume, budget justification, and samples of prior work.

[1] https://www.dec.ny.gov/docs/water_pdf/mohawkrbaa2021.pdf

Table 1: Parcels to be surveyed (maps follow)

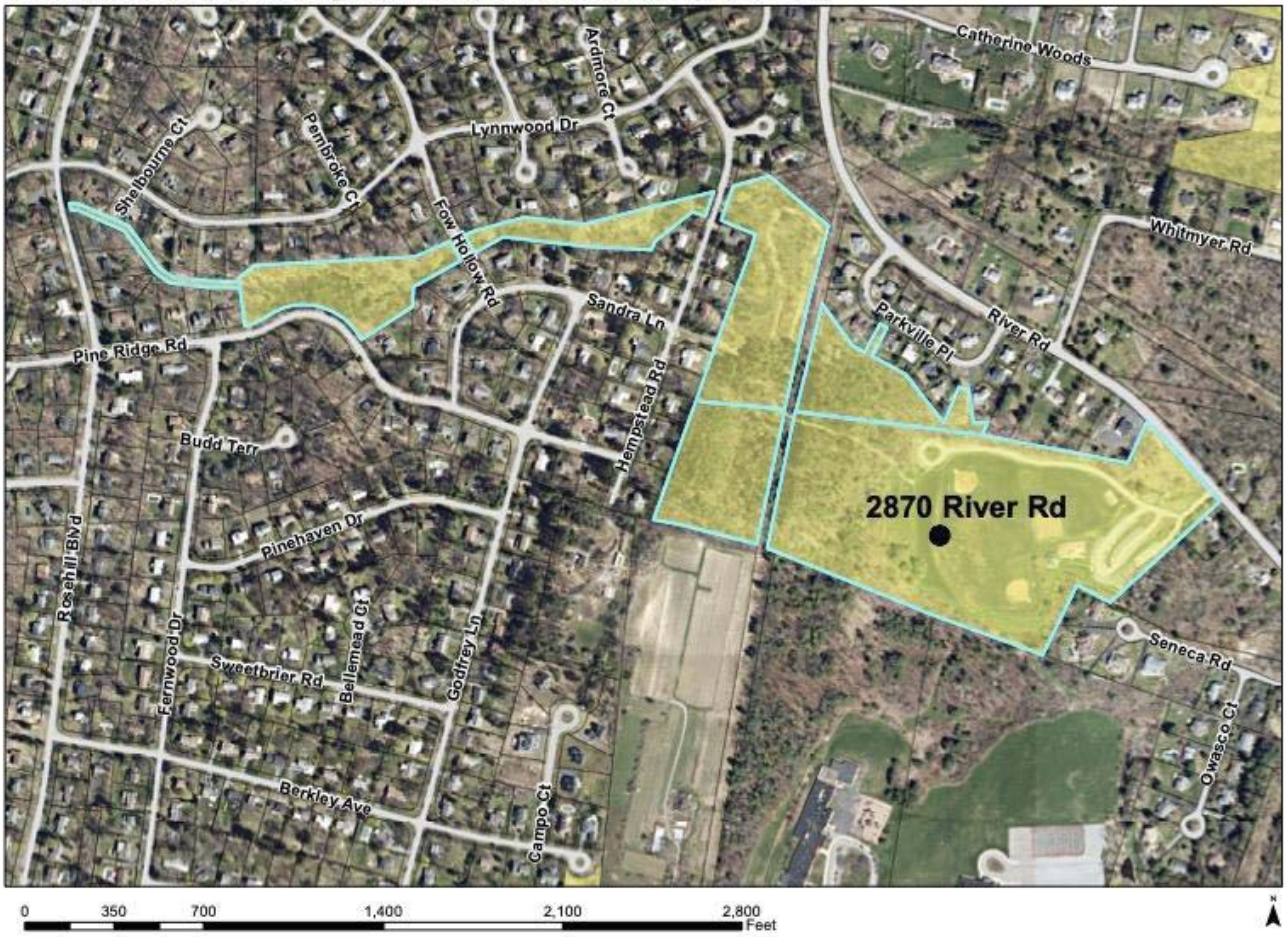
Name of the Parcel	Acreage
191 Fieldstone Dr.	83
Lock 7 Road (Mohawk-Hudson Bike Trail Corridor)	50
2870 River Road (River Road Park)	44
630 Stanford Ave	29
658 Maple Lane	16.71
35 Brendan Lane	14
Angelina Drive St. Ann Corridor	7
3439 Rosendale Rd. (Lions Park)	4
2173 Morrow Ave.	0.6
1003 Northwood Ct.	0.5
TOTAL ACREAGE TO BE SURVEYED	**248.81**

