TOWN OF NISKAYUNA
Planning Board and Zoning Commission
Agenda
November 13, 2023
7:00 PM

REGULAR AGENDA MEETING

I. CALL TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

1. Oct. 16, 2023

IV. PUBLIC HEARINGS

V. PRIVILEGE OF THE FLOOR

VI. UNFINISHED BUSINESS

VII. NEW BUSINESS

1. RESOLUTION: 2023 – 24: A Resolution for sketch plan approval of a 2-lot minor subdivision, SEQR determination and call for a public hearing at One Research Circle – GE Global Research Center.
2. RESOLUTION: 2023 – 25: A Resolution for lot line adjustment at 797 Westmoreland Dr. / 793 Westmoreland Dr.
3. RESOLUTION: 2023 – 26: A Resolution for site plan approval of exterior façade renovations including new signage at 3631 State St.

VIII. DISCUSSION ITEMS

1. 2890 River Rd. – A sketch plan application for a 4-lot subdivision.
2. 2141 Eastern Parkway – A site plan application for a tenant change to Brianna Ryan Dance ME LLC dance studio.
3. 1430 Balltown Rd. – A site plan application for an addition to the existing building and expansion of the parking lot.

IX. REPORTS

1. Project documentation submission / presentation deadlines.

X. COMMISSION BUSINESS

XI. ADJOURNMENT

NEXT MEETING: Nov. 27, 2023 at 7 PM
To be Held in the Town Board Room
& via Remote Software

TOWN OF NISKAYUNA

Planning and Zoning Commission

Hybrid Meeting

Meeting Minutes

October 16, 2023

Members Present:	Kevin Walsh, Chairman
	Michael Skrebutenas
	Genghis Khan
	Patrick McPartlon
	David D'Arpino
	Leslie Gold
	Nancy Strang
	Joseph Drescher
Also Present:	Laura Robertson, Town Planner
	Clark Henry (virtual)

I. CALL TO ORDER

Chairman Walsh called the hybrid meeting to order at 7:00 P.M.

II. ROLL CALL

Chris LaFlamme was absent/excused.

III. APPROVAL OF MINUTES

1. October 2, 2023

Mr. McPartlon made a motion to approve the Minutes from the 10/2/23 meeting. Mr. D'Arpino seconded. All were in favor.

IV. PUBLIC HEARINGS

No Public Hearings

V. PRIVILEGE OF THE FLOOR

No one for Privilege of the Floor.

VI. UNFINISHED BUSINESS

No Unfinished Business.

VII. NEW BUSINESS

1. RESOLUTION: 2023 – 21: A Resolution for site plan approval for a tenant change to a Milan Hair Removal Treatment Center at 400 Balltown Rd.

Chairman Walsh stated the Planning Board and Zoning Commission hereby finds the above referenced site plan meets the requirements of the zoning code and previous site plan approvals therefore hereby approves a site plan with the following conditions:

1. Signage: Prior to issuance of a building permit the Planning Office will review and approve any proposed code compliant signage.

Chairman Walsh made a motion to approve the Resolution. Mr. Skrebutenas seconded that motion.

Roll was called:

Mr. Skrebutenas Aye

Mr. Khan Aye

Mr. McPartlon Aye

Mr. D'Arpino Aye

Ms. Gold Aye

Ms. Strang Aye

Chairman Walsh Aye

Chairman Walsh stated the Resolution was approved.

2. RESOLUTION: 2023 – 22: A Resolution for site plan approval for a tenant change to The Heritage Group insurance company at 2331 Troy – Schenectady Rd.

Chairman Walsh stated the Planning Board and Zoning Commission hereby finds the above referenced site plan meets the requirements of the zoning code and previous site plan approvals therefore hereby approves a site plan with the following conditions:

1. Signage: Prior to issuance of a building permit the Planning Office will review and approve any proposed code compliant signage.

Mr, D'Arpino made a motion to approve the resolution as written, Ms. Gold seconded the motion.

Ms. Robertson said Ms. Gold wanted to make sure the property was cited correctly as a use variance case. Ms. Robertson said the applicant reached out and also asked what the approvals were for the basement. She stated the research her department did was included in the packet. The parking checked out, the research indicated the basement was allowable for office space and a use variance was granted out, therefore it was correctly cited in the resolution. Chairman Walsh thanked Ms. Robertson for the additional information and, hearing no further discussion, asked Mr. Henry to call the roll.

Roll was called:

Mr. Skrebutenas Aye

Mr. Khan Aye

Mr. McPartlon Aye

Mr. D'Arpino Aye

Ms. Gold Aye

Ms. Strang Aye

Chairman Walsh Aye

Chairman Walsh stated the Resolution was approved.

3. RESOLUTION: 2023 – 23: A Resolution for site plan approval for a tenant change to Albright's Meat and Company at 2321 Nott St. E.

Chairman Walsh stated the Planning Board and Zoning Commission finds the above referenced site plan meets the requirements of zoning code and previous site plan approvals therefore hereby approves this plan with the following conditions:

1. Signage: Prior to issuance of a building permit the Planning Office will review and approve any proposed code compliant signage.

Ms. Gold made a motion for approval of the Resolution, Mr. Khan seconded the motion. There was no further discussion.

Roll was called;

Mr. Skrebutenas	Aye
Mr. Khan	Aye
Mr. McPartlon	Aye
Mr. D'Arpino	Aye
Ms. Gold	Aye
Ms. Strang	Aye
Chairman Walsh	Aye

Chairman Walsh stated the Resolution was approved and welcomed the new businesses to the Town of Niskayuna.

VIII. DISCUSSION ITEM

1. 2890 River Rd. – A sketch plan application for a 4-lot subdivision.

The applicant was present.

Mr. McPartlon gave a brief recap.

Mr. Roman, representing the applicant, stated that Mr. Lucey (applicant) couldn't make it to the meeting but he did close on the strip of property.

Mr. Michael Dussault, Engineer for the project summarized his report on drainage capacity and the 25-year event. He stated the present culverts are too small to accommodate the amount of water that is present in that area.

Mr. McPartlon said one of his takeaways from the site visit was that the two culverts under Seneca are just not adequately sized. He said he feels you would need to put several culverts larger than what is there to actually convey all the water in a 25-year event under the road.

Mr. Dussault said there are multiple solutions that could happen.

Mr. Khan stated that there is a pre-existing lack of proper drainage in the vicinity of this property. Mr. Khan pointed out, with the underlying condition the Board needs to take direction from the code and the legal question as to what exactly the Board's scope should be to review a challenged area like this.

Ms. Robertson said the drainage study came in too late to include it in the packet but she will include it at the next meeting.

Ms. Robertson stated the Town has selected a TDE but he has not started, they are still waiting for the applicant to put the quoted amount of money into escrow.

There was extensive discussion about the water issues, including current and possible future issues. The TDE report, when completed, and the drainage study that has been done will be gone over by all involved.

It was also stated that the strip of land transfer was completed with documentation being recorded by next meeting.

2. One Research Circle – GE Global Research – An application for a 2-lot subdivision.

Mr. Khan recused himself from this project. Mr. Drescher took his seat.

Mr. Dumas, Attorney, stated he is the applicant for his client General Electric, here for a subdivision of the Global Research Center at One Research Circle on River Road. Mr. Dumas introduced Ms. Simons who is the Managing Attorney for Real Estate for GE. Also introduced was Mr. Dumas' Law Partner Mr. Littman. Mr. Littleholt, Director of Civil Engineering and Land Use of CT Male Associates was also present. Mr. Dumas stated the reason for the subdivision is to assist GE in their Corporate restructure. GE is spliting its fundamentals into three companies. GE Healthcare received some assets and was spun off earlier this year the remainder of the company is being restructured into two different silos. One silo will be GE Vernova which is the Energy Division and the other, GE Aviation will be GE Aerospace which will take place in the fourth quarter this year. The split of property would occur about five feet off the bike path. The bike path will remain on the GE Aviation property and be undisturbed. The subdivision will not cause any disturbance to the GE site.

Mr. Dumas said there will be no change to occupancy or use, also no need for additional water supply or sanitary sewer supply or disturbance to drainage patterns simply be a creation of a subdivision line. Mr. Dumas stated a future plan is a road used to traverse between the Global Research Center and the Learning Center to eliminate going out onto River Road. This would require them to establish a couple of retained easements. Mr. Dumas said they will have a fully mature subdivision plan available by November 1 with hopes of a negative declaration from the CAC and return to the Planning Board at the November 13 meeting.

Mr. Skrebutenas wanted to verify this subdivision is solely for asset segregation purposes. Mr. Dumas confirmed that was correct.

Ms. Gold asked if there is another phase planned for future subdivision. Mr. Dumas said there is nothing contemplated by way of disturbance, construction or future subdivision.

Chairman Walsh said the CAC had a preliminary look and they are going to have a deeper discussion at their next meeting and are going to make a recommendation on SEQR to the Planning Board in time for the next Planning Board meeting. Chairman Walsh stated at the next meeting they could possibly call for a tentative resolution for a sketch plan approval as long as they get the input from the CAC.

Mr. Dumas requested that the Planning Board determine themselves as the lead Agency for SEQR purposes and that this be determined a minor subdivision as opposed to a major subdivision.

Chairman Walsh stated the Planning Board is the lead Agency and will classify the subdivision when they take action on the sketch plan.

Mr. McPartlon asked if there will be a need to subdivide these parcels in the future. Mr. Dumas said no.

Chairman Walsh asked for those in favor of having a resolution for sketch plan approval, making a SEQR determination and calling for public hearing at the next meeting signify by saying aye. All were in favor.

3. 797 Westmoreland Dr. – An application for a lot line adjustment.

Ms. Gold recused herself from this application. Mr. Drescher will sit in on this discussion for Ms. Gold.

It was noted the applicant is not present.

Ms. Robertson recommended the adjustment should go all the way down the property line rather than just the backyard which causes a slight jog in the property line which can be confusing for future home owners.

Chairman Walsh asked if there was a reason, like shrubbery, as to why it was not a straight line.

Ms. Robertson said she will reach out to the applicant to get some answers, but she believes its just because that's where the fence/trees encroached onto the neighbors property line.

Mr. D'Arpino asked the Planning Department to ask the applicant to straighten out the lot line.

Ms. Robertson said she will reach out to them.

Chairman Walsh said if they are willing to extend the line and make it a regular shaped lot, he recommended that the Board call for a tentative resolution. The Board agreed.

4. 3631 State St. – Metro Ford – An application for site plan approval of exterior façade renovations including new signage

Mr. Michael Roman, architect, was present, representing the applicant.

Mr. Roman stated that there will be some renovation of the existing building signage and façade, some new signage, and the existing pylon sign will be reskinned.

Chairman Walsh stated the changes look like improvements that will make the corridor look better.

Ms. Robertson said the sign on the end of the building is being removed but the sign on the front is considerably larger than the previous sign, although she felt it looked better. Ms. Robertson asked if the words on the sign are bigger than the surrounding buildings or if the size is it about standard for the buildings for the commercial neighborhood.

Mr. Roman said this is typical size lettering of what you are seeing with the newer car dealerships.

Chairman Walsh asked if the signage is internally lit or externally. Mr. Roman said he believes internally lit.

The hours of operation of the business came up as needing clarification. If they were going to be extended, the Board wanted to know because of the possible impact to the adjacent single family homes. Chairman Walsh said they need to know lighting of the signage and the hours of operation of the business. He stated with this info the Board can do a tentative resolution for next meeting.

I. REPORTS

Nothing to report.

COMMISSION BUSINESS

Mr. D'Arpino volunteered to be project lead for 797 Westmoreland Drive.

Mr. Skrebutenas asked what is going on with the vacant properties on Balltown Road.

Ms. Robertson said they are going to be demolished. She said there is currently no project there pending before the Town because the Zoning Board said no to the project, although it is still in litigation. They were allowed to pull demolition permits being as they not currently under any pending Town action. Before they can pull the demolition permits though, the following needed to be done: asbestos certificate, a letter from National Grid stating the gas is cut and the electricity is shut off, abandonment of the water and sewer utilities. Ms. Robertson stated she believed all that work was completed so now the Building Department is awaiting the application to demolish the homes. She felt it was a shame for the single family homes to come down, but they are currently in terrible condition.

XI. ADJOURNMENT

Chairman Walsh asked for a motion to adjourn. Mr. Skebutenas made a motion to adjourn. Ms. Gold Seconded. The meeting was adjourned at 8:40 pm.

The video recording for this meeting can be found at: https://www.youtube.com/watch?v=2YeDrjv2X6A&lis

TOWN OF NISKAYUNA

PLANNING BOARD AND ZONING COMMISSION

AGENDA STATEMENT

AGENDA ITEM NO. VII. 1 MEETING DATE: 11/13/2023

ITEM TITLE: RESOLUTION: 2023-24: A Resolution for sketch plan approval of a 2-lot minor subdivision, SEQR determination and call for a public hearing at One Research Circle – GE Global Research Center.

PROJECT LEAD: TBD

APPLICANT: Charles Dumas

SUBMITTED BY: Charles Dumas

REVIEWED BY:
■ Conservation Advisory Council (CAC) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
■ OTHER: Comprehensive Plan & Complete Streets Committees

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

SUMMARY STATEMENT:

Charles Dumas submitted an application for sketch plan approval for a 2-lot subdivision that would divide the 530 acre site into two lots of approximately 190 acres and 340 acres. The proposed subdivision is strategically important to GE as they restructure themselves into 3 businesses: Healthcare, Energy and Aerospace, and apportion their assets at the Global Research Center accordingly.

The proposed subdivision has been presented to the Planning Board, Complete Streets Committee and Conservation Advisory Council. At the 11/13/23 Planning Board meeting the Board will take action on a resolution for sketch plan approval, make a SEQR determination and call for a public hearing for the 11/27/23 meeting.

COMPREHENSIVE PLAN

The proposed subdivision complies with page 74 of the 2013 Niskayuna Comprehensive Plan. The proposed action will not alter the use or intensity of use of the land and will help secure the retention of high paying STEM jobs in the community.

BACKGROUND INFORMATION

The property is located in the I-R Research & Development Industrial zoning district. The Global Research Center is a permitted principal use in the district.

The following documents were included with the sketch plan application.

1. A 1-page drawing entitled "Sketch Plan Proposed Two Lot Subdivision Lands Now or Formerly of General Electric Company" by C.T, Male Associates dated 9/29/23 with no subsequent revisions.

2. A 4-page Short Environmental Assessment Form (EAF) dated 10/11/23.

3. An Application For Approval of Plat Plan – Minor Subdivision dated 10/10/23.

9/29/23 Meeting with the Planning Office – Mr. Charles Dumas of Lemery Greisler LLC and Mr. Raymond Liuzzo of C.T. Male Associates met with Laura Robertson, Town Planner and Planning Department staff to acquaint them with the project and review the path the project would follow relative to the Town's various review boards. Mr. Dumas explained the strategic value the subdivision has to the General Electric Company as they restructure themselves, and the Global Research Center, into the previously referenced 3 business units. The proposed subdivision allows the newly formed approximately 190 acre lot to be allocated to GE's Energy Division and facilitates a logical proportioning of other buildings and facilities on the approximately 340 acre lot among the other businesses. Mr. Dumas repeated his explanation of the project at the Conservation Advisory Council (CAC) meeting on 10/4/23. Important aspects of the project are captured in the summary of that meeting, below.

The timeline of GE's restructuring was discussed at length and the path a minor subdivision follows per the Niskayuna zoning code was mapped out in a spreadsheet of critical milestones.

GE Global Research Center 2-lot Minor Subdivision			
STEP 1: Sketch Plan Approval			
Date	Meeting	Description of Action	Applicant Must Provide The Following
10/4/2023	Conservation Advisory Council (CAC)	CAC reviews project and makes SEQR Recommendation to PB	Must submit by 10/2/23 (1) Site drawing -- DONE
10/16/2023	Planning Board (PB)	Applicant presents project PB established as lead agency PB calls for Resolution for sketch plan approval for 11/13/23 PB meeting	Must submit by 10/10/23 (1) Sketch Plan app. & associated fee (2) Drawings (3) Short form EAF (if possible)
11/8/2023	CAC	CAC makes SEQR Recommendation to PB - short form EAF must be received by 11/1/23	Must submit by 11/1/23 (1) Short form EAF
11/13/2023	PB	PB does the following 3 things at the meeting (1) Makes SEQR determination (2) Acts on Resolution for sketch plan approval (3) Calls for a public hearing for 11/27/23	
STEP 2: Minor Subdivision Approval			
Date	Meeting	Description of Action	Applicant Must Provide The Following
11/27/2023	PB	PB holds the public hearing & may take action on a Resolution for subdivision approval	Must submit by 11/1/23 (1) Application for minor subdivision & fee (2) Plat plan drawing
12/11/2023	PB	Backup date for PB to take action on a Resolution for subdivision approval	

- The dividing line of the proposed two lots is the bike path that runs between the large complex of buildings that are accessible from Research Circle (River Rd.) and the smaller training building that is accessible from Balltown Rd.
- The property contains a few easements and variances.
- The property contains some wetland areas.
- They will be seeking an easement and an approximately 15' wide road to allow access between the two lots without venturing out onto Balltown Rd.
    - The CAC asked for an approximate trip count on the proposed new road.
- They do not anticipate any increase in the number of workers at the site.
- They do not anticipate any removal of trees.
- The Energy portion of GE will be the title owner of the newly formed 190 lot that would include the GE Training Center.
- The Healthcare portion will not own any land but they will rent office space in buildings in the larger of the two newly formed lots.
- The only physical alteration of the site will be the construction of the internal road connecting the two lots.
- A CAC member asked if GE would shore up the bank of the Mohawk River along its property as part of the project. Mr. Dumas stated that could be looked at down the road but due to the pressing timeline he would like to remain focused on the basic subdivision at this time.

<u>10/4/23 Conservation Advisory Council (CAC) meeting</u> – Mr. Dumas attended the CAC meeting to give a "preliminary presentation" of the proposed subdivision. He followed up the meeting with an email dated 10/10/23 in response to several questions that were raised by council members.

- **Internal drive between the two proposed lots**
    - GE / Verona intends to build a single light duty road from the K-West building (Parcel Two) to the Learning Center (Parcel One).
    - The road is an internal connection between the two parcels
    - To be used by GE/Verona personnel only – light occasional use by passenger vehicles
    - No trucks of any kind or delivery vans will use the road
    - Two possible paths are being proposed that will avoid wetlands and buffers
- **Bike Path**
    - No part of the subdivision will impact the integrity of the path
    - Any crossing of the bike path will be provided in a "pedestrian safe" manner
- **Riverbank conservation**
    - Mr. Dumas has raised the CAC's interest in conservation measures along the Mohawk with Facilities Engineers.
    - Additional specificity of possible measures will be helpful to identify the correct decision makers within GE / Verona.
    - *Mr. Dumas requested some bullet points from the CAC regarding the requested conservation area.*
    - Due to the tight timeline of the subdivision riverbank conservation measures need to be treated as a separate matter than the proposed subdivision
- **River Road Building**
    - The proposed building is no longer a possibility for the site.
    - The research contemplated for the facility will not take place at the GRC.

10/12/2023 Tree Council meeting
The Tree Council looked at the proposed subdivision and noted they would like to see the plan for the proposed road connection when it was complete to review the limits of clearing but did not see any issues with the subdivision. They did want to ask that the Planning Board consider, as a condition of subdivision approval, requiring GE to remove the dead crabapple trees in front of the solar panels and replace the dead trees in kind with more crab apple trees. They noted this was an important area for birding and the crab apples were a great source of food for the birds.

10/16/23 Planning Board (PB) meeting – Mr. Dumas attended the meeting and presented the proposed subdivision to the Board. He noted that associates of his were also in attendance: Ms. Karen Simons Managing Attorney for Real Estate for GE, Mr. Bob Littman Law Partner of Mr. Dumas and Mr. Peter Littleholt Director of Civil Engineering and Land Use for C.T. Male Associates. Mr. Dumas elaborated on the strategic advantages and importance of the proposed subdivision and the desire to synchronize the subdivision of the Global Research Center property with calendar year 2023 and GE's restructuring. He asked if the Planning Board had declared the proposed project a minor subdivision and declared themselves the Lead Agency. Chairman Walsh responded in the affirmative. The Board approved a motion for a resolution for sketch plan approval, SEQR determination and call for a public hearing for the 11/13/23 Planning Board meeting.

10/27/23 Complete Streets Committee meeting – Mr. Henry of the Planning Office presented the proposed subdivision to the committee. He paraphrased the presentation Mr. Dumas made at the 10/16/23 Planning Board meeting and addressed questions raised by committee members.

11/8/23 Conservation Advisory Council (CAC) meeting – Mr. Dumas attended the meeting and provided an update on the project. He noted that the concept of an internal road connecting the two future lots was no longer under consideration by GE. The CAC made Mr. Dumas aware of their conservation and NRI initiatives and Mr. Dumas stated that he would be pleased to make a connection between CAC members and appropriate parties within GE. The CAC then completed the EAF form and voted unanimously in favor of a negative SEQR recommendation indicating that the project would not have a negative impact on the environment.

A resolution for sketch plan approval, SEQR determination and call for a public hearing has been prepared and is included in the meeting packet.

RESOLUTION NO. 2023-24

AT A REGULAR MEETING OF THE PLANNING BOARD AND ZONING COMMISSION OF THE TOWN OF NISKAYUNA DULY CALLED AND HELD ON THE 13TH DAY OF NOVEMBER 2023 AT THE NISKAYUNA TOWN OFFICE BUILDING, ONE NISKAYUNA CIRCLE, IN SAID TOWN AT 7:00 P.M., THE FOLLOWING MEMBERS WERE PRESENT VIRTUALLY OR IN PERSON:

HONORABLE: KEVIN A. WALSH, CHAIRMAN
GENGHIS KHAN
MICHAEL A. SKREBUTENAS
CHRIS LAFLAMME
PATRICK MCPARTLON
DAVID D'ARPINO
LESLIE GOLD
NANCY STRANG
JOSEPH DRESCHER

One of the purposes of the meeting was to take action on sketch plan approval, make a SEQR determination and call for a public hearing.

The meeting was duly called to order by the Chairman.

The following resolution was offered by ____________.
whom moved its adoption, and seconded by ____________.

WHEREAS, Charles Dumas, Agent for the property owner, General Electric Company, has made application to the Planning Board for a 2-Lot Minor Subdivision as shown on a 1- page drawing entitled "Sketch Plan Proposed Two Lot Subdivision Lands Now or Formerly of General Electric Company" by C.T. Male Associates dated 9/29/23 with no further revisions, and

WHEREAS, the zoning classification of the property is I-R: Research & Development Industrial, and

WHEREAS, this Planning Board and Zoning Commission has discussed the requirements of Chapter 189 of the Code of the Town of Niskayuna for street improvements, drainage, sewerage, water supply, fire protection and similar aspects, as well as the availability of existing services and other pertinent information, and

WHEREAS the Planning Board referred the Environmental Assessment Form to the Niskayuna Conservation Advisory Council (CAC) for their review and on November 8, 2023, the CAC recommended that a negative declaration be prepared with recommendations for the Planning Board to consider, and

WHEREAS the Planning Board, acting in accordance with the State Environmental Quality Review (SEQR) regulations and local law, has contacted all involved agencies, and they have concurred with the Planning Board that it should assume the position of lead agency for this project, and

WHEREAS this Board has carefully reviewed the proposal and by this resolution does set forth its recommendation hereon,

NOW, THEREFORE, be it hereby

RESOLVED, that this Planning Board and Zoning Commission does hereby classify this sketch plan as a minor subdivision as defined by Chapter 189 of the Code of the Town of Niskayuna; and be it

FURTHER RESOLVED, that the Planning Board and Zoning Commission does hereby grant sketch plan approval for the concept subdivision drawing entitled "Sketch Plan Proposed Two Lot Subdivision Lands Now or Formerly of General Electric Company" by C.T. Male Associates dated 11/8/23 with no further revisions, with the following conditions:

1. Sketch plan approval is a conceptual review of the proposed lot division for the purposes of classification and preliminary discussion as described in the Town of Niskayuna Zoning Sections 189-6 and 189-22. The location of proposed boundary lines, infrastructure, utilities and improvements are subject to change during the environmental review, engineering, public hearing and subdivision review process.

And be it hereby

FURTHER RESOLVED, that the Planning Board and Zoning Commission hereby determined that this project will not have a significant effect on the environment and hereby directs the Town Planner to file a negative SEQR declaration with the following comment from the CAC findings:

1. The CAC is interested in working with the GE in the future on conservation projects along the Mohawk River.
2. The Tree Council requested removal of the dead crabapple trees near the solar panels and replacement with similar species in a nearby location.

, and be it hereby

FURTHER RESOLVED that this Planning Board does hereby call for a public hearing to be held on Monday, November 27, 2023 at 7:00 pm in the Niskayuna Town Hall, 1 Niskayuna Circle, to consider the application of Charles Dumas / General Electric Company, for a 2-lot minor subdivision at One Research Circle Niskayuna, NY.

Upon roll call the foregoing resolution was adopted by the following vote:

KEVIN A. WALSH, CHAIRMAN
GENGHIS KHAN
MICHAEL A. SKREBUTENAS
CHRIS LAFLAMME
PATRICK MCPARTLON
DAVID D'ARPINO
LESLIE GOLD
NANCY STRANG
JOSEPH DRESCHER

The Chairman declared the same ____________.

MAP REFERENCES:

1. "Barge Canal State of New York, Eastern Division, Erie Canal, Section 2" dated March 29, 1922 Sheets 17, 18 and 19 filed in the Office of the New York State Canal Corporation.
2. New York State Route 146, S.H. No. 1872, Balltown Road acquisition map "Mohawk Golf Club-Aqueduct County Highway" Map Numbers 11A and B William Green (Reputed Owner) dated April 3, 1930 filed in the Region One Office of New York State Department of Transportation.
3. New York State Route 146, S.H. No. 1872, Balltown Road acquisition map "Mohawk Golf Club-Aqueduct County Highway" Map No. 13 Beatrice Shopmeyer (Reputed Owner) dated April 3, 1930 filed in the Region One Office of the New York State Department of Transportation.
4. "River Road, County Highway No. 4-N" Map No. 3, G. Albert & Marian A. Finke (Reputed Owners) dated August 1951 filed in the Region One Office of New York State Department of Transportation.
5. "River Road, County Highway No. 4-N" Map No's 7, 8 and 9, General Electric Company (Reputed Owner) dated October 23, 1951 filed in the Region One Office of the New York State Department of Transportation.
6. "River Road, County Highway No. 4-N" Map No. 10 R-1, General Electric Company (Reputed Owner) dated December 28, 1951 filed in the Region One Office of the New York State Department of Transportation.
7. "River Road, County Highway No. 4-N" Map No. 11, General Electric Company (Reputed Owner) dated October 23, 1951 filed in the Region One Office of the New York State Department of Transportation.
8. "Sewer District 6 - Extension 22 North Trunk Sewer Extension, Proposed Easement Lands Now or Formerly of General Electric Company to be Granted to the Town of Niskayuna" prepared by C.T. Male Associates, P.C. dated August 26, 1977, Project No. 42-05-1207, Map No. 77-186-6/2.
9. "Town of Niskayuna Bike Path, Easements on Lands of General Electric Company Granted to the Town of Niskayuna" prepared by C.T. Male Associates, P.C. dated December 29, 1982 last revised December 24, 1986, DWG No. 83-5.
10. "Property Line Survey of a Portion of Lands of Knolls Atomic Power Laboratory United States of America" prepared by C.T. Male Associates, P.C. dated November 15, 1974 and revised January 2, 1975, Project No. 42-05-01069, DWG No. 74-392.
11. "Boundary Survey Knolls Atomic Power Laboratory, 2401 River Road" prepared by C.T. Male Associates, P.C. dated December 14, 2005 revised January 13, 2006, Project No. 02.8087, DWG. No. 05-899 .
12. "Survey of Portion of Lands Now or Formerly of Fred C. & Gladys Joy Ewing prepared for Rosemarie Rossi" prepared by C.T. Male Associates, P.C. dated April 4, 1985 last revised October 25, 1987, Project No. 398, DWG. No. 85-128R .
13. "Moorenleghten Belonging to Daniel Danes in the Town of Niskayuna" dated June 23, 1902 by William Gifford, Surveyor and filed in the Schenectady County Clerk's Office December 20, 1905 in Plat Cabinet C as Map Nos. 174, 175, 178 and 179.
14. "Crimson Oak Estates" prepared by C.T. Male Associates, P.C., dated August 25, 1987 filed in the Schenectady County Clerk's Office on August 28, 1989 in Cabinet H in Sleeve No. 274 & 275.
15. "Subdivision Plan Foxhill Estates" prepared by C.T. Male Associates, P.C. dated February 9, 1989 last revised June 29, 1990, Project No. 88.2618, DWG No. 89-85R filed in the Schenectady County Clerk's Office on September 21, 1990 in Cabinet H as Maps No. 375 and 377.
16. "Phase 2 Edison Woods" prepared by C.T. Male Associates, P.C. dated January 3, 1986 last revised August 11, 1993, Project No. 90.3318, DWG. No. 86-140R filed in the Schenectady County Clerk's Office on October 24, 1994 in Drawer I as Map No. 372 & 373.
17. "Subdivision Plan - Amendment No. 1, Phase 3A Edison Woods" prepared by C.T. Male Associates dated March 7, 2000 last revised August 23, 2001, Project No. 00.6082, DWG. No. 86-141R, filed in the Schenectady County Clerk's Office on September 6, 2001 in Drawer K as Map No. 20 & 21.
18. "Phase 3B Edison Woods" prepared by C.T. Male Associates, P.C. dated July 22, 2002 last revised November 19, 2004, project No. 00.6082, DWG No. 02-292 filed in the Schenectady County Clerk's Office on December 8, 2004 in Cabinet K as Maps No. 340 and 341.
19. Boundary and Partial Topographic Survey Lands Now or Formerly of General Electric Company prepared for GE Global Research Company 1 Research Circle" Town of Niskayuna, Schenectady County, New York prepared by C.T, Male Associates, Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C. dated May 25, 2022, Project No. 22.2326, Drawing No. 22-424.

MAP NOTES:

1. Information shown hereon was compiled from an actual field survey conducted during the months of May and June, 2020.
2. North orientation and bearings are Grid North based on the New York State Plane Coordinate System, East Zone, NAD 83/2011 epoch 2010.00 as obtained from GPS observations.
3. Topographic information shown hereon was prepared from Aerial Stereo Photogrammetry prepared by Blue Sky Geospatial, Ltd. and flown June, 2020. Data shown was taken from digitally compiled manuscripts. National Mapping Standards indicate that 90% of all contours shown shall be correct to within one half (1/2) of the contour interval, and the remaining 10% shall not be in error by more than the contour interval.
4. The location of underground improvements or encroachments, if any exist, or as shown hereon, are not certified. There may be underground utilities, the existence of which are not known to the undersigned. Size and location of all underground utilities and structures must be verified by the appropriate authorities. Dig Safely New York must be notified prior to conducting test borings, excavation and construction.
5. Wetlands and other waters of the U.S. were delineated on April 23, 2020 by a C.T. Male representative in accordance with the 1987 Corps of Engineers Wetland Delineation Manual. Wetland flags were field located by a C.T. Male survey crew during the month of June 2020.
6. Together with a permanent easement for ingress and egress and the placement of utilities granted by Schenectady Chemicals, Inc. to General Electric Company in deed dated May 11, 1967 and recorded in the Schenectady County Clerk's Office on May 21, 1967 in Book 888 of Deeds at Page 155.

2023.09.29_PROGRESS FOR REVIEW AND COMMENT

SKETCH PLAN PROPOSED TWO LOT SUBDIVISION

LANDS NOW OR FORMERLY OF

GENERAL ELECTRIC COMPANY
1 RESEARCH CIRCLE

TOWN OF NISKAYUNA — SCHENECTADY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH 518.786.7400
COBLESKILL, NY · GLENS FALLS, NY · POUGHKEEPSIE, NY
JOHNSTOWN, NY · RED HOOK, NY · SYRACUSE, NY
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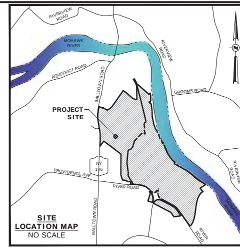
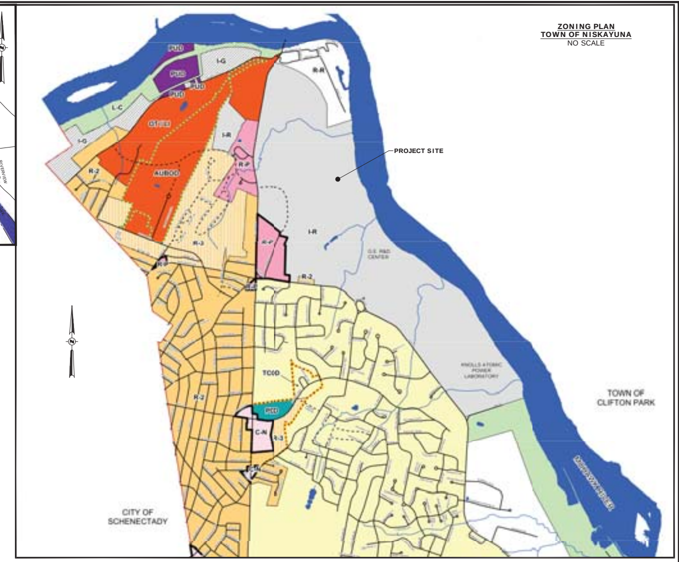
PROJECT NO. 22.2326
DWG. NO. 23-594
SHEET 1 OF 1
DATE: SEPT. 29, 2023





GENERAL NOTES:

1. 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.
2. All on-site sanitation and water supply facilities shall be designed to meet the minimum specifications of the State Department of Health.

SOIL EROSION AND SEDIMENT CONTROL MEASURES:

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.

MAINTENANCE OF EROSION CONTROL MEASURES:

1. 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.

TREE PRESERVATION POLICY:

1. 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.
2. The grading plan submitted for the building permit shall identify all trees with a diameter of 5 inches or more as measured 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.
3. 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.
4. 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.

GRADING NOTES:

1. 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.

MAP REFERENCES:

1. "Barge Canal State of New York, Eastern Division, Erie Canal, Section 2" dated March 29, 1922 Sheets 17, 18 and 19 filed in the Office of the New York State Canal Corporation.
2. New York State Route 146, S.H. No. 1872, Balltown Road acquisition map "Mohawk Golf Club-Aqueduct County Highway" Map Numbers 11A and B William Green (Reputed Owner) dated April 3, 1930 filed in the Region One Office of New York State Department of Transportation.
3. New York State Route 146, S.H. No. 1872, Balltown Road acquisition map "Mohawk Golf Club-Aqueduct County Highway" Map No. 13 Beatrice Shopmeyer (Reputed Owner) dated April 3, 1930 filed in the Region One Office of the New York State Department of Transportation.
4. "River Road, County Highway No. 4-N" Map No. 3, G. Albert & Marian A. Finke (Reputed Owners) dated August 1951 filed in the Region One Office of New York State Department of Transportation.
5. "River Road, County Highway No. 4-N" Map No's 7, 8 and 9, General Electric Company (Reputed Owner) dated October 23, 1951 filed in the Region One Office of the New York State Department of Transportation.
6. "River Road, County Highway No. 4-N" Map No. 10 R-1, General Electric Company (Reputed Owner) dated December 28, 1951 filed in the Region One Office of the New York State Department of Transportation.
7. "River Road, County Highway No. 4-N" Map No. 11, General Electric Company (Reputed Owner) dated October 23, 1951 filed in the Region One Office of the New York State Department of Transportation.
8. "Sewer District 6 - Extension 22 North Trunk Sewer Extension, Proposed Easement Lands Now or Formerly of General Electric Company to be Granted to the Town of Niskayuna" prepared by C.T. Male Associates, P.C. dated August 26, 1977, Project No. 42-05-1207, Map No. 77-186-6/2.
9. "Town of Niskayuna Bike Path, Easements on Lands of General Electric Company Granted to the Town of Niskayuna" prepared by C.T. Male Associates, P.C. dated December 29, 1982 last revised December 24, 1986, DWG No. 83-5.
10. "Property Line Survey of a Portion of Lands of Knolls Atomic Power Laboratory United States of America" prepared by C.T. Male Associates, P.C. dated November 15, 1974 and revised January 2, 1975, Project No. 42-05-01069, DWG No. 74-392.
11. "Boundary Survey Knolls Atomic Power Laboratory, 2401 River Road" prepared by C.T. Male Associates, P.C. dated December 14, 2005 revised January 13, 2006, Project No. 02.8087, DWG. No. 05-899 .
12. "Survey of Portion of Lands Now or Formerly of Fred C. & Gladys Joy Ewing prepared for Rosemarie Rossi" prepared by C.T. Male Associates, P.C. dated April 4, 1985 last revised October 25, 1987, Project No. 398, DWG. No. 85-128R .
13. "Moorenleghten Belonging to Daniel Danes in the Town of Niskayuna" dated June 23, 1902 by William Gifford, Surveyor and filed in the Schenectady County Clerk's Office December 20, 1905 in Plat Cabinet C as Map Nos. 174, 175, 178 and 179.
14. "Crimson Oak Estates" prepared by C.T. Male Associates, P.C., dated August 25, 1987 filed in the Schenectady County Clerk's Office on August 28, 1989 in Cabinet H in Sleeve No. 274 & 275.
15. "Subdivision Plan Foxhill Estates" prepared by C.T. Male Associates, P.C. dated February 9, 1989 last revised June 29, 1990, Project No. 88.2618, DWG No. 89-85R filed in the Schenectady County Clerk's Office on September 21, 1990 in Cabinet H as Maps No. 375 and 377.
16. "Phase 2 Edison Woods" prepared by C.T. Male Associates, P.C. dated January 3, 1986 last revised August 11, 1993, Project No. 90.3318, DWG. No. 86-140R filed in the Schenectady County Clerk's Office on October 24, 1994 in Drawer I as Map No. 372 & 373.
17. "Subdivision Plan - Amendment No. 1, Phase 3A Edison Woods" prepared by C.T. Male Associates dated March 7, 2000 last revised August 23, 2001, Project No. 00.6082, DWG. No. 86-141R, filed in the Schenectady County Clerk's Office on September 6, 2001 in Drawer K as Map No. 20 & 21.
18. "Phase 3B Edison Woods" prepared by C.T. Male Associates, P.C. dated July 22, 2002 last revised November 19, 2004, Project No. 00.6082, DWG No. 02-292 filed in the Schenectady County Clerk's Office on December 8, 2004 in Cabinet K as Maps No. 340 and 341.
19. Boundary and Partial Topographic Survey Lands Now or Formerly of General Electric Company prepared for GE Global Research Company 1 Research Circle" Town of Niskayuna, Schenectady County, New York prepared by C.T, Male Associates, Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C. dated May 25, 2022, Project No. 22.2326, Drawing No. 22-424.

MATCH LINE SHEET 1
MATCH LINE SHEET 2

MAP NOTES:

1. Information shown hereon was compiled from an actual field survey conducted during the months of May and June, 2020 and field updated during the months of September and October 2023.
2. North orientation and bearings are Grid North based on the New York State Plane Coordinate System, East Zone, NAD 83/2011 epoch 2010.00 as obtained from GPS observations.
3. Objects shown on this drawing with a distance indicating how far that object is from a particular line, lie on the same side of the line that the offset distance is written.
4. The location of underground improvements or encroachments, if any exist, or as shown hereon, are not certified. There may be underground utilities, the existence of which are not known to the undersigned. Size and location of all underground utilities and structures must be verified by the appropriate authorities. Dig Safely New York must be notified prior to conducting test borings, excavation and construction.
5. Together with a permanent easement for ingress and egress and the placement of utilities granted by Schenectady Chemicals, Inc. to General Electric Company in deed dated May 11, 1967 and recorded in the Schenectady County Clerk's Office on May 21, 1967 in Book 888 of Deeds at Page 155.
6. This map represents a scaled down version of the Boundary Survey for the purpose of this two lot subdivision. For detailed information on the structures, utilities and improvements within the lands of General Electric Company see map reference no. 19.
7. This survey does not constitute a record search by C.T. Male Associates Engineering, Surveying Architecture, Landscape Architecture & Geology, D.P.C. to determine ownership or easements of record. For all information regarding easements, rights of way and title of record, the surveyor relied upon title commitment number CT20-01480-NCS issued by Chicago Title Insurance Company, dated February 14, 2022.

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".

CAD DWG. FILE NAME: K:\Projects\200300\Survey\2023 subdivision\Drawings and Maps\2023 SUBD BS_GE-GLOBAL.dwg

ZONING STATISTICS:

ZONE: I-R ~ RESEARCH & DEVELOPMENT

MINIMUM LOT SIZE: 2 ACRES
MINIMUM LOT WIDTH: 200 FEET
MINIMUM LOT DEPTH: 200 FEET
MAXIMUM PERCENTAGE OF COVERAGE BY BUILDING AND STRUCTURES: 25%

MINIMUM YARD DIMENSIONS:
FRONT: 50 FEET
SIDE: 25 FEET
BOTH SIDES: 50 FEET
REAR: 50 FEET

OWNER / APPLICANT:

GENERAL ELECTRIC GLOBAL RESEARCH CENTER
C/O MS. KAREN SIMONS
1 RESEARCH CIRCLE
NISKAYUNA, NEW YORK 12309

BAR SCALE
200 0 100 200 400
1 inch = 200 ft.

TOWN OF NISKAYUNA

CHAIRMAN OF THE PLANNING BOARD — DATE
KEVIN WALSH

TOWN ENGINEER — DATE
MATTHEW YETTO

RAYMOND T. LIUZZO
P.L.S. NO. 50366

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

APPROVED: RTL
DRAFTED : MDD
CHECKED : DGD
PROJ. NO : 22.2326
SCALE : 1"=200'
DATE : OCT. 2, 2023

PROPOSED TWO LOT SUBDIVISION

LANDS NOW OR FORMERLY OF

GENERAL ELECTRIC COMPANY
1 RESEARCH CIRCLE

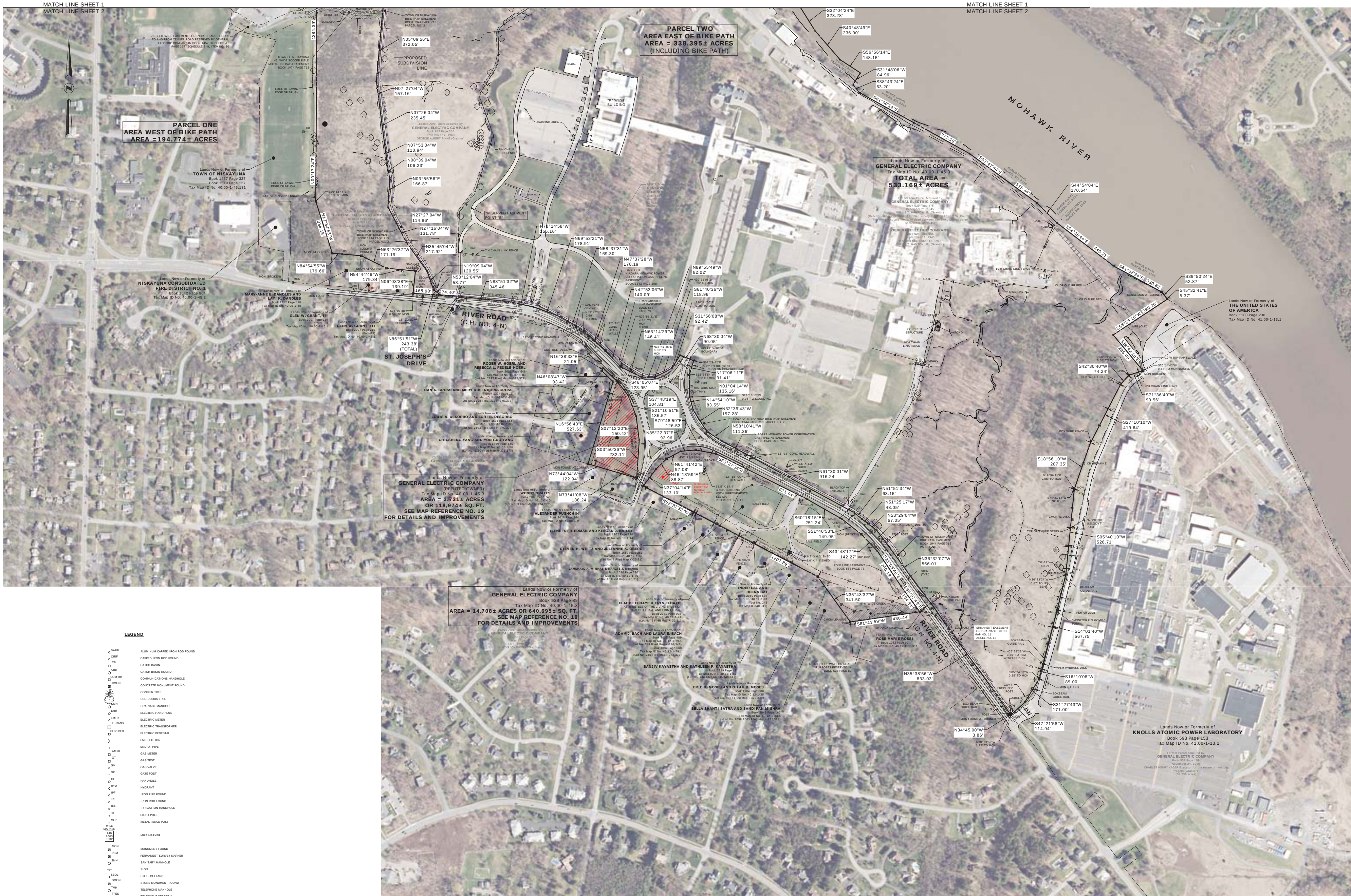
TOWN OF NISKAYUNA — SCHENECTADY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
50 CENTURY HILL DRIVE, LATHAM, NY 12110 PH 518.786.7400
COBLESKILL, NY • GLENS FALLS, NY • POUGHKEEPSIE, NY
JOHNSTOWN, NY • RED HOOK, NY • SYRACUSE, NY
www.ctmale.com

SHEET 1 OF 2
DWG. NO: 23-598

XREFS: NONE

PROJECT NUMBER: 22.2326



LEGEND

ACIRF	ALUMINUM CAPPED IRON ROD FOUND
CIRF	CAPPED IRON ROD FOUND
CB	CATCH BASIN
CBR	CATCH BASIN ROUND
COM HH	COMMUNICATIONS HANDHOLE
CMON	CONCRETE MONUMENT FOUND
	CONIFER TREE
	DECIDUOUS TREE
DMH	DRAINAGE MANHOLE
EHH	ELECTRIC HAND HOLE
EMTR	ELECTRIC METER
ETRANS	ELECTRIC TRANSFORMER
ELEC PED	ELECTRIC PEDESTAL
	END SECTION
	END OF PIPE
GMTR	GAS METER
GT	GAS TEST
GV	GAS VALVE
GP	GATE POST
HH	HANDHOLE
HYD	HYDRANT
IPF	IRON PIPE FOUND
IRF	IRON ROD FOUND
IHH	IRRIGATION HANDHOLE
LP	LIGHT POLE
MFP	METAL FENCE POST
MILE MARKER 146 1603 3032	MILE MARKER
MON	MONUMENT FOUND
PSM	PERMANENT SURVEY MARKER
SMH	SANITARY MANHOLE
	SIGN
SBOL	STEEL BOLLARD
SMON	STONE MONUMENT FOUND
TMH	TELEPHONE MANHOLE
TPED	TELEPHONE PEDESTAL
UMH	UNKNOWN/UTILITY MANHOLE
UP	UTILITY POLE
	UTILITY POLE W/GUY WIRE
	UTILITY POLE W/LIGHT
WV	WATER VALVE
WOG	WIRE ON GROUND
WFP	WOOD FENCE POST
	RIP-RAP AREA
	BOX BEAM GUIDE RAIL
	OVERHEAD UTILITY LINE

TOWN OF NISKAYUNA

CHAIRMAN OF THE PLANNING BOARD — DATE
KEVIN WALSH

TOWN ENGINEER — DATE
MATTHEW YETTO

OWNER / APPLICANT:

GENERAL ELECTRIC GLOBAL RESEARCH CENTER
C/O MS. KAREN SIMONS
1 RESEARCH CIRCLE
NISKAYUNA, NEW YORK 12309

BAR SCALE
200 0 100 200 400
1 inch = 200 ft.

"ONLY COPIES OF THIS MAP SIGNED IN RED INK AND EMBOSSED WITH THE SEAL OF AN OFFICER OF C.T. MALE ASSOCIATES OR A DESIGNATED REPRESENTATIVE SHALL BE CONSIDERED TO BE A VALID TRUE COPY".

RAYMOND T. LIUZZO
P.L.S. NO. 50366

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1				
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APPROVED: RTL
DRAFTED : MDD
CHECKED : DGD
PROJ. NO : 22.2326
SCALE : 1"=200'
DATE : OCT. 2, 2023

PROPOSED TWO LOT SUBDIVISION

LANDS NOW OR FORMERLY OF

GENERAL ELECTRIC COMPANY
1 RESEARCH CIRCLE

TOWN OF NISKAYUNA — SCHENECTADY COUNTY, NEW YORK

C.T. MALE ASSOCIATES
Engineering, Surveying, Architecture, Landscape Architecture & Geology, D.P.C.
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SHEET 2 OF 2
DWG. NO: 23-598

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:
Minor Two Lot Subdivision of Lands of General Electric Company

Project Location (describe, and attach a location map):
1 Research Circle Niskayuna, New York 12309 Tax Map Parcel ID 40.00-1-45.3

Brief Description of Proposed Action:
Proposing a Minor Two Lot Subdivision of the Lands of General Electric Company on the north side of River Road. Subdividing the overall north parcel area of 533.169+/- Acres into two lots, Parcel one being 194.774+/- acres west of the Town of Niskayuna Bike Path and Parcel Two being 338.395+/- acres east of the Town of Niskayuna Bike Path.

The parcels south of River Road at Van Antwerp Road are not under consideration at this time.

Name of Applicant or Sponsor: Lemery Greisler LLC (Charles B. Dumas, Esq.)	Telephone: 518-930-4143 E-Mail: cdumas@lemerygreisler.com	
Address: 677 Broadway		
City/PO: Albany	State: New York	Zip Code: 12207

	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: Town of Niskayuna Planning Board: Approval of Minor Two Lot Subdivision	☐	☑

3. a. Total acreage of the site of the proposed action? 533.169 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 550.608 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): Research & Development
☑ 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?	☐	☑
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: ______	☑	☐
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?	☐	☑
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: ______	☐	☑
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: ______ Existing Connections	☑	☐
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: ______ Existing Connections	☑	☐
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?	☐	☑
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: ______		

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? Bald Eagle	☐	☑
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:	☐	☐
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: NYSDEC Environmental Site Remediation Database, Site No. 447011,447013,447017 and 447013A.	☐	☑

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

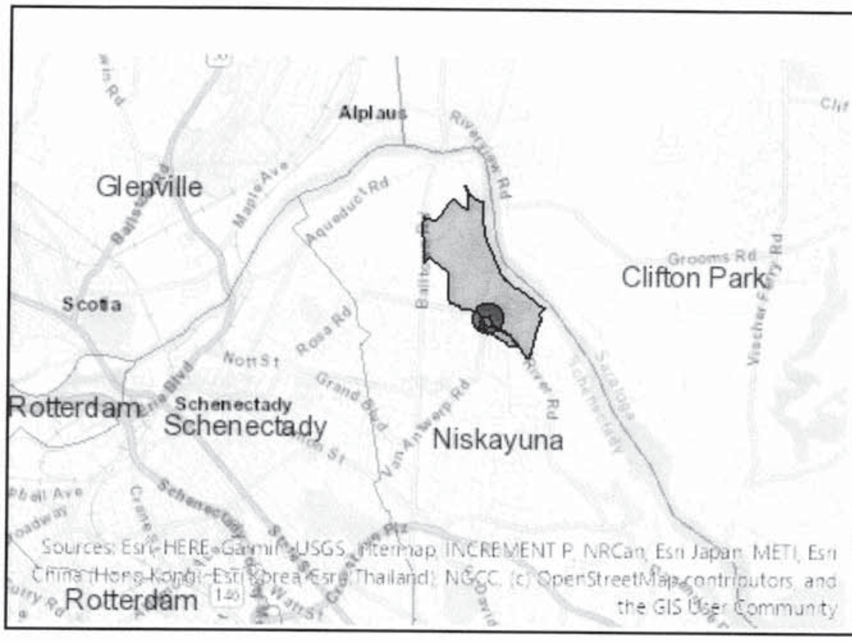
Applicant/sponsor/name: Lemery Greisler LLC (Charles B. Dumas, Esq.) Date: 10/11/23

Signature: [signature] Title: Applicant and Attorney for Owner

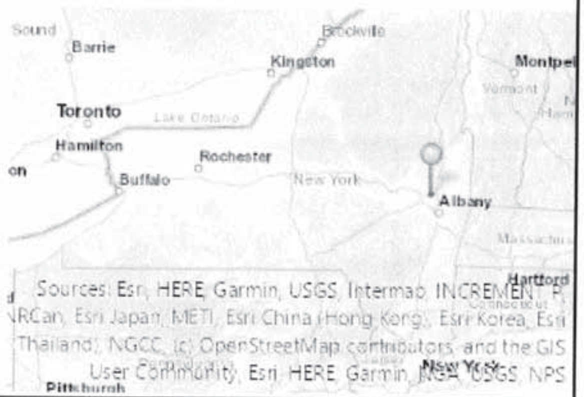
PRINT FORM

EAF Mapper Summary Report

Friday, September 29, 2023 3:49 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]	Yes
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]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Bald Eagle
Part 1 / Question 16 [100 Year Flood Plain]	Yes
Part 1 / Question 20 [Remediation Site]	Yes

Agency Use Only [If applicable]

Project: GE 2- Lot Subdivision

Date: 11/8/2023

Short Environmental Assessment Form
Part 2 - Impact Assessment

Part 2 is to be completed by the Lead Agency.

Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	☑	☐
2. Will the proposed action result in a change in the use or intensity of use of land?	☑	☐
3. Will the proposed action impair the character or quality of the existing community?	☑	☐
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	☑	☐
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?	☑	☐
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	☑	☐
7. Will the proposed action impact existing: a. public / private water supplies?	☑	☐
b. public / private wastewater treatment utilities?	☑	☐
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	☑	☐
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)? Interested in future conservation projects with GE	☑	☐
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?	☑	☐
11. Will the proposed action create a hazard to environmental resources or human health?	☑	☐

PRINT FORM

Agency Use Only [If applicable]

Project:

Date:

Short Environmental Assessment Form
Part 3 Determination of Significance

For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

The CAC found there was no disturbance to land or changes to the site and that the paper subdivision was a splitting of assets that would not change the use or intensity of use of the property. They noted they would like to work with the applicant in the future on conservation projects along the Mohawk River.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Planning and Zoning Board, Town of Niskayuna	
Name of Lead Agency	Date
Kevin Walsh	Planning Board Chairman
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

PRINT FORM

ZONING COORDINATION REFERRAL

SCHENECTADY COUNTY DEPT. OF ECONOMIC DEVELOPMENT & PLANNING

Recommendations shall be made within 30 days after receipt of a full statement of the proposed action.

For Use By SCDEDP

Received 10-24-23
Case No. N-4-23
Returned 10-31-23

FROM: ☐ Legislative Body
☐ Zoning Board of Appeals
☑ Planning Board

Municipality: Niskayuna

TO: Schenectady County Department of Economic Development and Planning
Schaffer Heights, 107 Nott Terrace, Suite 303
Schenectady, NY 12308

(tel.) 386-2225
(fax) 382-5539

Received
Schenectady County
OCT 24 2023
Economic Development
and Planning Dept.

ACTION: ☐ Zoning Code/Law Amendment
☐ Zoning Map Amendment
☑ Subdivision Review
☐ Site Plan Review
☐ Special Permit
☐ Use Variance
☐ Area Variance
☐ Other (specify)

PUBLIC HEARING OR MEETING DATE: November 13, 2023

SUBJECT: The Town of Niskayuna has received an application from GE Global Research to subdivide their existing parcel at 1 Research Circle into two lots (one with access off of Balltown Road and one with access off at 1 Research Circle). There are no proposed changes to the land with the exception of a possible internal road between the two parcels.

REQUIRED ENCLOSURES:

1. Public hearing notice & copy of the application.
2. Map of property affected. (Including Tax Map I.D. number if available)
3. Completed environmental assessment form and all other materials required by the referring body in order to make its determination of significance pursuant to the state environmental quality review act.

1. This zoning case is forwarded to your office for review in compliance with Sections 239-l, 239-m and 239-n of Article 12-B of the General Municipal Law, New York State.

2. This material is sent to you for review and recommendation because the property affected by the proposed action is located within 500 feet of the following:

☑ the boundary of any city, village or town;
☑ the boundary of any existing or proposed County or State park or other recreation area;
☑ the right-of-way of any existing or proposed County or State parkway, thruway, expressway, road or highway;
☐ the existing or proposed right-of-way of any stream or drainage channel owned by the County or for which the County has established channel lines;
☐ the existing or proposed boundary of any County or State-owned land on which a public building or institution is situated;
☐ the boundary of a farm operation located in an agricultural district, as defined by Article 25-AA of the agriculture and markets law. The referral requirement of this subparagraph shall not apply to the granting of area variances.

SUBMITTED BY:

Name: Laura Robertson　　Title: Town Planner

Address: 1 Niskayuna Circle, Niskayuna, NY 12309

E-mail: lrobertson@niskayuna.org　　Phone: 518-386-4530

Laura Robertson

Signature　　Date: 10/24/2023

PLANNING & ZONING COORDINATION REFERRAL

Case No. N-04-23

Applicant GE Global Research

Referring Officer Laura Robertson

Municipality Niskayuna

Considerations: Regarding a 583 acre parcel containing the GE Global Research Campus, requesting subdivision approval to create a 195 acre parcel with access to Balltown Road (SR 146) and a 388 acre parcel with access to River Road (CR 8). The bike path is contained entirely on the 388 acre parcel.

RECOMMENDATION

Receipt of zoning referral is acknowledged on October 24, 2023. Please be advised that the undersigned Commissioner of Economic Development and Planning of the County of Schenectady (having under the Schenectady County Charter the powers and duties of a County Planning Board) has reviewed the proposed action stated on the opposite side of this form and makes the following recommendations:

- [x] ***Approve of the proposal.**
- [ ] **Defer to local consideration (No significant county-wide or inter-community impact)**
- [ ] **Modify/Conditionally Approve**. Conditions:
- [ ] **Advisory Note:**
- [ ] **Disapprove**. Reason:

*A recommendation of approval should not be interpreted that the County has reviewed all local concerns and/or endorses the project; rather the proposed action has met certain County considerations.

Section 239-m of the general Municipal Law requires that within 30 days after final action, the referring body shall file a report of the final action it has taken with the Schenectady County Department of Economic Development and Planning. A referring body which acts contrary to a recommendation of modification or disapproval of a proposed action shall set forth the reasons for the contrary action in such report.

10/30/23
Date

Ray Gillen, Commissioner
Economic Development and Planning

TOWN OF NISKAYUNA

PLANNING BOARD AND ZONING COMMISSION

AGENDA STATEMENT

AGENDA ITEM NO. VII. 2 MEETING DATE: 11/13/2023

ITEM TITLE: RESOLUTION: 2023-25: A Resolution for lot line adjustment at 797 Westmoreland Dr. / 793 Westmoreland Dr.

PROJECT LEAD: David D'Arpino

APPLICANT: John Adamec

SUBMITTED BY: John Adamec

REVIEWED BY:
■ Conservation Advisory Council (CAC) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
☐ OTHER:

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

SUMMARY STATEMENT:

Mr. Adamec submitted an application for lot line adjustment to adjust an approximately 108' long section of the southern side property line of his property approximately 1.83' to the north, thereby conveying the approximately 197.6 sq. ft. (108' x 1.83') of property to his neighbor Ms. Baestlein-DuBois. Ms. Baestlein-DuBois mistakenly installed her fence on Mr. Adamec's property and the proposed lot line adjustment will transfer the land under the fence to Ms. Baestlein-DuBois and in doing so, will preserve several large trees.

The Planning Board reviewed the project at their 10/16/23 meeting and noted that as proposed the adjustment creates two irregularly shaped lots. To prevent this, they requested that the adjustment to the lot line be continued rectilinearly all the way to Westmoreland Drive and called for a tentative resolution for this configuration at the 11/13/23 meeting.

COMPREHENSIVE PLAN

The proposed change complies with the 2013 Niskayuna Comprehensive Plan. If the lot line adjustment is approved and executed both lots will remain conforming relative to all zoning code requirements.

BACKGROUND INFORMATION

The properties are located within the R-1 Low Density Residential zoning district.

A 1-page proposed site plan drawing entitled "Lot Line Adjustment Plan Lands N/F of J&N Adamec Enterprises, LLC & Robin L. Baestlein-DuBois" by ABD Engineers and Surveyors dated 10/25/23 with no subsequent revision was provided with the application.

The Planning Office recommended that the adjusted lot line should continue all the way to Westmoreland Drive rather than stopping at the front of the proposed new home as shown in the site plan drawing that was included with the application. This will align more with the Comprehensive Plan because the lots will be more regular.

10/16/23 Planning Board (PB) meeting – Chairman Walsh presented the project to the Board. The Board noted that as shown in the Proposed Plot Plan the adjustment to the lot line ends at the southeastern most corner of the home resulting in a jog in the property line and the creation of irregularly shaped lots. They requested that the adjustment of the lot line continue rectilinearly all the way to Westmoreland Drive. The Board asked the Planning Office to inform the applicant of this adjustment and ask them to provide an updated Plot Plan for the 11/13/23 PB meeting. They concluded their discussion of the project by calling for a tentative resolution for lot line adjustment with the modified alignment for the 11/13/23 meeting.

A modified alignment that conforms to the Board's requirements was submitted to the Planning Department dated October 25, 2023 and is included with the agenda statement.

A resolution for approval is included in the meeting packet.

RESOLUTION NO. 2023-25

AT A REGULAR MEETING OF THE PLANNING BOARD AND ZONING COMMISSION OF THE TOWN OF NISKAYUNA DULY CALLED AND HELD ON THE 13TH DAY OF NOVEMBER 2023 AT THE NISKAYUNA TOWN OFFICE BUILDING, ONE NISKAYUNA CIRCLE, IN SAID TOWN AT 7:00 P.M., THE FOLLOWING MEMBERS WERE PRESENT VIRTUALLY OR IN PERSON:

HONORABLE: KEVIN A. WALSH, CHAIRMAN
GENGHIS KHAN
MICHAEL A. SKREBUTENAS
CHRIS LAFLAMME
PATRICK MCPARTLON
DAVID D'ARPINO
LESLIE GOLD
NANCY STRANG
JOSEPH DRESCHER

One of the purposes of the meeting was to take action on an application for a lot line adjustment.

The meeting was duly called to order by the Chairman.

The following resolution was offered by ___________,
whom moved its adoption, and seconded by ____________.

WHEREAS, John A. Adamec and Robin Baestlein-DuBois, property owners of 797 Westmoreland Dr. and 793 Westmoreland Dr., respectively, have made application to the Planning Board for a lot line adjustment between the two properties as noted in a 1-page site plan entitled "Lot Line Adjustment Plan Lands N/F of J&N Adamec Enterprises, LLC & Robin L. Baestlein-DuBois" by ABD Engineers and Surveyors dated 10/25/23 with no subsequent revision date noted, and

WHEREAS, the zoning classification of the property is R-1: Low Density Residential, and

WHEREAS, the Planning Board has determined that the proposed lot line adjustments are classified as a Type II action under State Environmental Quality Review (SEQR) regulations and local law, and no further SEQR review is necessary, and

WHEREAS, the Board has carefully reviewed the proposal and by this resolution does set forth its decision hereon, NOW, THEREFORE, be it hereby

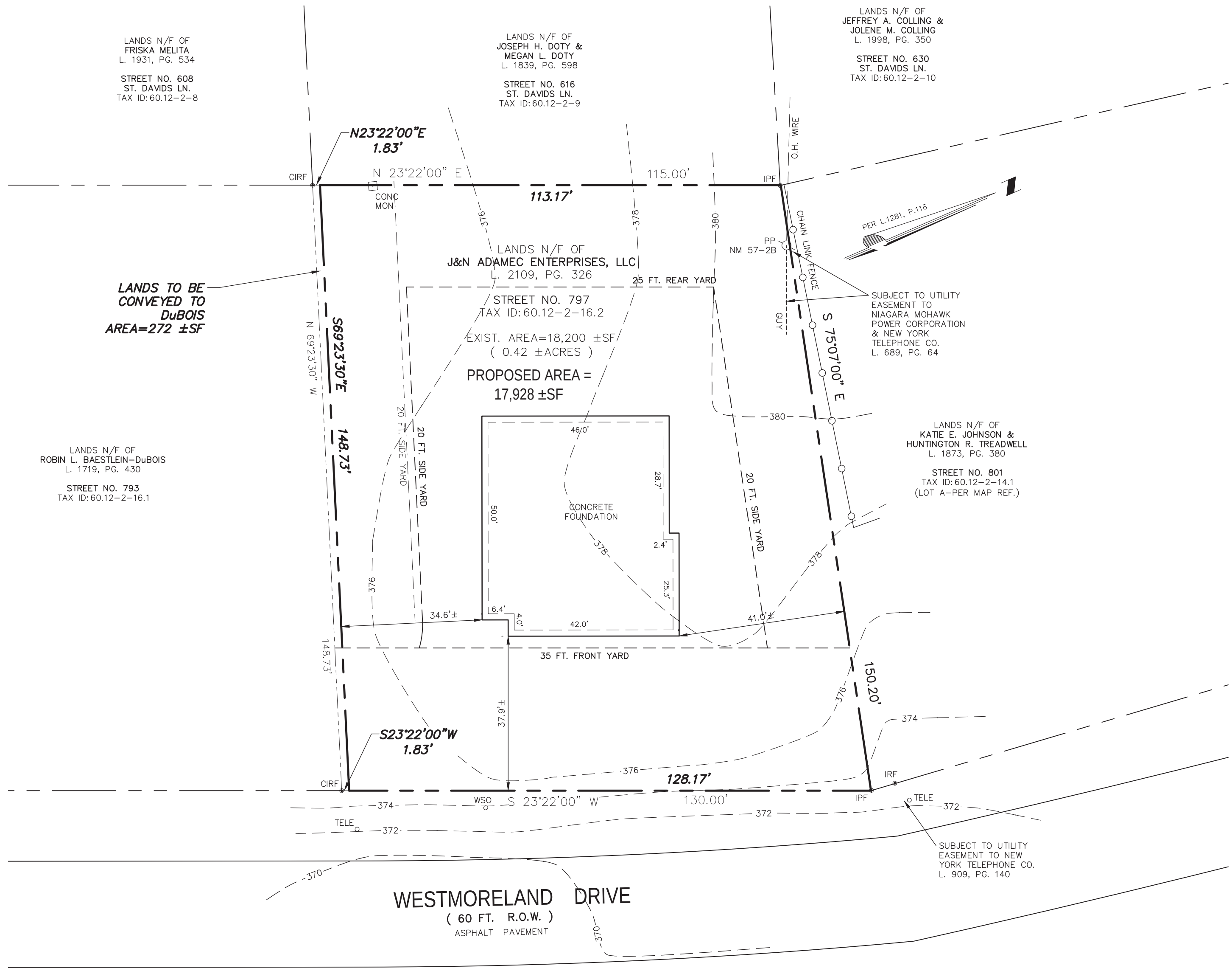
RESOLVED, that the Planning Board and Zoning Commission does hereby grant final lot line adjustment approval for 793 Westmoreland Dr. and 793 Westmoreland Dr. as shown on the aforementioned 1-page survey drawing, with the following conditions:

1. Prior to recording the plat – the final lot line adjustment map shall be sent to the Planning Department for their review and approval. Any changes, additions or deletions requested shall be addressed to the satisfaction of the Planning Department before printing the mylars.

Upon roll call the foregoing resolution was adopted by the following vote:

KEVIN A. WALSH, CHAIRMAN
GENGHIS KHAN
MICHAEL A. SKREBUTENAS
CHRIS LAFLAMME
PATRICK MCPARTLON
DAVID D'ARPINO
LESLIE GOLD
NANCY STRANG
JOSEPH DRESCHER

The Chairman declared the same _____________.



SURVEY NOTES:

1. BOUNDARY EVIDENCE AND PLANIMETRIC INFORMATION SHOWN HEREON WAS COMPILED FROM AN ACTUAL FIELD SURVEY CONDUCTED BY ABD ENGINEERS LLP ON OCTOBER 4, 2022 AND REFLECTS VISIBLE CONDITIONS EXISTING ON THAT OCCASION. UPDATED JULY 27, 2023.
2. TAX MAP DESIGNATION: 60.12 – 2 – 16.2.
3. THE OFFSETS OR DIMENSIONS SHOWN HEREON, FROM PROPERTY LINES TO BUILDINGS ARE FOR BUILDING REFERENCE AND LOCATION AND ARE NOT INTENDED TO MONUMENT THE PROPERTY LINES OR TO GUIDE THE ERECTION OF FENCES, ADDITIONAL STRUCTURES, OR ANY OTHER IMPROVEMENT.
4. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS AND RESTRICTIONS OF RECORD.
5. CHICAGO TITLE INSURANCE COMPANY CERTIFICATE FOR TITLE INSURANCE NO. TI22-0142, BEARING AN EFFECTIVE DATE OF JUNE 20, 2022 USED TO PROVIDE RECORD INFORMATION REGARDING TITLE FOR THE SUBJECT PREMISES.
6. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS COMPILED FROM AN ACTUAL FIELD SURVEY CONDUCTED BY ABD ENGINEERS LLP ON OCTOBER 4, 2022. THE ELEVATION DATUM IS APPROXIMATELY N.A.V.D. 88.
7. NORTH ORIENTATION BASED ON LIBER 1281, PAGE 116.
8. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON UTILITY EVIDENCE VISIBLE AT GROUND SURFACE AND AVAILABLE RECORD DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY EXCAVATION. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES THAT MAY EXIST UPON OR ADJACENT TO THE SURVEYED PREMISES.

MAP REFERENCE:

"LOTS A, B, C LANDS OF BERGAMI CONSTRUCTION INC.", PREPARED BY C.T. MALE ASSOCIATES, DATED JUNE 21, 1970 AND FILED IN THE SCHENECTADY COUNTY CLERKS OFFICE OCTOBER 27, 1970 AS MAP G-50.

NO.	REVISION	BY	DATE

UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE VALID COPIES.
CERTIFICATIONS INDICATED OR APPLIED HEREON SHALL ONLY RUN TO THE PARTY FOR WHOM THE SURVEY WAS PREPARED, & ON HIS BEHALF TO THE ADDITIONAL PARTIES LISTED HEREON. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL PARTIES OR SUBSEQUENT OWNERS NOT LISTED HEREON.

ROBERT D. DAVIS,JR., P.L.S.
N.Y.S. LICENSE NO. 51060

LOT LINE ADJUSTMENT PLAN

LANDS N/F OF

J&N ADAMEC ENTERPRISES, LLC & ROBIN L. BAESTLEIN-DuBOIS

ST. No.'S 797 & 793 WESTMORELAND DRIVE

TOWN OF NISKAYUNA | COUNTY OF SCHENECTADY

STATE OF NEW YORK

ABD ENGINEERS, LLP
411 Union Street
Schenectady, NY 12305
518-377-0315 Fax 518-377-0379
www.abdeng.com

DATE:	SCALE:	DWG.	SHEET OF
OCTOBER 25, 2023	1" = 20'	5553A-797W3	1 1

Z:\5553A 797 WESTMORELAND\SURVEY\5553A-797W3.dwg, 1:1

DESCRIPTION

LANDS TO BE CONVEYED TO

ROBIN L. BAESTLEIN-DuBOIS

TOWN OF NISKAYUNA, COUNTY OF SCHENECTADY, NEW YORK

ALL THAT TRACT, PIECE OR PARCEL OF LAND, situate, lying and being along the westerly road boundary of Westmoreland Drive in the Town of Niskayuna, County of Schenectady and State of New York and being more particularly bounded and described as follows:

BEGINNING at a point in the westerly road boundary of Westmoreland Drive at its intersection with the existing division line between lands now or formerly of Robin L. Baestlein-DuBois as described in Liber 1719 of deeds at page 430 on the south and lands now or formerly of J&N Adamec Enterprises, LLC as described in Liber 2109 of deeds at page 326 on the north; thence along said existing division line North 69°23’30” West, 148.73 feet to a point in the division line between the aforementioned lands of J&N Adamec Enterprises, LLC on the east and lands now or formerly of Joseph H. Doty & Megan L. Doty as described in Liber 1839 of deeds at page 598 on the west; thence along said division line North 23°22’00” East, 1.83 feet to a point therein; thence through the aforementioned lands of J&N Adamec Enterprises, LLC and along the proposed division line between lands of DuBois and J&N Adamec Enterprises, LLC South 69°23’30” East, 148.73 feet to a point in the aforementioned westerly road boundary of Westmoreland Drive; thence along said westerly road boundary of Westmoreland Drive South 23°22’00” West, 1.83 feet to the point and place of beginning and containing 272 square feet of land more or less.

Subject to any enforceable easements, rights, restrictions and/or covenants of record.

Subject to any state of facts an up-to-date abstract of title would disclose.

TOWN OF NISKAYUNA
PLANNING BOARD AND ZONING COMMISSION

AGENDA STATEMENT

AGENDA ITEM NO. VII. 3 MEETING DATE: 11/13/2023

ITEM TITLE: RESOLUTION: 2023 - 26: A Resolution for site plan approval of exterior façade renovations including new signage at 3631 State St.

PROJECT LEAD: TBD

APPLICANT: Michael Roman

SUBMITTED BY: Michael Roman

REVIEWED BY:
☐ Conservation Advisory Council (CAC) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
☐ OTHER:

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

SUMMARY STATEMENT:

Mr. Roman submitted an application for façade and signage changes to rebrand the site as a Ford Pro Elite service facility. The building is currently a Quick Lane automobile service center.

In his application Mr. Roman describes the scope of the project as follows: "Renovation to existing one-story building which will include a new exterior façade. All work will be within the existing building footprint. Existing pylon sign to be converted to Ford Pro Elite sign, existing overall size to remain."

The application was reviewed at the 10/16/23 meeting and the Board called for a tentative resolution for the 11/13/23 meeting.

COMPREHENSIVE PLAN

The proposed application complies with the Economic Development section, beginning on page 73, of the 2013 Niskayuna Comprehensive Plan.

BACKGROUND INFORMATION

The property is located in the C-H Commercial Highway zoning district. Automobile sales and service establishments, general automotive repair facilities, gasoline services stations and automobile laundries are special principal uses in the district.

The following drawings were provided with the application.

1. A 2-page set of elevation drawings entitled "Ford PRO Metro Ford" by Eview360" dated 5/25/23 with no subsequent revisions.

2. A 1-page drawing entitled "Building Elevations Metro Ford" by C2 Architecture, PC dated 9/22/23 with no subsequent revisions.

3. A 1-page slide of photographs showing the current signage entitled "Metro Ford Elite Commercial Services – Existing Photos" by C2 Architecture, PC dated 10/5/23 with no subsequent revisions.

<u>Existing variances</u>

Date Granted	Zoning Code Section	Description	Code Requirement	Variance	Total Approved
9/18/13	220-13, Sch I-E, Col 4	Maximum % coverage by buildings and structures….	30%	17.9%	47.9%
9/18/13	220-13, Sch I-E, Col 8	…there shall be a minimum of 25% of the total land area reserved as landscaped open space	25%	7.2%	17.8%

<u>Previously approved façade signage</u>

The following 4 signs were previously approved for the south façade (fronting State St.)

Sign No.	Name	Area (sq. ft.)
1	Hand Symbol	16.8
2	Quick Lane	29.1
3	Tire & Auto Center	3.9
4	Hours of Operation	15.0
Total		64.8

The 4 façade signs listed above were approved "as-is", in that they were approved based on the size, color, design and location of each of the 4 signs as documented in the site plan drawings. The approval of the 4 façade signs is *NOT* a blanket approval for 4 signs of any size, color, design and location.

<u>Proposed new signage</u>

Article VIIIA Town Center Overlay District, Neighborhood Commercial, Highway Commercial Standards, Section 220-48.4 Signs E (9) Number of signs states: "A maximum of one façade sign per use is permitted, except that a use fronting on two streets may have one sign for each building front…"

Schedule I-D Column 7 Permitted Signs for the C-N zoning district states the following: "For all uses: For each linear foot of building frontage 1 square foot of sign area shall be permitted…Under no circumstances shall any 1 sign exceed 50 square feet.

Schedule I-E Column 7 Permitted Signs for the C-H zoning district states the following: "All uses: Same as C-N District regulations plus 1 freestanding sign limited in area to 1 sq. ft. for each linear foot of building, up to a maximum of 80 square feet. The uppermost part of such sign shall not be higher than 25 feet in height above the average grade at its location."

Section 220-48.6 Application Procedures C Modifications and Waivers states the following: "The Planning Board may waive one or more of the specific requirements of this article upon a showing by the applicant that the regulation imposes an undue hardship due to such factors as existing conditions, site topography or site configuration. The Planning Board shall approve the minimum waiver necessary to allow the application to be approved. The applicant for any such waiver shall have the burden of showing that the proposed project with such waiver shall have a minimum negative effect on aesthetics and compatibility with neighborhood character."

Façade signs

The application proposes 4 new signs on the south façade of the building. There is no signage proposed for the other 3 facades of the building. Note: The building has approximately 376 ft. of combined frontage on State St. and Central Ave.

Sign No.	Name - Proposed	Area (sq. ft.)	Name – Previously Approved	Area (sq. ft.)	Increase (sq. ft.)
1	Elite Commercial Service	84.0	Hand Symbol	16.8	
2	Metro Ford	9.3	Quick Lane	29.1	
3	Ford logo	35.1	Tire & Auto Center	3.9	
4	PRO	14.0	Hours of Operation	15.0	
Total		142.4		64.8	77.6

As proposed, the following waivers are required.

1. ***A waiver for 3 additional façade signs of the sizes and designs listed above on the south (State St.) façade is required.***
2. ***A waiver of 34 sq. ft. (84 – 50 = 34) of sign area is required for Sign 1 – Elite Commercial Service since it exceeds the 50 sq. ft. limit for an individual sign.***

Freestanding sign

Proposed new monument sign

A code compliant freestanding sign measuring 65.8 sq. ft. in area and 9 ft. in height is proposed.

Planning Office recommendation

In an attempt to identify the "minimum waiver necessary" as required in Section 220-48.6, above, the Planning Office evaluated combining signs 3 & 4, the Ford logo & "PRO" signs, respectively. This would reduce the number of façade signs from 4 to 3. However, as currently designed this results in a sign that exceeds the 50 sq. ft. maximum limit for a single sign as required per Schedule I-D Column 7, above. The Planning Office recommends granting the waivers listed above to approve the design as-is.

10/16/23 Planning Board (PB) meeting – Mr. Roman attended the meeting and presented the application to the Board. The Board discussed the waivers and they were appropriate for the building and commercial corridor, as outlined above. They called for a resolution for site plan approval for the 11/13/23 meeting, pending the information about the hours of operation.

A tentative resolution for site plan approval is included in the meeting packet.

RESOLUTION NO. 2023 – 26

AT A REGULAR MEETING OF THE PLANNING BOARD AND ZONING COMMISSION OF THE TOWN OF NISKAYUNA DULY CALLED AND HELD ON THE 13TH DAY OF NOVEMBER 2023 AT THE NISKAYUNA TOWN OFFICE BUILDING, ONE NISKAYUNA CIRCLE, IN SAID TOWN AT 7:00 P.M., THE FOLLOWING MEMBERS WERE PRESENT VIRTUALLY OR IN PERSON:

HONORABLE: KEVIN A. WALSH, CHAIRMAN
GENGHIS KHAN
MICHAEL A. SKREBUTENAS
CHRIS LAFLAMME
PATRICK MCPARTLON
DAVID D'ARPINO
LESLIE GOLD
NANCY STRANG
JOSEPH DRESCHER

One of the purposes of the meeting was to take action on a final site plan approval.

The meeting was duly called to order by the Chairman.

The following resolution was offered by ___________,
whom moved its adoption, and seconded by ____________.

WHEREAS, Michael Roman, agent for the property owner, made an application to the Planning Board and Zoning Commission for façade and signage changes at 3631 State St. to rebrand the site as a Ford Pro Elite service facility, and

WHEREAS, the following documents were provided with the site plan application:

1. A 2-page set of elevation drawings entitled "Ford PRO Metro Ford" by Eview360 dated 5/25/23 with no subsequent revisions.
2. A 1-page drawing entitled "Building Elevations Metro Ford" by C2 Architecture, PC dated 9/22/23 with no subsequent revisions.
3. A 1-page slide of photographs showing the current signage entitled "Metro Ford Elite Commercial Services – Existing Photos" by C2 Architecture, PC dated 10/5/23 with no subsequent revisions, and

WHEREAS, the property is located in the C-H Commercial Highway zoning district and includes approximately 376 linear feet of frontage on State St. and Central Ave., and

WHEREAS, automobile sales and service establishments, general automotive repair facilities, gasoline service stations and automobile laundries are special principal uses in the district, and

WHEREAS, the proposed application complies with the Economic Development section of the 2013 Niskayuna Comprehensive Plan, and

WHEREAS, the following variances were previously granted to the property:

Date Granted	Zoning Code Section	Description	Code Requirement	Variance	Total Approved
9/18/13	220-13, Sch I-E, Col 4	Maximum % coverage by buildings and structures….	30%	17.9%	47.9%
9/18/13	220-13, Sch I-E, Col 8	…there shall be a minimum of 25% of the total land area reserved as landscaped open space	25%	7.2%	17.8%

, and

WHEREAS, Article VIIIA Town Center Overlay District, Neighborhood Commercial, Highway Commercial Standards, Section 220-48.4 Signs E (9) Number of signs states: "A maximum of one façade sign per use is permitted, except that a use fronting on two streets may have one sign for each building front…" As proposed, the south (State St.) façade of the building would include 4 new façade signs ("Elite Commercial Service", "Metro Ford", the "Ford" logo, the word "PRO"). Therefore, a waiver for 3 additional façade signs of the sizes listed below on the south (State St.) façade is required, and

Sign No.	Name - Proposed	Area (sq. ft.)
1	Elite Commercial Service	84.0
2	Metro Ford	9.3
3	Ford logo	35.1
4	PRO	14.0
Total		142.4

WHEREAS, Schedule I-E C-H District Column 7 Permitted Signs states the following: "All uses: Same as C-N District regulations...", and

WHEREAS, Schedule I-D C-N District Column 7 Permitted Signs states the following: "For all uses: For each linear foot of building frontage 1 square foot of sign area shall be permitted…Under no circumstances shall any 1 sign exceed 50 square feet." As proposed, Sign 1 "Elite Commercial Service" measures 84 sq. ft. Therefore, a waiver of 34 sq. ft. (84 – 50 = 34) of sign area is required for Sign 1, and

WHEREAS, Schedule I-E Column 7 Permitted Signs for the C-H zoning district states the following: "All uses: Same as C-N District regulations plus 1 freestanding sign limited in area to 1 sq. ft. for each linear foot of building, up to a maximum of 80 square feet. The uppermost part of such sign shall not be higher than 25 feet in height above the average grade at its location." As proposed, the aforementioned drawings include a code compliant freestanding sign measuring 65.8 sq. ft. in area and 9 ft. in height. No waiver is required for the proposed freestanding sign, and

WHEREAS, Section 220-48.6 Application Procedures C Modifications and Waivers states the following: "The Planning Board may waive one or more of the specific requirements of this article upon a showing by the applicant that the regulation imposes an undue hardship due to such factors as existing conditions, site topography or site configuration. The Planning Board shall approve the minimum waiver necessary to allow the application to be approved. The applicant for any such waiver shall have the burden of showing that the proposed project with such waiver shall have a minimum negative effect on aesthetics and compatibility with neighborhood character", and

WHEREAS, this Board has carefully reviewed the proposal and by this resolution does set forth its decision heron,

NOW, THEREFORE, be it hereby

RESOLVED, that the Planning Board and Zoning Commission has determined that the proposed sign waivers as described above would have a minimum negative effect on aesthetics and compatibility with neighborhood character, and be it

FURTHER RESOLVED, that the Planning Board and Zoning Commission does hereby grant said waivers to allow for the signage as described above, and be it

FURTHER RESOLVED, that the Planning Board and Zoning Commission finds the above referenced site plan meets the requirements of the Zoning Code and therefore, hereby approves this site plan.

Upon roll call the foregoing resolution was adopted by the following vote:

KEVIN A. WALSH, CHAIRMAN
GENGHIS KHAN
MICHAEL A. SKREBUTENAS
CHRIS LAFLAMME
PATRICK MCPARTLON
DAVID D'ARPINO
LESLIE GOLD
NANCY STRANG
JOSEPH DRESCHER

The Chairman declared the same ____________.

TOWN OF NISKAYUNA

Application for Site Plan Review

Applicant (Owner or Agent):

Name Michael Roman

Address 24 Airport Road

Schenectady NY 12302

Telephone 320-8250 Fax ______________

Location:

Number & Street 3631 State St, Schenectady, NY 12304

Section-Block-Lot 60.19 - 2 - 2

Zoning District C-H

Proposal Description:

Renovation to existing one-story building which will include a new exterior facade. All work with be within the existing building footprint. (See attached proposed elevations and rendering.) Existing pylon sign to be converted to Ford Pro Elite sign, existing overall size to remain.

Each site plan application shall be accompanied by:

1. Twelve (12) site plan maps prepared by a licensed engineer, architect or surveyor.

    a. The site plan shall include the following: the title of the drawing, including the name(s), address(es), phone and fax numbers of the applicant and the name address, phone and fax number of the person, firm or organization preparing the map.
    b. The North point, date and scale.
    c. Boundaries of the property.
    d. Existing watercourses and direction of existing and proposed drainage flow.
    e. The location of all proposed site improvements; proposed water and utility facilities; a description of the method of sewage disposal and location of such facilities; the location of all proposed signs; and location of proposed areas of vegetation.

2. A lighting plan showing the lighting distribution of existing or proposed lights, specifications, photometric data, and catalog cuts of the proposed fixture(s) which meet the requirements of Article VIIIB of the Zoning Ordinance of the Town of Niskayuna entitled "Guidelines for Lighting of Outdoor Areas under Site Plan Review".

3. Six (6) copies of the short or long Environmental Assessment Form (EAF), as required by 6NYCRR Part 617, "State Environmental Quality Review", and Chapter 95, "Environmental Quality Review", of the Code of the Town of Niskayuna.

4. If the application is being made by someone other than the current property owner, the applicant or the agent for the applicant must provide proof that they are authorized to pursue this site plan approval. Such proof may be in the form of a contract for sale or letter by the current owner that the applicant/agent is authorized to proceed with this application.