Fieldstone Estates Forest: 83 acres

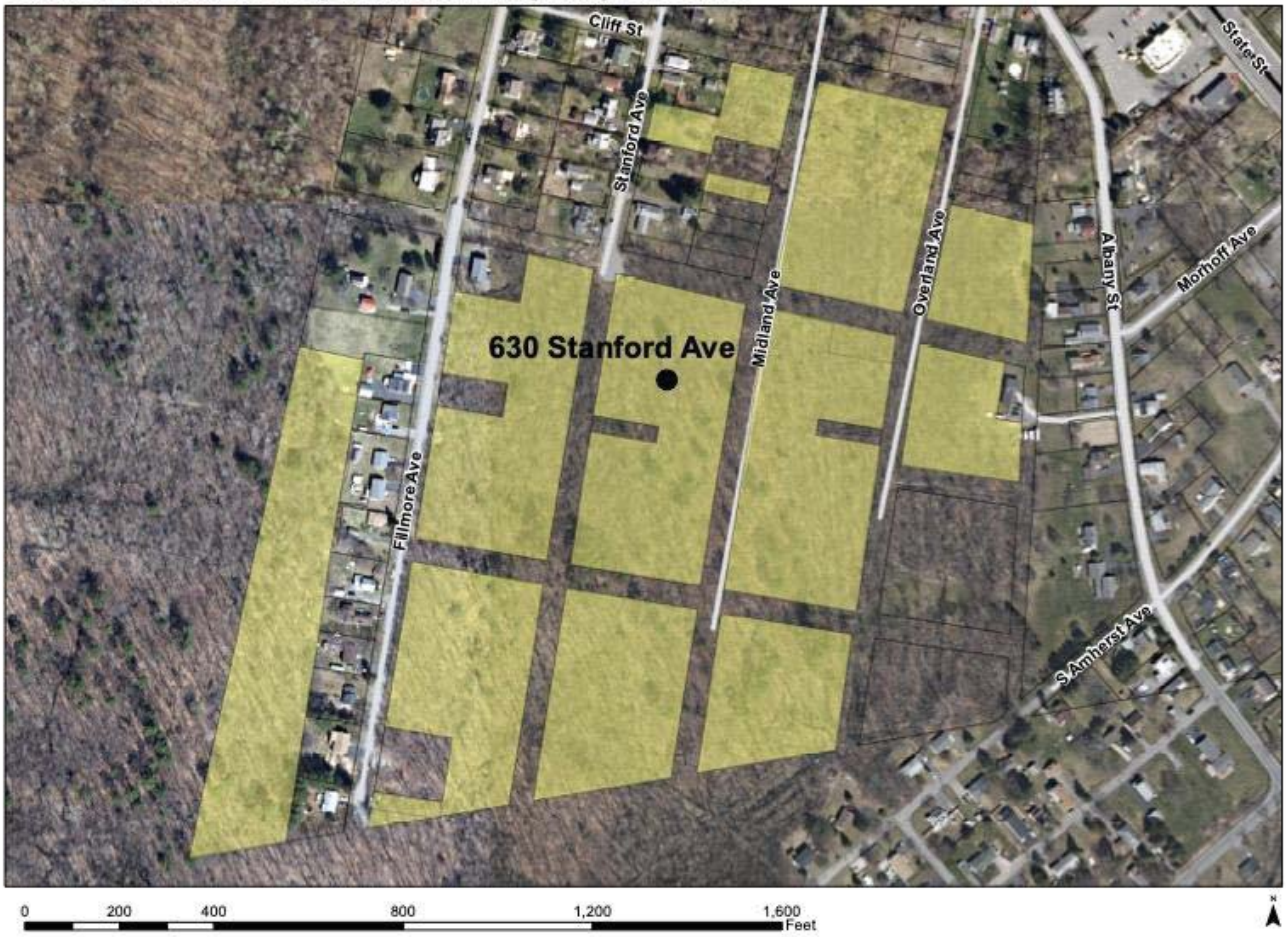


Mohawk Hudson Bike Hike Path Corridor Blatnick Park to Lions Park: 50 acres

River Road Park and Lynnwood Drive Corridor (44 acres)



Stanford Park Lands (Town of Niskayuna): 29 acres



Maple Lane Trails and Forest: 16.71 acres

Brendan Lane Corridor: 14 acres

Angelina - St Ann Corridor: 7 acres

Lions Park: 4 Acres

2173 Morrow Ave: 0.6 Acres

1003 Northwood Court: 0.5 acres

REQUEST FOR PROPOSAL:

TOWN LOGO DESIGN
FOR THE TOWN OF NISKAYUNA
(Schenectady County, New York)

TO:	Qualified Climate Smart Communities Consultants
FROM:	Laura Robertson, Town Planner
RFP TIMELINE:	Release Date: December 6, 2023 Proposal **Due** Date: **December 17, 2023**
MAILING ADDRESS:	Town of Niskayuna 1 Niskayuna Circle, Niskayuna, NY 12309
CONTACT: TELEPHONE: EMAIL:	Laura Robertson, Town Planner 518-386-4531 lrobertson@niskayuna.org

The Town of Niskayuna (hereinafter referred to as "the Town") is soliciting proposals from qualified professional planning consultants for assistance with the development and creation of A Government Operations GHG Inventory, a Community GHG Inventory and a Government Operations Climate Action Plan for the Town of Niskayuna in 2024.

A copy of the Request for Proposals (RFP) is attached. A letter of interest along with a proposal and other required documents must be submitted to the email listed above **on or before December 17, 2023.**

The submitting party acknowledges the right of the Town to reject any or all proposals, or parts thereof, and to waive any informalities or irregularities in any proposal received. The award of proposal will be based on presentations and negotiation between the Town and submitting party. **All proposals shall remain valid and in full effect for a period of ninety (90) days after the deadline for submission of proposals.**

The Town encourages Minority/Women/Disadvantaged Business Enterprises (M/W/D/BE) to respond to this advertisement.

Background:

The Town of Niskayuna, henceforth referred to as "the Town", is working towards achieving the 120 points necessary to gain Bronze certification as a New York State Climate Smart Community (CSC). The actions sought after in this proposal will not only propel the Town into Bronze certification, but enhance the health and safety of the Town through a lowering of government and community emissions. In this proposal, the Town seeks assistance in the following New York State Climate Smart Certification Actions: PE2 Government Operations GHG Inventory (16 pts), PE 2 Community GHG Inventory (16 pts), and PE2 Government Operations Climate Action Plan (12 pts). The Guidance for each action is attached to this RFP as Appendix A.

Goals and Desired Outcomes:

Consultants will gather and organize data required for each of the 3 action items, guide the Town through the GHG Inventory and CAP process, and prepare final paperwork in conformance with the NYS Climate Smart Guidance documents in Appendix A so that the Town can submit each item to NYS through their Climate Smart Communities Application portal.

Background on Niskayuna:

Located in the easternmost region of Schenectady County, Niskayuna had a population of 23,325 as of the 2021 US Census estimate. A primarily residential town, Niskayuna has close ties with the cities of Schenectady and Albany and has multiple major State and County roads that connect to these cities and beyond. In the northern part of the Town lies Niskayuna's largest industrial sections which incorporate Knolls Atomic Power Lab, GE Global Research, the SI Group and Environment One Corporation. There are minimal public transportation routes throughout the Town, however many school buses that transport students to the seven public schools within the Town (as well as one school in neighboring Rexford).

Scope of Work:

It should be assumed that all following components will be expected of the selected consultant, however more components may arise as the project progresses.

Task 1: Familiarization with CSC requirements
- Understand the CSC program as a whole, and fully comprehend what is required for the 3 Action items needed for this RFP.

Task 2: Meeting with appropriate Town bodies
- The applicant will meet with any bodies necessary including, but not limited to, the Niskayuna Climate Smart Communities Task Force, Niskayuna Town Board, Planning Board, Comprehensive Plan Committee and Complete Streets Committee.
- The applicant will work with and update the bodies as needed to allow them to add input and incorporate CSC Actions into their work.

Task 3: Develop a public outreach strategy
- Public outreach strategy should be targeted at main stakeholders within the Town.
- Strategy will evoke input from key stakeholders and inform them of the changes to come.