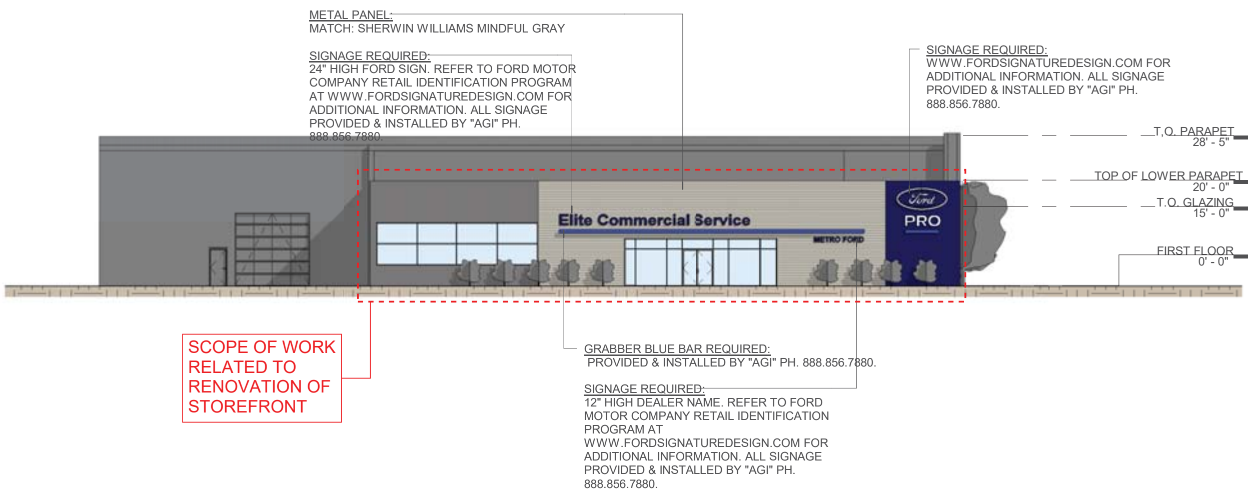
5. Administration Fees: An application for site plan approval shall be submitted to the Planning Board at least ten (10) business days prior to a regular meeting of the Planning Board. Each petition shall be accompanied by a minimum fee of ***two hundred dollars ($200.00)*** plus an additional fee based on the square footage of new building construction. Fees are payable to the Town of Niskayuna.

6. Consulting Fees: The cost incurred by the Town for the review of an application by the Town Engineer, consulting engineering firm or other consulting fees, in connection with a Board's review of a proposed application shall be charged to the applicant. The Board to whom the application is made shall obtain an estimate from any designated consultant of the amount sufficient to defray the cost of such services and shall collect from the applicant the estimated charges. Any portion of the estimated charges so collected, which are not expended by the Town, shall be returned to the applicant. Any such costs incurred by the Town beyond the estimated charges initially collected from the applicant, shall be collected from the applicant prior to final action upon the application.

Signature of applicant: Michael A. Bamatt Date: 10/3/2023

Signature of owner (if different from applicant): [signature]

Date: 10/3/23



1 East
3/64" = 1'-0"

Local Architect to verify in field all existing building conditions and identify any potenial issues of concern with dealership facility design, if design is effected.

Architect shall coordinate all furniture power and installation requirements with furniture vendor.

Ford
PRO™

Metro Ford

Date
05/25/2023

Issue
Project Status

Project Address
Schenectady, NY

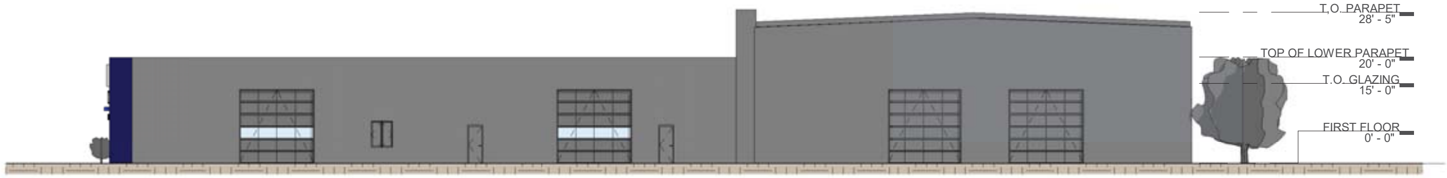
Scale 1/16" = 1'-0"
0 4 8 16 32

These drawings are for communication of design intent only. These drawings are not suited or intended for construction or fabrication.

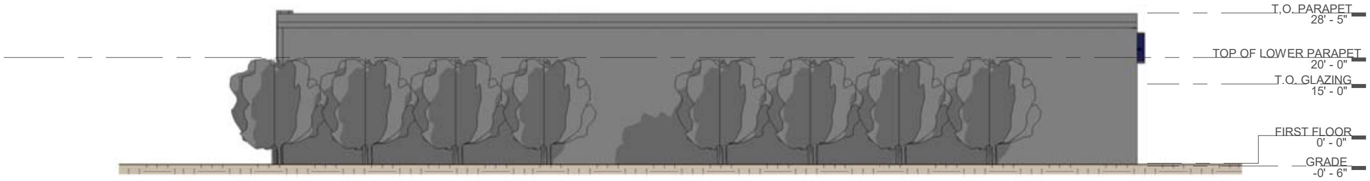
Proposed - Entry Elevation

A 601

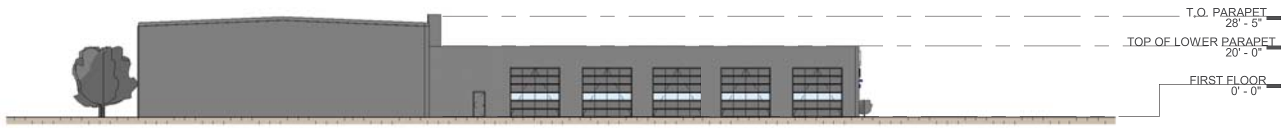
EVIEW360



1 North
3/64" = 1'-0"



2 West
3/64" = 1'-0"



3 South
1/32" = 1'-0"

Local Architect to verify in field all existing building conditions and identify any potenial issues of concern with dealership facility design, if design is effected.

Architect shall coordinate all furniture power and installation requirements with furniture vendor.

PRO

Metro Ford

Date
05/25/2023

Issue
Project Status

Project Address
Schenectady, NY

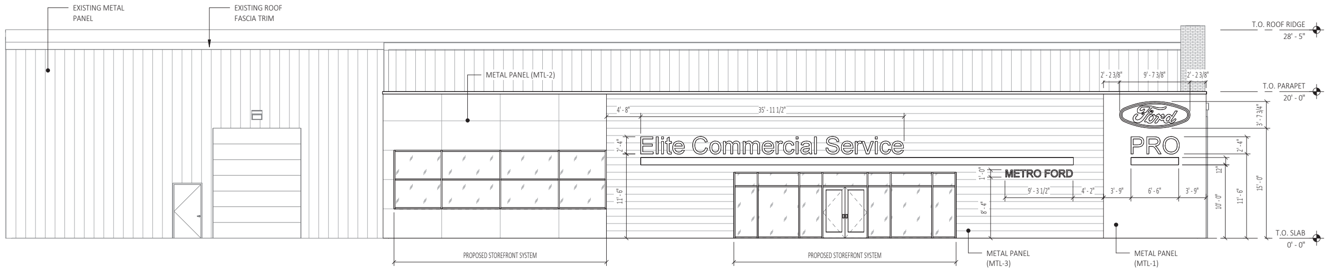
Scale 1/16" = 1'-0"
0 4 8 16 32

These drawings are for communication of design intent only. These drawings are not suited or intended for construction or fabrication.

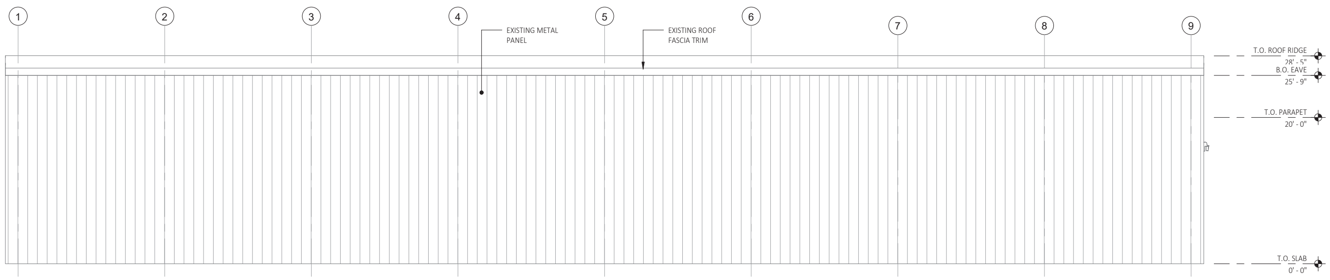
Proposed - Exterior Elevations

A 602

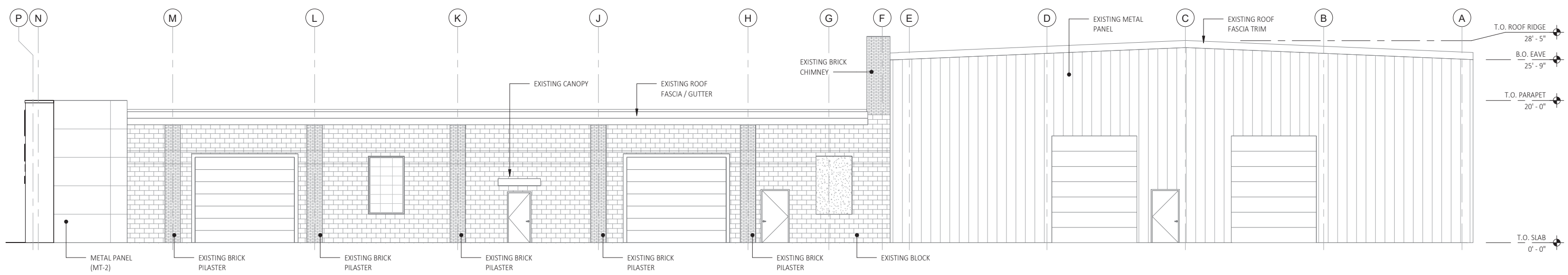
EVIEW360



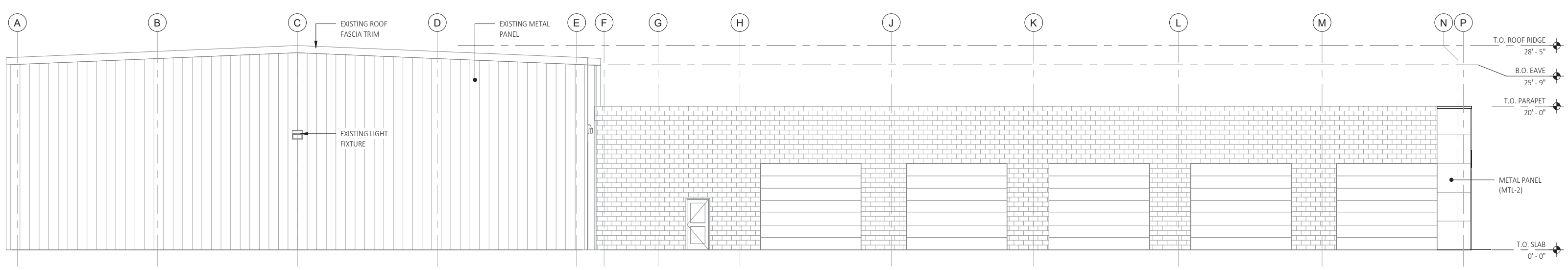
4 A200 Front Building Elevation (State Street)
SCALE: 1/8" = 1'-0"



3 A200 Rear Building Elevation
SCALE: 1/8" = 1'-0"



2 A200 Side Building Elevation (Central Ave)
SCALE: 1/8" = 1'-0"



1 A200 Side Building Elevation (Parking Lot)
SCALE: 1/8" = 1'-0"

C2 ARCHITECTURE, PC
WWW.C2-DESIGNGROUP.COM
24 Airport Road | Schenectady, NY 12302 | 518.320.8250

STAMP:

Conceptual Design
SUBMITTAL / REVISION
No. DATE:

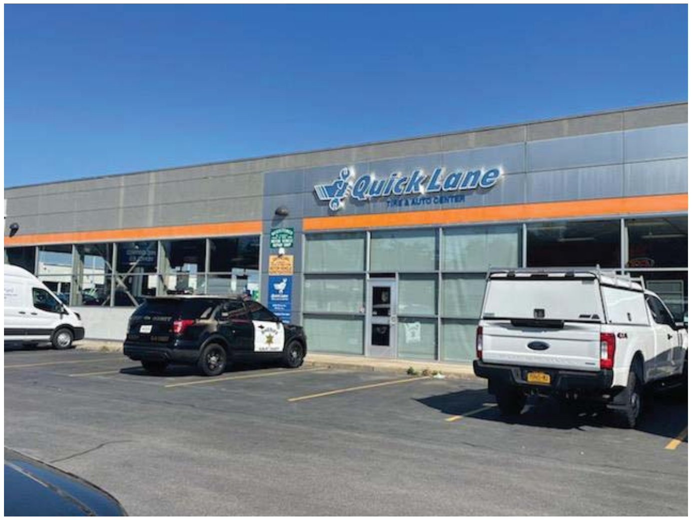
SHEET TITLE: Building Elevations
PROJECT: Renovations to: Metro Ford
3631 State Street
Schenectady, NY 12304

DRAWN BY: C2 Architecture
DATE: 09/22/2023
SCALE: AS NOTED
JOB NO: 2318
SHEET: A200

PLOT DATE: 10/4/2023 11:26:56 AM

October 5, 2023

Existing Photos



FORD

PRO Pylon
"Elite Commercial Service"

Scale: 1/4"=1'

THIS DRAWING IS AN ARTISTIC REPRESENTATION TO BE USED FOR PERMIT AND ESTIMATING PURPOSES ONLY.
TRUE DIMENSIONS MUST BE PROVIDED BY ENGINEERING PRIOR TO PRODUCTION.

TOWN OF NISKAYUNA
PLANNING BOARD AND ZONING COMMISSION
AGENDA STATEMENT

AGENDA ITEM NO. VIII. 1 MEETING DATE: 11/13/2023

ITEM TITLE: DISCUSSION: 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:
☒ Conservation Advisory Council (CAC) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
☐ OTHER:

ATTACHMENTS:
☐ Resolution ☒ Site Plan ☐ Map ☐ Report ☐ Other:

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.

Since the 10/16/23 PB meeting the TDE has begun the technical review of the stormwater analysis and the applicant has submitted a revised site plan drawing consisting of a 3-lot subdivision. The Board should discuss the status of the TDE review and the applicant should present the new 3-lot subdivision.

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.

<u>6/23/23 Subdivision Drawing</u>

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.

<u>8/23/23 Subdivision Drawing</u>

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.

<u>8/28/23 Planning Board (PB) meeting</u> – 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.

<u>9/6/23 PB Project Lead site walk</u> – 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.

<u>9/6/23 Conservation Advisory Council (CAC) meeting</u> – 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.

<u>10/16/23 Planning Board (PB) meeting</u> – 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 and is included in the packet for the 11/13 23 PB meeting.
- 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.

<u>11/8/23 Conservation Advisory Council (CAC) meeting</u> – 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 as the review process moves forward.

The PB should review and discuss the newly proposed 3-lot subdivision and 1st TDE comment letter.

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

November 8, 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 Sketch Plan Application dated 6/22/2023, River Road Survey Drawing dated 12/1/2022, Subdivision Site Plan dated 11/3/2023, Short Form Environmental Assessment Form (SEAF) dated 6/22/2023, TDE Scope of Work dated 9/11/2023, River Road Drainage Report dated revised 10/17/2023, and Stormwater Flood Prone Areas revised 8/8/2023. 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:

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.

Applicant for Sketch Plan Approval-4 Lots or Less

1. 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.
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.

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.
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.
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.
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*."
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.
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.

<u>River Road Drainage Report</u>

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.

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.
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.
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.
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.
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.
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.
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.

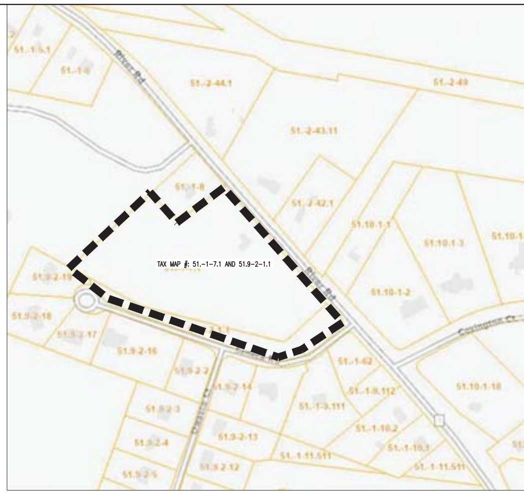
If you have any questions, please feel free to contact me.

Sincerely,

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

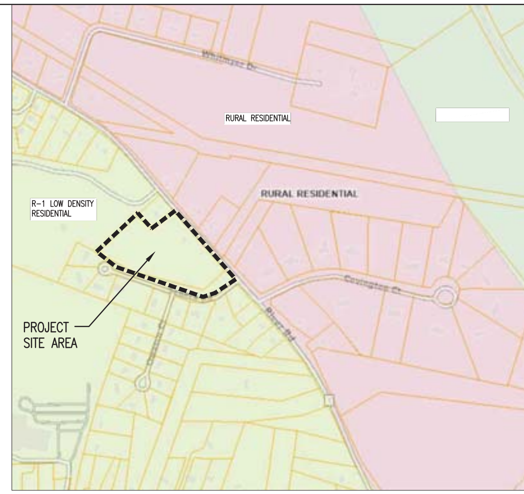
Douglas P. Cole, P.E.
Senior Director of Engineering

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



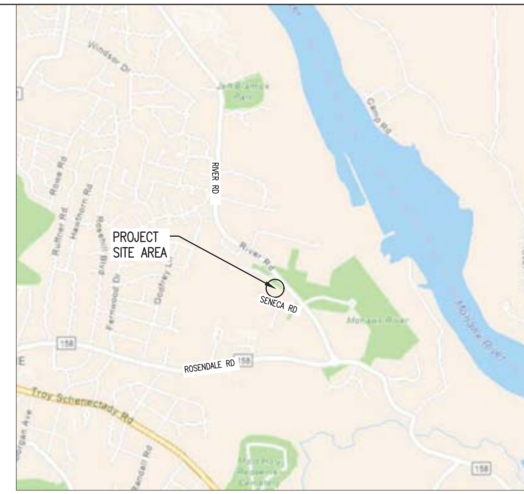
TAX MAP

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. EXITING 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.

SHEET INDEX

SHEET	SHEET TITLE
C001	SITE LEGEND AND NOTES
C100	EXISTING CONDITIONS AND DEMOLITION PLAN
C101	SUBDIVISION PLAN - PROPOSED 3-LOT
C500	SITE DETAILS

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 WHAMER 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.

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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 FENCE (BARBED WIRE)	*X FENCE (BARBED WIRE)*
O FENCE (CHAIN LINK)	*O FENCE (CHAIN LINK)*
D FENCE (WOODEN)	*D 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

No.	Description	Date

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208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
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www.engineeringventures.com

RPL Family Trust
2505 Whamer Lane
Niskayuna, NY 12309

Sheet Title: SITE LEGEND AND NOTES

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	11/03/2023

C001

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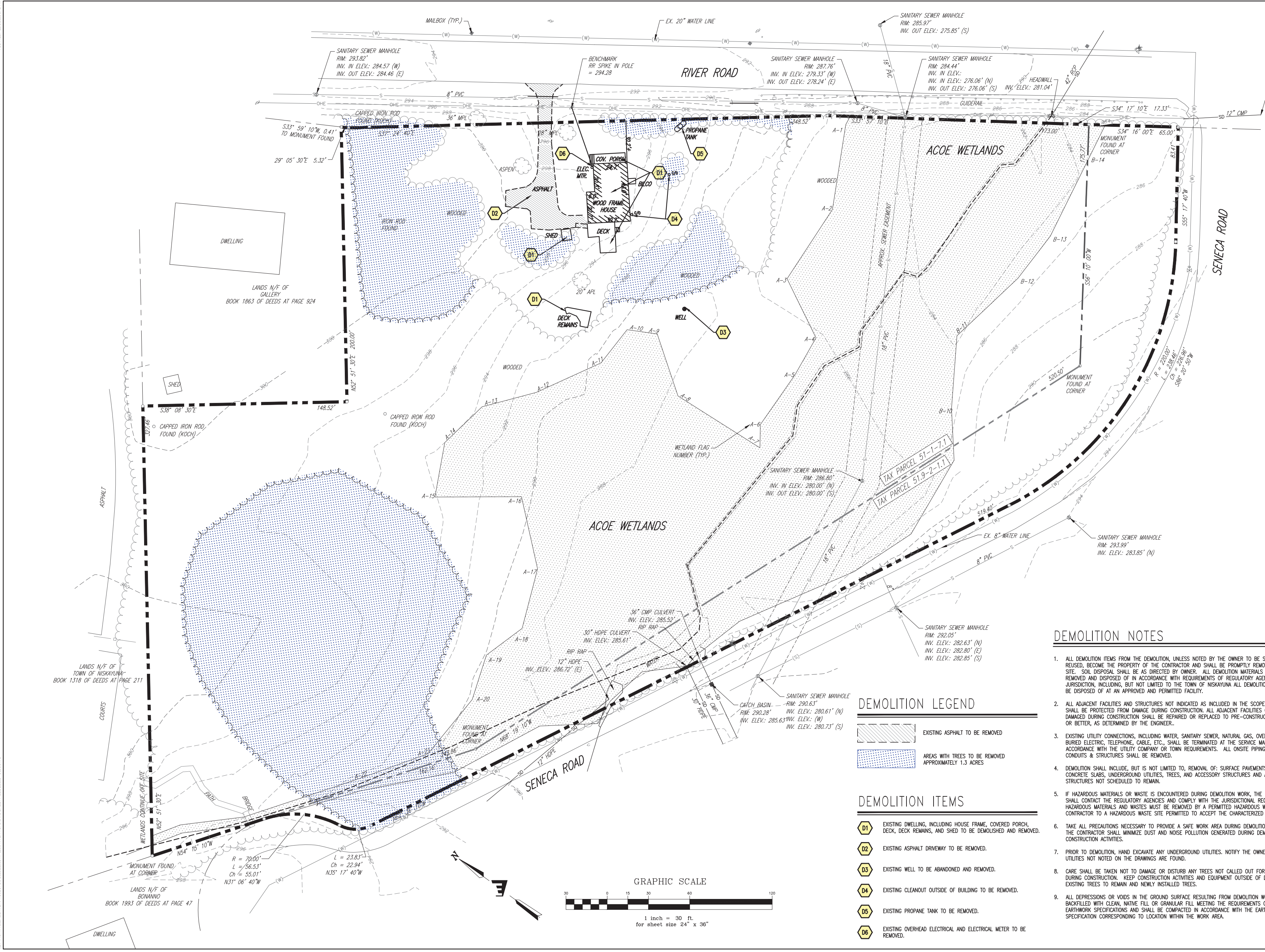

DEMOLITION LEGEND

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.

No.	Description	Date

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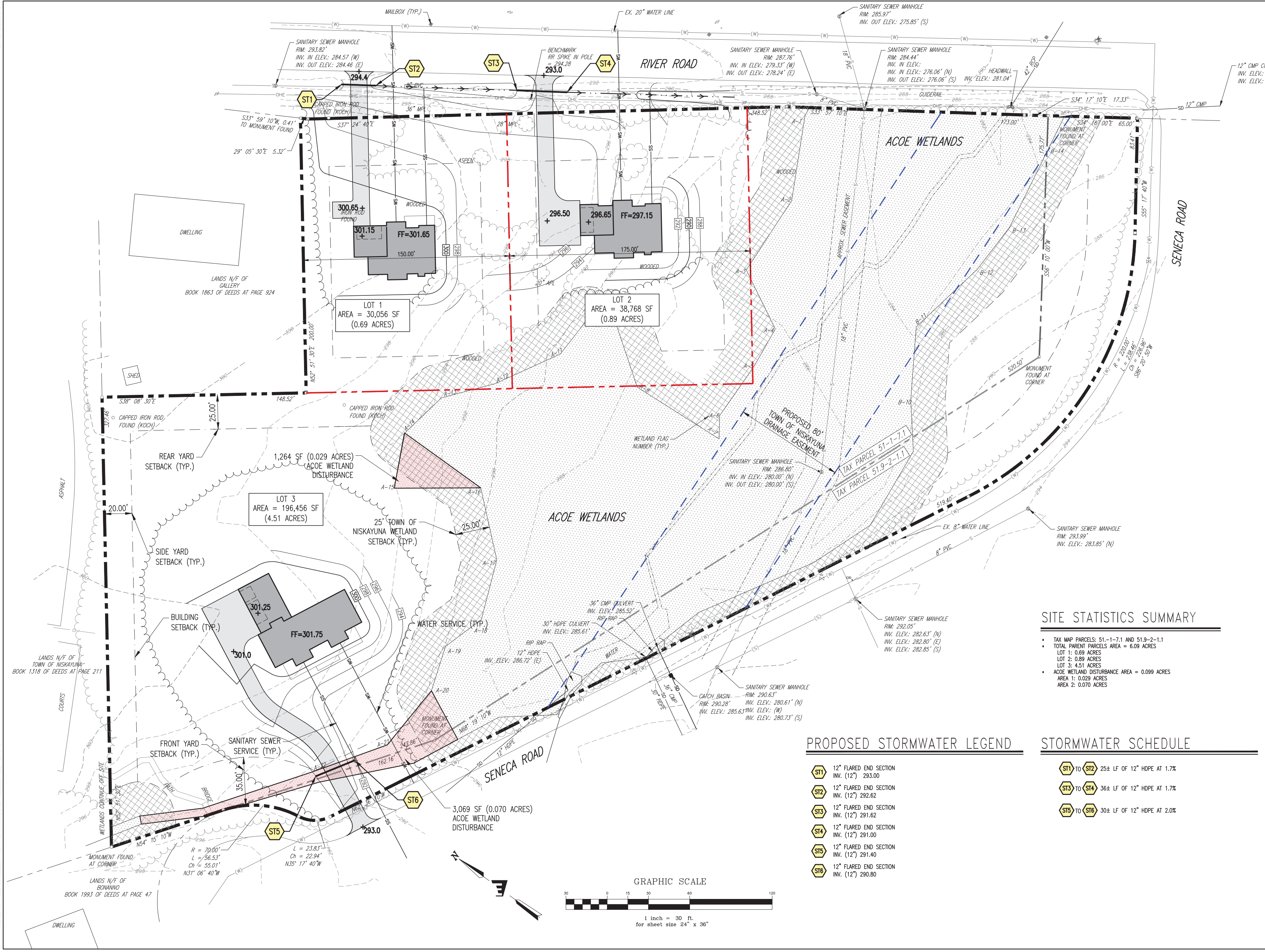
RPL Family Trust
2505 Wharnet Lane
Niskayuna, NY 12309

Sheet Title: EXISTING CONDITIONS AND DEMOLITIONPLAN

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	-
Date:	11/03/2023

C100



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

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") 291.40
ST6	12" FLARED END SECTION INV. (12") 290.80

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 30± LF OF 12" HDPE AT 2.0%

No. | Description | Date

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Niskayuna, NY 12309

Sheet Title: SUBDIVISION PLAN PROPOSED 3-LOT

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	11/03/2023

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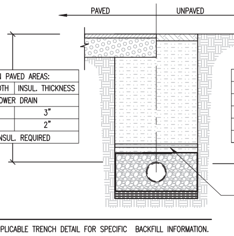


INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	LOWER DRAIN	
3'-4'	4'-0"	3"
4'-6'	4'-0"	2"
> 6'	NO INSUL. REQUIRED	

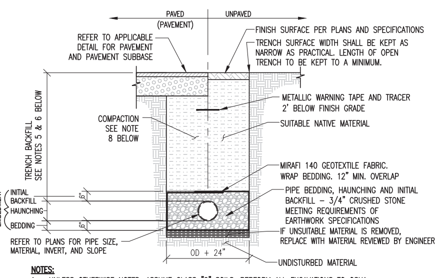
INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-2'	LOWER DRAIN	
2'-3'	4'-0"	3"
3'-5'	4'-0"	2"
> 5'	NO INSUL. REQUIRED	

TRENCH NOTES

1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.

INSULATION OVER SHALLOW DRAIN DETAIL (1)

NOT TO SCALE

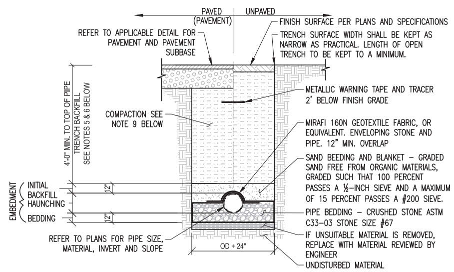


NOTES:

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 (2)

NOT TO SCALE

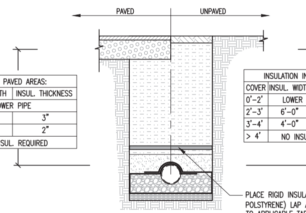


GRAVITY AND SEWER FORCE MAIN TRENCH NOTES:

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 (3)

NOT TO SCALE



INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	LOWER PIPE	
3'-4'	6'-0"	3"
4'-5'	4'-0"	2"
> 5'	NO INSUL. REQUIRED	

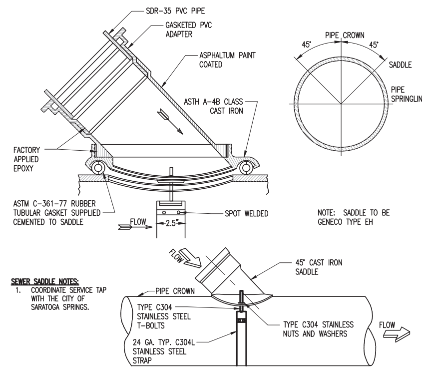
INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-2'	LOWER PIPE	
2'-3'	6'-0"	3"
3'-4'	4'-0"	2"
> 4'	NO INSUL. REQUIRED	

NOTES:

1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. NOTIFY DEPARTMENT OF PUBLIC WORKS TO REVIEW INSTALLATION AND BACKFILL.
3. ALL SHALLOW SEWER INSTALLATIONS MUST BE APPROVED BY ENGINEER.
4. THE MINIMUM DEPTH TO THE TOP OF THE PIPE SHALL BE 6'-0" IN PAVED AREAS AND 4'-0" IN UNPAVED AREAS. SHALLOWER DEPTHS REQUIRE APPROVAL FROM THE ENGINEER. REFER TO INSULATION OVER SHALLOW SEWER LINE DETAIL.

SHALLOW SEWER LINE INSULATION DETAIL (4)

NOT TO SCALE

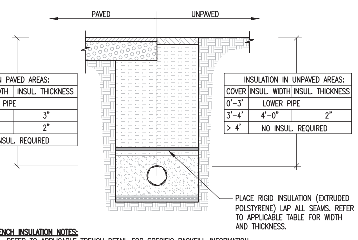


SEWER SADDLE NOTES:

1. COORDINATE SERVICE TAP WITH THE CITY OF SARATOGA SPRINGS.

SEWER SADDLE DETAIL (5)

SCALE: NONE



INSULATION IN PAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	LOWER PIPE	
3'-4'	6'-0"	3"
4'-5'	4'-0"	2"
> 5'	NO INSUL. REQUIRED	

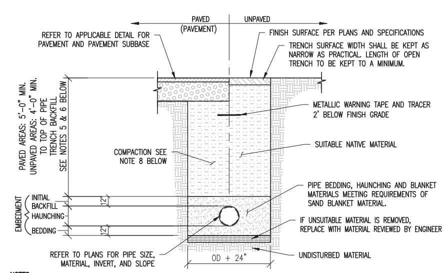
INSULATION IN UNPAVED AREAS:		
COVER	INSUL. WIDTH	INSUL. THICKNESS
0'-3'	LOWER PIPE	
3'-4'	4'-0"	2"
> 4'	NO INSUL. REQUIRED	

TRENCH INSULATION NOTES:

1. REFER TO APPLICABLE TRENCH DETAIL FOR SPECIFIC BACKFILL INFORMATION.
2. NOTIFY DEPARTMENT OF PUBLIC WORKS TO REVIEW INSTALLATION AND BACKFILL IN R.O.W.
3. ALL SHALLOW WATER INSTALLATIONS MUST BE APPROVED BY ENGINEER PRIOR TO INSTALLATION.

INSULATION OVER SHALLOW WATER LINE DETAIL (6)

NOT TO SCALE

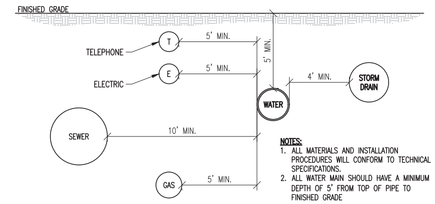


NOTES:

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 (7)

NOT TO SCALE

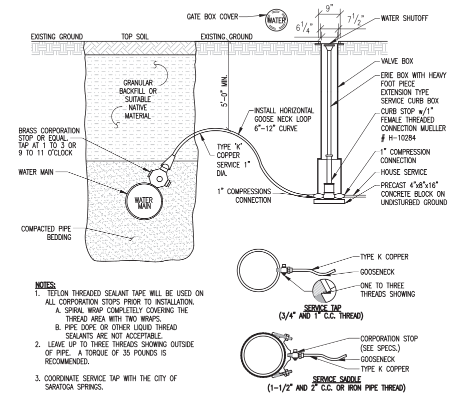


NOTES:

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 (8)

NOT TO SCALE



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 (9)

NOT TO SCALE

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: SITE DETAILS

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	11/03/2023

C500

Quitclaim Deed

THIS INDENTURE, made the 28TH day of AUGUST, 2023 between **Michael A. Mastropietro and Mary Mastropietro**, residing at 50 Railroad Place, Apartment 402, Saratoga Springs, New York 12866-2173,

party of the first part,

and **Ryan P. Lucey**, residing at 2505 Whamer Lane, Schenectady, New York 12309-2424,

party of the second part,

WITNESSETH, that the party of the first part, in consideration of ONE DOLLAR ($1.00) lawful money of the United States and other good and valuable consideration paid by the party of the second part, does hereby remise, release and quitclaim unto the party of the second part, its successors and assigns forever,

ALL that certain parcel of land, with the buildings and improvements erected thereon, situate, lying and being in the Town of Niskayuna, County of Schenectady, and State of New York and being more particularly bounded and described as follows:

SEE SCHEDULE "A" ATTACHED HERETO AND MADE A PART THEREOF

BEING the same premises conveyed to Michael A. Mastropietro and Mary Mastropietro by Warranty Deed of Orville G. Freligh and Katherine M. Freligh dated October 31, 1986, and recorded in the Schenectady County Clerk's Office on October 31, 1986, in Book 1123 at page 57. Excepting and reserving therefrom the premises conveyed by Michael A. Mastropietro and Mary E. Mastropietro to Rose Marie Rossi by Warranty Deed dated January 4, 1988, and recorded in the Schenectady County Clerk's Office on January 21, 1988, in Book 1173 at page 192. Also excepting and reserving therefrom the premises conveyed by Michael A. Mastropietro and Mary E. Mastropietro to Sotile Builders, Inc. by Warranty Deed dated December 9, 2002, and recorded in the Schenectady County Clerk's Office on December 11, 2002, in Book 1639 at page 921.

TOGETHER with all right, title and interest, if any, of the party of the first part in and to any streets and roads abutting the above-described premises to the center lines thereof,

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, its successors and assigns forever.

AND the party of the first part, in compliance with Section 13 of the Lien Law, hereby covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

IN WITNESS WHEREOF, the party of the first part has duly executed this instrument as of the day and year first above written.

Michael A. Mastropietro

Mary Mastropietro

STATE OF NEW YORK)
COUNTY OF) ss:

On the 28th. day of August, 2023 before me, the undersigned, a Notary Public in and for said State, personally appeared Michael A. Mastropietro and Mary Mastropietro, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that they executed the same in their capacity, and that by their signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

DANIEL M. DE FEDERICIS
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 02DE6278898
Qualified in Saratoga County
Commission Expires April 1, 2025

Notary Public

RECORD AND RETURN TO:
PATTISON, SAMPSON, GINSBERG & GRIFFIN, PLLC
P.O. Box 208
Troy, New York 12181

SCHEDULE A

A11-THAT CERTAIN TRACT, PIECE OR PARCEL OF LAND situate in the Town of Niskayuna, Schenectady County, New York, lying generally Northwesterly of River Road and being more particularly bounded and described as follows:

BEGINNING at the point of intersection of the common division line between the lands now or formerly of S. William Laudate and Esther Laudato as described in Liber 507 of Deeds at Page 484 on the Northwest and the lands now or formerly of Orville and Katherine M. Freligh as described in Liber 819 of Deeds at Page 12 on the Southeast with the Southwesterly margin of River Road; thence along said Southwesterly margin, South 34 deg. 16 min. 00 sec. East 125.00 feet to a point; thence through the lands of said Freligh, South 55 deg. 17 min. 40 sec. West 445.59 feet to its intersection with the Northeasterly line of lands now or formerly of Russell G. Brust as described in Liber 657 of Deeds at Page 219, Liber 646 of Deeds at Page 141, Liber 690 of Deeds at Page 442 and Liber 720 of Deeds at Page 542; thence along said Northeasterly line, North 63 deg. 37 min. 50 sec. West 420.23 feet to the Northeasterly corner of lands now or formerly of the Central School District No 1 of the Towns of Niskayuna and Glenville, Schenectady County; Clifton Park, Saratoga County; and Colonie, Albany County as described in Liber 891 of Deeds at Page 564 and Liber 893 of Deeds at Page 351; thence along the Northeasterly line of said Central School District No. 1 the following two (2) courses: 1) North 63 deg. 31 min. 10 sec. West 60.00 feet to a point; and 2) North 62 deg. 36 min. 10 sec. West 471.32 feet to its intersection with the Southeasterly line of lands of said Laudato; thence along the lands of said Laudato the following four (4) courses: 1) North 29 deg. 17 min. 50 sec. East 320.00 feet to a point; 2) South 54 deg. 15 min. 10 sec. East 441.50 feet to a point; 3) South 68 deg. 19 min. 10 sec. East 520.50 feet to a point; and 4) North 56 deg. 10 min. 00 sec. East 175.77 feet to the point or place of beginning.

EXCEPTING AND RESERVING THEREFROM:

BEGINNING at the point of intersection of the division line between the lands now or formerly of Michael A. Mastropietro on the Northwest and lands now or formerly of Orville G. and Katherine M. Freligh on the Southeast with the Southwesterly margin of River Road; and runs thence along said division line South 55 deg. 17 min. 40 sec. West 445.59 feet to a point in the division line between the lands of said Mastropietro on the Southwest and the lands of said Freligh on the Northeast; thence along said division line South 63 deg. 37 min. 50 sec. East 111.86 feet to a Northwesterly corner of lands now or formerly of Miguel A. and Josephine Cabral as described in Liber 1031 of Deeds at Page 629; thence along the Northwesterly line of said Cabral South 29 deg. 23 min. 20 sec. West 104.44 feet to its intersection with the Northerly line of lands of Niagara Mohawk Power Corporation; thence along the lands of Niagara Mohawk Power Corporation the following two (2) courses: 1) North 77 deg. 21 min. 30 sec. West 47.01 feet to a point; and 2) South 27 deg. 38 min. 00 sec. West 546.23 feet to the Northeasterly corner of lands now or formerly of Lloyd M. and Mildred E. Brinkman as described in Liber 560 of Deeds at Page 413; thence along the Northeasterly line of lands of said Brinkman North 61 deg. 27 min. 50 sec. West 194.66 feet to the Northeasterly corner of lands now or formerly of Keating; thence along the Northerly line of said Keating North 71 deg. 37 min. 40 sec. West 277.95 feet to its intersection with the Northeasterly line of lands now or formerly of the Central School District No. 1 of the Towns of Niskayuna and Glenville, Schenectady County; Clifton Park, Saratoga County; and Colonie, Albany County as described in Liber 891 of Deeds at Page 564 and Liber 893 of Deeds at Page 351; thence along said Northeasterly line of Central School District No. 1 North 26 deg. 26 min. 30 sec. East 692.87 feet to the Northeasterly corner of lands of said Central School District No. 1; thence through the lands of said Michael A. Mastropietro the following five (5) courses: 1) South 63 deg. 33 min. 30 sec. East 90.00 feet to a point; 2) North 27 deg. 23 min. 50 sec. East 237.54 feet to a point; 3) South 62 deg. 36 min. 10 sec. East 252.39 feet to a point of curvature; 4) Easterly along a curve to the left of radius 220.00 feet and arc length of 236.46 feet (chord North 86 deg. 20 min. 50 sec. East 226.96 feet) to a point of tangency; and 5) North 55 deg. 17 min. 40 sec. East 83.41 feet to its intersection with the above first mentioned Southwesterly margin of River Road; thence along said above Southwesterly margin South 34 deg. 16 min. 00 sec. East 60.00 feet to the point or place of beginning.

SCHEDULE A

(Continued)

ALSO EXCEPTING AND RESERVING THEREFROM:

ALL THAT CERTAIN tract, piece or parcel of land situte in the town of Niskayuna, County of Schenectady, State of New York, lying Southwesterly of River Road and Northwest of Owasco Court, and being more particularly bounded and described as follows:

COMMENCING AT A POINT ON THE Southwesterly road boundary of River Road at its point of intersection with the Northwesterly road boundary of Seneca Road and runs thence from said point of commencement along said Northwesterly road boundary of Seneca Road, South 55 deg. 17 min. 40 sec. West 83.41 feet to a point of curvature on the Northerly road boundary of Seneca Road; thence along the Northerly and Northeasterly road boundary of Seneca Road the following two (2) courses: 1) in a Westerly direction along a curve to the right having a radius of 220.00 feet, an arc length of 238.46 feet and a chord bearing of South 86 deg. 20 min. 50 sec. West 226.96 feet to a point of tangency; and 2) North 62 deg. 36 min. 10 sec. West 252.39 feet to the point or place of beginning and runs thence from said POINT OF BEGINNING along the Northwesterly terminus of Seneca Road and along the division line between Lot 6 Seneca Road, Seneca Manor on the Southeast and the lands now or formerly of Michael A. Mastropietro as described in Book 1123 of Deeds at Page 57 on the Northwest, South 27 deg. 23 min. sec. West 237.54 feet to its point of intersection with the common division line between the lands of said Mastropietro on the Northeast and Lot 5 Owasco Court, Seneca Manor and the lands now or formerly of Niskayuna Central School (Iroquois Middle School) as described in Book 893 of Deeds at Page 351 on the Southwest; thence North 63 deg. 32 min. 30 sec. West along the last mentioned common division 150.00 feet to its point of intersection with the division line between the lands of said Mastropietro on the Northeast and the lands now or formerly of said Niskayuna Central School on the Southwest thence North 62 deg. 36 min. 10 sec. West along the last mentioned division line 471.32 feet to its point of intersection with the division line between the lands of said Mastropietro on the Southeast and the lands now or formerly of the Town of Niskayuna as described in Book 1318 of Deeds at Page 211 on the Northwest; thence North 29 deg. 17 min. 50 sec. East along the last mentioned division line 320.00 feet to its point of intersection with the common division line between the lands of said Mastropietro on the Southwest and the lands now or formerly of said Town of Niskayuna and the lands now or formerly of said Town of Niskayuna and the lands now or formerly of Sandra Laudato Anderson as described in Book 396 of Deeds at Page 43 on the Northwest; thence South 54 deg. 15 min. 10 sec. East along the last mentioned common division line 279.34 feet to a point; thence through the lands of said Mastropietro the following three (3) courses: 1) in a Southeasterly direction along a curve to the right having a radius of 70.00 feet, an arc length of 56.53 feet and a chord bearing of South 31 deg. 06 min. 54 sec. East 55.01 feet to a point of reverse curvature; 2) Southeasterly along a curve to the left having a radius of 25.00 feet, an arc length of 23.83 feet and a chord bearing of South 35 deg. 17 min. 24 sec. East 22.94 feet to a point; and 3) South 62 deg. 36 min. 10 sec. East 267.01 feet to the point or place of beginning.

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: RPL Family Trust	Telephone: 518-374-1461 E-Mail: ryan@midstateltd.com	
Address: 2505 Whamer Lane		
City/PO: Niskayuna	State: NY	Zip Code: 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? 6.0[illegible] 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?	☐	☑
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: ____________________	☑	☐
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?	☑	☐
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: ____________________ ____________________	☐	☑
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: ____________________ ____________________	☐	☑
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: ____________________ ____________________	☐	☑
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?	☐	☑
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. ____________________ ____________________		

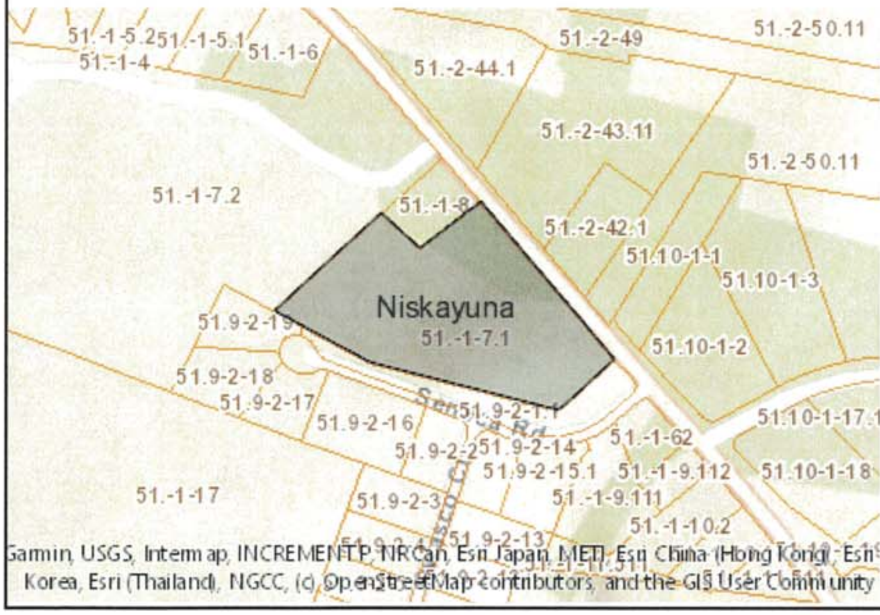
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☑ Wetland ☐ Urban ☑ Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO ☑	YES ☐
16. Is the project site located in the 100-year flood plan?	NO ☑	YES ☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO ☐	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:	NO ☑	YES ☐
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:	NO ☑	YES ☐
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:	NO ☑	YES ☐

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: [signature] Title: TRUSTEE

PRINT FORM



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

2890 River Road Project
Drainage Report

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

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

APPENDICES

I. INTRODUCTION

This drainage report has been prepared on behalf of the RPL Family Trust for a proposed 4-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 4-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. Proposed lots 1, 2, and 3 will have access from River Road. The proposed lot sizes are approximately 0.46 acres, 0.55 acres, and 0.57 acres respectively. Proposed lot 4 is approximately 4.51 acres and will fill in less than $1/10^{th}$ 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.

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. 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 Appendix 2 for the Soils Resource Report.

VI. ONSITE HYDROLOGY

Each proposed 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 3 – See Attachment 3 – Figure 1 (Lot 3 Culvert Watershed) for proposed conditions 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 = 1.08 acres

- Lawn Area (heavy soil, avg., 2-7%, C= 0.20) = 0.73 acres
- Impervious area (C=0.90) = 0.32 acres
- Forest Area (C=0.15) = 0.03 acres

C = (0.73 ac x 0.20) + (0.32 ac x 0.90) + (0.03 ac x 0.15) / 1.08 ac = 0.44 / 1.08 = 0.41
Tc = 10 minutes
I = 5.06 in/hr (see Attachment 4, Table 1 for IDF curve)
Q= CIA = 0.41 x 5.06 x 1.08 = 2.24 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 3 driveway culvert. See Attachment 5 for calculations. A 12” diameter HDPE culvert sloped at 1.7% will also be installed at Lots 1 and 2 driveways, each having a smaller contributing drainage area than Lot 3.

Lot 4 – See Attachment 3 – Figure 2 (Lot 4 Culvert Watershed) for proposed conditions drainage area map for Lot 4. The Rational Method will be utilized to determine the peak runoff rate to the driveway culvert at Lot 4.

A = 3.16 acres

- Lawn Area (heavy soil, avg., 2-7%, C= 0.20) = 1.43 acres
- Impervious area (C=0.90) = 0.5 acres
- Forest Area (C=0.15) = 1.23 acres

C = (1.43 ac x 0.20) + (0.5 ac x 0.90) + (1.23 ac x 0.15) / 3.16 ac = 0.92 / 3.16 = 0.29
Tc = 18.7 minutes
I = 3.70 in/hr (see Attachment 4, Table 1 for IDF curve)
Q= CIA = 0.29 x 3.70 x 3.16 = 3.39 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 4 driveway culvert. See Attachment 5 for calculations.

See Attachment 7 for Drawing C101 showing locations and sizes of the four new culverts.

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 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 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). 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 Appendix 3 – Figure 3 (River Road Watershed – Existing Conditions) and Figure 4 (River Road Watershed – Proposed Conditions) for the drainage maps for the study areas.

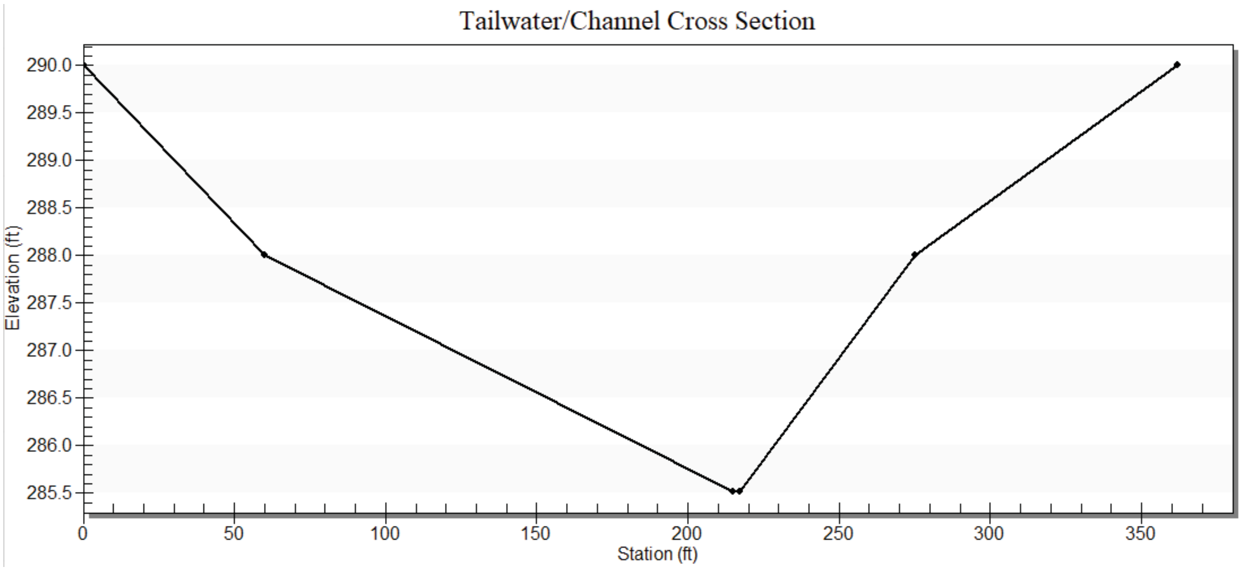
The result of this study, as outlined below, show that the culverts under Seneca Road and the culvert under River Road are undersized for the design storms.

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 Apprendix 4 (Table 2) for the referenced table.

The anticipated flow for the 25-year storm at Study Point 1 is 291.2 cfs. See Appendix 6 for HydroCAD input and output for 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.



See 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 30.22 cfs and the 36” culvert is 44.75 cfs for a total of 74.97 cfs. The available capacity is substantially below the 25-year flow of 291.2 cfs. The remaining flow, approximately 216.19 cfs, discharges over the road at the existing low point (~elevation 288.0) northwest of the culverts. Peak headwater elevation is approximately 289.50. 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)
289.50	291.20	44.75	30.22	216.19

Figure B – Seneca Road Culverts Summary

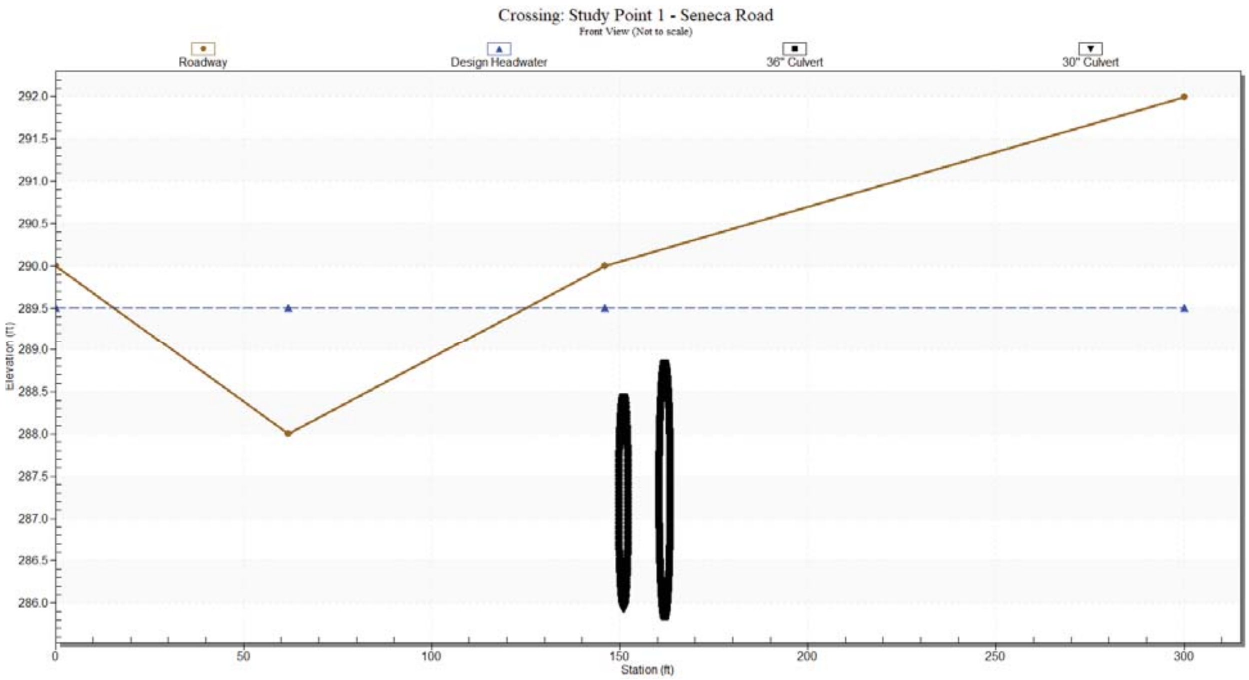
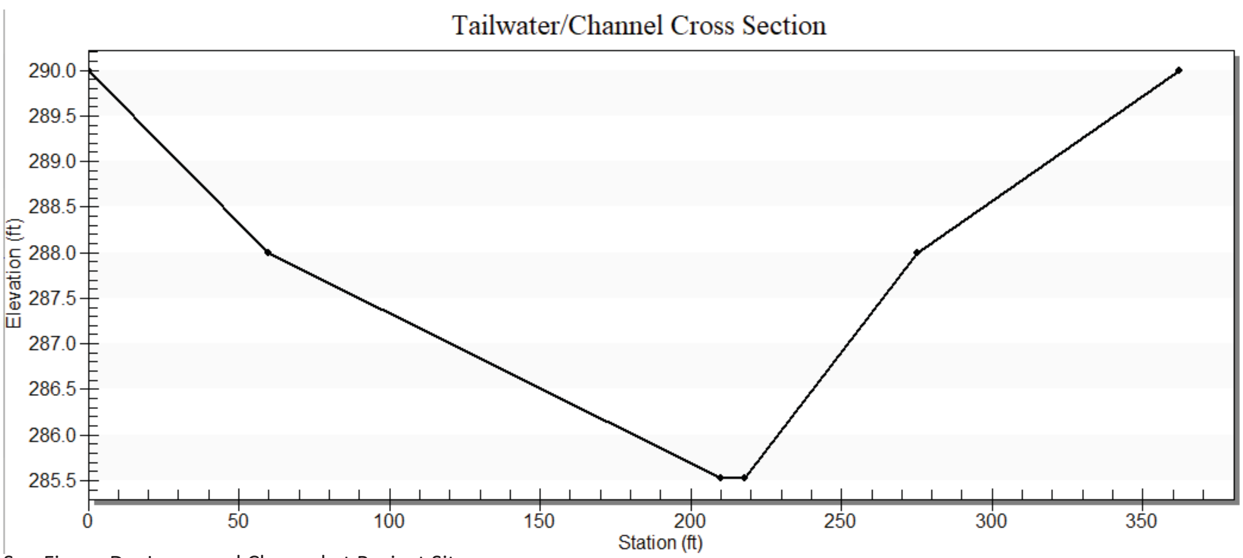


Figure C – Seneca Road profile with culverts and headwater elevation, flow overtops roadway.

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 33.90 cfs and the 36" culvert increased to 45.31 cfs for a total of 79.21 cfs (net increase of 4.24 cfs). The available capacity continues to be substantially below the 25-year flow of 291.2 cfs. The remaining flow, approximately 211.98 cfs, discharges over the road at the existing low point (~elevation 288.0) northwest of the culverts. The peak headwater elevation is approximately 289.49. 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)
289.49	291.20	45.31	33.90	211.98

Figure E – Seneca Road Culverts Summary

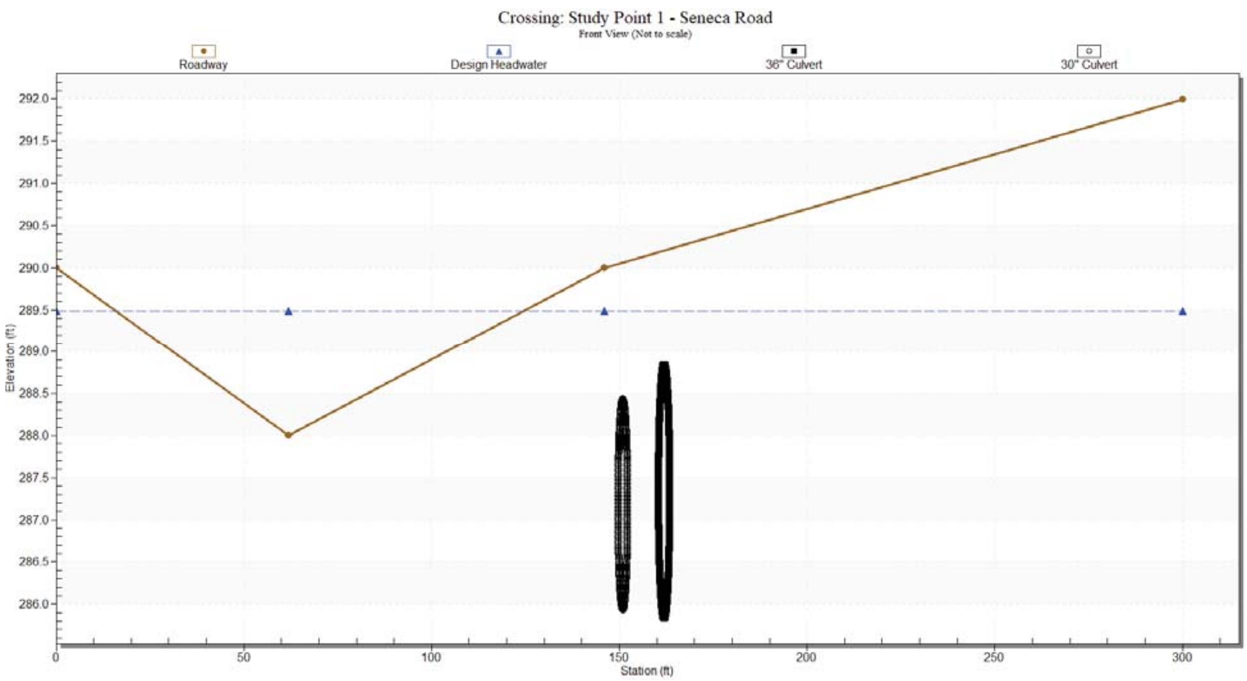


Figure F – Seneca Road profile with culverts and headwater elevation, flow overtops roadway.

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.

Study Point 2 – 42" Culvert at River Road

The 5-year, 24-hour storm event was used for Study Point 2 per the Town of Niskayuna Subdivision Regulations (Chapter 189, Article IV, Section 189-20-C). Per the regulations, the proposed development cannot overload an existing downstream drainage facility during a 5-

year storm. The precipitation value for the 5-year storm was obtained from the Extreme Precipitation Tables from the Northeast Regional Climate Center. See Apprendix 4 (Table 2) for the referenced table.

The anticipated flow for the 5-year storm at Study Point 2 for existing conditions is 165.86 cfs. The anticipated flow for the 5-year storm at Study Point 2 for proposed conditions (including the 4 new homes in the project site) is 165.89 cfs. The pre to post 5-year flows are nearly indistinguishable and a flow of 165.86 cfs will be used to analyze the 42" culvert at River Road. The analysis assumes that the culvert crossing at Seneca Road and the onsite wetlands adequately convey flows to the inlet of the River Road culvert.

Utilizing the HY-8 Culvert Hydraulic Analysis Program from the US Department of Transportation Federal Highway Administration, the capacity of the 42" culvert at River Road cannot adequately accommodate the 5-year storm event under existing or proposed conditions. The available capacity of the 42" culvert is 116.32 cfs. The remaining flow, approximately 49.47 cfs, potentially discharges over the road at the corner of River Road and Seneca Road at an existing low point (assumed elevation of 288.5). The peak headwater elevation is approximately 289.15. 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)
289.15	165.86	116.32	49.47

Figure G – Seneca Road Culverts Summary

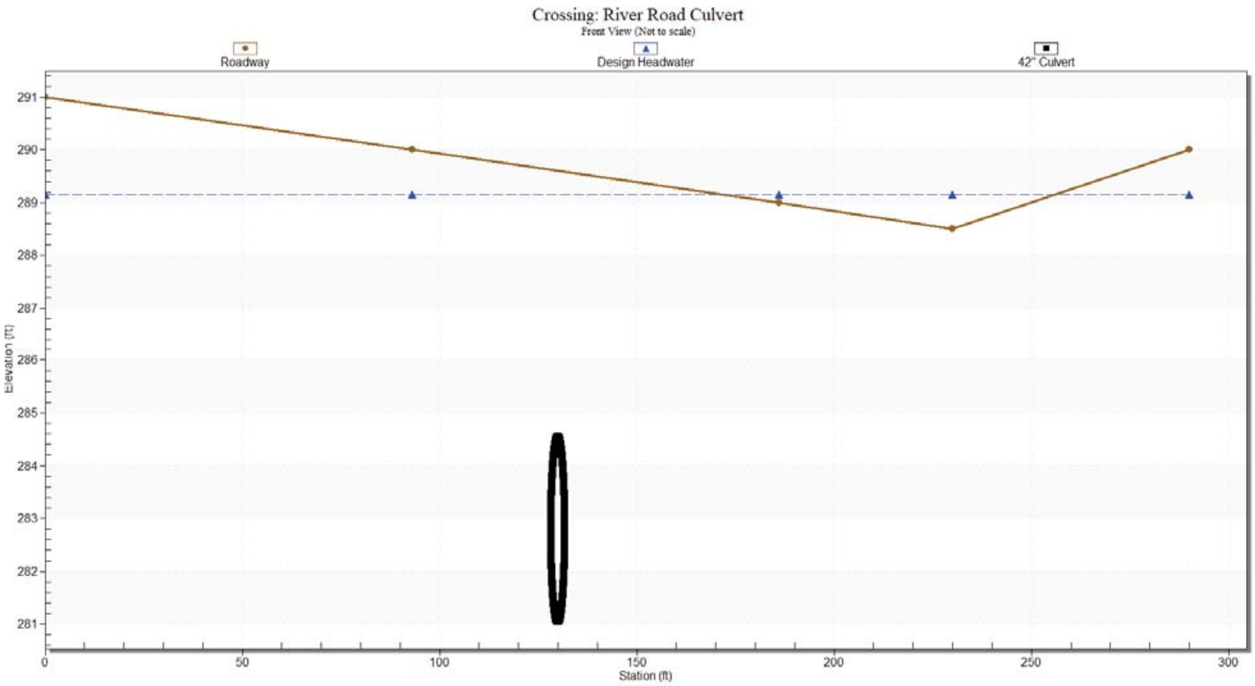
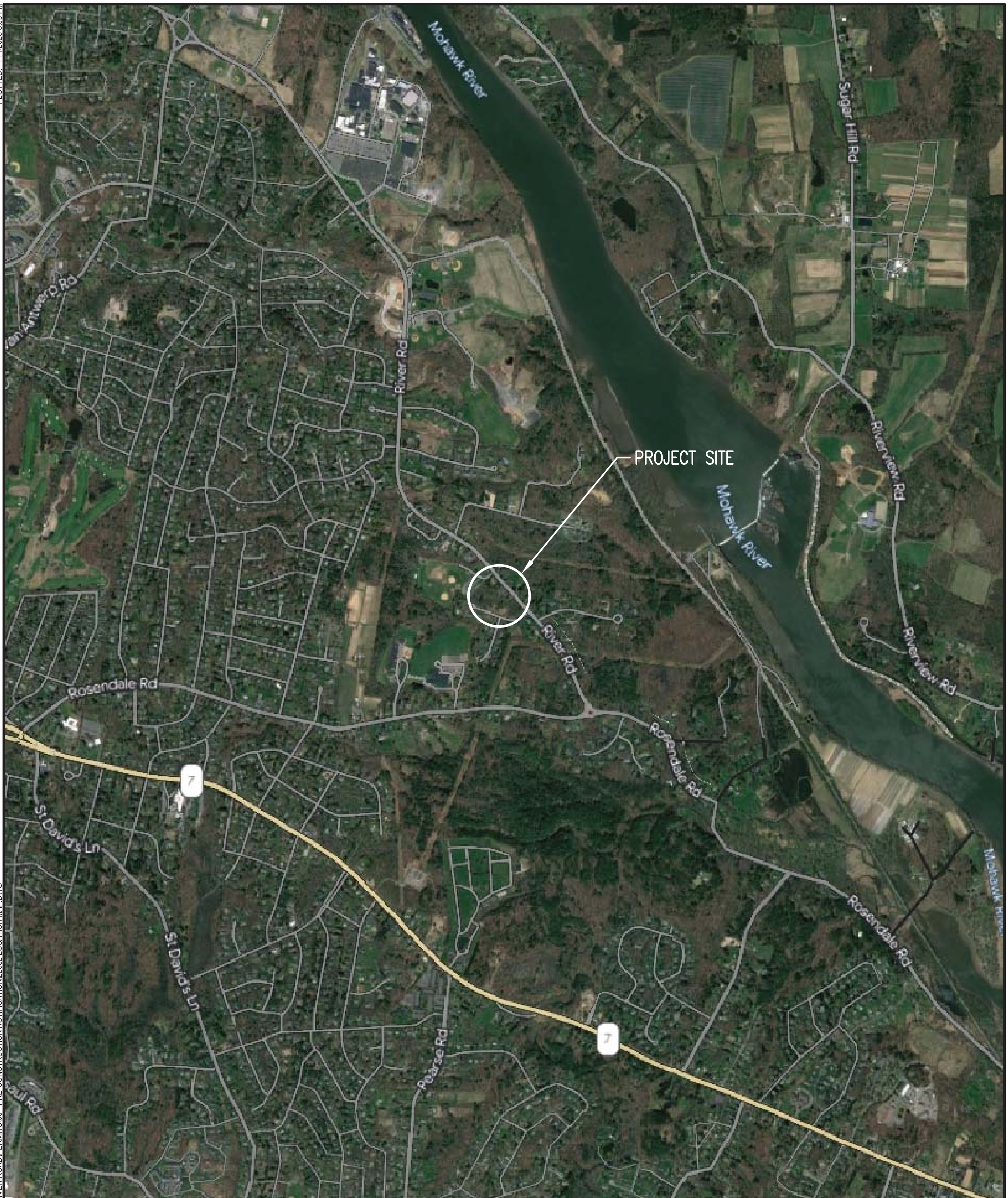


Figure H – River Road profile with culvert and headwater elevation, flow overtops roadway.

The existing 42” culvert at River Road appears undersized. The proposed development appears to have an no impact on the performance of the culvert crossing. The design of an appropriately sized culvert is outside the scope of this report.

<u>Attachment 1</u>

Site Location Map



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

<u>Attachment 2</u>

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.

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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.

Soil Map

Map Scale: 1:7,780 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 100, 200, 400, 600

Feet: 0, 350, 700, 1400, 2100

N

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

C/D	134.2
A	20.9
B/D	25
B	2.1
C	4.7

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Schenectady County, New York

BvA—Burdett-Scriba channery silt loams, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bd3h
Elevation: 210 to 1,600 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Burdett and similar soils: 50 percent
Scriba and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Burdett

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: A thin silt mantle overlying till that is strongly influenced by shale

Typical profile

H1 - 0 to 9 inches: channery silt loam
H2 - 9 to 16 inches: channery silt loam
H3 - 16 to 44 inches: very gravelly silty clay loam
H4 - 44 to 60 inches: very gravelly silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Description of Scriba

Setting

Landform: Till plains, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till dominated by sandstone, with lesser amounts of limestone and shale

Typical profile

H1 - 0 to 7 inches: channery silt loam
H2 - 7 to 15 inches: channery silt loam
Bx - 15 to 43 inches: very gravelly loam
C - 43 to 60 inches: very gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 12 to 18 inches to fragipan
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Darien

Percent of map unit: 5 percent
Hydric soil rating: No

Varick

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Angola

Percent of map unit: 5 percent
Hydric soil rating: No

Ilion

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Ce—Cheektowaga fine sandy loam

Map Unit Setting

National map unit symbol: bd3p
Elevation: 200 to 800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cheektowaga and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cheektowaga

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy deltaic deposits over clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam
H2 - 9 to 18 inches: loamy fine sand
H3 - 18 to 26 inches: loamy fine sand
H4 - 26 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F101XY007NY - Wet Outwash

Hydric soil rating: Yes

Minor Components

Junius

Percent of map unit: 5 percent
Hydric soil rating: No

Claverack

Percent of map unit: 5 percent
Hydric soil rating: No

Granby

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Madalin

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Palms

Percent of map unit: 5 percent
Landform: Marshes, swamps
Hydric soil rating: Yes

ClA—Claverack loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bd3s
Elevation: 600 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Claverack and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Claverack

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandy glaciolacustrine deposits, derived primarily from non-calcareous sandstone or granite, that overlie clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: loamy fine sand
H2 - 11 to 30 inches: loamy fine sand
H3 - 30 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Cheektowaga

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

Colonie

Percent of map unit: 5 percent
Hydric soil rating: No

Junius

Percent of map unit: 5 percent
Hydric soil rating: No

CIB—Claverack loamy fine sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd3t

Elevation: 600 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Claverack and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Claverack

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Sandy glaciolacustrine deposits, derived primarily from non-calcareous sandstone or granite, that overlie clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: loamy fine sand
H2 - 11 to 30 inches: loamy fine sand
H3 - 30 to 60 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to strongly contrasting textural stratification
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Junius

Percent of map unit: 5 percent
Hydric soil rating: No

Cheektowaga

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Colonie

Percent of map unit: 5 percent
Hydric soil rating: No

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

CoA—Colonie loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bd3v
Elevation: 150 to 1,000 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Colonie and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colonie

Setting

Landform: Deltas, beach ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or eolian deposits

Typical profile

H1 - 0 to 6 inches: loamy fine sand
H2 - 6 to 70 inches: fine sand
H3 - 70 to 110 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F101XY005NY - Dry Outwash
Hydric soil rating: No

Minor Components

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

Junius

Percent of map unit: 5 percent
Hydric soil rating: No

Howard

Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent
Hydric soil rating: No

CoC—Colonie loamy fine sand, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 1qcvw
Elevation: 150 to 1,000 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Colonie and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colonie

Setting

Landform: Deltas, beach ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Tread

Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy glaciofluvial or eolian deposits

Typical profile

H1 - 0 to 6 inches: loamy fine sand
H2 - 6 to 70 inches: fine sand
H3 - 70 to 110 inches: fine sand

Properties and qualities

Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F101XY005NY - Dry Outwash
Hydric soil rating: No

Minor Components

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

Howard

Percent of map unit: 5 percent
Hydric soil rating: No

Nunda

Percent of map unit: 5 percent
Hydric soil rating: No

Junius

Percent of map unit: 5 percent
Hydric soil rating: No

Cu—Cut and fill land

Map Unit Setting

National map unit symbol: 1vggp

Elevation: 180 to 1,380 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Typical profile

H1 - 0 to 4 inches: gravelly loam
H2 - 4 to 70 inches: very gravelly loam

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Sun

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Angola

Percent of map unit: 5 percent
Hydric soil rating: No

Ilion

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Raynham

Percent of map unit: 5 percent
Hydric soil rating: No

Hudson

Percent of map unit: 5 percent
Hydric soil rating: No

Alton

Percent of map unit: 5 percent
Hydric soil rating: No

FL—Fluvaquents, loamy

Map Unit Setting

National map unit symbol: bd44
Elevation: 300 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Typical profile

H1 - 0 to 5 inches: gravelly silt loam
H2 - 5 to 70 inches: very gravelly silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 19.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: FrequentNone
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: F101XY003NY - Low Floodplain Depression

Hydric soil rating: Yes

Minor Components

Wayland

Percent of map unit: 5 percent
Landform: Flood plains
Hydric soil rating: Yes

Granby

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Teel

Percent of map unit: 5 percent
Hydric soil rating: No

Hamlin

Percent of map unit: 5 percent
Hydric soil rating: No

Saprists

Percent of map unit: 3 percent
Landform: Swamps, marshes
Hydric soil rating: Yes

Aquents

Percent of map unit: 2 percent
Landform: Flood plains
Hydric soil rating: Yes

IlA—Ilion silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bd4t
Elevation: 600 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ilion and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ilion

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy till derived from calcareous dark shale

Typical profile

Ap - 0 to 9 inches: silt loam
E - 9 to 14 inches: silty clay loam
2B - 14 to 39 inches: channery silty clay loam
3C - 39 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F101XY014NY - Wet Till Depression
Hydric soil rating: Yes

Minor Components

Madalin

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Fonda

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Varick

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Darien

Percent of map unit: 5 percent
Hydric soil rating: No

Scriba

Percent of map unit: 5 percent
Hydric soil rating: No

IIB—Ilion silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd4v
Elevation: 600 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ilion and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ilion

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy till derived from calcareous dark shale

Typical profile

Ap - 0 to 9 inches: silt loam
E - 9 to 14 inches: silty clay loam
2B - 14 to 39 inches: channery silty clay loam
3C - 39 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F101XY014NY - Wet Till Depression
Hydric soil rating: Yes

Minor Components

Burdett

Percent of map unit: 5 percent
Hydric soil rating: No

Madalin

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Fonda

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Varick

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Scriba

Percent of map unit: 5 percent
Hydric soil rating: No

Ma—Madalin silty clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2spjz
Elevation: 330 to 1,200 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Madalin and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Madalin

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Brown clayey glaciolacustrine deposits derived from calcareous shale

Typical profile

Ap - 0 to 7 inches: silty clay loam
Bg - 7 to 9 inches: silty clay loam
Btg1 - 9 to 21 inches: clay
Btg2 - 21 to 30 inches: silty clay
Cg - 30 to 79 inches: stratified silt to clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 7 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F101XY010NY - Wet Lake Plain Depression
Hydric soil rating: Yes

Minor Components

Rhinebeck

Percent of map unit: 5 percent
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Fonda

Percent of map unit: 4 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Canandaigua

Percent of map unit: 4 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Barre

Percent of map unit: 2 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

MrD—Mardin gravelly silt loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: bd5m
Elevation: 800 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Mardin and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mardin

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Loamy till derived mainly from acid sedimentary rock

Typical profile

H1 - 0 to 2 inches: gravelly silt loam
H2 - 2 to 27 inches: gravelly loam
H3 - 27 to 47 inches: gravelly silt loam
H4 - 47 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 18 to 27 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F140XY024NY - Moist Dense Till
Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 5 percent

Nunda

Percent of map unit: 5 percent
Hydric soil rating: No

Nassau

Percent of map unit: 5 percent
Hydric soil rating: No

Lordstown

Percent of map unit: 5 percent
Hydric soil rating: No

Broadalbin

Percent of map unit: 5 percent
Hydric soil rating: No

NuB—Nunda channery silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd61
Elevation: 400 to 1,600 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Nunda and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nunda

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave

Across-slope shape: Convex
Parent material: A silty mantle over loamy till derived from calcareous shale and siltstone

Typical profile

H1 - 0 to 7 inches: channery silt loam
H2 - 7 to 25 inches: channery silt loam
H3 - 25 to 42 inches: gravelly silty clay loam
H4 - 42 to 60 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 15 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Mohawk

Percent of map unit: 5 percent
Hydric soil rating: No

Burdett

Percent of map unit: 5 percent
Hydric soil rating: No

Lansing

Percent of map unit: 5 percent
Hydric soil rating: No

Darien

Percent of map unit: 5 percent
Hydric soil rating: No

Angola

Percent of map unit: 5 percent
Hydric soil rating: No

NuC—Nunda channery silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: bd62
Elevation: 400 to 1,600 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Nunda and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nunda

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: A silty mantle over loamy till derived from calcareous shale and siltstone

Typical profile

H1 - 0 to 7 inches: channery silt loam
H2 - 7 to 25 inches: channery silt loam
H3 - 25 to 42 inches: gravelly silty clay loam
H4 - 42 to 60 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 15 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Mohawk

Percent of map unit: 5 percent
Hydric soil rating: No

Burdett

Percent of map unit: 5 percent
Hydric soil rating: No

Darien

Percent of map unit: 5 percent
Hydric soil rating: No

Angola

Percent of map unit: 5 percent
Hydric soil rating: No

Lansing

Percent of map unit: 5 percent
Hydric soil rating: No

OtB—Otisville gravelly loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd65
Elevation: 260 to 740 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Otisville and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Otisville

Setting

Landform: Terraces, outwash plains, deltas
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 7 inches: gravelly loamy sand
H2 - 7 to 36 inches: very gravelly loamy sand
H3 - 36 to 60 inches: stratified very gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Minor Components

Colonie

Percent of map unit: 5 percent
Hydric soil rating: No

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

Plainfield

Percent of map unit: 5 percent
Hydric soil rating: No

Alton

Percent of map unit: 5 percent
Hydric soil rating: No

RhA—Rhinebeck silty clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bd6p
Elevation: 80 to 1,000 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 28 inches: silty clay
H3 - 28 to 70 inches: stratified silt loam to clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Churchville

Percent of map unit: 5 percent
Hydric soil rating: No

Odessa

Percent of map unit: 5 percent
Hydric soil rating: No

Hudson

Percent of map unit: 5 percent
Hydric soil rating: No

Madalin

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Fonda

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

RhB—Rhinebeck silty clay loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd6q
Elevation: 80 to 1,000 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 13 inches: silty clay loam
H2 - 13 to 28 inches: silty clay
H3 - 28 to 70 inches: stratified silt loam to clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Fonda

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Churchville

Percent of map unit: 5 percent
Hydric soil rating: No

Hudson

Percent of map unit: 5 percent
Hydric soil rating: No

Odessa

Percent of map unit: 5 percent
Hydric soil rating: No

Madalin

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

ScA—Scio silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: bd6s
Elevation: 100 to 1,000 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Scio and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scio

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 33 inches: silt loam
H3 - 33 to 60 inches: stratified very fine sandy loam to silt loam to loamy very fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Raynham

Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent
Hydric soil rating: No

Rhinebeck

Percent of map unit: 5 percent
Hydric soil rating: No

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

ScB—Scio silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd6t
Elevation: 100 to 1,000 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Scio and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scio

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 33 inches: silt loam
H3 - 33 to 60 inches: stratified very fine sandy loam to silt loam to loamy very fine sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Raynham

Percent of map unit: 5 percent
Hydric soil rating: No

Unadilla

Percent of map unit: 5 percent
Hydric soil rating: No

Colonie

Percent of map unit: 5 percent
Hydric soil rating: No

Hudson

Percent of map unit: 5 percent
Hydric soil rating: No

UnB—Unadilla silt loam, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd71
Elevation: 600 to 1,800 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Unadilla and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Unadilla

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Glaciolacustrine deposits, eolian deposits, or old alluvium, comprised mainly of silt and very fine sand

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 28 inches: very fine sandy loam
C - 28 to 50 inches: very fine sandy loam
2C - 50 to 60 inches: stratified very gravelly sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F101XY008NY - Well Drained Lake Plain
Hydric soil rating: No

Minor Components

Scio
Percent of map unit: 5 percent
Hydric soil rating: No

Raynham
Percent of map unit: 5 percent
Hydric soil rating: No

Howard
Percent of map unit: 5 percent
Hydric soil rating: No

Hamlin
Percent of map unit: 5 percent
Hydric soil rating: No

Hudson
Percent of map unit: 5 percent
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

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

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

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

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Attachment 3

Drainage Area Maps

Figure 1 – Lot 3 Culvert Watershed
Figure 2 – Lot 4 Culvert Watershed
Figure 3 – River Road Watershed – Existing Conditions
Figure 4 – River Road Watershed – Proposed Conditions

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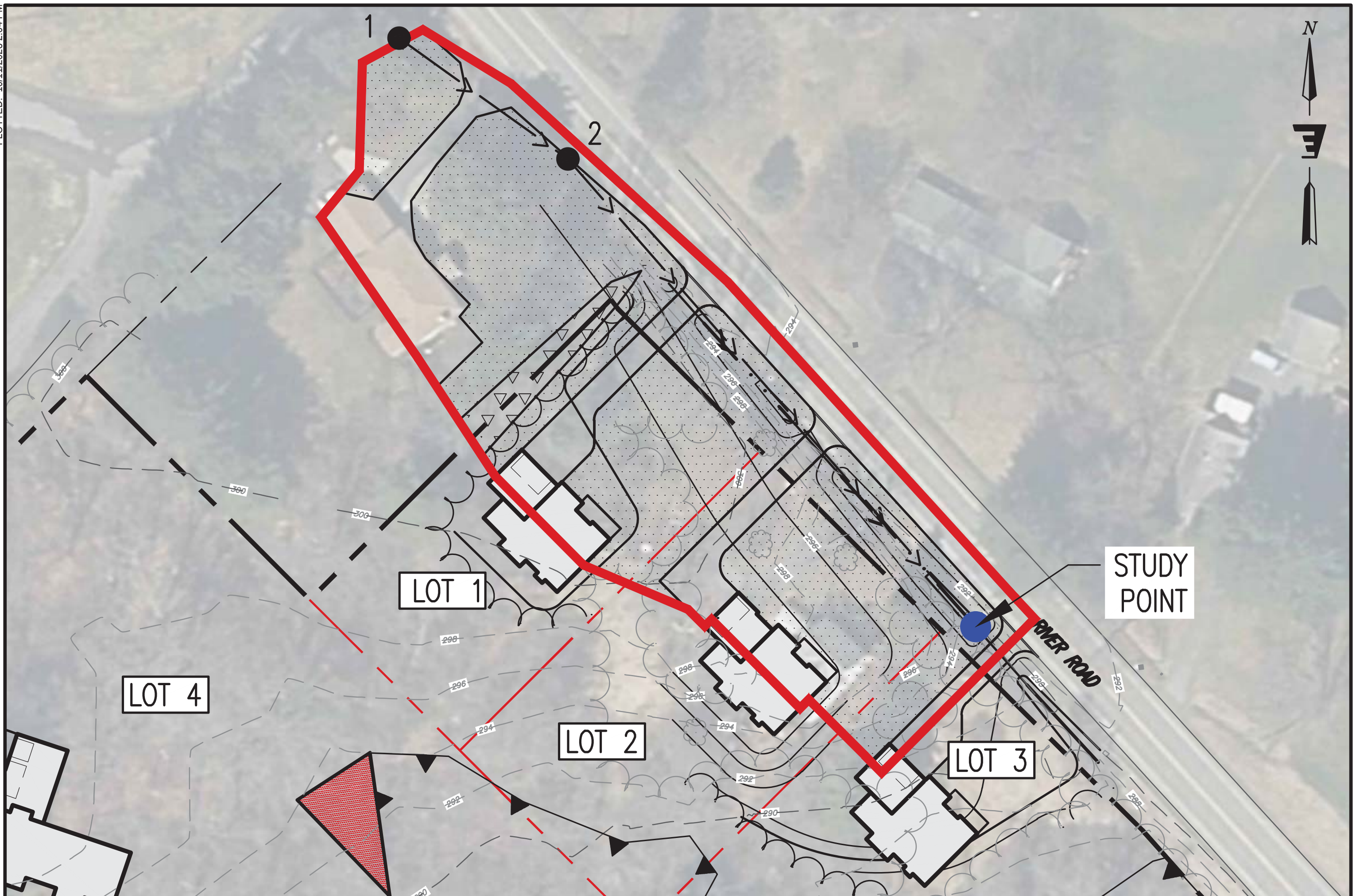

PLAN VIEW LOT 3

SCALE: 1" = 80'

II DRAINAGE AREA

SURFACE CONDITIONS	=	1.084 AC	CN
LAWN (C SOILS)	=	0.323 AC	74
IMPERVIOUS	=	0.726 AC	98
WOODS	=	0.035 AC	70
		COMPOSITE	90

TIME OF CONCENTRATION = 10.0 MIN

1. 100' LAWN SHEET FLOW AT 4.8%
2. 260' GRASS WATERWAY SHALLOW CONCENTRATED FLOW AT 1.6%

LEGEND

- LAWN (C SOILS)
- WOODS
- WATERSHED BOUNDARY
- TIME OF CONCENTRATION
- WETLAND BOUNDARY
- STUDY POINT

RAINFALL

25 YR = 4.49

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

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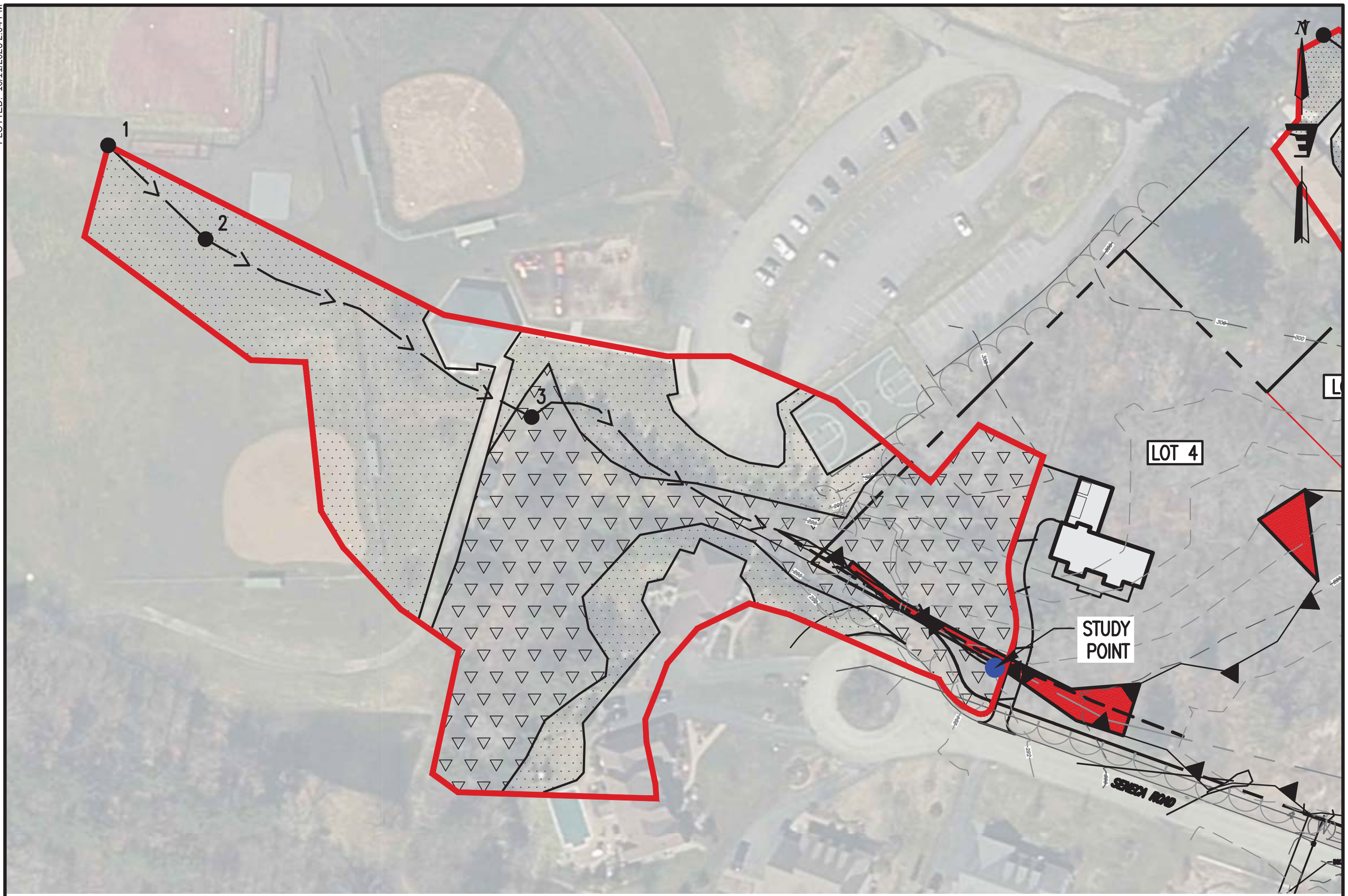
Sheet Title: LOT 3 CULVERT DRAINAGE MAP	EV Project # 22352	Figure: Fig. 1
Project Title: 2890 RIVER ROAD, TOWN OF NISKAYUNA, NY	Drawn By: HMB	
	Checked By: MHD	
	Scale: AS NOTED	
	Date: 10/11/2023	