Task 4: Development of a Government Operations GHG Inventory.
- Select GHG inventory tool and confirm it is compliant with the Local Government Operations Protocol (LGOP)
- Determine what will be included in the GHG inventory
- Gather and organize data
- Calculate GHG emissions using the selected inventory tool
- Identify key findings
- Develop a GHG emissions forecast and narrative
- Ensure process is repeatable every 5 years

Task 5: Development of a Government Operations Climate Action Plan.
- Determine leadership and CAP framework.
- Develop communication and engagement strategy.
- Complete and analyze baseline assessments.

- Identify goals and GHG reduction targets.
- Identify existing and potential initiatives.
- Prioritize initiatives.
- Create a plan for implementing the chosen initiatives.
- Establish metrics.
- Write the CAP, adopt it, and make it publicly available.

Task 6: Development of a Community GHG Inventory.

- Community inventories should include all GHG emissions that occur physically within the boundary and, to the extent possible, those that occur indirectly regardless of location because of community activity or consumption
    - Direct emissions that occur physically within a boundary, such as those emitted by burning natural gas or fuel oil in homes, schools, and businesses
    - Indirect emissions from utility energy generation plants based on the amount of electricity (or other utilities such as hot water or steam) consumed within the boundary, regardless of where the plants are located
    - Other indirect, upstream, or lifecycle emissions attributed to community activity regardless of where they occur (known as Scope 3)
- The Capital District Regional Planning Commission (CDRPC) prepared a Capital District Regional and County GHG Emission Inventory in 2010 that is a good place to start drilling down into a Community GHG Inventory specific to Niskayuna.

Submission Requirements:

Person of Contact
Proper email and telephone information should be included

Introduction/Experience
Background information on the firm as a whole, including relevant past experience
Sample of relevant past experience
Qualifications of both the firm and key members contributing on the project

Understanding of Work/Scope of Work
A description entailing the consultant's understanding of the Town's proposal
A detailed outline of project and how the consultant plans on proceeding with required items
A timeline of events

Budget
A Budget (not to exceed $50,000)

REVIEW CRITERIA

Proposals will be reviewed by the Town of Niskayuna based on the following review criteria:

Relevant Past Experience

Please demonstrate through the submission of examples, documentation showing you have past experience with similar types of projects. You should also be able to document/demonstrate the full scope of the various services your firm provides.

Resources/Capability:

Please demonstrate through a brochure or other document your business experience, staff skills and experience, clients serviced, projects of note, technical skills, project management methodology, and ability to meet milestones.

Resumes:

Please provide a resume (or resumes) of your education, experience and qualifications for this project.

Pricing Structure/Rates:

Please provide a comprehensive pricing and/or rate sheet for all potential services you might provide under this RFP agreement, with a budget not to exceed $50,000.

SUBMISSION OF PROPOSAL

All proposals must be received by the Town of Niskayuna no later than the date and time specified. Proposals must be submitted electronically, via email to lrobertson@niskayuna.org. When submitting electronically, the Town suggests submitting early and receiving confirmation that the proposal has been received.

Submittals will be accepted **on or before December 17, 2023**. Proposals received after the deadline will not be accepted.

If you have questions regarding this solicitation, please contact Laura Robertson by e-mail at lrobertson@niskayuna.org

END OF RFP

APPENDIX A

Climate Smart Communities Action Guidance Documents

- PE 2 Action: Government Operations GHG Inventory
- PE2 Action: Community GHG Inventory
- PE2 Action: Government Operations Climate Action Plan

PE2 Action: Government Operations GHG Inventory

16 Points | BRONZE PRIORITY | SILVER PRIORITY

A. Why is this action important?

A greenhouse gas (GHG) emissions inventory is one of the first and most important steps in the local climate action process. A local government operations GHG inventory is an accounting, analysis, and report of the GHG emissions resulting from the day-to-day operations of a village, town, city, or county. It summarizes the GHG emissions from the consumption of energy and materials in government buildings, from wastewater and water treatment facilities, from municipal vehicle fleets, from government-owned outdoor lighting, and from other sources. All Climate Smart Communities should prioritize GHG inventories as a foundational step toward effective action. GHG inventories provide the data needed to set realistic goals and track progress toward reducing operating costs, energy use, and emissions.

GHG inventory reports identify the largest energy users and sources of GHG emissions (e.g., by building, sector, or department). As a result, GHG inventories help local governments select actions that offer a good return on investment and should be highlighted in subsequent climate action planning. Over time, as a local government builds its capacity to conduct GHG inventories on a regular basis, the process helps to increase the ability of the local government to operate efficiently and use taxpayer resources effectively.