PLAN VIEW LOT 4

SCALE: 1" = 125'

II DRAINAGE AREA

SURFACE CONDITIONS	=	3.156 AC	CN
LAWN (C SOILS)	=	1.433 AC	74
IMPERVIOUS	=	0.497 AC	98
WOODS	=	1.226 AC	70
		COMPOSITE	76

TIME OF CONCENTRATION = 18.7 MIN

1. 100' LAWN SHEET FLOW AT 1%
2. 275' GRASS PARKLAND SHALLOW CONCENTRATED FLOW AT 2.6%
3. 400' GRASS SWALE SHALLOW CONCENTRATED FLOW AT 3.3%

LEGEND

- LAWN (C SOILS)
- WOODS
- WATERSHED BOUNDARY
- 1 TIME OF CONCENTRATION
- WETLAND BOUNDARY
- STUDY POINT

RAINFALL

25 YR = 4.49

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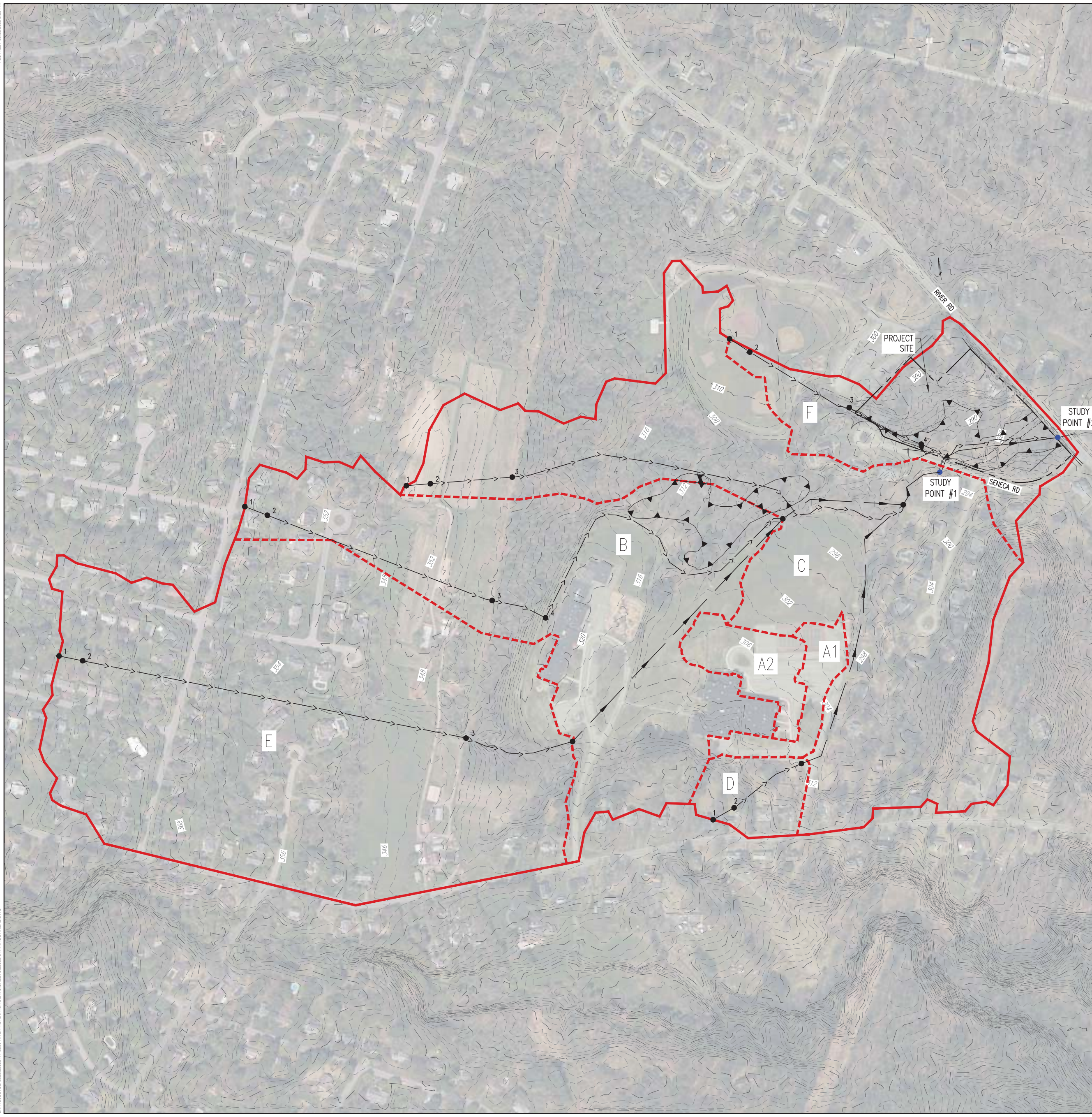
Sheet Title:	LOT 4 CULVERT DRAINAGE MAP
Project Title:	2890 RIVER ROAD TOWN OF NISKAYUNA, NY

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	10/11/2023

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
PAVEMENT	=	0.23 AC	98
RESIDENTIAL	=	6.23 AC	80
WETLAND	=	2.11 AC	89
WOODS	=	3.85 AC	70
		COMPOSITE	79

TIME OF CONCENTRATION = 32.3 MIN
1. 100' LAWN SHEET FLOW AT 0.8%
2. 475' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%
3. 335' UNPAVED SHALLOW CONCENTRATED FLOW AT 2.4%
4. 615' EARTH, DENSE WEEDS CHANNEL FLOW AT 1.14%

NOTES

1. STUDY POINT #1 IS THE INLET OF THE 30" AND 36" CULVERTS UNDER SENECA ROAD.
2. STUDY POINT #2 IS THE INLET OF THE 42" CULVERT UNDER RIVER ROAD.
3. TOTAL DRAINAGE AREA TO STUDY POINT #1 = 146.131 ACRES
4. TOTAL DRAINAGE AREA TO STUDY POINT #2 = 158.553 ACRES
5. DRAINAGE BOUNDARIES AND TIME OF CONCENTRATION FOR SUBCATCHMENTS A1 AND A2 ARE TAKEN FROM PROPOSED WATERSHED MAP CONTAINED IN THE STORMWATER MANAGEMENT REPORT AND STORMWATER POLLUTION PREVENTION PLAN FOR IROQUOIS MIDDLE SCHOOL, PREPARED BY APPEL OSBORNE LANDSCAPE ARCHITECTURE DATED JANUARY 2023.

LEGEND

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

RAINFALL

5 YR	=	3.14
25 YR	=	4.49

GRAPHIC SCALE

200 0 100 200 400 800

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

N

No.	Description	Date

Stamp

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Sheet Title:
DRAINAGE AREA MAP
RIVER ROAD WATERSHED - EX. CONDITIONS

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	10/11/2023

Fig. 3

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

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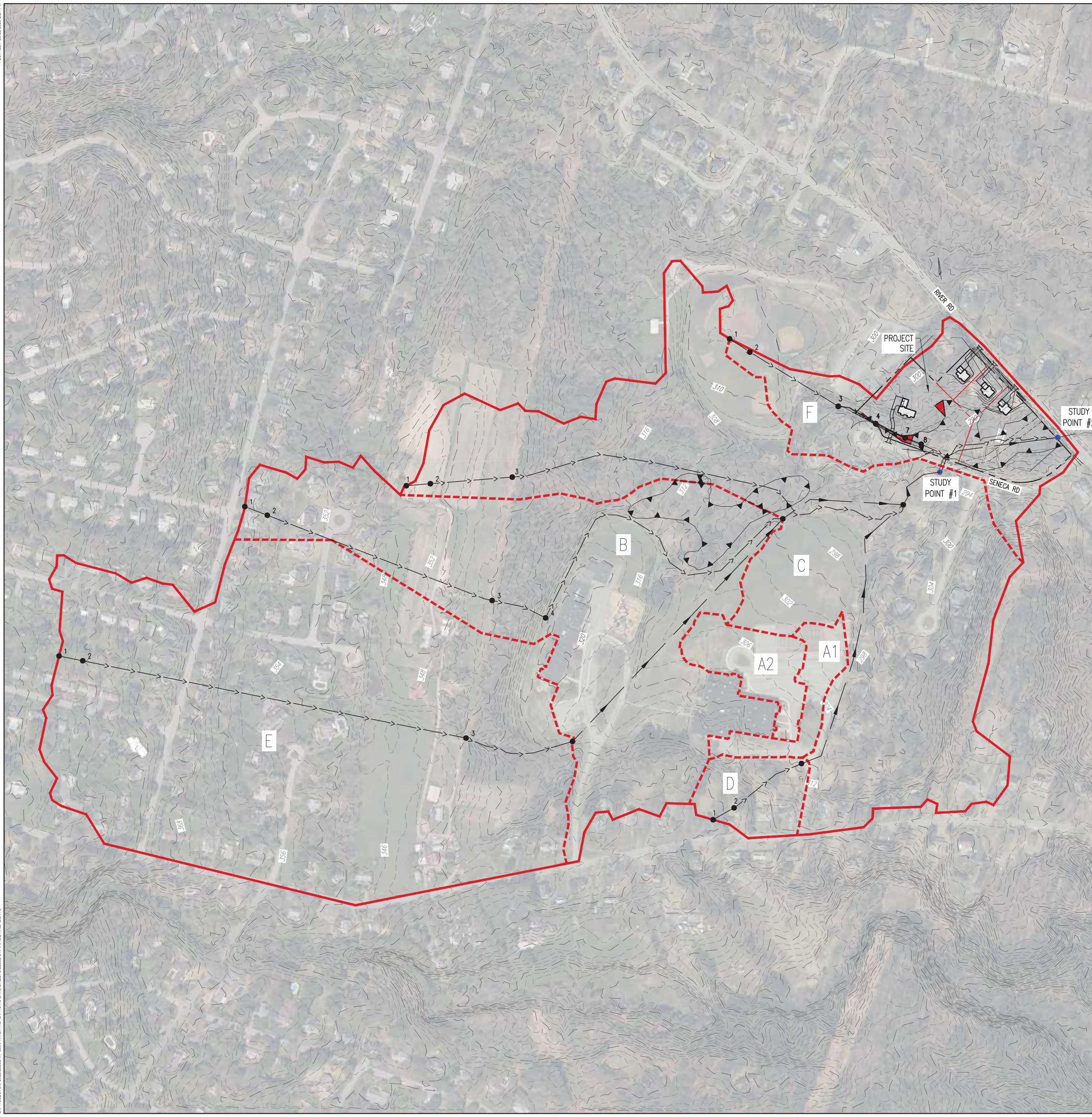

A DRAINAGE AREA

A1 DRAINAGE AREA (SEE NOTE 5)

SURFACE CONDITIONS			CN
	=	2.31 AC	
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			CN
	=	3.15 AC	
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			CN
	=	34.868 AC	
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			CN
	=	44.572 AC	
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			CN
	=	3.025 AC	
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			CN
	=	58.206 AC	
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			CN
	=	12.422 AC	
LAWN (C SOILS)	=	1.938 AC	74
PAVEMENT	=	0.41 AC	98
RESIDENTIAL	=	4.55 AC	80
ROOF	=	0.24 AC	98
WETLAND	=	2.11 AC	89
WOODS	=	3.18 AC	70
		COMPOSITE	79

TIME OF CONCENTRATION = 32.2 MIN
1. 100' LAWN SHEET FLOW AT 0.8%
2. 430' UNPAVED SHALLOW CONCENTRATED FLOW AT 3%
3. 157' UNPAVED SHALLOW CONCENTRATED FLOW AT 2.4%
4. 30' GRASSED WATERWAY SHALLOW CONCENTRATED FLOW AT 2.4%
5. 30' PIPE CHANNEL FLOW AT 2%
6. 30' GRASSED WATERWAY SHALLOW CONCENTRATED FLOW AT 2.4%
7. 68' UNPAVED SHALLOW CONCENTRATED FLOW AT 2.4%
8. 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 0 100 200 400 800

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

N

No.	Description	Date

Stamp

ENGINEERING VENTURES PC
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RPL Family Trust
2505 Whamer Lane
Niskayuna, NY 12309

Sheet Title: DRAINAGE AREA MAP
RIVER ROAD WATERSHED-PROP. CONDITIONS

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	10/11/2023

Fig. 4

PLOTTED: 10/11/2023 2:24 PM

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

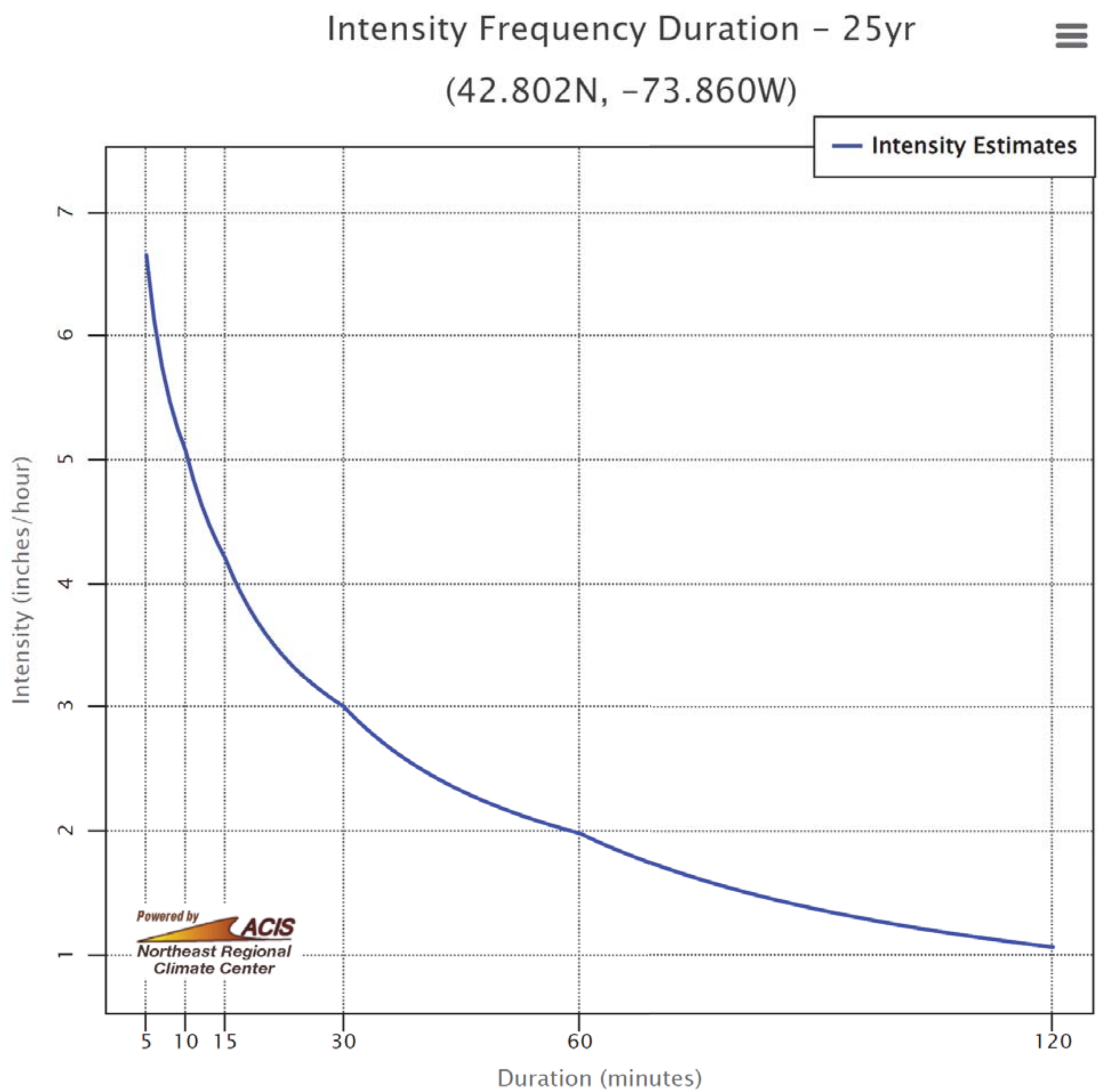
Attachment 4

Extreme Precipitation Values

Table 1 – Intensity Frequency Duration Curve (25-year)
Table 2 – Extreme Precipitation Tables

Table 1

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	
10*	5.06	Lot 3
11*	4.83	
12	4.63	
13*	4.47	
14*	4.32	
15*	4.20	
16*	4.05	
17*	3.92	
18*	3.80	
19*	3.70	Lot 4
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 2

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 3 Culvert Calculation
Lot 4 Culvert Calculation
Seneca Road Culvert Calculation – Unimproved Channel (Study Point 1)
Seneca Road Culvert Calculation – Improved Channel (Study Point 1)
River Road Culvert Calculation (Study Point 2)

Manning Formula Uniform Pipe Flow at Given Slope and Depth

2890 River Road

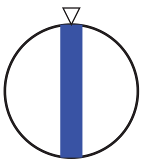
Lot 3 Driveway Culvert

Inputs

Pipe diameter, d_0	12	in
Manning roughness, n	0.013	
Pressure slope (possibly ? equal to pipe slope), S_0	0.017	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

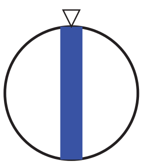
Lot 4 Driveway Culvert

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

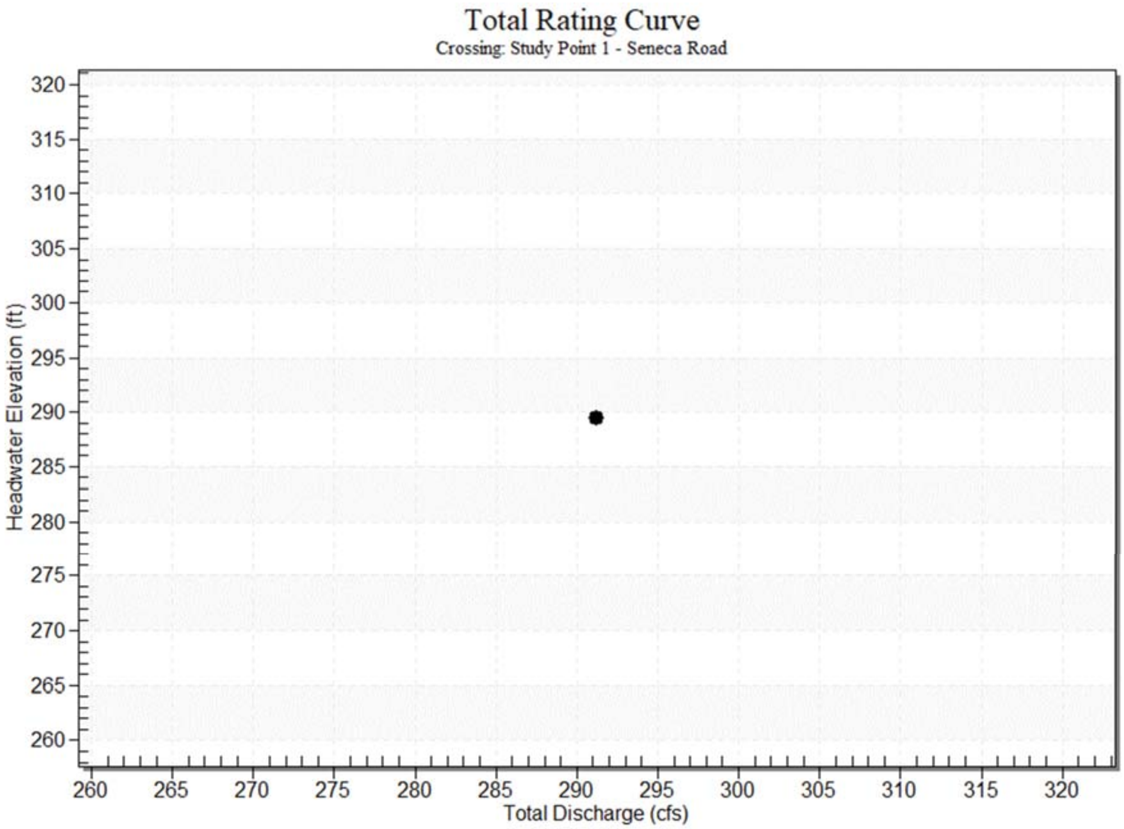
Design Flow: 291.20 cfs

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
289.50	291.20	44.75	30.22	216.19	5
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
289.50	291.20	44.75	30.22	216.19	2
288.00	37.75	21.02	16.72	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	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20	44.75	289.50	3.61	3.661	6-	2.19	2.18	2.80	2.80	6.52	0.85

cfs	cfs				FFt						
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85
291.20 cfs	44.75 cfs	289.50	3.61	3.661	6-FFt	2.19	2.18	2.80	2.80	6.52	0.85

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

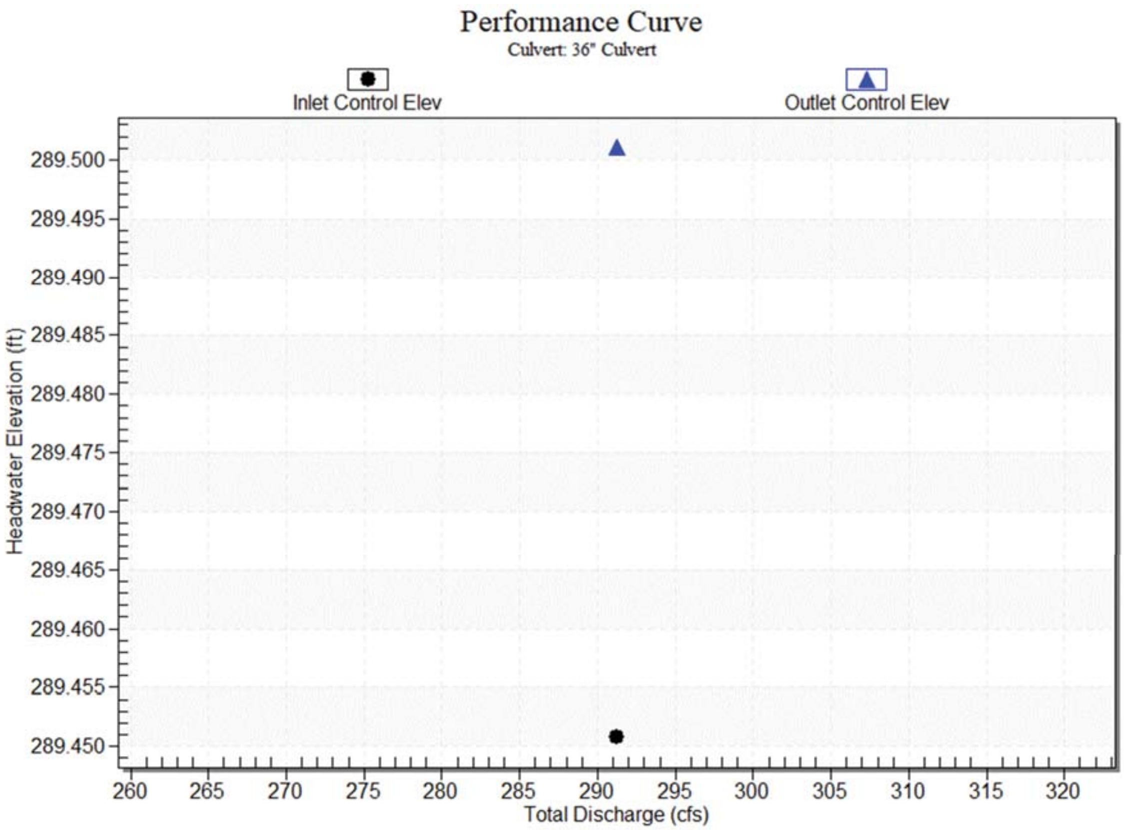
Inlet Elevation (invert): 285.84 ft,

Outlet Elevation (invert): 285.52 ft

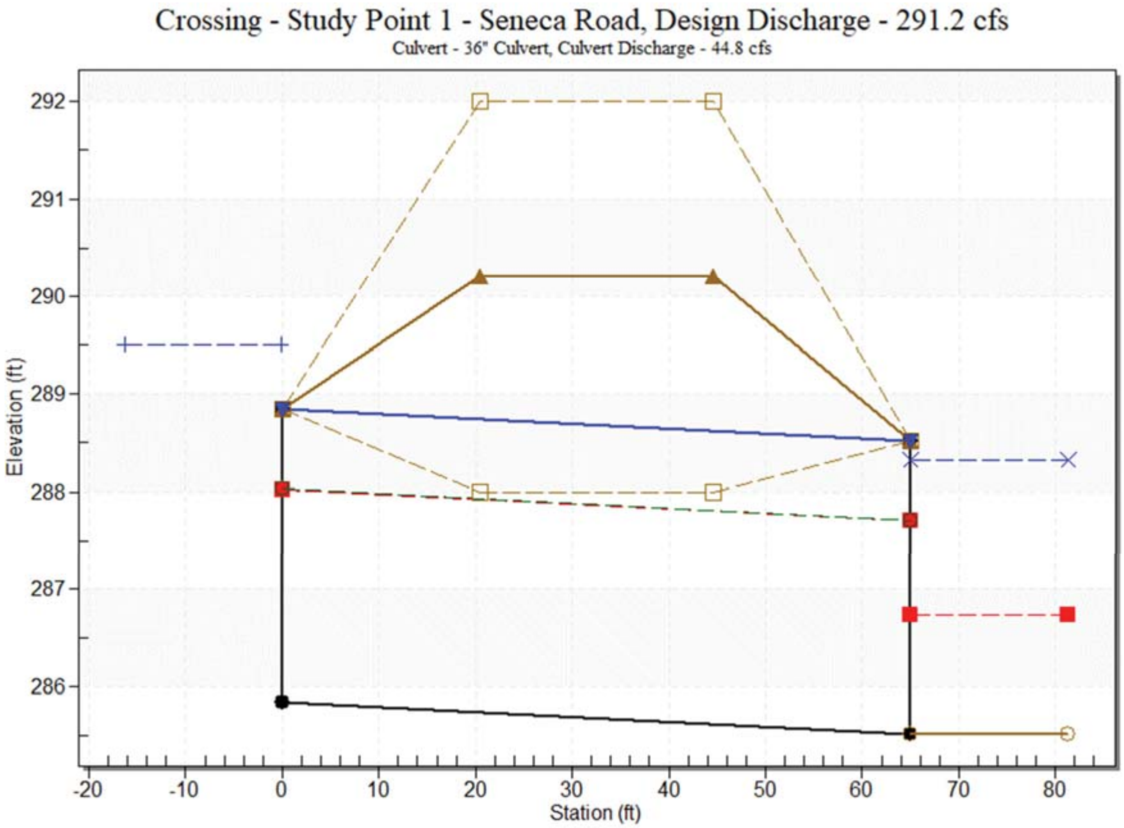
Culvert Length: 65.00 ft,

Culvert Slope: 0.0049

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: 285.84 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	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85
291.20 cfs	30.22 cfs	289.50	3.18	3.571	4-FFf	1.98	1.87	2.50	2.80	6.16	0.85

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

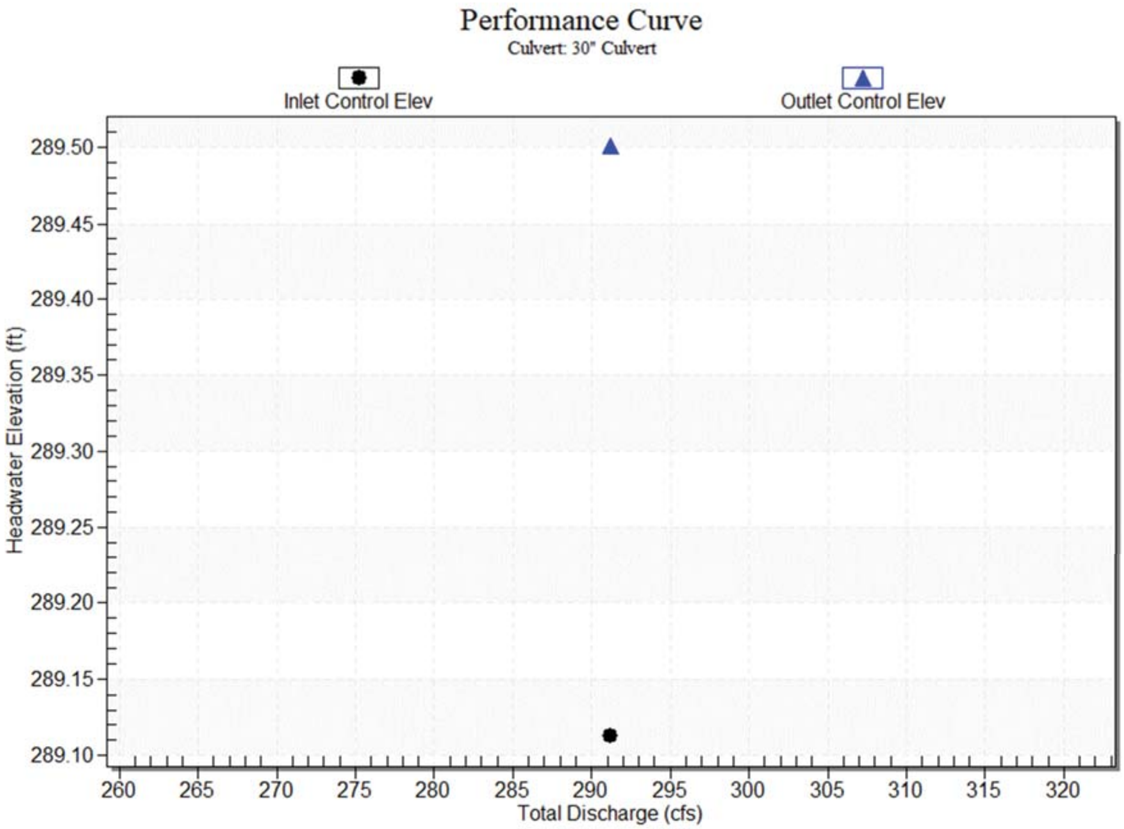
Inlet Elevation (invert): 285.93 ft,

Outlet Elevation (invert): 285.61 ft

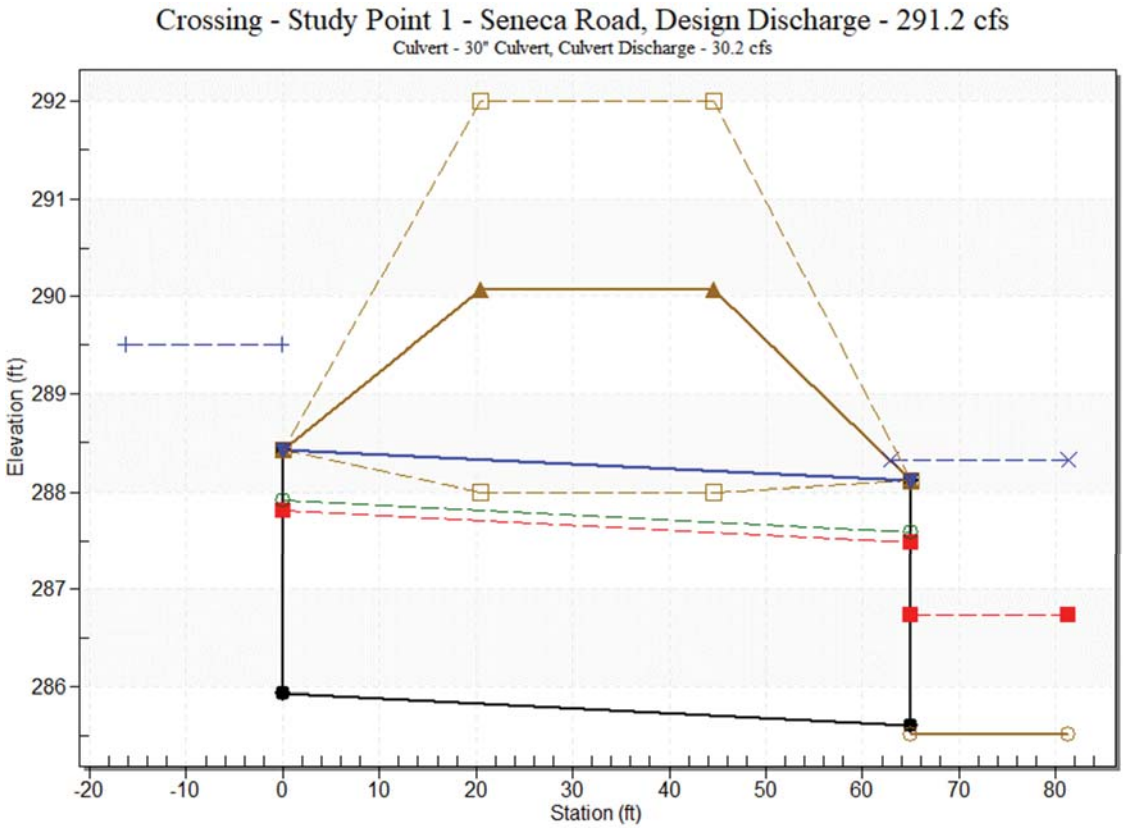
Culvert Length: 65.00 ft,

Culvert Slope: 0.0049

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: 285.93 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	290.00
1	62.00	288.00
2	146.00	290.00
3	300.00	292.00

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

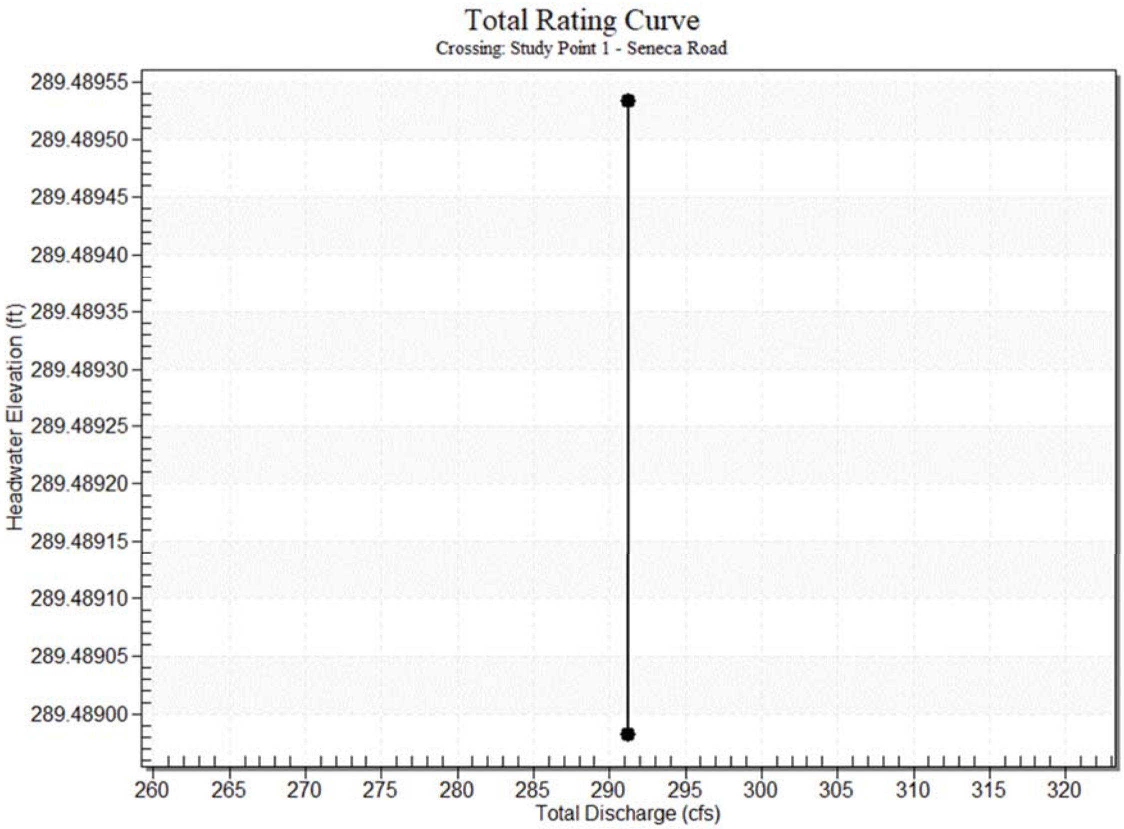
Design Flow: 291.20 cfs

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
289.49	291.20	45.31	33.90	211.98	7
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
289.49	291.20	45.31	33.90	211.98	2
288.00	37.75	21.03	16.72	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	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20	45.31	289.49	3.65	3.084	6-	2.21	2.19	2.19	1.69	8.19	2.20

cfs	cfs				FFc						
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20
291.20 cfs	45.31 cfs	289.49	3.65	3.084	6-FFc	2.21	2.19	2.19	1.69	8.19	2.20

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

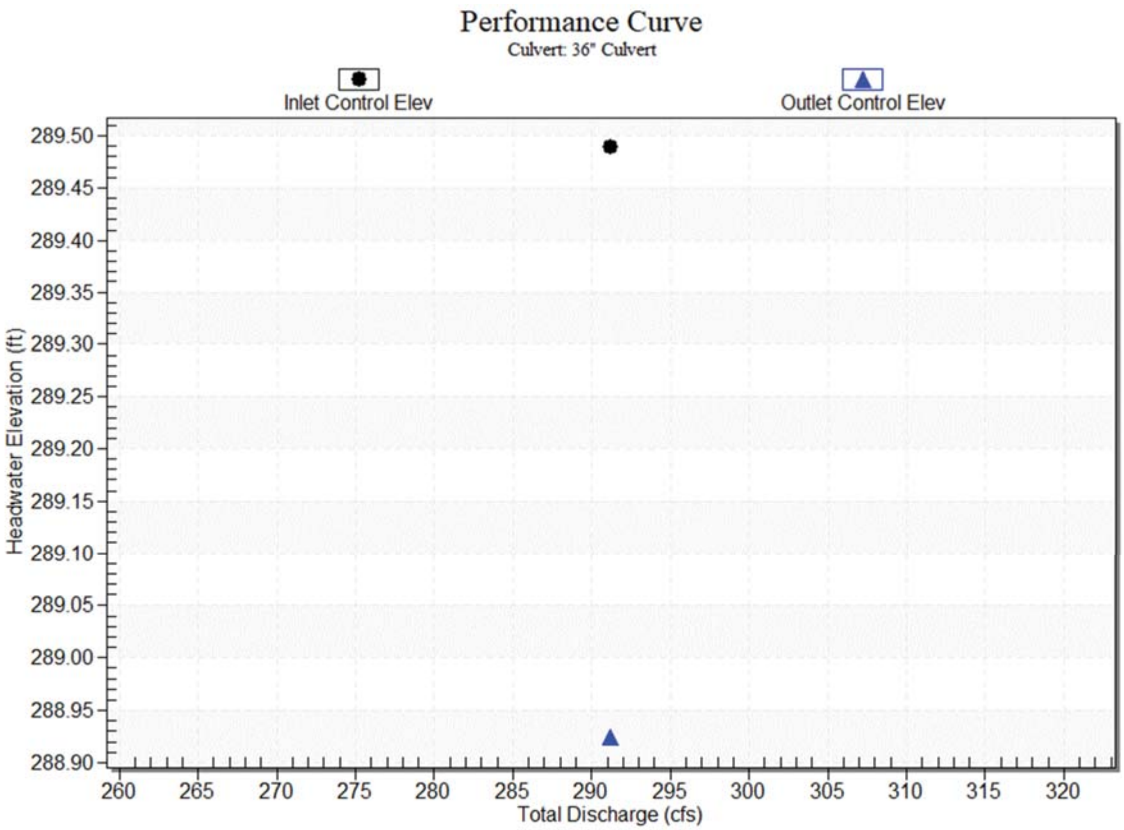
Inlet Elevation (invert): 285.84 ft,

Outlet Elevation (invert): 285.52 ft

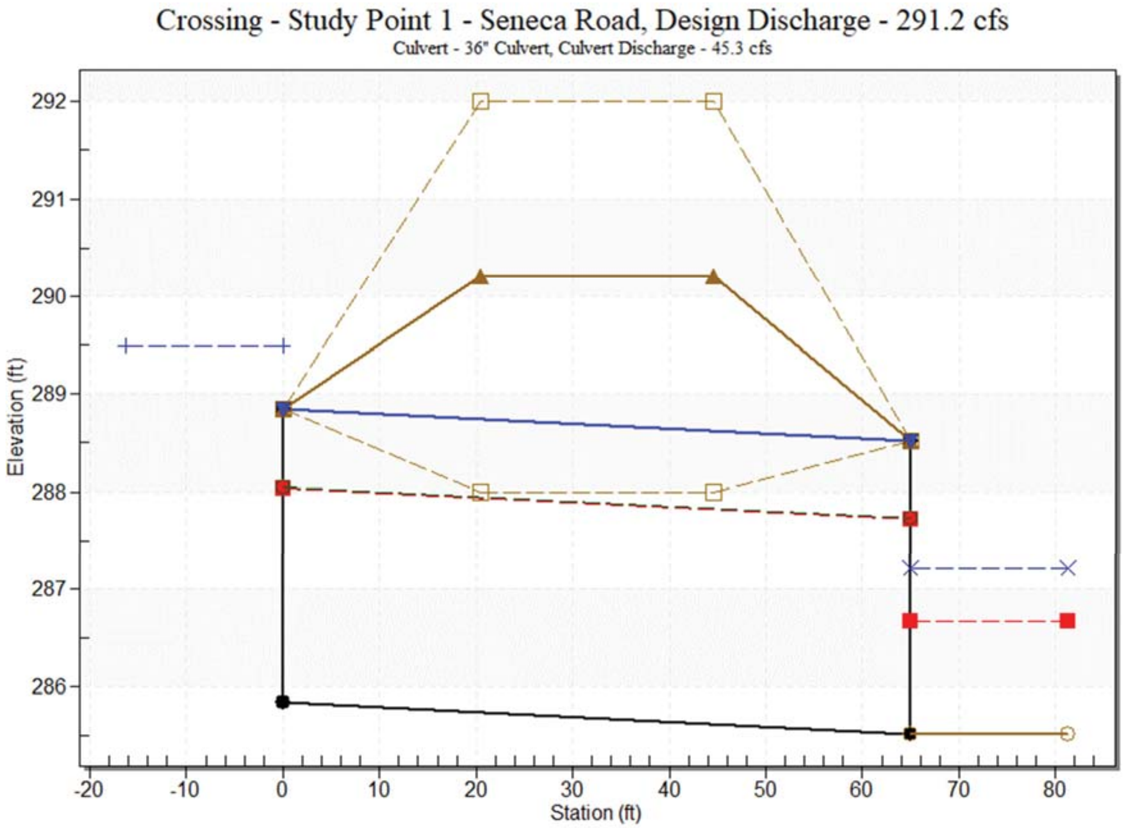
Culvert Length: 65.00 ft,

Culvert Slope: 0.0049

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: 285.84 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	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20
291.20 cfs	33.90 cfs	289.49	3.56	3.407	6-FFc	2.50	1.98	1.98	1.69	8.13	2.20

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

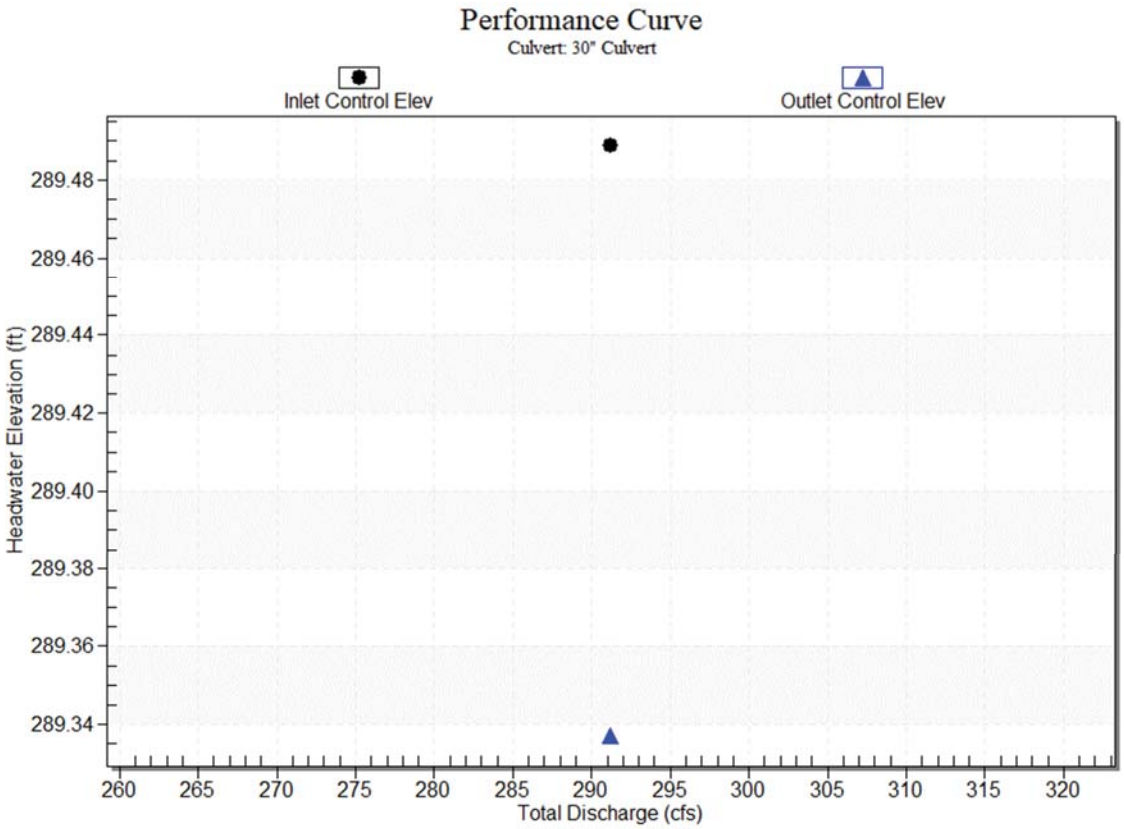
Inlet Elevation (invert): 285.93 ft,

Outlet Elevation (invert): 285.61 ft

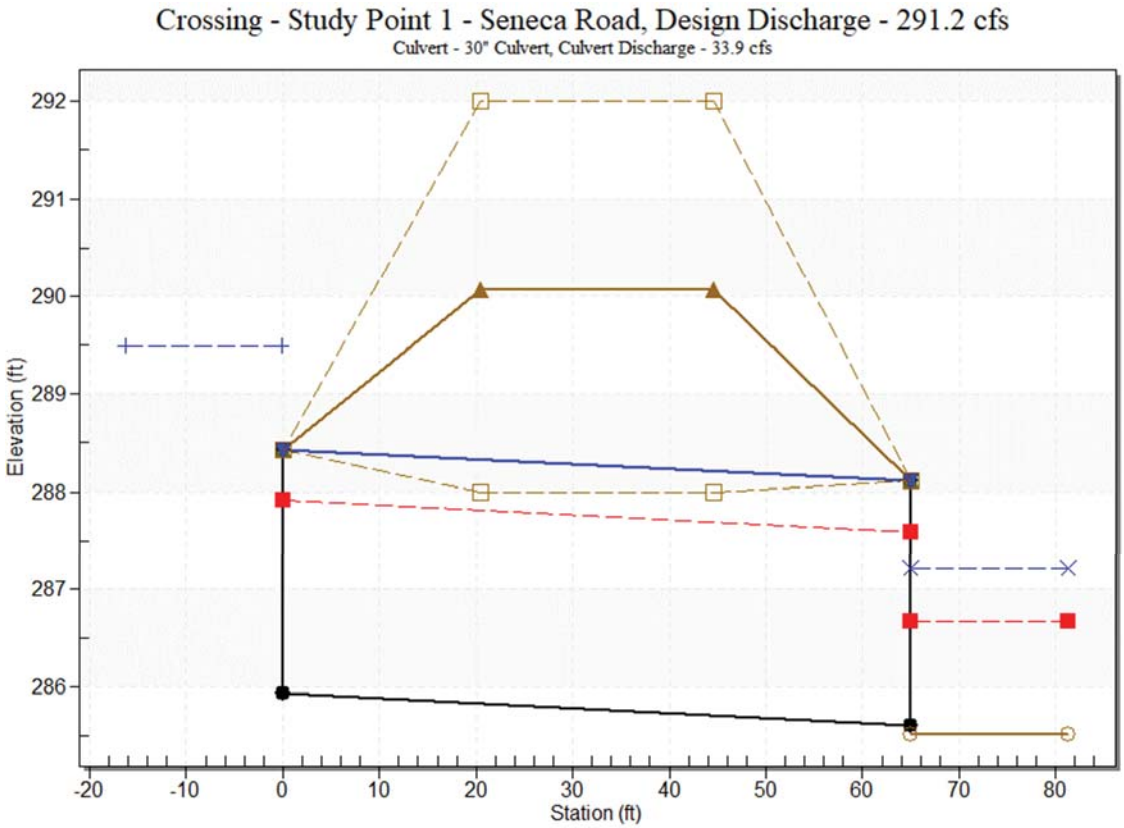
Culvert Length: 65.00 ft,

Culvert Slope: 0.0049

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: 285.93 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	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41
291.20	287.21	1.69	2.20	0.95	0.41

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	290.00
1	62.00	288.00
2	146.00	290.00
3	300.00	292.00

Roadway Surface: Paved

Roadway Top Width: 24.00 ft

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

Crossing Discharge Data

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

Minimum Flow: 165.86 cfs

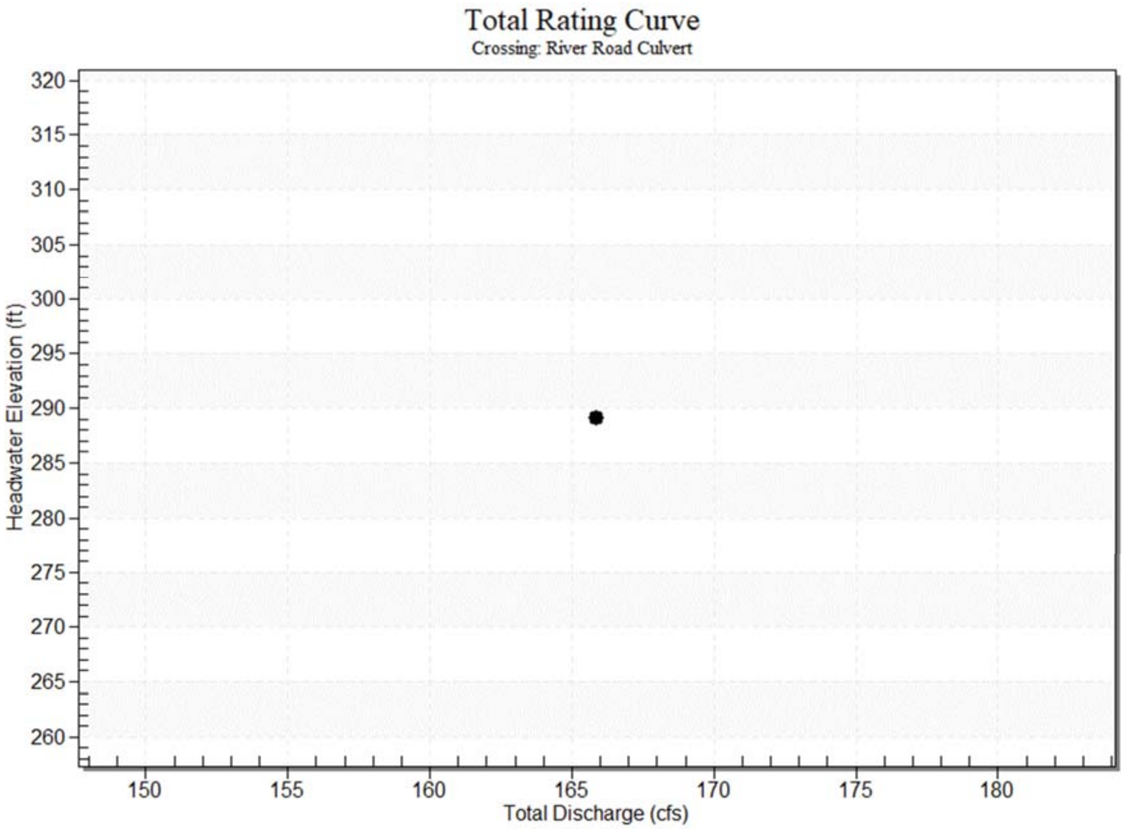
Design Flow: 165.86 cfs

Maximum Flow: 165.86 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
289.15	165.86	116.32	49.47	14
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
289.15	165.86	116.32	49.47	2
288.50	109.65	109.65	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)
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2	3.50	3.22	3.22	0.00	12.56	0.00

					c						
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00
165.86 cfs	116.32 cfs	289.15	8.11	6.860	7-M2c	3.50	3.22	3.22	0.00	12.56	0.00

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

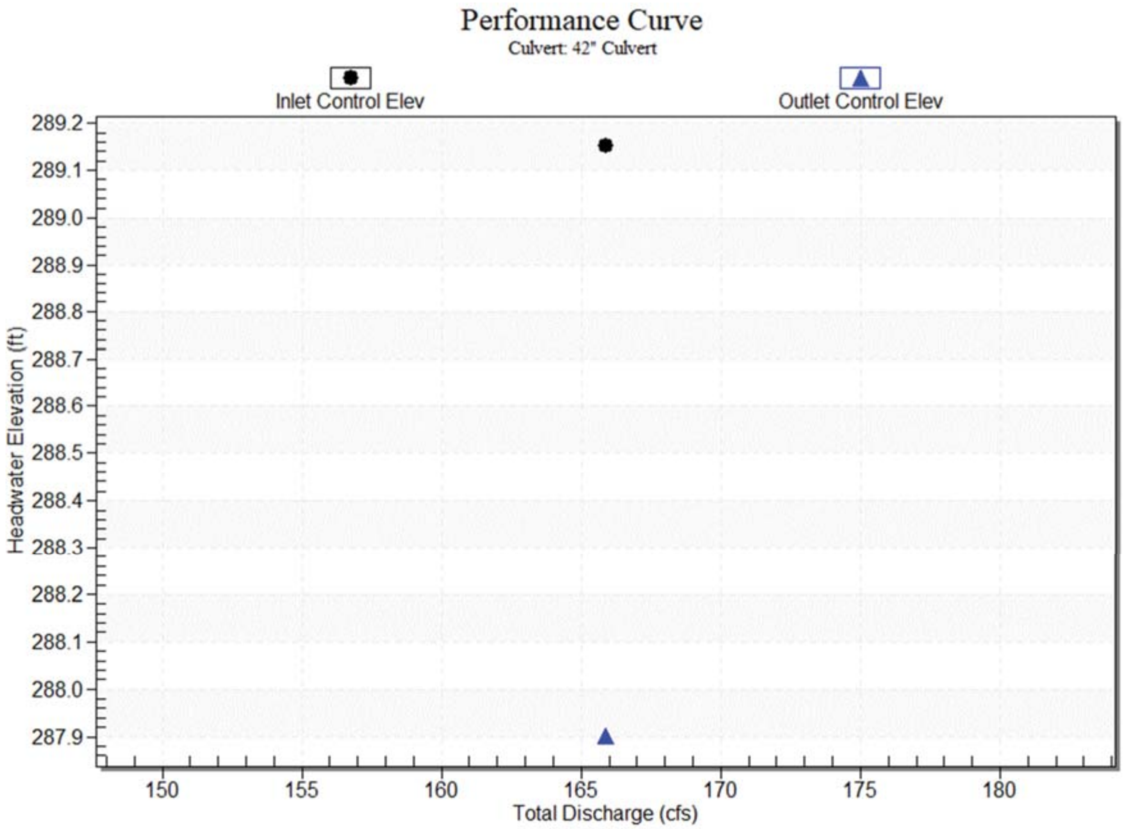
Inlet Elevation (invert): 281.04 ft,

Outlet Elevation (invert): 280.31 ft

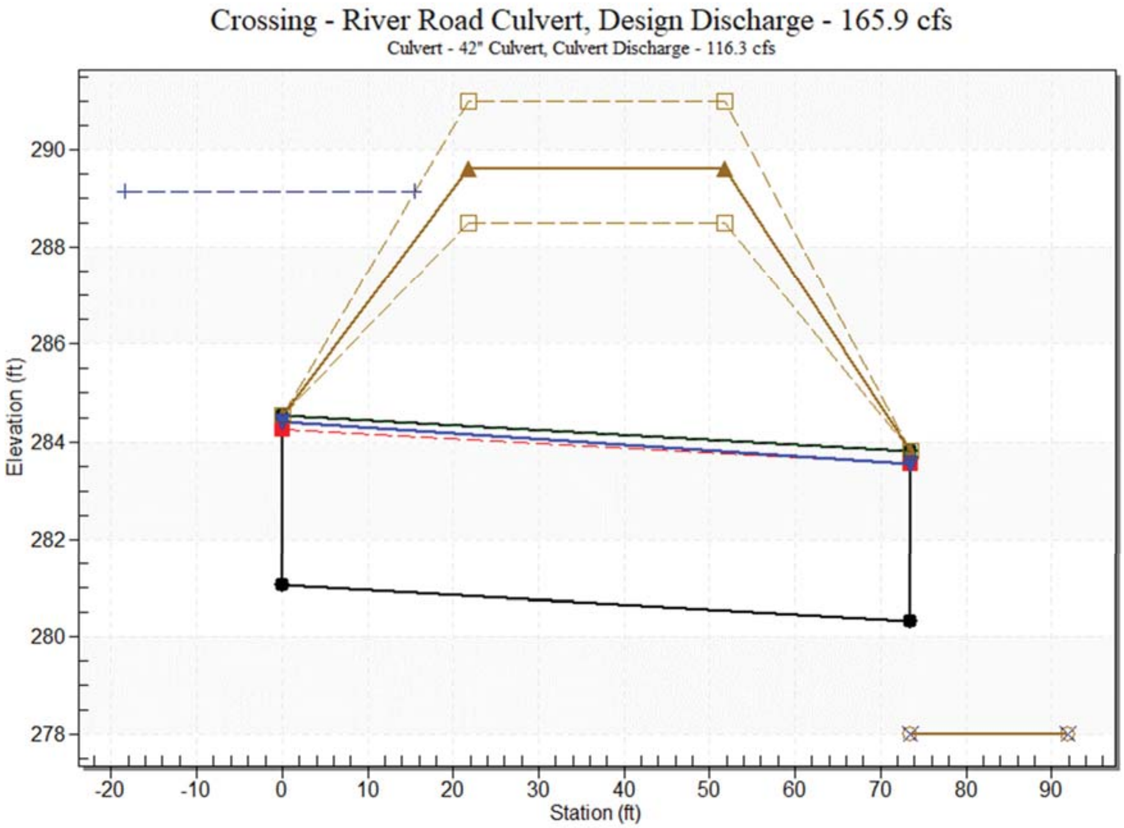
Culvert Length: 73.50 ft,

Culvert Slope: 0.0099

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: 73.50 ft

Outlet Elevation: 280.31 ft Estimated invert

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: 0.0120

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)
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00
165.86	278.00	0.00

Tailwater Channel Data - River Road Culvert

Tailwater Channel Option: Enter Constant Tailwater Elevation

Constant Tailwater Elevation: 278.00 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	291.00
1	93.00	290.00
2	186.00	289.00
3	230.00	288.50
4	290.00	290.00

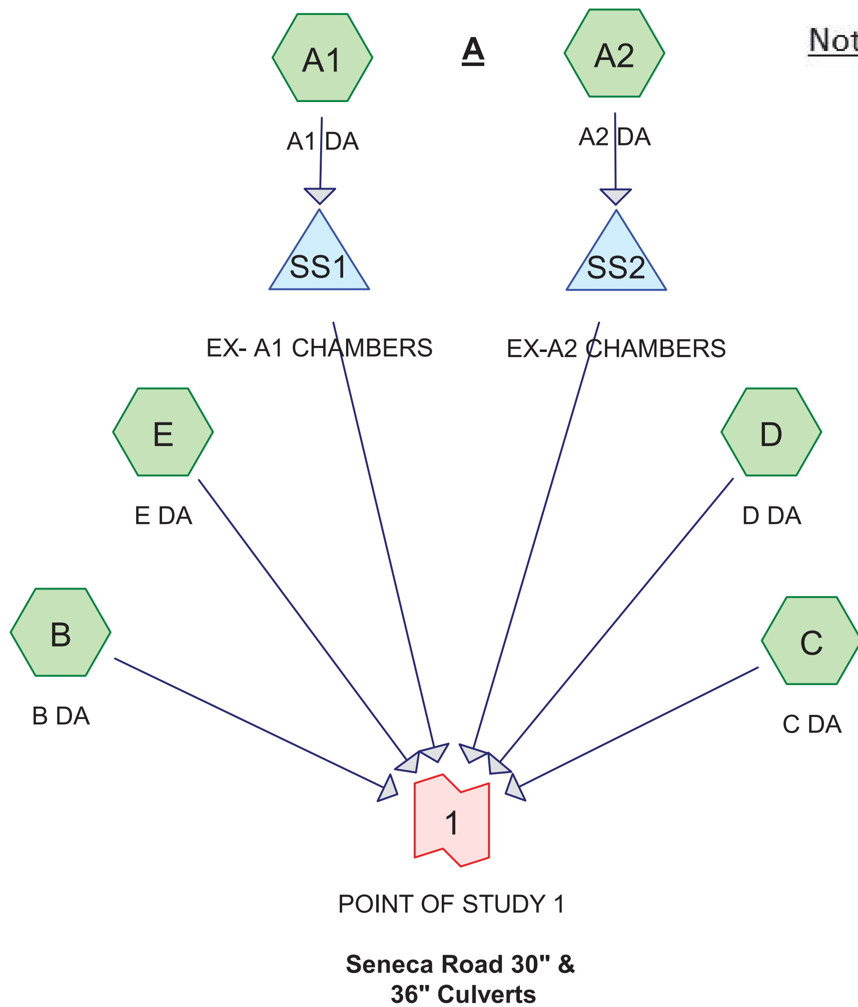
Roadway Surface: Paved

Roadway Top Width: 30.00 ft

Attachment 6

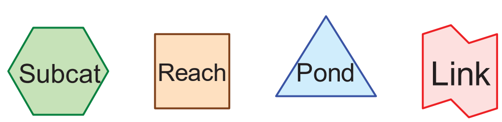
HydroCAD Models

Seneca Road Culverts (Study Point 1)
River Road Culvert Existing Conditions (Study Point 2)
River Road Culvert Proposed Conditions (Study Point 2)



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_Seneca Road_25 Year
Prepared by Engineering Ventures, Inc, Printed 10/10/2023
HydroCAD® 10.20-3f 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

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
90.295	80	1/2 acre lots, 25% imp, HSG C (B, C, D, E)
12.950	74	>75% Grass cover, Good, HSG C (A1, A2, B)
0.190	89	Gravel roads, HSG C (B, C)
2.650	89	Pasture/grassland/range, Poor, HSG D (B, C)
7.114	98	Paved parking, HSG C (A1, A2, B, C)
2.930	98	Roofs, HSG C (A2, B)
29.010	70	Woods, Good, HSG C (B, C, D, E)
145.139	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
142.489	HSG C	A1, A2, B, C, D, E
2.650	HSG D	B, C
0.000	Other	
145.139		**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	90.295	0.000	0.000	90.295	1/2 acre lots, 25% imp	B, C, D, E
0.000	0.000	12.950	0.000	0.000	12.950	>75% Grass cover, Good	A1, A2, B
0.000	0.000	0.190	0.000	0.000	0.190	Gravel roads	B, C
0.000	0.000	0.000	2.650	0.000	2.650	Pasture/grassland/range, Poor	B, C
0.000	0.000	7.114	0.000	0.000	7.114	Paved parking	A1, A2, B, C
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**	**142.489**	**2.650**	**0.000**	**145.139**	**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	SS1	298.25	296.50	296.0	0.0059	0.012	0.0	12.0	0.0	EX- A1 CHAMBERS
2	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

Subcatchment A1: 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

Subcatchment A2: 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

Subcatchment B: 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

Subcatchment C: C DA Runoff Area=44.574 ac 17.24% Impervious Runoff Depth=2.20"
Flow Length=2,100' Tc=25.8 min CN=77 Runoff=93.03 cfs 8.181 af

Subcatchment D: 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

Subcatchment E: 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

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=291.21 cfs 28.411 af
Primary=291.21 cfs 28.411 af

Total Runoff Area = 145.139 ac Runoff Volume = 28.444 af Average Runoff Depth = 2.35"
77.53% Pervious = 112.521 ac 22.47% Impervious = 32.618 ac

Summary for Subcatchment A1: A1 DA

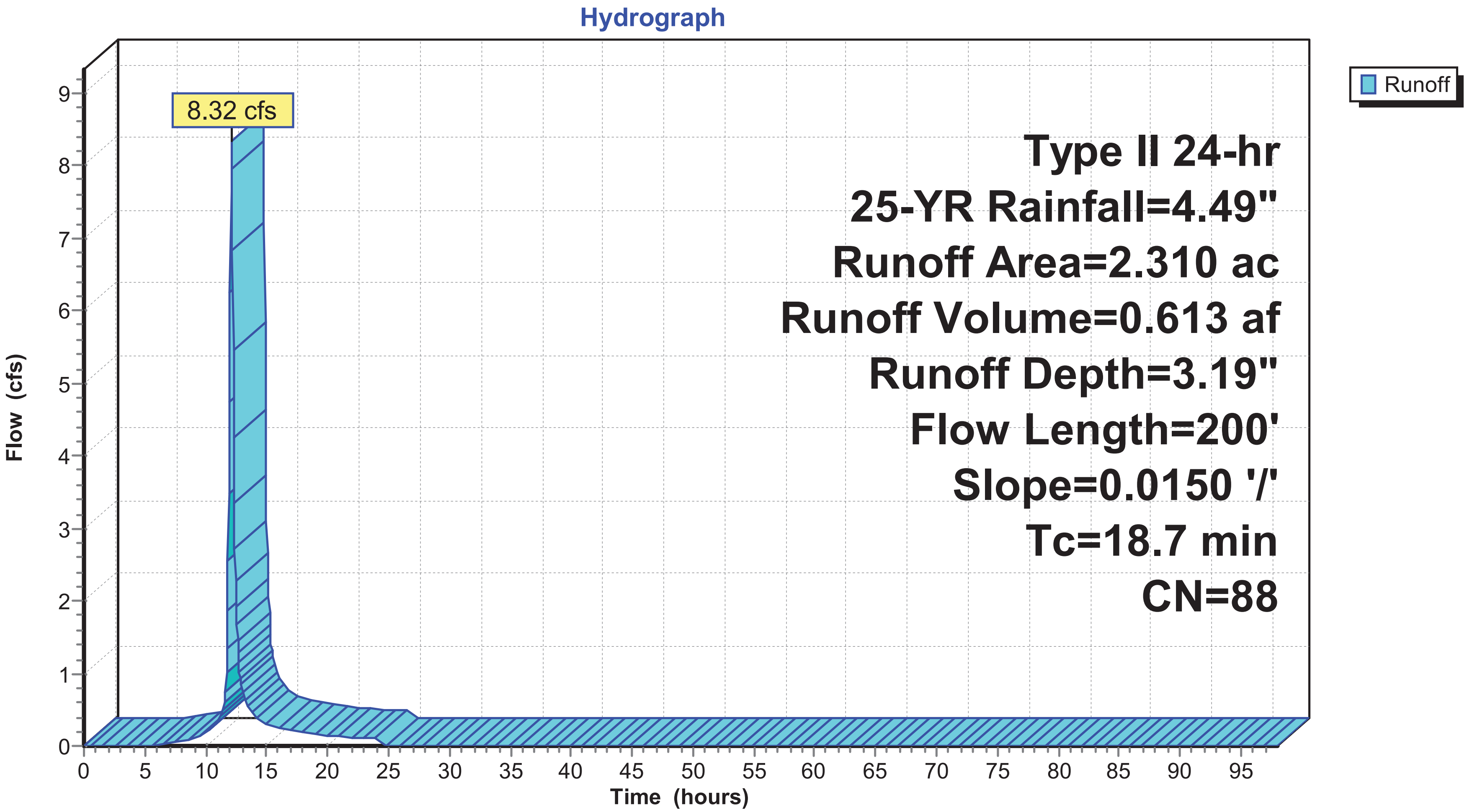
Runoff = 8.32 cfs @ 12.11 hrs, Volume= 0.613 af, Depth= 3.19"
Routed to Pond SS1 : EX- A1 CHAMBERS

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



Summary for Subcatchment A2: A2 DA

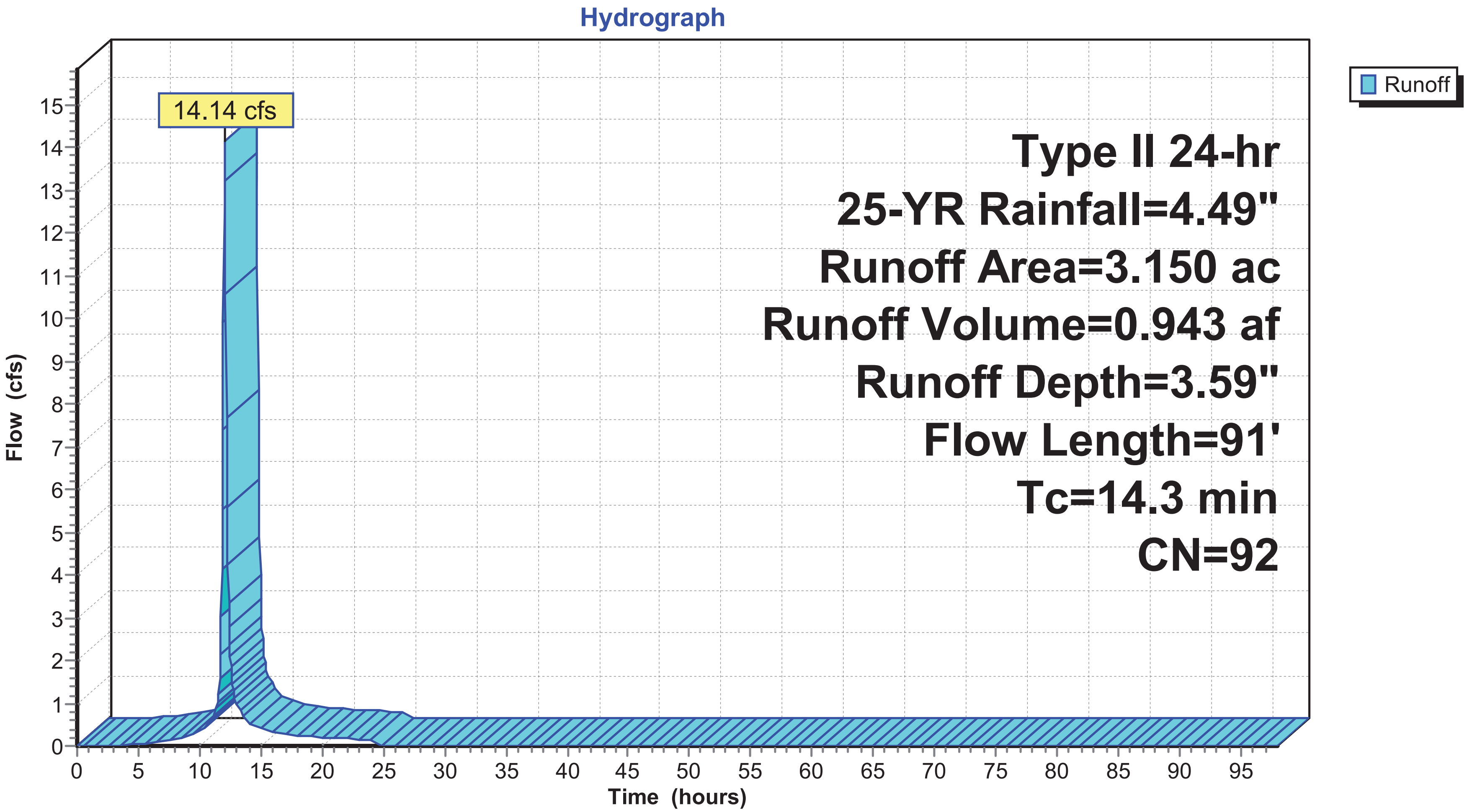
Runoff = 14.14 cfs @ 12.06 hrs, Volume= 0.943 af, Depth= 3.59"
Routed to Pond SS2 : EX-A2 CHAMBERS

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			

Subcatchment A2: A2 DA



Summary for Subcatchment B: B DA

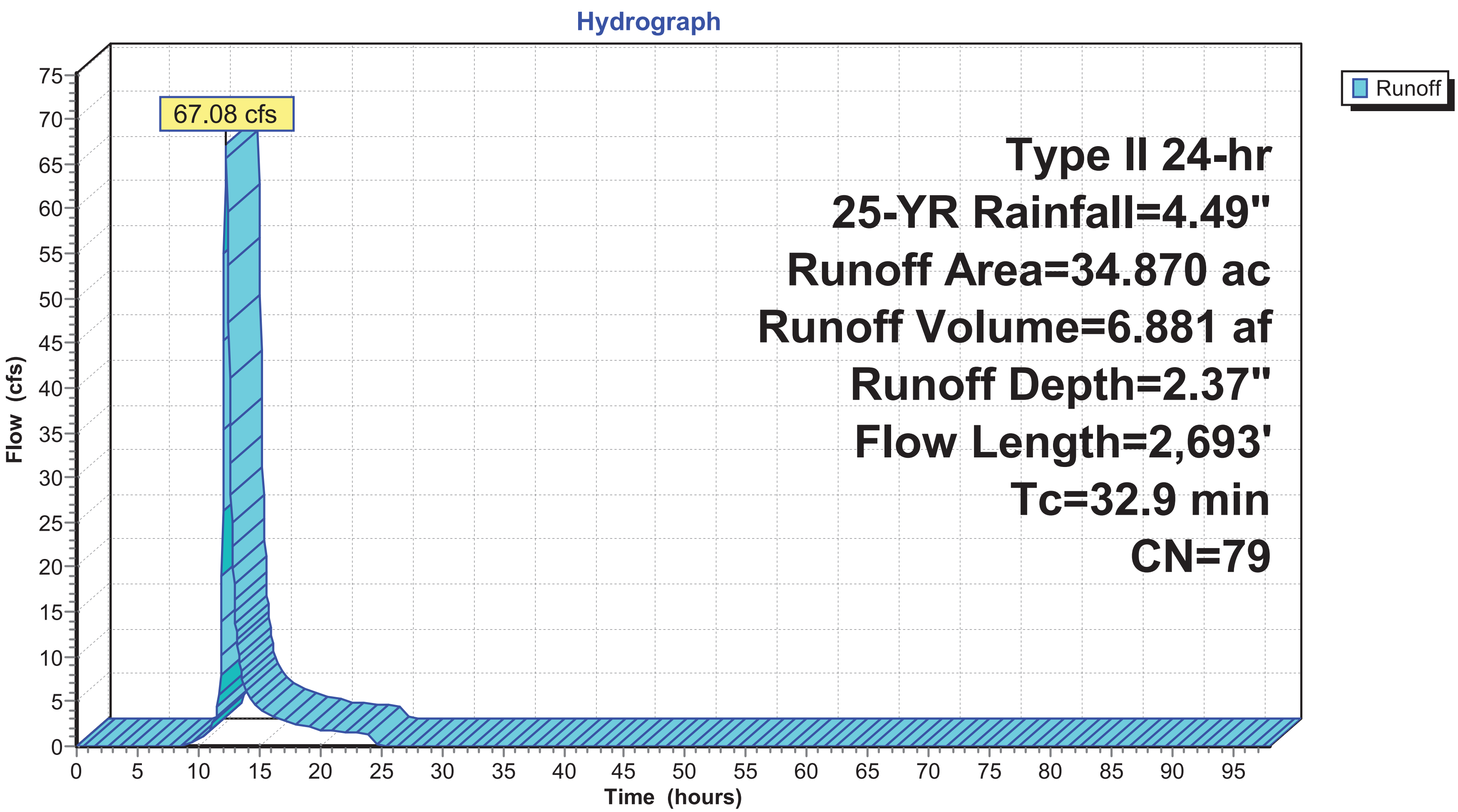
Runoff = 67.08 cfs @ 12.28 hrs, Volume= 6.881 af, Depth= 2.37"
Routed to Link 1 : POINT OF STUDY 1

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
0.140	89	Gravel roads, HSG C
11.170	74	>75% Grass cover, Good, HSG C
2.740	98	Paved parking, HSG C
8.560	80	1/2 acre lots, 25% imp, HSG C
2.600	98	Roofs, HSG C
1.960	89	Pasture/grassland/range, Poor, HSG D
7.700	70	Woods, Good, HSG C
34.870	79	Weighted Average
27.390		78.55% Pervious Area
7.480		21.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0250	0.11		**Sheet Flow, 100' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
5.4	897	0.0300	2.79		**Shallow Concentrated Flow, 610'+287' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
0.9	233	0.0800	4.55		**Shallow Concentrated Flow, 233' Unpaved Shallow concentrated flow at 8%** Unpaved Kv= 16.1 fps
12.0	1,463	0.0160	2.04		**Shallow Concentrated Flow, 1463' Unpaved Shallow concentrated flow at 1.6%** Unpaved Kv= 16.1 fps
32.9	2,693	Total			

Subcatchment B: B DA



Summary for Subcatchment C: C DA

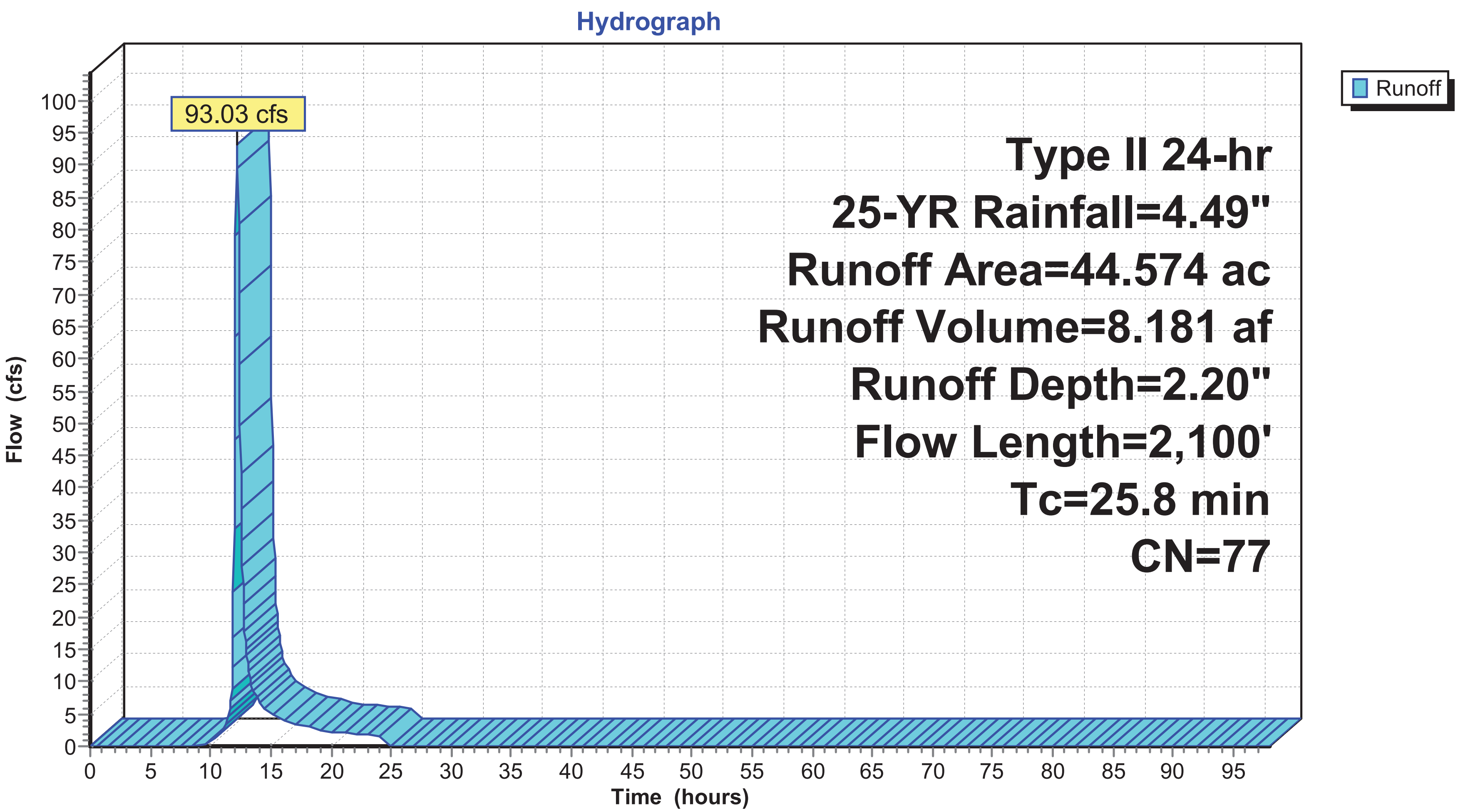
Runoff = 93.03 cfs @ 12.20 hrs, Volume= 8.181 af, Depth= 2.20"
Routed to Link 1 : POINT OF STUDY 1

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
0.050	89	Gravel roads, HSG C
1.024	98	Paved parking, HSG C
26.650	80	1/2 acre lots, 25% imp, HSG C
0.690	89	Pasture/grassland/range, Poor, HSG D
16.160	70	Woods, Good, HSG C
44.574	77	Weighted Average
36.888		82.76% Pervious Area
7.687		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0300	0.12		**Sheet Flow, 100' Lawn sheet flow at 3%** Grass: Dense n= 0.240 P2= 2.57"
1.5	250	0.0300	2.79		**Shallow Concentrated Flow, 250' Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
10.8	1,750	0.0280	2.69		**Shallow Concentrated Flow, 1750' Unpaved Shallow concentrated flow at 2.8%** Unpaved Kv= 16.1 fps
25.8	2,100	Total			

Subcatchment C: C DA



Summary for Subcatchment D: D DA

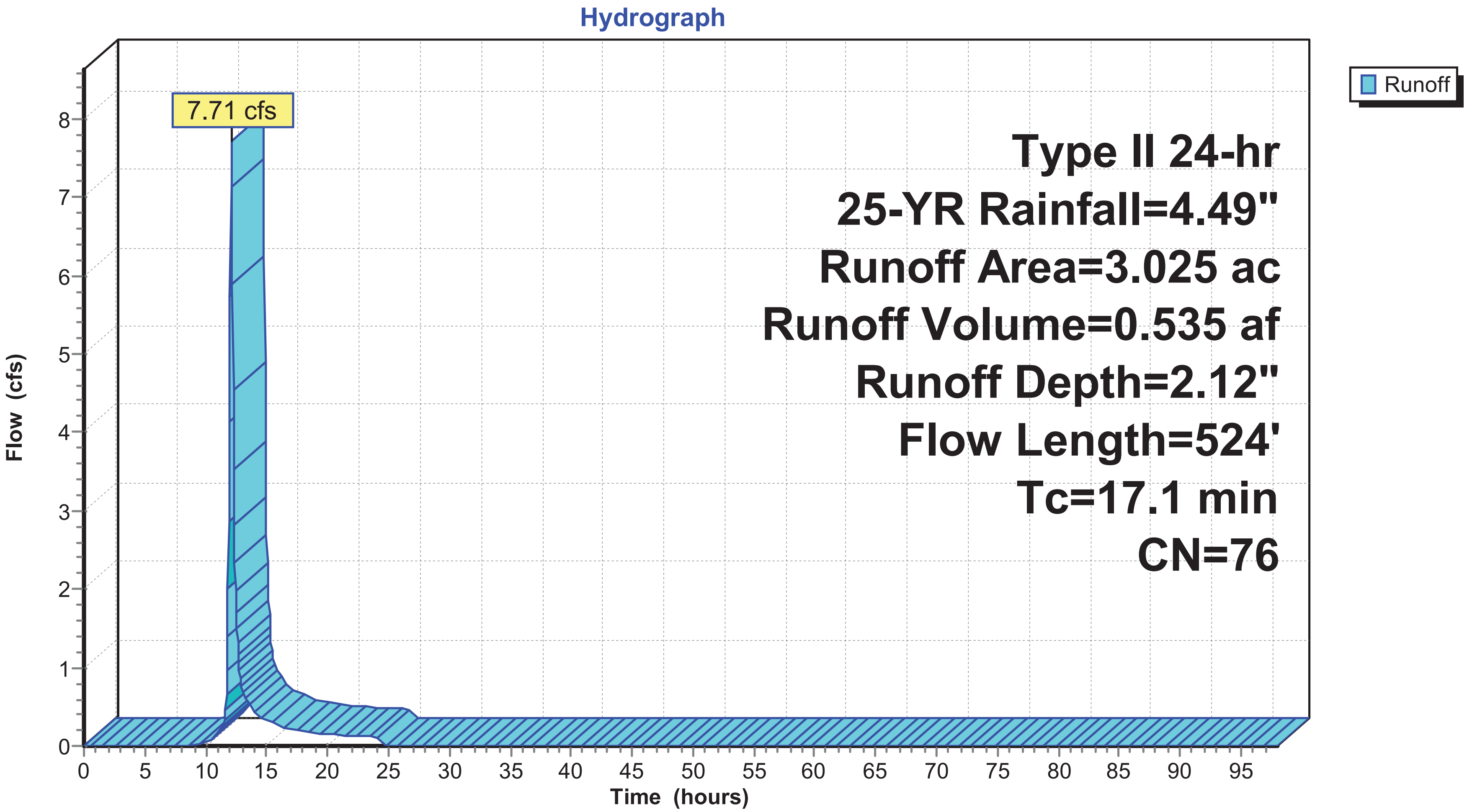
Runoff = 7.71 cfs @ 12.10 hrs, Volume= 0.535 af, Depth= 2.12"
Routed to Link 1 : POINT OF STUDY 1

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
1.765	80	1/2 acre lots, 25% imp, HSG C
1.260	70	Woods, Good, HSG C
3.025	76	Weighted Average
2.584		85.41% Pervious Area
0.441		14.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0250	0.11		**Sheet Flow, 100' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
2.5	424	0.0300	2.79		**Shallow Concentrated Flow, 424' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
17.1	524	Total			

Subcatchment D: D DA



Summary for Subcatchment E: E DA

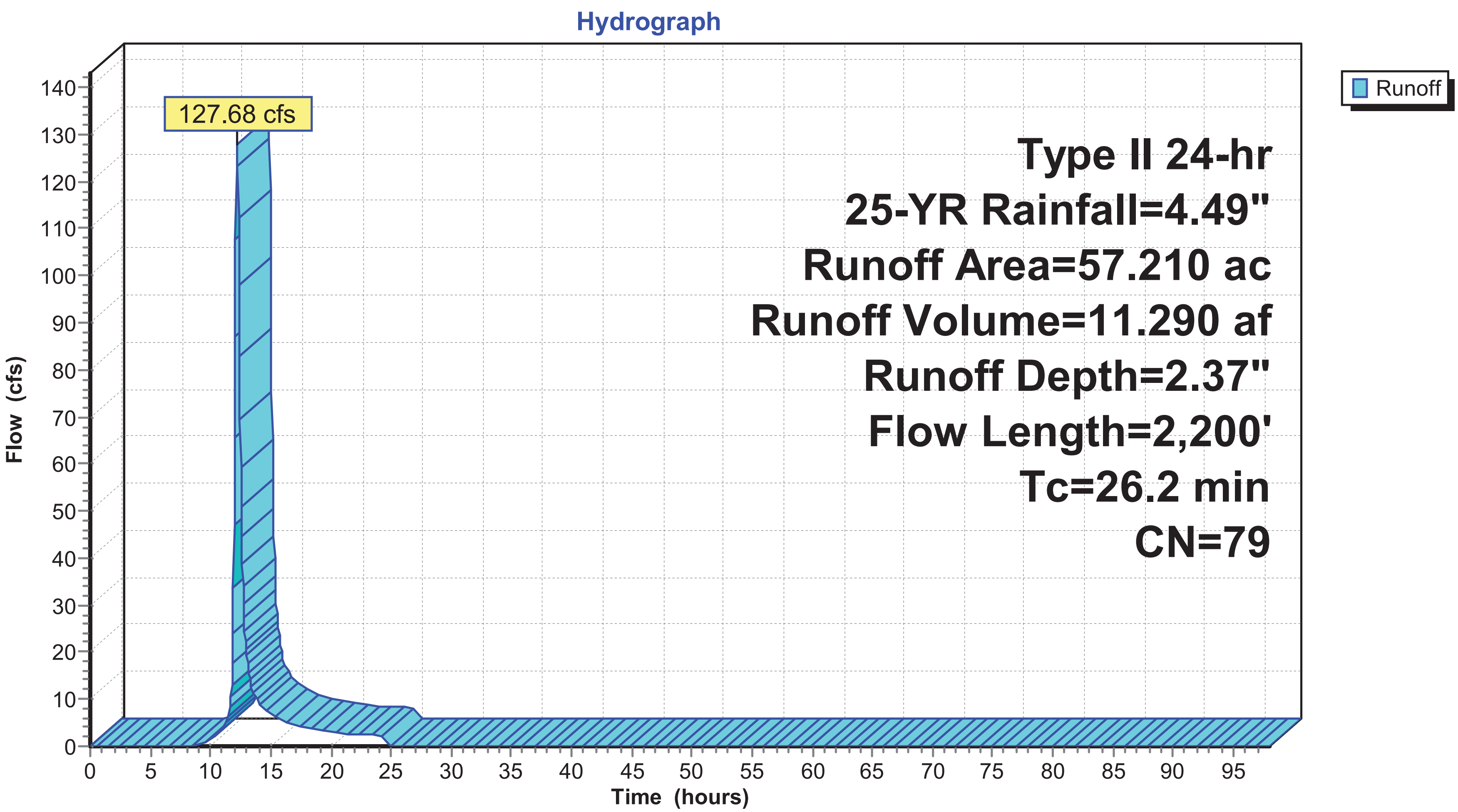
Runoff = 127.68 cfs @ 12.20 hrs, Volume= 11.290 af, Depth= 2.37"
Routed to Link 1 : POINT OF STUDY 1

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
53.320	80	1/2 acre lots, 25% imp, HSG C
3.890	70	Woods, Good, HSG C
57.210	79	Weighted Average
43.880		76.70% Pervious Area
13.330		23.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0275	0.12		**Sheet Flow, 100' Lawn sheet flow at 2.75%** Grass: Dense n= 0.240 P2= 2.57"
9.8	1,640	0.0300	2.79		**Shallow Concentrated Flow, 1640' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
2.4	460	0.0390	3.18		**Shallow Concentrated Flow, 460' Unpaved Shallow concentrated flow at 3.9%** Unpaved Kv= 16.1 fps
26.2	2,200	Total			

Subcatchment E: E DA



Summary for Pond SS1: EX- A1 CHAMBERS

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).