B. How to implement this action

For detailed guidance on implementation, download the Climate Smart Communities (CSC) guide New York Community and Regional GHG Inventory Guidance. (Please note that several of the links in this 2014 guide are broken, but the overall framework is still relevant.) The information below provides an overview of the process.

At minimum, the inventory must include the Scope 1 and Scope 2 GHG emissions from government operations for the specific village, town, city, or county that is applying for CSC certification. Examples of the emissions categorized as Scope 1 and Scope 2 are described below.

- Direct GHG emissions (known as Scope 1) - for example, from government-owned vehicles, onsite fuel combustion (e.g., natural gas, propane, or fuel oil), wastewater treatment facilities, landfills, refrigerant leakage
- Indirect GHG emissions (known as Scope 2) – for example, from purchased electricity

Reporting on Scope 3 emissions is optional for this action, though highly encouraged. Scope 3 emissions are the other indirect GHG emissions not included in Scope 2. These include emissions resulting from the extraction and production of purchased materials and fuels, transportation in vehicles not owned or controlled by the reporting entity, outsourced activities, and waste disposal. A common source of Scope 3 emissions that is often included in government operations inventories is employee commuting. (Note that some voluntary GHG reporting programs require reporting of emissions from specified Scope 3 sources.)

Below is a summary of the steps involved in creating a local government operations GHG inventory:

1. Put together a small team who will manage the GHG inventory process and define each member's responsibilities. Identify key contacts who will provide support and data throughout the project. The team should focus not only on producing the GHG inventory report, but also on creating a process and data collection templates that will make producing the inventory easier next time.
2. Review options for GHG inventory tools, and select a tool that is appropriate for local goals and resources.

(Free Excel-based GHG tools are available; contact climatesmart@dec.ny.gov for details.) Confirm that the GHG tool is compliant with the Local Government Operations Protocol (LGOP), a standardized set of guidelines for quantifying and reporting the GHG emissions associated with local government operations.

3. Prepare for the process by determining what will be included in the GHG inventory. Preparation involves selecting a baseline year, assessing which emissions the local government is responsible for, and deciding what government sectors, facilities, and emission sources will be included. The CSC program recommends including only those emission sources over which the local government has operational control. Keep the inventory practical and cost-effective by focusing on the largest sources of emissions; an inventory that covers about 95% of GHG emissions is acceptable and complies with the LGOP. Facility energy use, fleet fuels, and streetlights tend to account for about 90% of local government GHG emissions, for those governments that do not have significant refrigerant leakage and do not operate a landfill or wastewater treatment plant.
4. Gather and organize the data. Request data on energy use and other sources of emissions from relevant local government departments and agencies. Review the data for completeness and accuracy.
5. Enter the data and calculate GHG emissions using the selected inventory tool. Review the calculations to confirm accuracy. Identify key findings.
6. Develop a GHG emissions forecast, where feasible, to estimate how emissions are likely to grow in the near future. Some GHG tools have the capacity to create a simple business-as-usual projection, while other, more sophisticated tools can create a range of forecasts.
7. Develop the GHG inventory report, with charts and a narrative description of the results in a way that is accessible and clear.
8. Share the report with the community by making a copy publicly accessible.
9. Repeat the process every five years, at minimum.

C. Time frame, project costs, and resource needs

Developing a GHG inventory is a data-intensive task that involves costs related to staff time and, where applicable, time for consultants and/or interns. Project coordinators should review the available options for GHG inventory tools and select a tool that is appropriate for local goals and resources. Free GHG tools are available. Contact climatesmart@dec.ny.gov for details.

The total amount of time to produce the inventory depends on several factors, including the size and complexity of the local government, availability and quality of data, amount of resources dedicated to the effort, and promptness of contacts in providing data. The process can take a few months if the data are well organized and readily available. The first inventory process could take as much as a year. When procedures are put in place to enable regular updates of the GHG inventory, the time required will be reduced significantly as data collection improves and staff become familiar with the process.

D. Which local governments implement this action? Which departments within the local government are most likely to have responsibility for this?