[92] Warning: Device #5 is above defined storage

Inflow Area = 2.310 ac, 58.01% Impervious, Inflow Depth = 3.19" for 25-YR event
Inflow = 8.32 cfs @ 12.11 hrs, Volume= 0.613 af
Outflow = 1.29 cfs @ 12.65 hrs, Volume= 0.581 af, Atten= 84%, Lag= 32.5 min
Primary = 1.29 cfs @ 12.65 hrs, Volume= 0.581 af
Routed to Link 1 : POINT OF STUDY 1

Routing by Stor-Ind method, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Peak Elev= 300.87' @ 12.65 hrs Storage= 13,470 cf

Plug-Flow detention time= 182.2 min calculated for 0.581 af (95% of inflow)
Center-of-Mass det. time= 151.2 min (961.7 - 810.5)

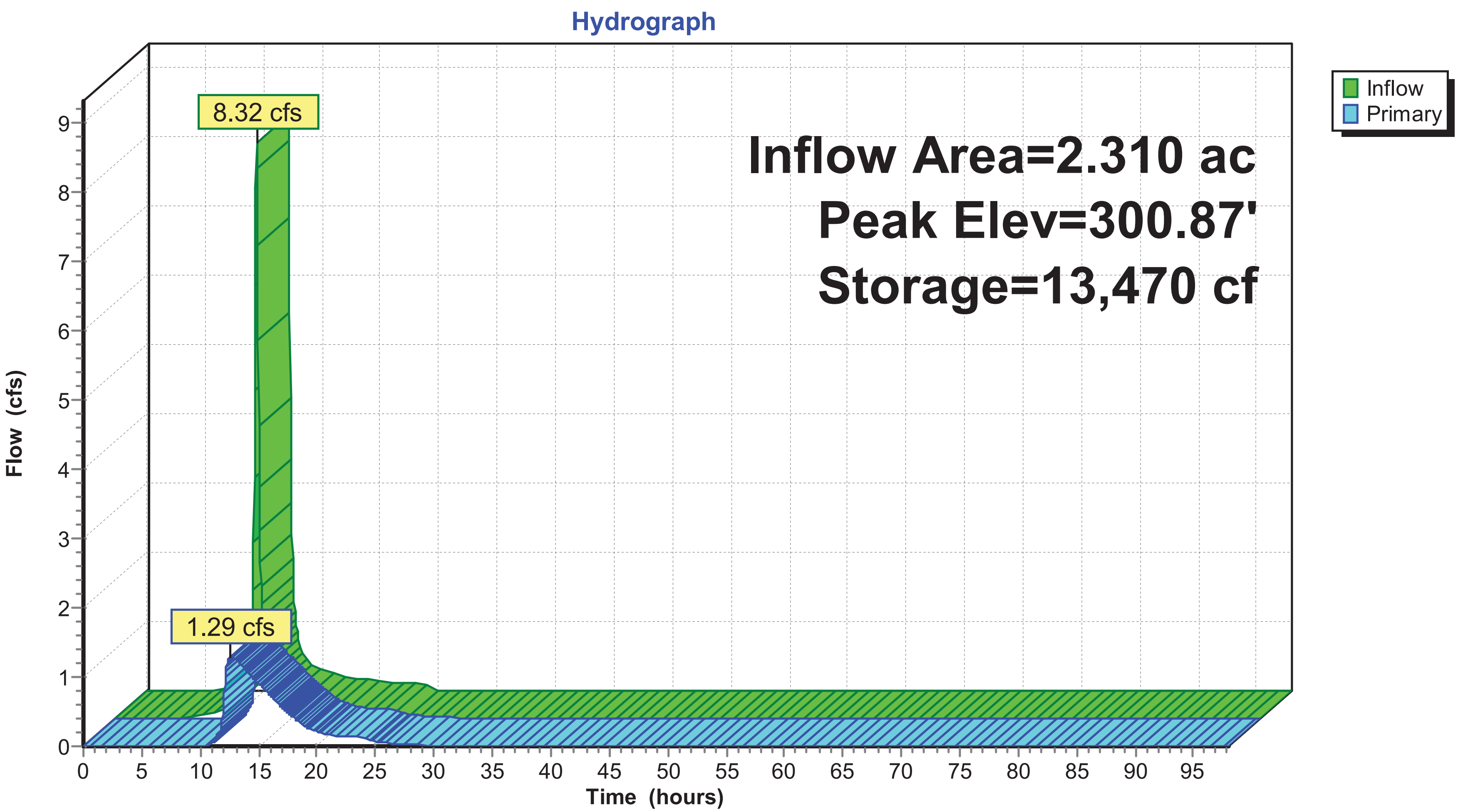
Volume	Invert	Avail.Storage	Storage Description
#1	298.25'	15,953 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
298.25	0	0
298.60	735	735
298.95	1,610	2,345
299.30	2,250	4,595
299.65	2,201	6,796
300.00	2,118	8,914
300.35	1,993	10,907
300.70	1,811	12,718
301.05	1,534	14,252
301.40	966	15,218
301.75	735	15,953

Device	Routing	Invert	Outlet Devices
#1	Primary	298.25'	**12.0" Round Culvert** L= 296.0' Ke= 0.600 Inlet / Outlet Invert= 298.25' / 296.50' S= 0.0059 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	298.75'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	300.92'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	301.16'	**2.2' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Device 1	303.25'	**18.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=1.29 cfs @ 12.65 hrs HW=300.87' (Free Discharge)
└─**1=Culvert** (Passes 1.29 cfs of 3.75 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 1.29 cfs @ 6.59 fps)
  ├─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  ├─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SS1: EX- A1 CHAMBERS



Summary for Pond SS2: EX-A2 CHAMBERS

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).

[92] Warning: Device #4 is above defined storage

Inflow Area = 3.150 ac, 74.29% Impervious, Inflow Depth = 3.59" for 25-YR event
Inflow = 14.14 cfs @ 12.06 hrs, Volume= 0.943 af
Outflow = 0.58 cfs @ 13.96 hrs, Volume= 0.943 af, Atten= 96%, Lag= 114.2 min
Primary = 0.58 cfs @ 13.96 hrs, Volume= 0.943 af
Routed to Link 1 : POINT OF STUDY 1

Routing by Stor-Ind method, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Peak Elev= 300.64' @ 13.96 hrs Storage= 24,900 cf

Plug-Flow detention time= 521.2 min calculated for 0.942 af (100% of inflow)
Center-of-Mass det. time= 522.6 min (1,313.1 - 790.6)

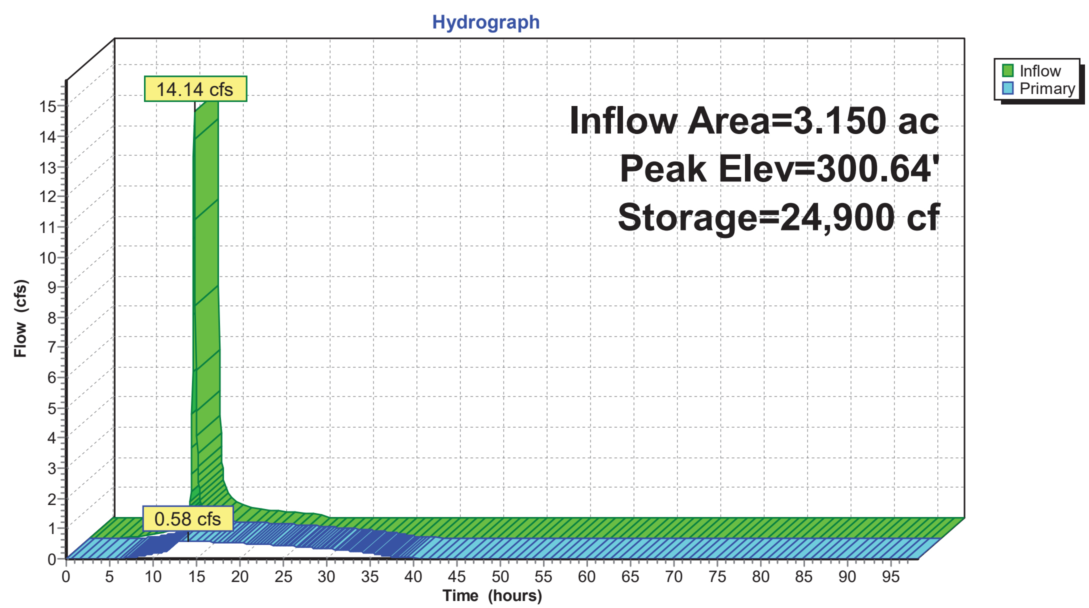
Volume	Invert	Avail.Storage	Storage Description
#1	298.58'	37,155 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
298.58	0	0
298.93	1,711	1,711
299.28	3,751	5,462
299.63	5,240	10,702
299.98	5,127	15,829
300.33	4,933	20,762
300.68	4,642	25,404
301.03	4,219	29,623
301.38	3,572	33,195
301.73	2,249	35,444
302.08	1,711	37,155

Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	**12.0" Round Culvert** L= 215.0' Ke= 0.600 Inlet / Outlet Invert= 298.00' / 296.50' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	298.58'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.33'	**4.7' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	303.58'	**18.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.58 cfs @ 13.96 hrs HW=300.64' (Free Discharge)
└─**1=Culvert** (Passes 0.58 cfs of 4.12 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.58 cfs @ 6.63 fps)
  ├─**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond SS2: EX-A2 CHAMBERS

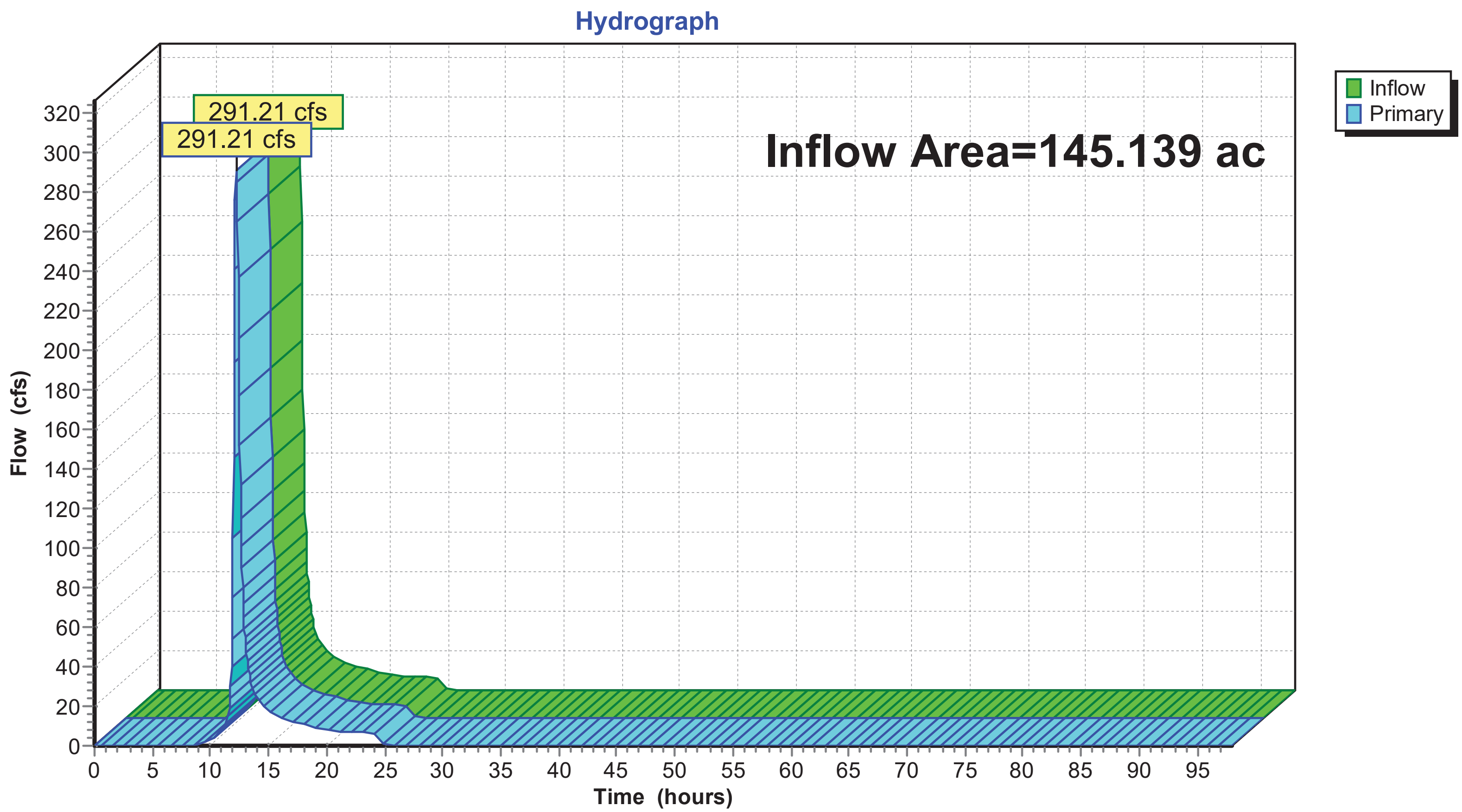


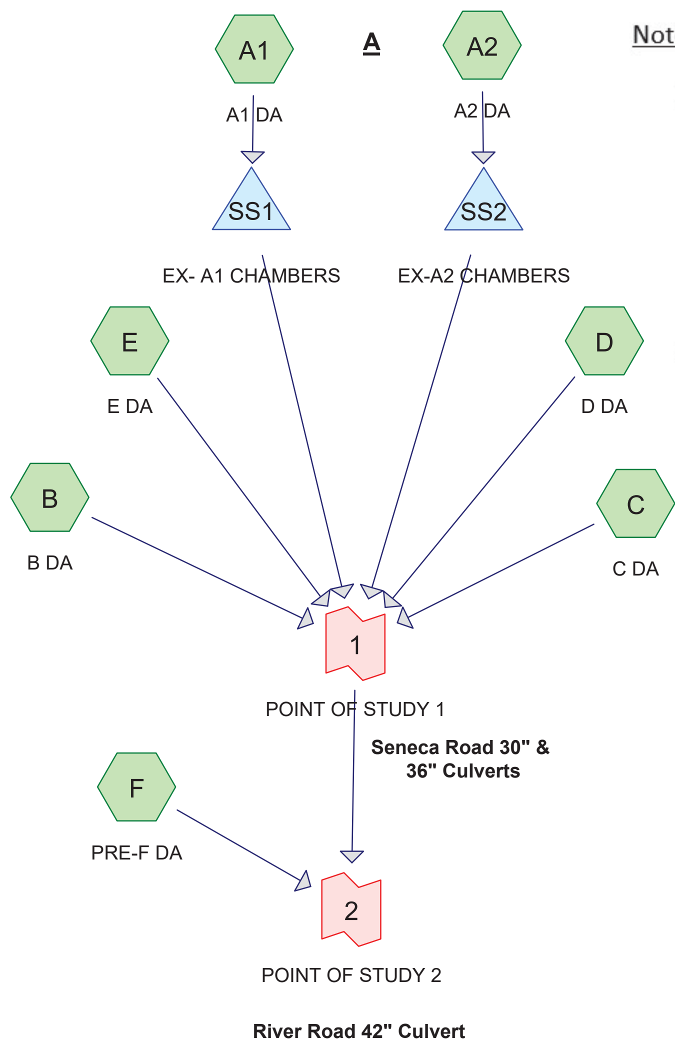
Summary for Link 1: POINT OF STUDY 1

Inflow Area = 145.139 ac, 22.47% Impervious, Inflow Depth = 2.35" for 25-YR event
Inflow = 291.21 cfs @ 12.21 hrs, Volume= 28.411 af
Primary = 291.21 cfs @ 12.21 hrs, Volume= 28.411 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs

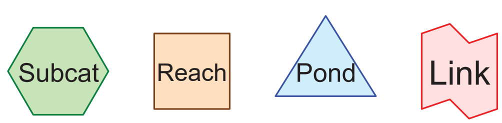
Link 1: POINT OF STUDY 1





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_5 Year Pre
Prepared by Engineering Ventures, Inc, Printed 10/11/2023
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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	5-YR	Type II 24-hr		Default	24.00	1	3.14	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
96.525	80	1/2 acre lots, 25% imp, HSG C (B, C, D, E, F)
12.950	74	>75% Grass cover, Good, HSG C (A1, A2, B)
0.190	89	Gravel roads, HSG C (B, C)
4.760	89	Pasture/grassland/range, Poor, HSG D (B, C, F)
7.344	98	Paved parking, HSG C (A1, A2, B, C, F)
2.930	98	Roofs, HSG C (A2, B)
32.860	70	Woods, Good, HSG C (B, C, D, E, F)
157.559	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
152.799	HSG C	A1, A2, B, C, D, E, F
4.760	HSG D	B, C, F
0.000	Other	
157.559		**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	96.525	0.000	0.000	96.525	1/2 acre lots, 25% imp	B, C, D, E, F
0.000	0.000	12.950	0.000	0.000	12.950	>75% Grass cover, Good	A1, A2, B
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	7.344	0.000	0.000	7.344	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	32.860	0.000	0.000	32.860	Woods, Good	B, C, D, E, F
0.000	**0.000**	**152.799**	**4.760**	**0.000**	**157.559**	**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	SS1	298.25	296.50	296.0	0.0059	0.012	0.0	12.0	0.0	EX- A1 CHAMBERS
2	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=1.94"
Flow Length=200' Slope=0.0150 '/' Tc=18.7 min CN=88 Runoff=5.14 cfs 0.374 af

SubcatchmentA2: A2 DA Runoff Area=3.150 ac 74.29% Impervious Runoff Depth=2.29"
Flow Length=91' Tc=14.3 min CN=92 Runoff=9.24 cfs 0.602 af

SubcatchmentB: B DA Runoff Area=34.870 ac 21.45% Impervious Runoff Depth=1.29"
Flow Length=2,693' Tc=32.9 min CN=79 Runoff=35.67 cfs 3.754 af

SubcatchmentC: C DA Runoff Area=44.574 ac 17.24% Impervious Runoff Depth=1.17"
Flow Length=2,100' Tc=25.8 min CN=77 Runoff=47.82 cfs 4.343 af

SubcatchmentD: D DA Runoff Area=3.025 ac 14.59% Impervious Runoff Depth=1.11"
Flow Length=524' Tc=17.1 min CN=76 Runoff=3.92 cfs 0.280 af

SubcatchmentE: E DA Runoff Area=57.210 ac 23.30% Impervious Runoff Depth=1.29"
Flow Length=2,200' Tc=26.2 min CN=79 Runoff=68.16 cfs 6.159 af

SubcatchmentF: PRE-F DA Runoff Area=12.420 ac 14.39% Impervious Runoff Depth=1.29"
Flow Length=1,525' Tc=32.3 min CN=79 Runoff=12.87 cfs 1.337 af

Pond SS1: EX- A1 CHAMBERS Peak Elev=299.85' Storage=8,002 cf Inflow=5.14 cfs 0.374 af
Outflow=0.87 cfs 0.341 af

Pond SS2: EX-A2 CHAMBERS Peak Elev=299.94' Storage=15,242 cf Inflow=9.24 cfs 0.602 af
Outflow=0.46 cfs 0.602 af

Link 1: POINT OF STUDY 1 Inflow=153.51 cfs 15.479 af
Primary=153.51 cfs 15.479 af

Link 2: POINT OF STUDY 2 Inflow=165.86 cfs 16.816 af
Primary=165.86 cfs 16.816 af

Total Runoff Area = 157.559 ac Runoff Volume = 16.848 af Average Runoff Depth = 1.28"
78.16% Pervious = 123.154 ac 21.84% Impervious = 34.405 ac

Summary for Subcatchment A1: A1 DA

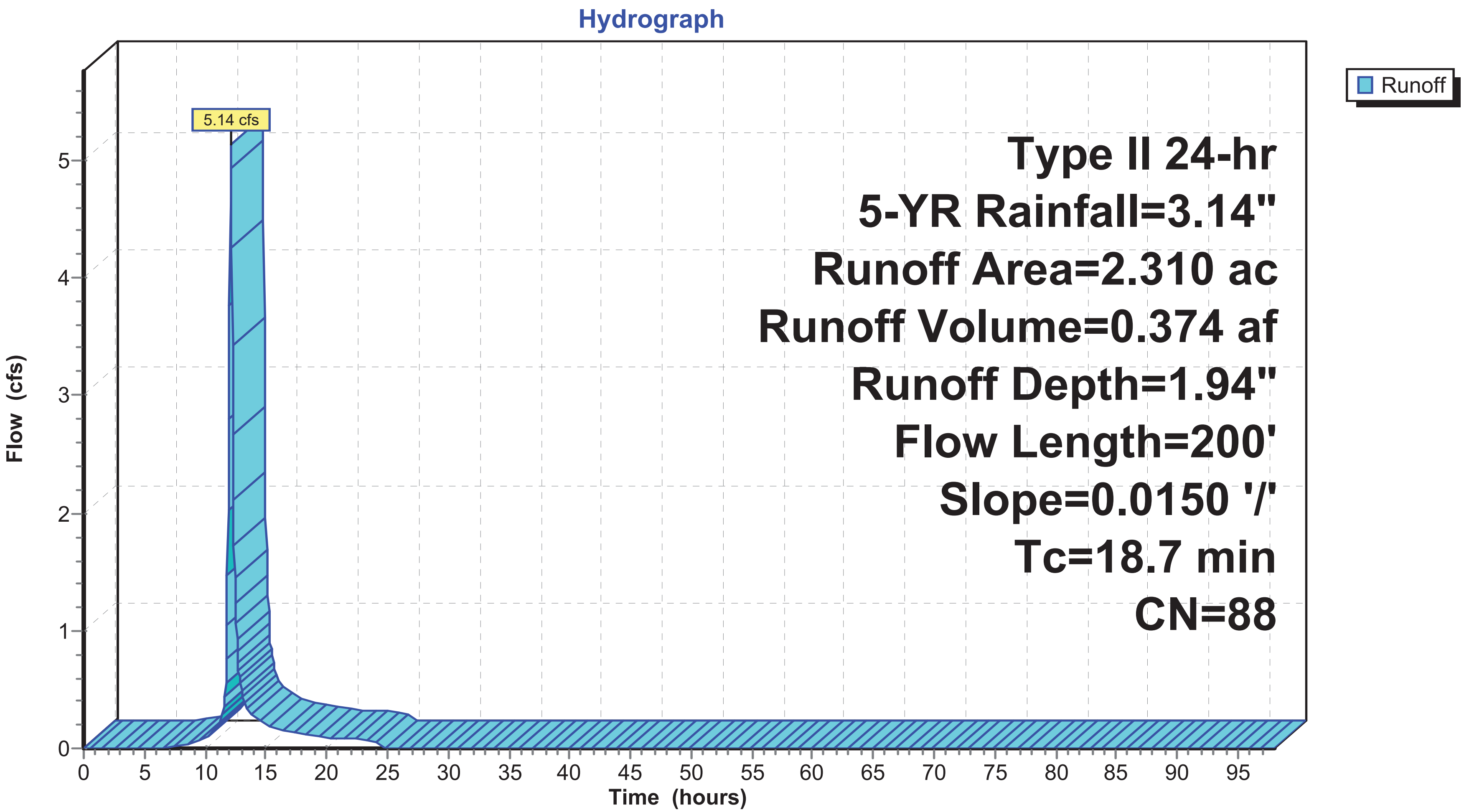
Runoff = 5.14 cfs @ 12.11 hrs, Volume= 0.374 af, Depth= 1.94"
Routed to Pond SS1 : EX- A1 CHAMBERS

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 5-YR Rainfall=3.14"

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



Summary for Subcatchment A2: A2 DA

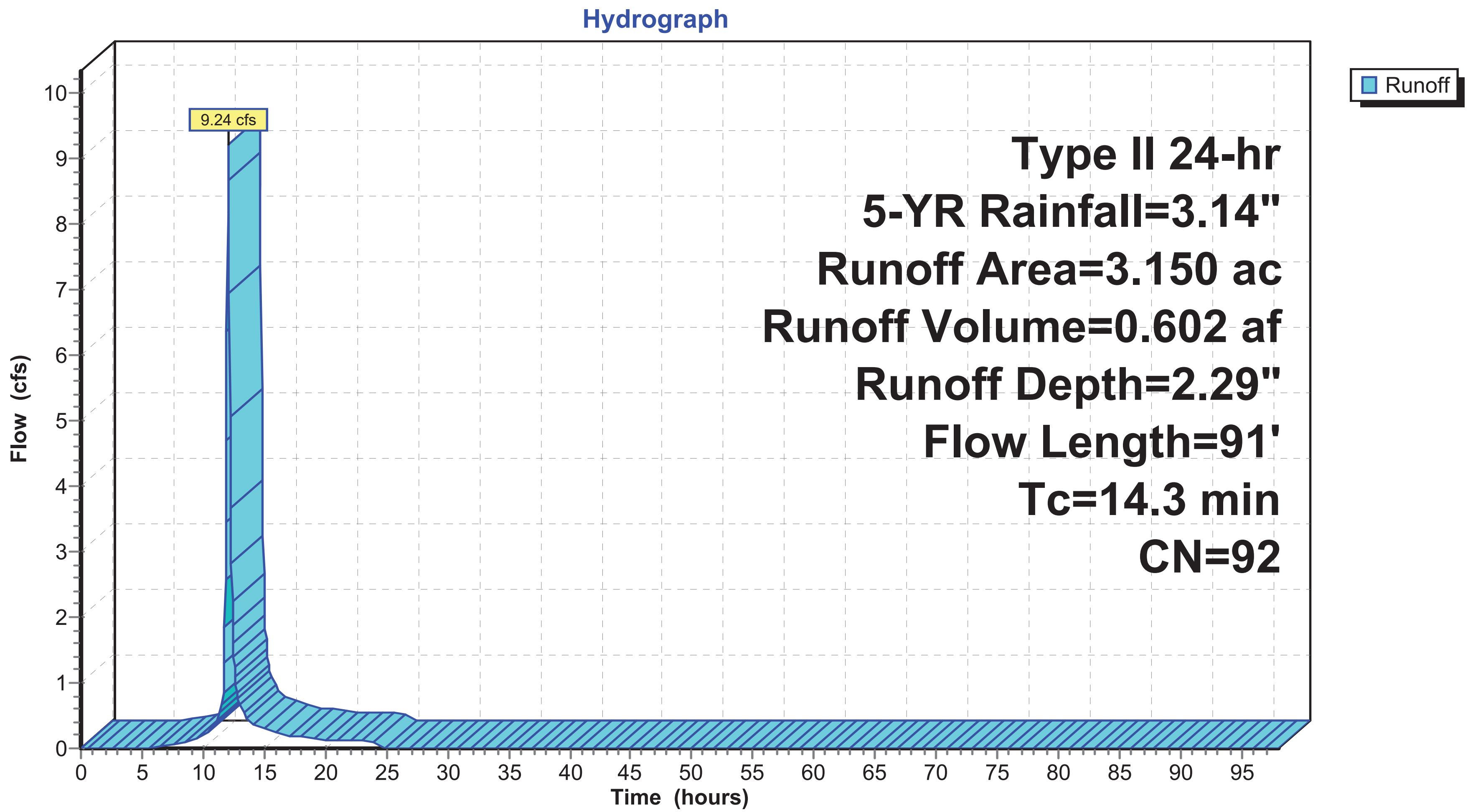
Runoff = 9.24 cfs @ 12.06 hrs, Volume= 0.602 af, Depth= 2.29"
Routed to Pond SS2 : EX-A2 CHAMBERS

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 5-YR Rainfall=3.14"

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			

Subcatchment A2: A2 DA



Summary for Subcatchment B: B DA

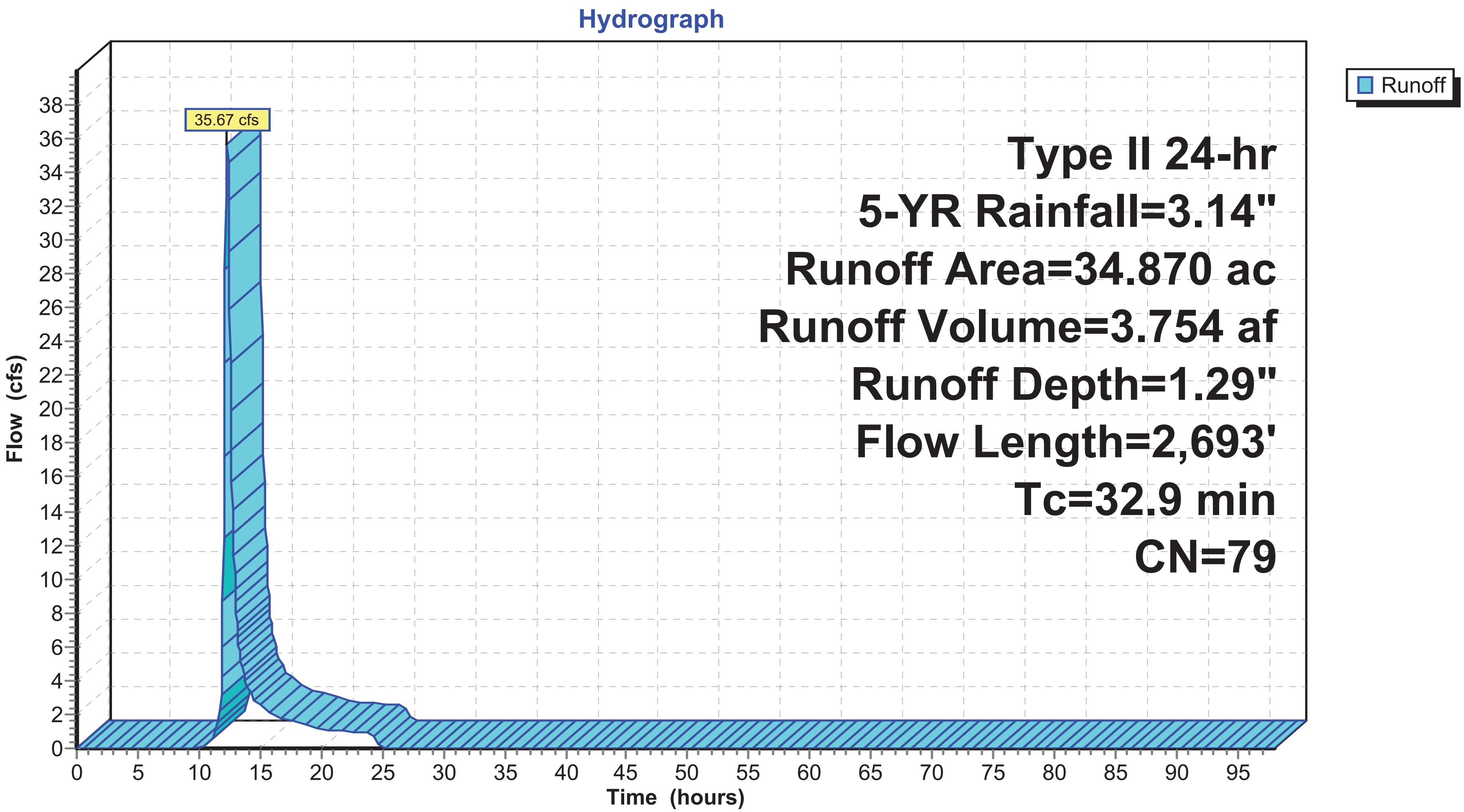
Runoff = 35.67 cfs @ 12.29 hrs, Volume= 3.754 af, Depth= 1.29"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
0.140	89	Gravel roads, HSG C
11.170	74	>75% Grass cover, Good, HSG C
2.740	98	Paved parking, HSG C
8.560	80	1/2 acre lots, 25% imp, HSG C
2.600	98	Roofs, HSG C
1.960	89	Pasture/grassland/range, Poor, HSG D
7.700	70	Woods, Good, HSG C
34.870	79	Weighted Average
27.390		78.55% Pervious Area
7.480		21.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0250	0.11		**Sheet Flow, 100' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
5.4	897	0.0300	2.79		**Shallow Concentrated Flow, 610'+287' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
0.9	233	0.0800	4.55		**Shallow Concentrated Flow, 233' Unpaved Shallow concentrated flow at 8%** Unpaved Kv= 16.1 fps
12.0	1,463	0.0160	2.04		**Shallow Concentrated Flow, 1463' Unpaved Shallow concentrated flow at 1.6%** Unpaved Kv= 16.1 fps
32.9	2,693	Total			

Subcatchment B: B DA



Summary for Subcatchment C: C DA

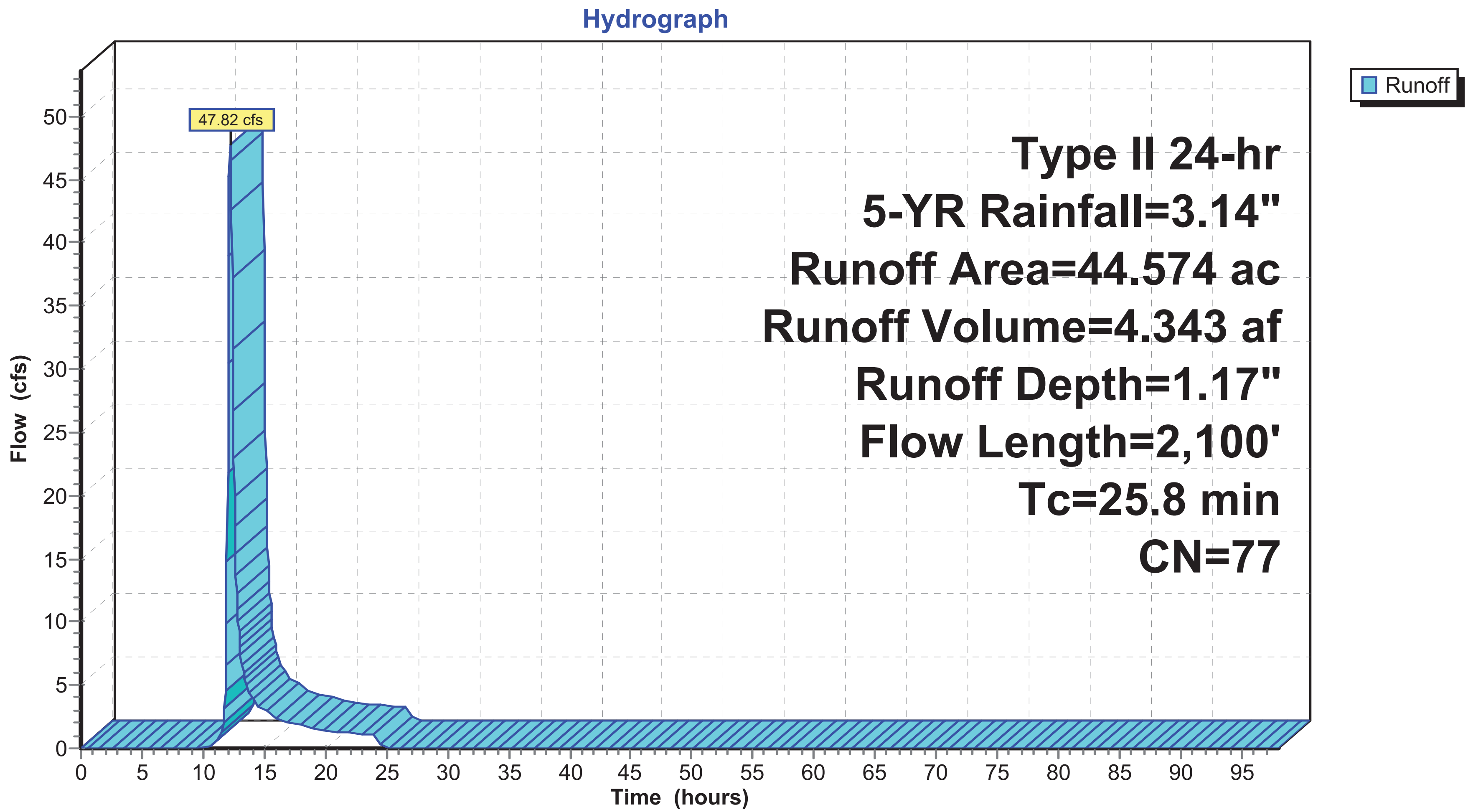
Runoff = 47.82 cfs @ 12.21 hrs, Volume= 4.343 af, Depth= 1.17"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
0.050	89	Gravel roads, HSG C
1.024	98	Paved parking, HSG C
26.650	80	1/2 acre lots, 25% imp, HSG C
0.690	89	Pasture/grassland/range, Poor, HSG D
16.160	70	Woods, Good, HSG C
44.574	77	Weighted Average
36.887		82.76% Pervious Area
7.686		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0300	0.12		**Sheet Flow, 100' Lawn sheet flow at 3%** Grass: Dense n= 0.240 P2= 2.57"
1.5	250	0.0300	2.79		**Shallow Concentrated Flow, 250' Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
10.8	1,750	0.0280	2.69		**Shallow Concentrated Flow, 1750' Unpaved Shallow concentrated flow at 2.8%** Unpaved Kv= 16.1 fps
25.8	2,100	Total			

Subcatchment C: C DA



Summary for Subcatchment D: D DA

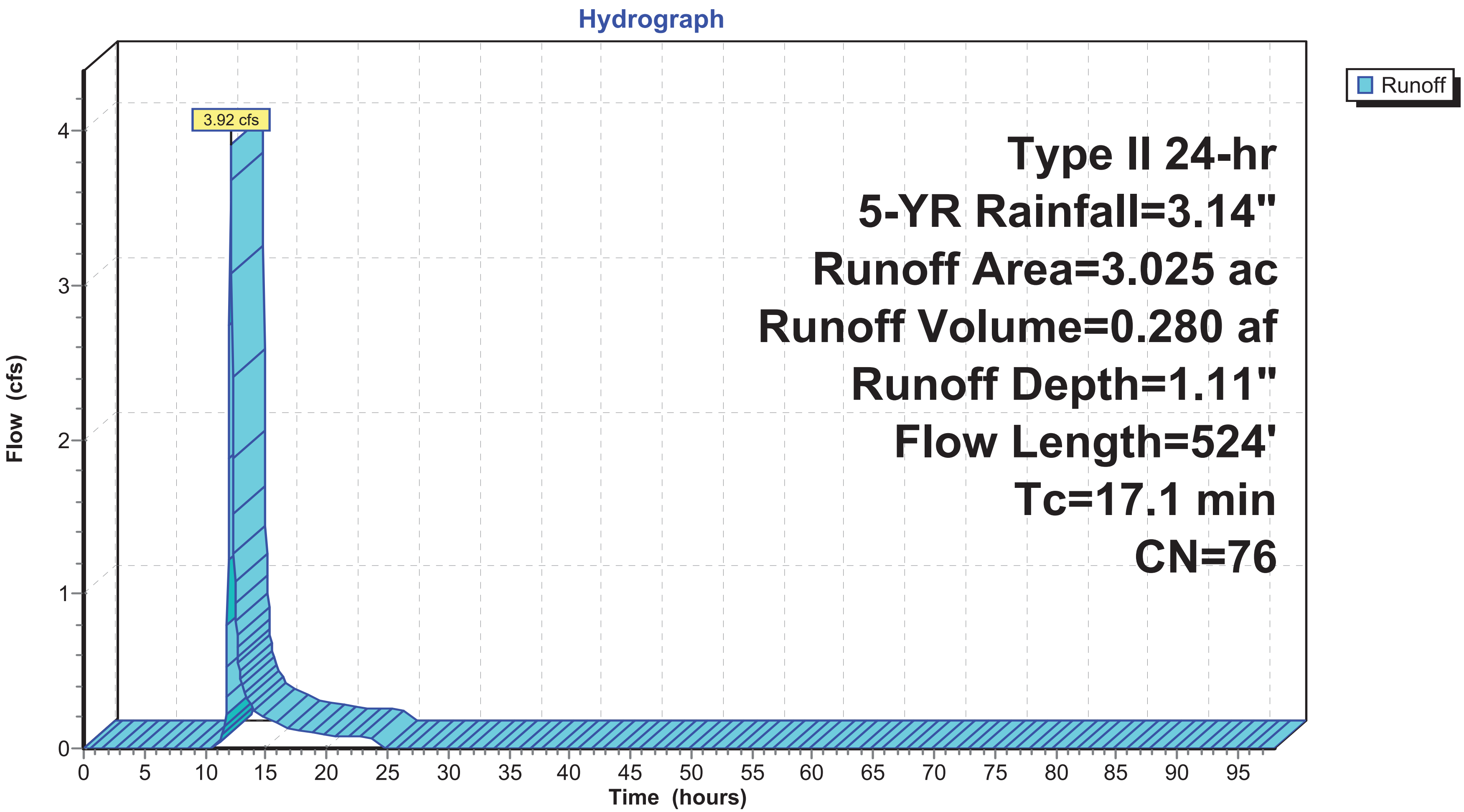
Runoff = 3.92 cfs @ 12.11 hrs, Volume= 0.280 af, Depth= 1.11"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
1.765	80	1/2 acre lots, 25% imp, HSG C
1.260	70	Woods, Good, HSG C
3.025	76	Weighted Average
2.584		85.41% Pervious Area
0.441		14.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0250	0.11		**Sheet Flow, 100' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
2.5	424	0.0300	2.79		**Shallow Concentrated Flow, 424' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
17.1	524	Total			