This action is applicable to all types of local governments. Planning departments or offices that lead climate and/or sustainability efforts are often responsible for managing the creation of GHG inventories. Cross-department involvement is often required to gather all the needed data. Local governments are encouraged to host a kick-off meeting at the beginning of the process and a meeting at the end to discuss the results with local government staff. If the local government chooses to organize a community event to share the report, a public relations officer or communications staff could be involved as well.

E. How to obtain points for this action

A local government operations GHG inventory report that is consistent with the requirements described here is eligible for a total of 16 points.

F. What to submit

Submit a copy of a local government operations GHG inventory report that was published (i.e., released to the public)

within five years prior to the application date. (The baseline year for the GHG data can be from any point in the past.)

As described above (in section B), the inventory must include, , at minimum, the Scope 1 and Scope 2 GHG emissions from government operations for the specific village, town, city, or county that is applying for CSC certification.

The report must include a section describing the methodology and how it complies with established protocols, such as the LGOP. The inventory results can be presented in a report that is a standalone document, or they can be integrated into another report or plan.

Lastly, provide evidence that the report was released to the public; for example, it could be posted on a government website or made available for review at a local library.

All CSC action documentation is available for public viewing after an action is approved. Action submittals should not include any information or documents that are not intended to be viewed by the public.

G. Links to additional resources or best practices

- New York Community and Regional GHG Inventory Guidance. (Please note that several of the links in this 2014 guide are broken, but the overall framework is still relevant.)
- US EPA Local GHG Inventory Tools: Download free tools and sign up for updates.
- ICLEI - Local Governments for Sustainability USA, Inc.: ICLEI has a comprehensive GHG tool called ClearPath for conducting GHG inventories, forecasts, and monitoring at the community or government operations scale. Membership in ICLEI involves an annual fee based on municipal size and includes access to ClearPath.

H. Recertification requirements

The recertification requirements are the same as the initial certification requirements.

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE2 Action: Community GHG Inventory

16 Points | BRONZE PRIORITY | SILVER PRIORITY

A. Why is this action important?

Understanding the sources of greenhouse gas (GHG) emissions and establishing a GHG baseline are critical first steps in the local climate action process. A community GHG inventory is an accounting, analysis, and report of the GHG emissions resulting from transportation fuels, waste, energy usage in buildings, and other sources within a given geographic boundary.

Government operations typically account for less than three percent of a community's emissions. It is therefore important to understand how the industries, businesses, schools, homes, and vehicles in the entire community are contributing to climate change. Community GHG inventories provide the data needed to set realistic goals and track progress toward reducing costs, energy use, and emissions. By identifying the largest sources of emissions in the community, GHG inventories help local governments focus policies and incentives on the most important sectors. All Climate Smart Communities should prioritize completing a community GHG inventory as a foundational step that enables the community to establish a baseline against which to measure progress over time.

B. How to implement this action

Community inventories should include all GHG emissions that occur physically within the boundary and, to the extent possible, those that occur indirectly regardless of location because of community activity or consumption. Therefore, GHG sources are labeled as one of the following:

- Direct emissions that occur physically within a boundary, such as those emitted by burning natural gas or fuel oil in homes, schools, and businesses (known as Scope 1)
- Indirect emissions from utility energy generation plants based on the amount of electricity (or other utilities such as hot water or steam) consumed within the boundary, regardless of where the plants are located (known as Scope 2)
- Other indirect, upstream, or lifecycle emissions attributed to community activity regardless of where they occur (known as Scope 3)

A municipality may not earn Climate Smart Communities (CSC) certification points for an inventory that covers only the county or region within which the municipality is located; the municipality must submit an inventory that corresponds with its municipal boundaries.

In general, the CSC program recommends that inventories adhere to ICLEI's US Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (US Community Protocol). This national standard advises communities to include a variety of direct and indirect sources they can control or influence with local and regional policy. While the US Community Protocol provides a methodology tailored to US communities, those communities interested in reporting to international registries such as carbonn Climate Registry should also consult the Global Protocol for Community-Scale Emissions.

Fortunately, there is also guidance that is specific to New York State (NYS). The 2015 New York Community and Regional Greenhouse Gas Inventory Guidance is a collection of methods and data sources applicable to the state that was created by the NYS GHG Working Group. The guide can be considered a compendium guide to the US Community Protocol, but it can also be used as a standalone guide. It does not cover all sources discussed in the US Community Protocol but includes enough information to complete a basic GHG inventory suitable for most regions or communities. In some cases,

the NYS GHG Working Group recommendations differ from the US Community Protocol. For example, the US Community Protocol recommends that communities use electricity (Scope 2) emission factors developed by the US EPA Emissions & Generation Resource Integrated Database (eGRID). It is acceptable under the CSC program to either use eGRID or follow the guidance that NYSERDA currently has in place regarding Scope 2 emissions factors.

Community inventories that comply with the New York Community and Regional Greenhouse Gas Inventory Guidance, US Community Protocol, or the Global Protocol for Community-Scale Emissions are eligible for points under the CSC Certification Program.

C. Time frame, project costs, and resource needs

Conducting a community GHG emissions inventory can take between three to six months, depending on the availability and quality of the data. Community GHG emissions inventories usually take less time than local government operations inventories because community inventories rely heavily on estimates of community-wide energy use and other activities, rather than on the large quantity of direct data that is required for local government operations inventories. The cost of producing a community inventory may include paying a consultant or an intern, or possibly covering the cost of staff time. In addition, some local governments choose to pay for the use of a community GHG inventory tool. However, free tools for community inventories are available. One example is the community module of the US EPA Local GHG Inventory Tools. Contact climatesmart@dec.ny.gov with questions about other free tools.

D. Which local governments implement this action? Which departments within the local government are most likely to have responsibility for this?

This action is applicable to all types of local governments. Planning departments or offices that lead climate and/or sustainability efforts are often responsible for managing the creation of GHG inventories. If local leaders choose to host a community event to share the findings, a public relations officer or communications staff could be involved as well.

E. How to obtain points for this action

A community GHG inventory report that is consistent with the requirements described here is eligible for a total of 16 points.

F. What to submit

Submit a copy of a community GHG inventory report that was published (i.e., released to the public) within five years prior to the application date. (The baseline year for the GHG data can be from any point in the past.)

The report must include a section describing the methodology and how it complies with established protocols. The inventory report can be a standalone document, or it can be integrated into another report or plan.

Provide evidence that the report was released to the public; for example, it could be posted on a government website or made available for review at a local library.

Community GHG inventory reports that draw on the 2010 data from the NYSERDA-funded regional inventories are eligible for points under this action, provided that the following **additional** requirements are met:

- The report clearly presents the GHG data that is relevant to the community that is applying for CSC certification. (I.e., submitting the entire regional inventory report, without separating out the data that is specific to the community, is not acceptable.)
- The report includes a short narrative that explains the inventory results to the public and briefly describes how the GHG data relates to the community's profile and its goals. (I.e., submitting a spreadsheet of numbers is not sufficient.)

All CSC action documentation is available for public viewing after an action is approved. Action submittals should not include any information or documents that are not intended to be viewed by the public.

G. Links to additional resources or best practices

- Regional Greenhouse Gas Inventories in New York State
- US EPA Local GHG Inventory Tools: Download free tools and sign up for updates.
- Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) - An Accounting and Reporting Standard for Cities, 2014
    - For an overview of the GPC, see https://ghgprotocol.org/greenhouse-gas-protocol-accounting-reporting-standard-cities
- Utility Energy Registry (UER) - The UER offers streamlined, public access to utility-reported data on community-level electricity and natural gas consumption. All UER data is free and open source.
- ICLEI - Local Governments for Sustainability USA, Inc.: ICLEI has a comprehensive GHG tool called ClearPath for conducting GHG inventories, forecasts, monitoring, and climate action planning at the community or government operations scale. Membership in ICLEI involves an annual fee based on municipal size and includes access to ClearPath.

H. Recertification requirements

The recertification requirements are the same as the initial certification requirements.

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

PE2 Action: Government Operations Climate Action Plan

12 Points | 16 Points | BRONZE PRIORITY | SILVER PRIORITY

A. Why is this action important?

A climate action plan (CAP) is a strategy document that sets goals and outlines a set of initiatives that reduce greenhouse gas (GHG) emissions. Using a GHG emissions inventory as the foundation, a CAP defines GHG reduction targets and provides a framework for achieving those targets. The CAP identifies priority actions and facilitates coordination across government departments. In addition, the CAP supports effective action over time by establishing methods for assessing progress and adjusting the local strategy if GHG targets are surpassed or not fulfilled. By developing such a plan for their own operations, local governments take leadership roles and provide their communities with examples that help to inspire community-wide action.

Local governments are encouraged to incorporate climate adaptation strategies into their CAP. However, under the Climate Smart Communities (CSC) Certification program, points for climate adaptation planning are awarded under Pledge Element 7: Enhance community resilience to climate change.

B. How to implement this action

For detailed guidance on implementation, download the CSC Climate Action Planning Guide. The information below provides an overview of the process and key components. The government operations CAP can be a standalone document, or it can be integrated into another plan, such as a comprehensive plan, clean energy plan, or sustainability plan.

The CAP must include the results of the local government operations GHG inventory. See *PE2 Action: Government Operations GHG Inventory* for details on how to complete this prerequisite. Emissions forecasts (often included in the GHG inventory process) are also useful during climate action planning because such forecasts anticipate shifts in emissions caused by population change, technological developments, or economic impacts.

The CAP must include at least one GHG reduction target that covers Scope 1 and Scope 2 GHG emissions from government operations. See *PE2 Action: Government Operations GHG Inventory* for a description of Scope 1 and Scope 2 GHG emissions.

Some local governments find it valuable to set more than one target; they often establish short- and long-term targets. The short-term targets help to ensure that action is taken in the near term, whereas long-term targets can set the stage for major planning initiatives and investments designed to dramatically reduce energy use and emissions. New York State's climate act requires a reduction in GHG emissions of 40 percent by 2030 and 85 percent by 2050 (below 1990 levels). Local governments are encouraged to align their targets with state goals.

The basic steps to create a local CAP are as follows:

1. Determine leadership and CAP framework.
2. Develop communication and engagement strategy. (For this CSC action, applicants are not required to include public outreach, but doing so will make the applicant eligible for an additional 4 points.)
3. Complete and analyze baseline assessments.
4. Identify goals and GHG reduction targets.
5. Identify existing and potential initiatives.
6. Prioritize initiatives.

7. Create a plan for implementing the chosen initiatives.
8. Establish metrics.
9. Write the CAP, adopt it, and make it publicly available.

C. Time frame, project costs, and resource needs

Crafting a CAP for government operations takes about six to 12 months, depending on staff capacity, availability of data, and level of public engagement. Project costs include staff time and possibly consultants to support the development of the plan.

D. Which local governments implement this action? Which departments within the local government are most likely to have responsibility for this?

This action is applicable to all types of local governments. Planning departments or offices that lead climate and/or sustainability efforts are often responsible for managing climate action planning processes. Cross-department involvement is recommended as a strategy to foster understanding of the CAP and build internal support for implementing it.

E. How to obtain points for this action

	POSSIBLE POINTS
Plan: Develop and adopt a local government operations climate action plan that is consistent with the requirements described here.	12
Public outreach: Provide an opportunity for the public to review and comment on the draft climate action plan.	4

F. What to submit

Submit a government operations CAP that was completed within 10 years of the application date. At minimum, the CAP must include the following:

- Results of the government operations GHG inventory
- At least one GHG reduction target specific to the local government (that covers its Scope 1 and Scope 2 GHG emissions)
- A set of prioritized initiatives for reducing GHG emissions from government operations

Provide documentation that the final CAP was officially adopted by the local government and released to the public. For example, the CAP could be posted on a government website or made available for review at a local library.

If seeking points for public outreach, provide documentation that, at minimum, a draft of the CAP was made available for review and comment by the public. Documentation of other outreach efforts such as public meetings is encouraged. Such documentation can be submitted either as part of the plan or as separate records.

All CSC action documentation is available for public viewing after an action is approved. Action submittals should not include any information or documents that are not intended to be viewed by the public.

G. Links to additional resources or best practices

- CSC Climate Action Planning Guide: This 28-page guide introduces the concepts behind climate action planning and provides a framework for developing a plan to reduce GHG emissions. It includes information on creating plans for government operations and for the community.
- Science Based Targets Initiative: This initiative provides guidance on setting GHG targets that are science-based, meaning they are aligned with the GHG reductions required to keep global temperature increase below 2°C compared to preindustrial temperatures. The initiative is focused on private companies, but the

methods are applicable to local governments who want detailed methods for setting science-based GHG targets.

H. Recertification requirements

Submit a government operations CAP that was developed or updated within 10 years of the application date and that meets the requirements described above. Updated plans must include evidence of implementation of the prior CAP, regular monitoring of progress toward meeting the GHG targets, and re-evaluation of targets and strategies against current state policies and technologies.