Subcatchment D: D DA



Summary for Subcatchment E: E DA

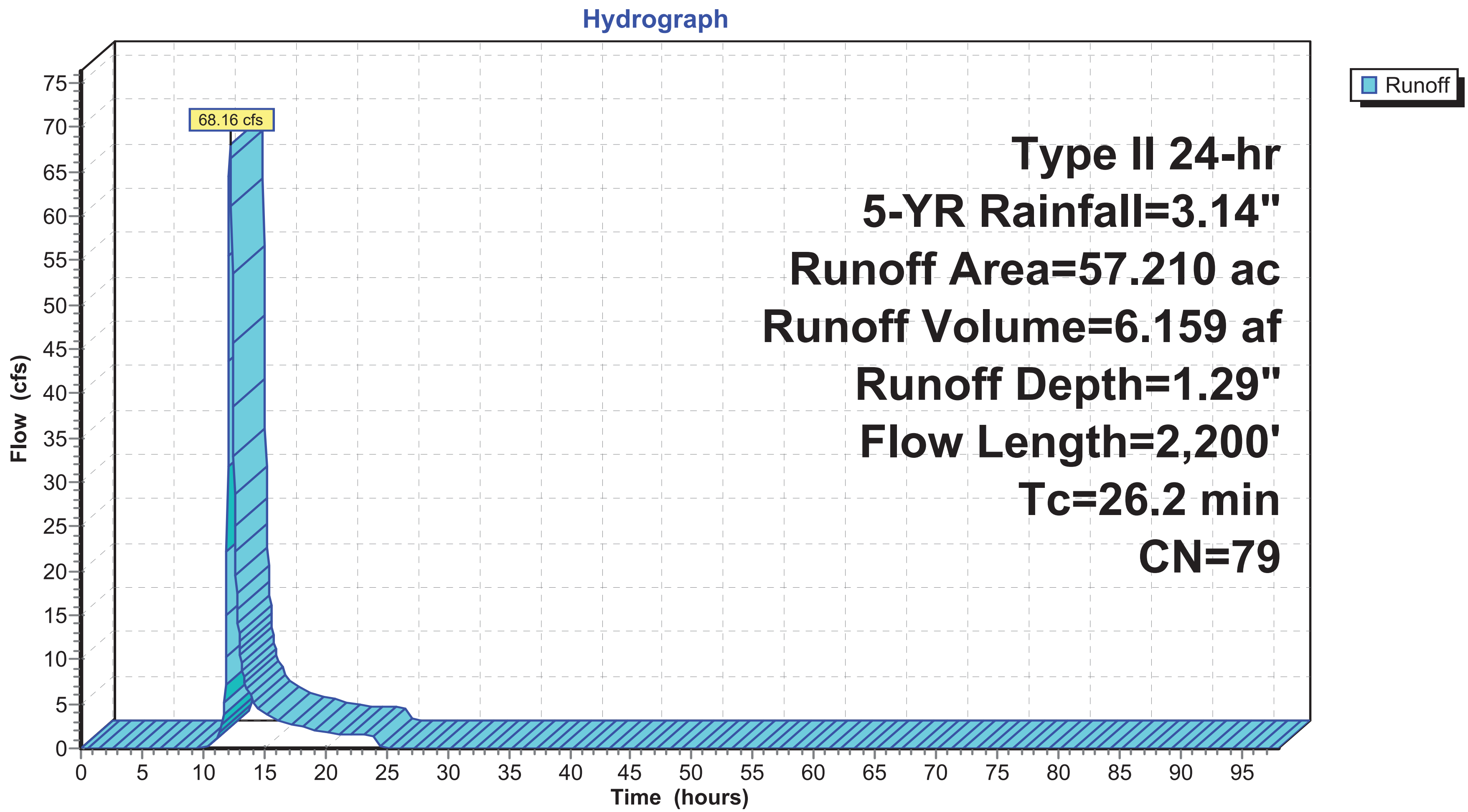
Runoff = 68.16 cfs @ 12.21 hrs, Volume= 6.159 af, Depth= 1.29"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
53.320	80	1/2 acre lots, 25% imp, HSG C
3.890	70	Woods, Good, HSG C
57.210	79	Weighted Average
43.880		76.70% Pervious Area
13.330		23.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0275	0.12		**Sheet Flow, 100' Lawn sheet flow at 2.75%** Grass: Dense n= 0.240 P2= 2.57"
9.8	1,640	0.0300	2.79		**Shallow Concentrated Flow, 1640' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
2.4	460	0.0390	3.18		**Shallow Concentrated Flow, 460' Unpaved Shallow concentrated flow at 3.9%** Unpaved Kv= 16.1 fps
26.2	2,200	Total			

Subcatchment E: E DA



Summary for Subcatchment F: PRE-F DA

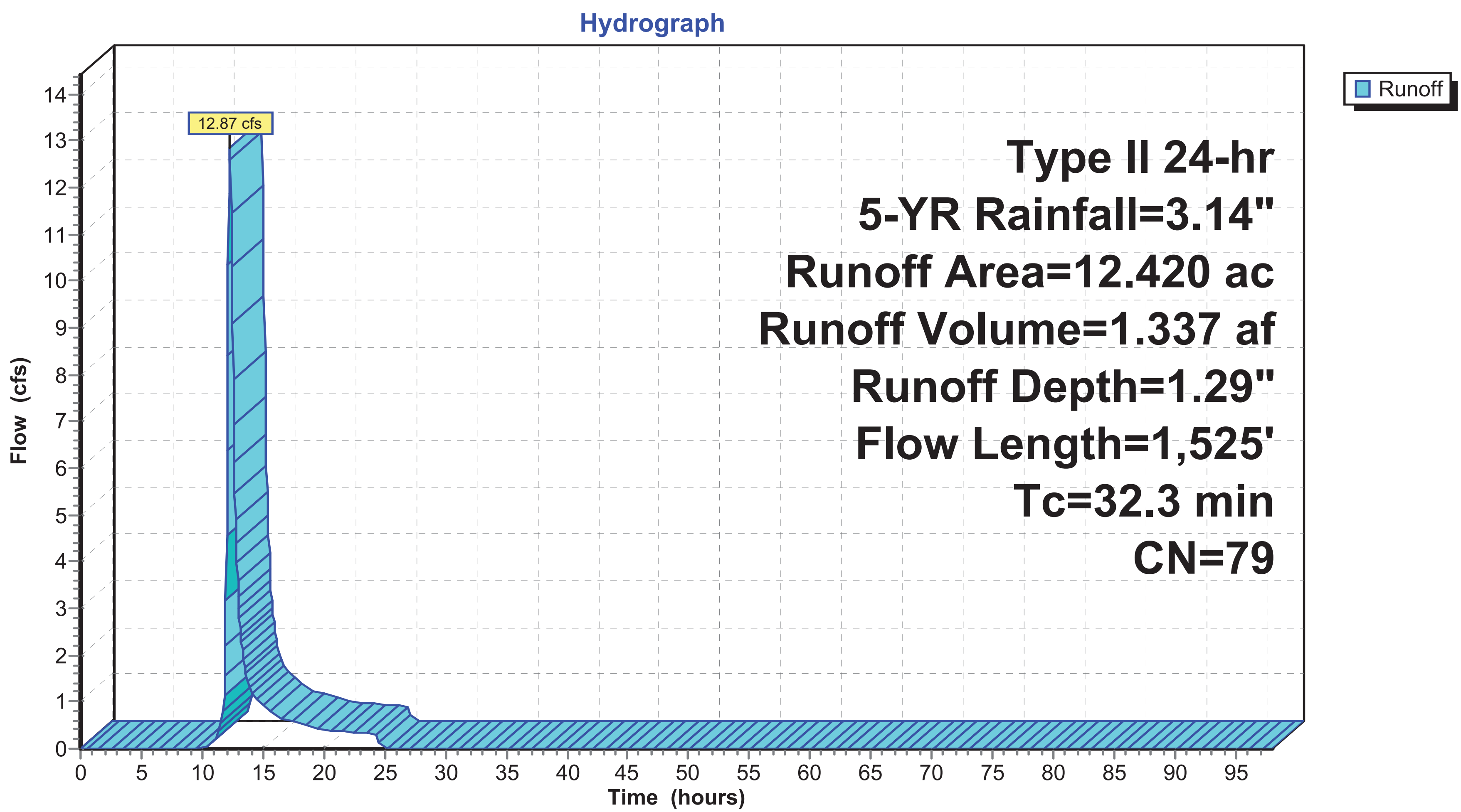
Runoff = 12.87 cfs @ 12.28 hrs, Volume= 1.337 af, Depth= 1.29"
Routed to Link 2 : POINT OF STUDY 2

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
0.230	98	Paved parking, HSG C
6.230	80	1/2 acre lots, 25% imp, HSG C
2.110	89	Pasture/grassland/range, Poor, HSG D
3.850	70	Woods, Good, HSG C
12.420	79	Weighted Average
10.632		85.61% Pervious Area
1.787		14.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0	100	0.0080	0.07		**Sheet Flow, 100' Lawn sheet flow at 0.8%** Grass: Dense n= 0.240 P2= 2.57"
2.8	475	0.0300	2.79		**Shallow Concentrated Flow, 475' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
2.2	335	0.0240	2.49		**Shallow Concentrated Flow, 335' Unpaved Shallow concentrated flow at 2.4%** Unpaved Kv= 16.1 fps
4.3	615	0.0114	2.41	28.92	**Trap/Vee/Rect Channel Flow, 615' Earth, dense weeds channel flow at 1.14%** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.070
32.3	1,525	Total			

Subcatchment F: PRE-F DA



Summary for Pond SS1: EX- A1 CHAMBERS

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).

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[92] Warning: Device #5 is above defined storage

Inflow Area = 2.310 ac, 58.01% Impervious, Inflow Depth = 1.94" for 5-YR event
Inflow = 5.14 cfs @ 12.11 hrs, Volume= 0.374 af
Outflow = 0.87 cfs @ 12.63 hrs, Volume= 0.341 af, Atten= 83%, Lag= 31.1 min
Primary = 0.87 cfs @ 12.63 hrs, Volume= 0.341 af
Routed to Link 1 : POINT OF STUDY 1

Routing by Stor-Ind method, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Peak Elev= 299.85' @ 12.63 hrs Storage= 8,002 cf

Plug-Flow detention time= 191.1 min calculated for 0.341 af (91% of inflow)
Center-of-Mass det. time= 146.5 min (971.1 - 824.5)

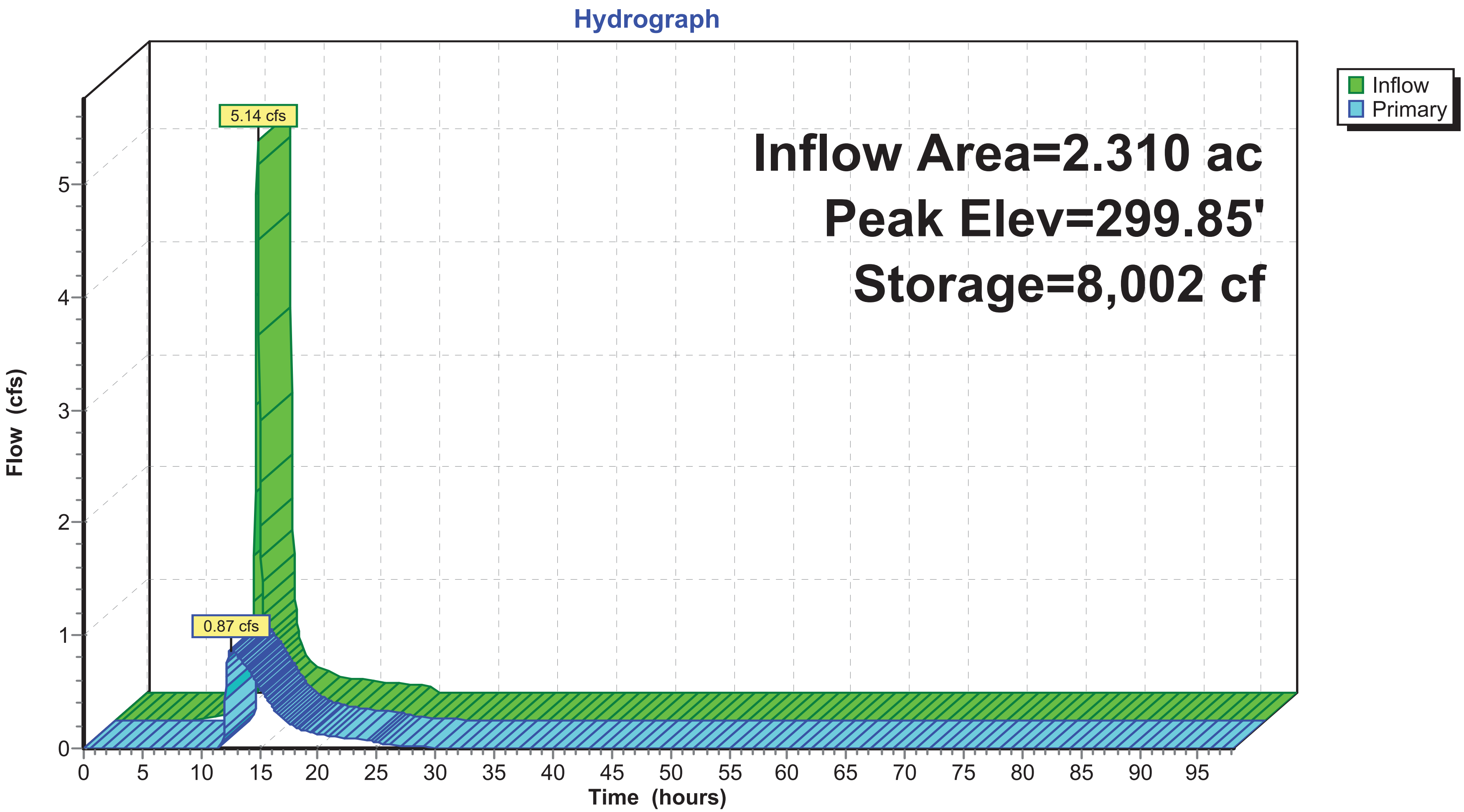
Volume	Invert	Avail.Storage	Storage Description
#1	298.25'	15,953 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
298.25	0	0
298.60	735	735
298.95	1,610	2,345
299.30	2,250	4,595
299.65	2,201	6,796
300.00	2,118	8,914
300.35	1,993	10,907
300.70	1,811	12,718
301.05	1,534	14,252
301.40	966	15,218
301.75	735	15,953

Device	Routing	Invert	Outlet Devices
#1	Primary	298.25'	**12.0" Round Culvert** L= 296.0' Ke= 0.600 Inlet / Outlet Invert= 298.25' / 296.50' S= 0.0059 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	298.75'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	300.92'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	301.16'	**2.2' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Device 1	303.25'	**18.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.87 cfs @ 12.63 hrs HW=299.85' (Free Discharge)
1=Culvert (Passes 0.87 cfs of 3.13 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.87 cfs @ 4.44 fps)
3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)
4=Broad-Crested Rectangular Weir(Controls 0.00 cfs)
5=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Pond SS1: EX- A1 CHAMBERS



Summary for Pond SS2: EX-A2 CHAMBERS

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).

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[92] Warning: Device #4 is above defined storage

Inflow Area = 3.150 ac, 74.29% Impervious, Inflow Depth = 2.29" for 5-YR event
Inflow = 9.24 cfs @ 12.06 hrs, Volume= 0.602 af
Outflow = 0.46 cfs @ 13.63 hrs, Volume= 0.602 af, Atten= 95%, Lag= 94.1 min
Primary = 0.46 cfs @ 13.63 hrs, Volume= 0.602 af
Routed to Link 1 : POINT OF STUDY 1

Routing by Stor-Ind method, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Peak Elev= 299.94' @ 13.63 hrs Storage= 15,242 cf

Plug-Flow detention time= 407.8 min calculated for 0.602 af (100% of inflow)
Center-of-Mass det. time= 409.2 min (1,212.2 - 803.0)

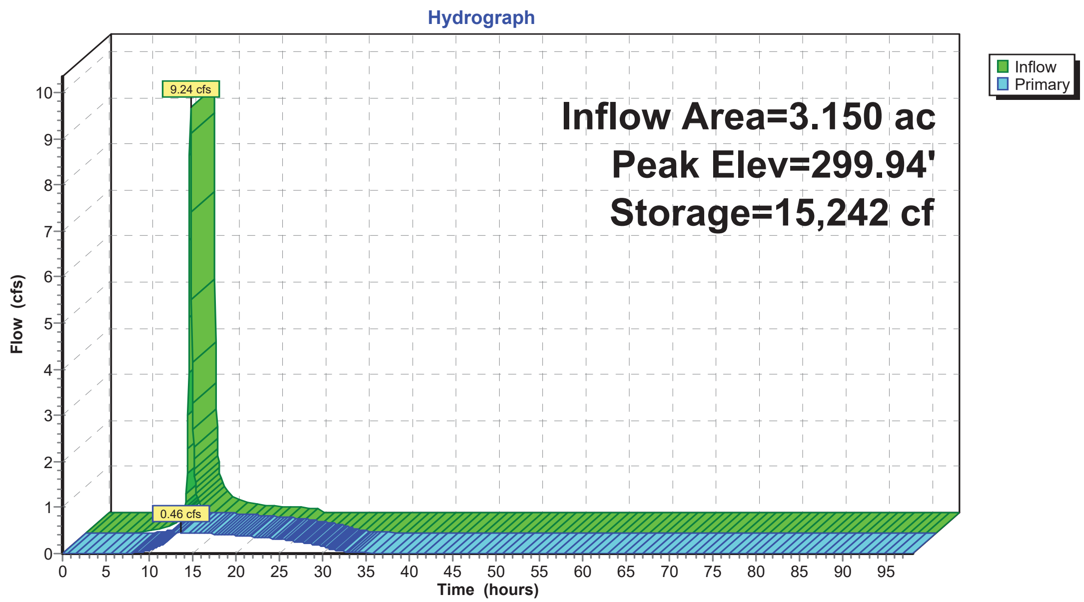
Volume	Invert	Avail.Storage	Storage Description
#1	298.58'	37,155 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
298.58	0	0
298.93	1,711	1,711
299.28	3,751	5,462
299.63	5,240	10,702
299.98	5,127	15,829
300.33	4,933	20,762
300.68	4,642	25,404
301.03	4,219	29,623
301.38	3,572	33,195
301.73	2,249	35,444
302.08	1,711	37,155

Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	**12.0" Round Culvert** L= 215.0' Ke= 0.600 Inlet / Outlet Invert= 298.00' / 296.50' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	298.58'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.33'	**4.7' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	303.58'	**18.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.46 cfs @ 13.63 hrs HW=299.94' (Free Discharge)
└─**1=Culvert** (Passes 0.46 cfs of 3.63 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.46 cfs @ 5.26 fps)
  ├─**3=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)
  └─**4=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

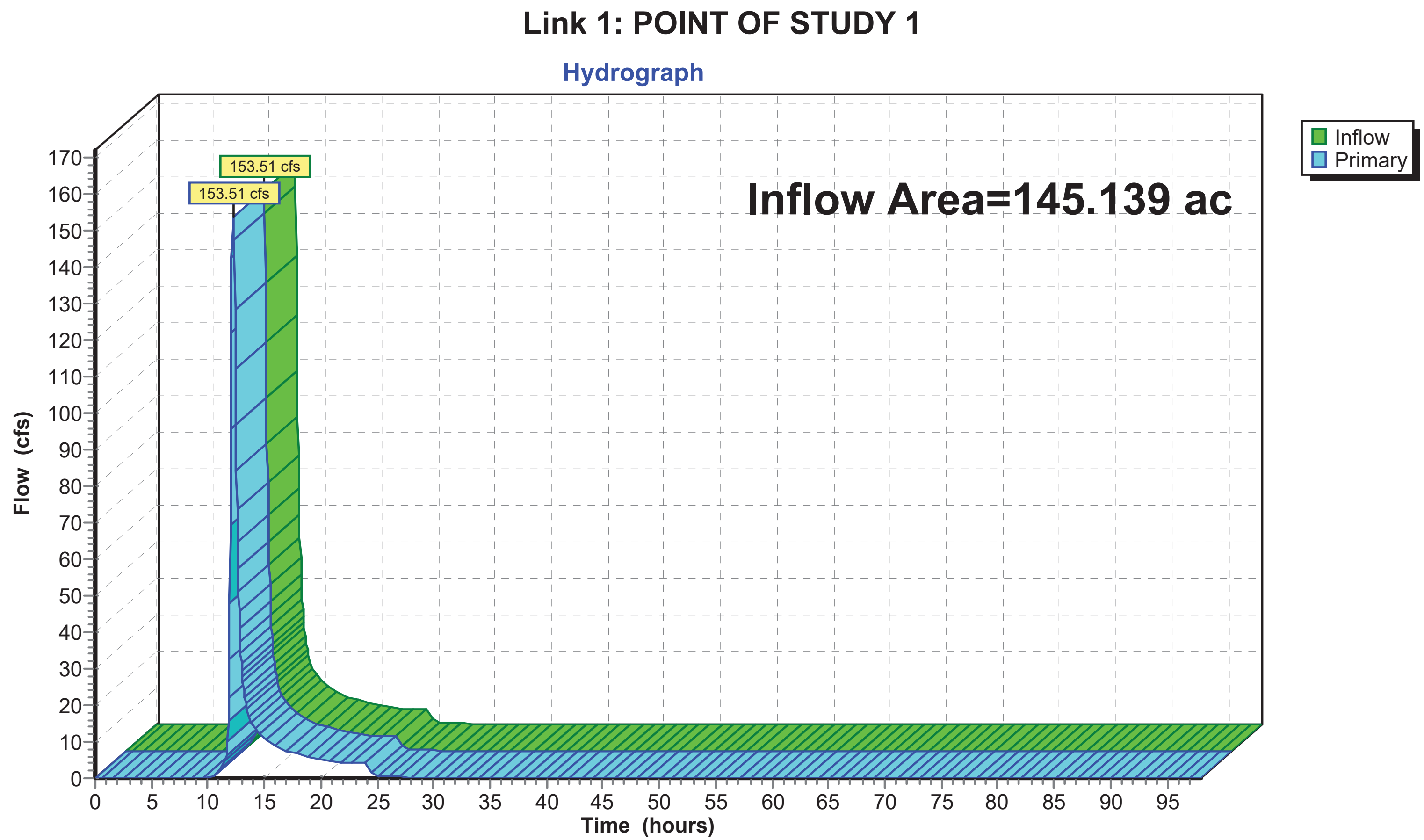
Pond SS2: EX-A2 CHAMBERS



Summary for Link 1: POINT OF STUDY 1

Inflow Area = 145.139 ac, 22.47% Impervious, Inflow Depth = 1.28" for 5-YR event
Inflow = 153.51 cfs @ 12.22 hrs, Volume= 15.479 af
Primary = 153.51 cfs @ 12.22 hrs, Volume= 15.479 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2 : POINT OF STUDY 2

Primary outflow = Inflow, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs

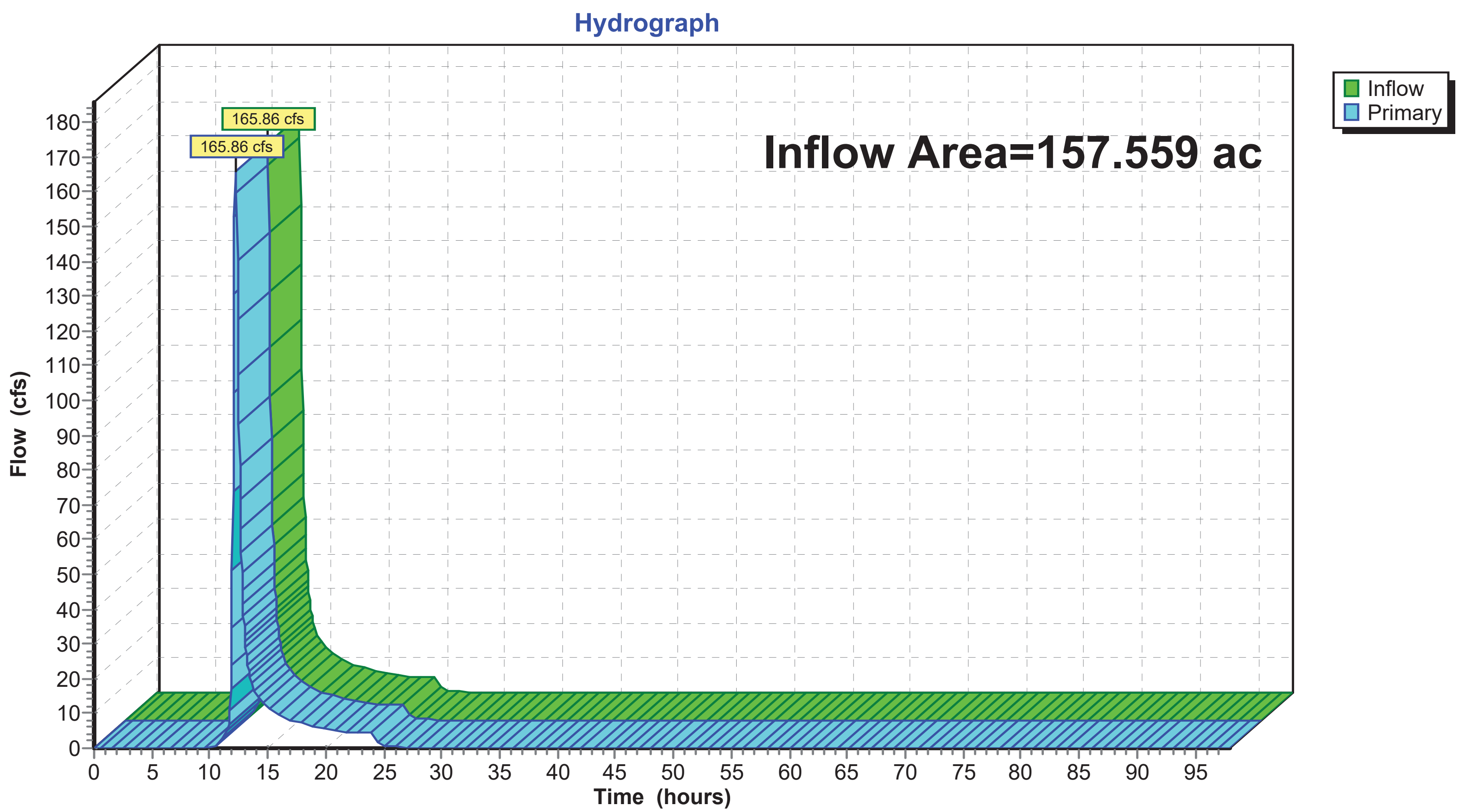


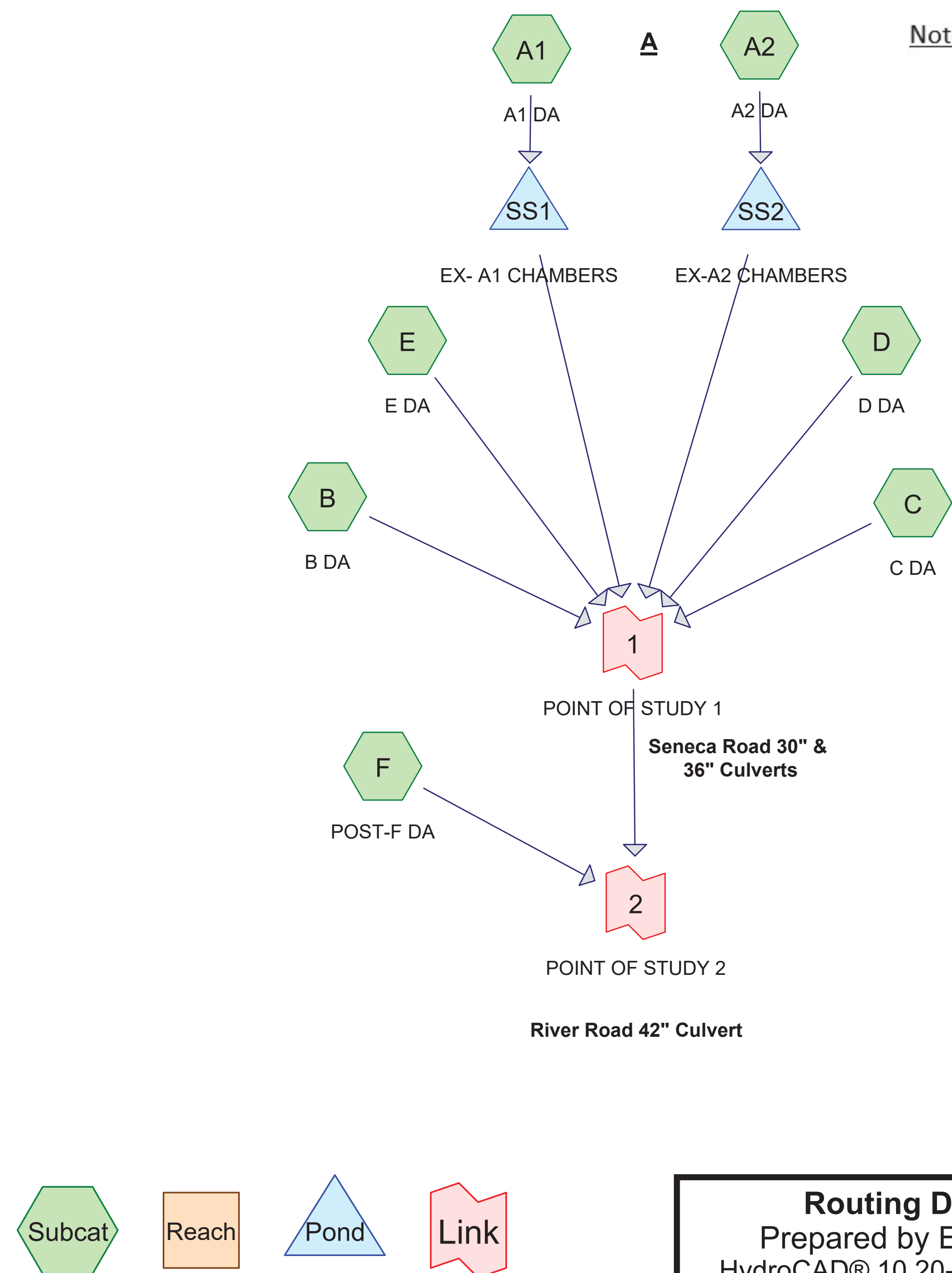
Summary for Link 2: POINT OF STUDY 2

Inflow Area = 157.559 ac, 21.84% Impervious, Inflow Depth = 1.28" for 5-YR event
Inflow = 165.86 cfs @ 12.22 hrs, Volume= 16.816 af
Primary = 165.86 cfs @ 12.22 hrs, Volume= 16.816 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs

Link 2: POINT OF STUDY 2





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_5 Year Post
Prepared by Engineering Ventures, Inc, Printed 10/11/2023

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	5-YR	Type II 24-hr		Default	24.00	1	3.14	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)
14.888	74	>75% Grass cover, Good, HSG C (A1, A2, B, F)
3.180	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)
7.524	98	Paved parking, HSG C (A1, A2, B, C, F)
3.170	98	Roofs, HSG C (A2, B, F)
29.010	70	Woods, Good, HSG C (B, C, D, E)
157.567	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
152.807	HSG C	A1, A2, B, C, D, E, F
4.760	HSG D	B, C, F
0.000	Other	
157.567		**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	14.888	0.000	0.000	14.888	>75% Grass cover, Good	A1, A2, B, F
0.000	0.000	3.180	0.000	0.000	3.180	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	7.524	0.000	0.000	7.524	Paved parking	A1, A2, B, C, F
0.000	0.000	3.170	0.000	0.000	3.170	Roofs	A2, B, F
0.000	0.000	29.010	0.000	0.000	29.010	Woods, Good	B, C, D, E
0.000	**0.000**	**152.807**	**4.760**	**0.000**	**157.567**	**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=1.94"
Flow Length=200' Slope=0.0150 '/' Tc=18.7 min CN=88 Runoff=5.14 cfs 0.374 af

SubcatchmentA2: A2 DA Runoff Area=3.150 ac 74.29% Impervious Runoff Depth=2.29"
Flow Length=91' Tc=14.3 min CN=92 Runoff=9.24 cfs 0.602 af

SubcatchmentB: B DA Runoff Area=34.870 ac 21.45% Impervious Runoff Depth=1.29"
Flow Length=2,693' Tc=32.9 min CN=79 Runoff=35.67 cfs 3.754 af

SubcatchmentC: C DA Runoff Area=44.574 ac 17.24% Impervious Runoff Depth=1.17"
Flow Length=2,100' Tc=25.8 min CN=77 Runoff=47.82 cfs 4.343 af

SubcatchmentD: D DA Runoff Area=3.025 ac 14.59% Impervious Runoff Depth=1.11"
Flow Length=524' Tc=17.1 min CN=76 Runoff=3.92 cfs 0.280 af

SubcatchmentE: E DA Runoff Area=57.210 ac 23.30% Impervious Runoff Depth=1.29"
Flow Length=2,200' Tc=26.2 min CN=79 Runoff=68.16 cfs 6.159 af

SubcatchmentF: POST-F DA Runoff Area=12.428 ac 14.38% Impervious Runoff Depth=1.29"
Flow Length=1,525' Tc=32.2 min CN=79 Runoff=12.87 cfs 1.338 af

Pond SS1: EX- A1 CHAMBERS Peak Elev=299.85' Storage=8,002 cf Inflow=5.14 cfs 0.374 af
Outflow=0.87 cfs 0.341 af

Pond SS2: EX-A2 CHAMBERS Peak Elev=299.94' Storage=15,242 cf Inflow=9.24 cfs 0.602 af
Outflow=0.46 cfs 0.602 af

Link 1: POINT OF STUDY 1 Inflow=153.51 cfs 15.479 af
Primary=153.51 cfs 15.479 af

Link 2: POINT OF STUDY 2 Inflow=165.89 cfs 16.817 af
Primary=165.89 cfs 16.817 af

Total Runoff Area = 157.567 ac Runoff Volume = 16.849 af Average Runoff Depth = 1.28"
78.16% Pervious = 123.162 ac 21.84% Impervious = 34.405 ac

Summary for Subcatchment A1: A1 DA

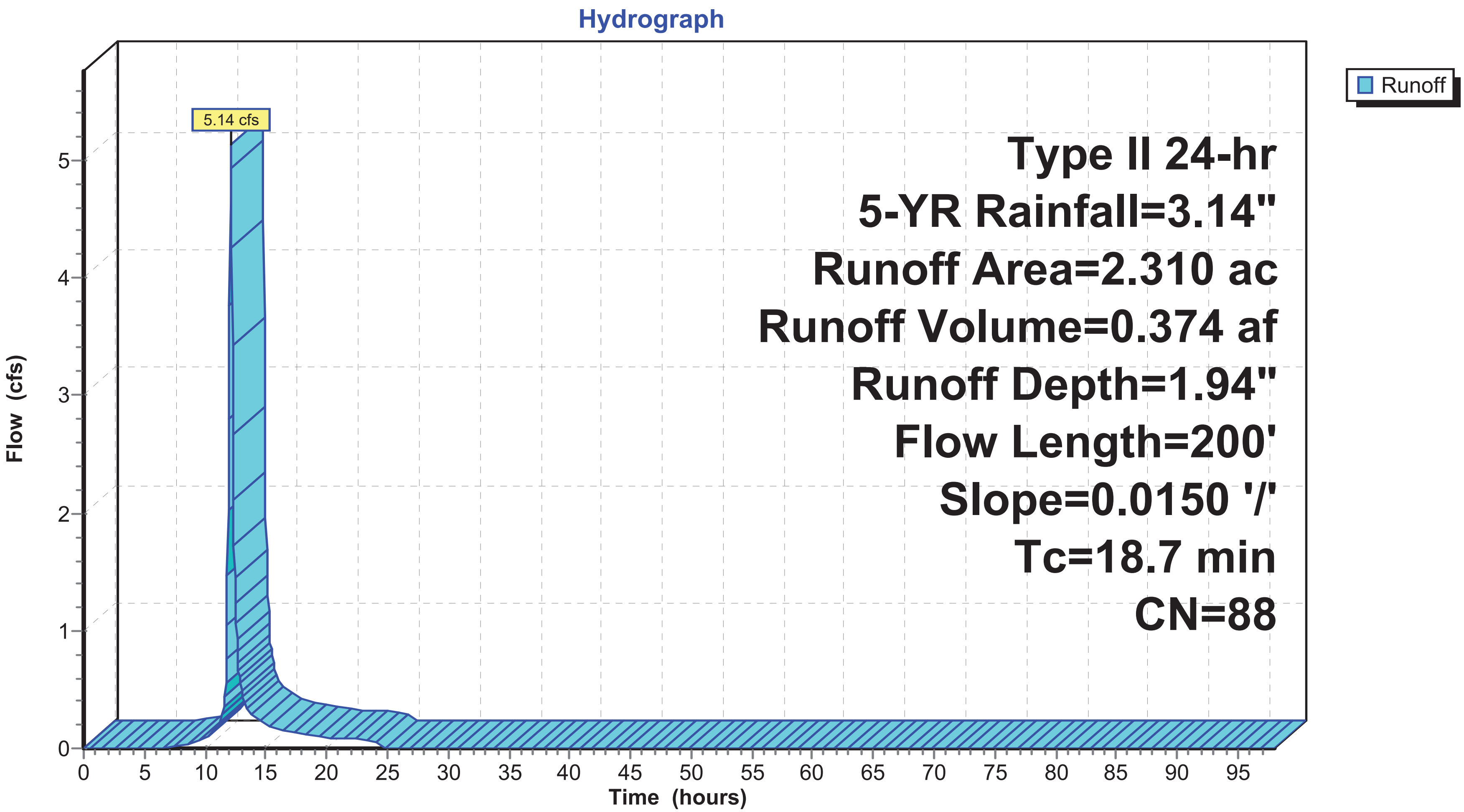
Runoff = 5.14 cfs @ 12.11 hrs, Volume= 0.374 af, Depth= 1.94"
Routed to Pond SS1 : EX- A1 CHAMBERS

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 5-YR Rainfall=3.14"

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



Summary for Subcatchment A2: A2 DA

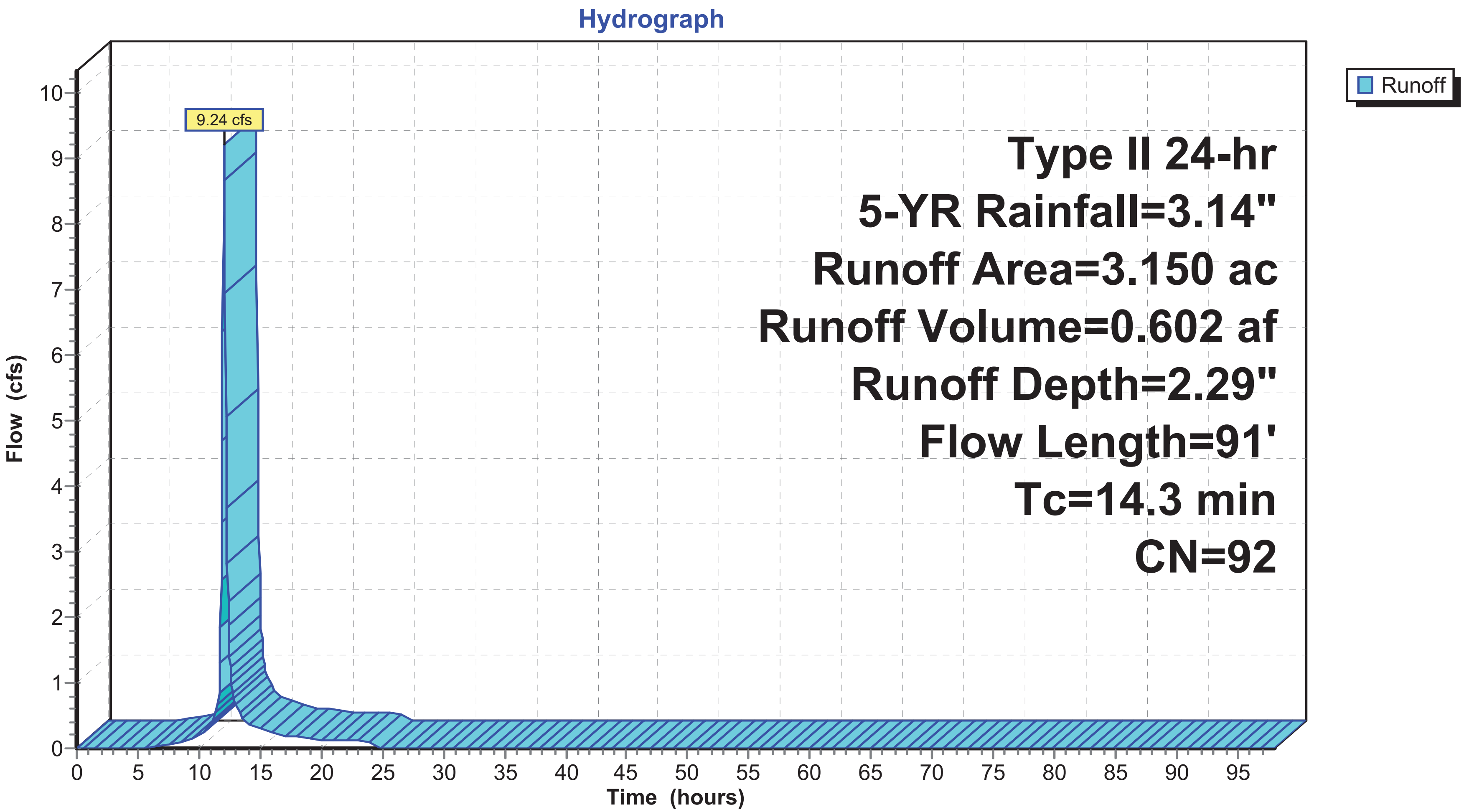
Runoff = 9.24 cfs @ 12.06 hrs, Volume= 0.602 af, Depth= 2.29"
Routed to Pond SS2 : EX-A2 CHAMBERS

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 5-YR Rainfall=3.14"

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			

Subcatchment A2: A2 DA



Summary for Subcatchment B: B DA

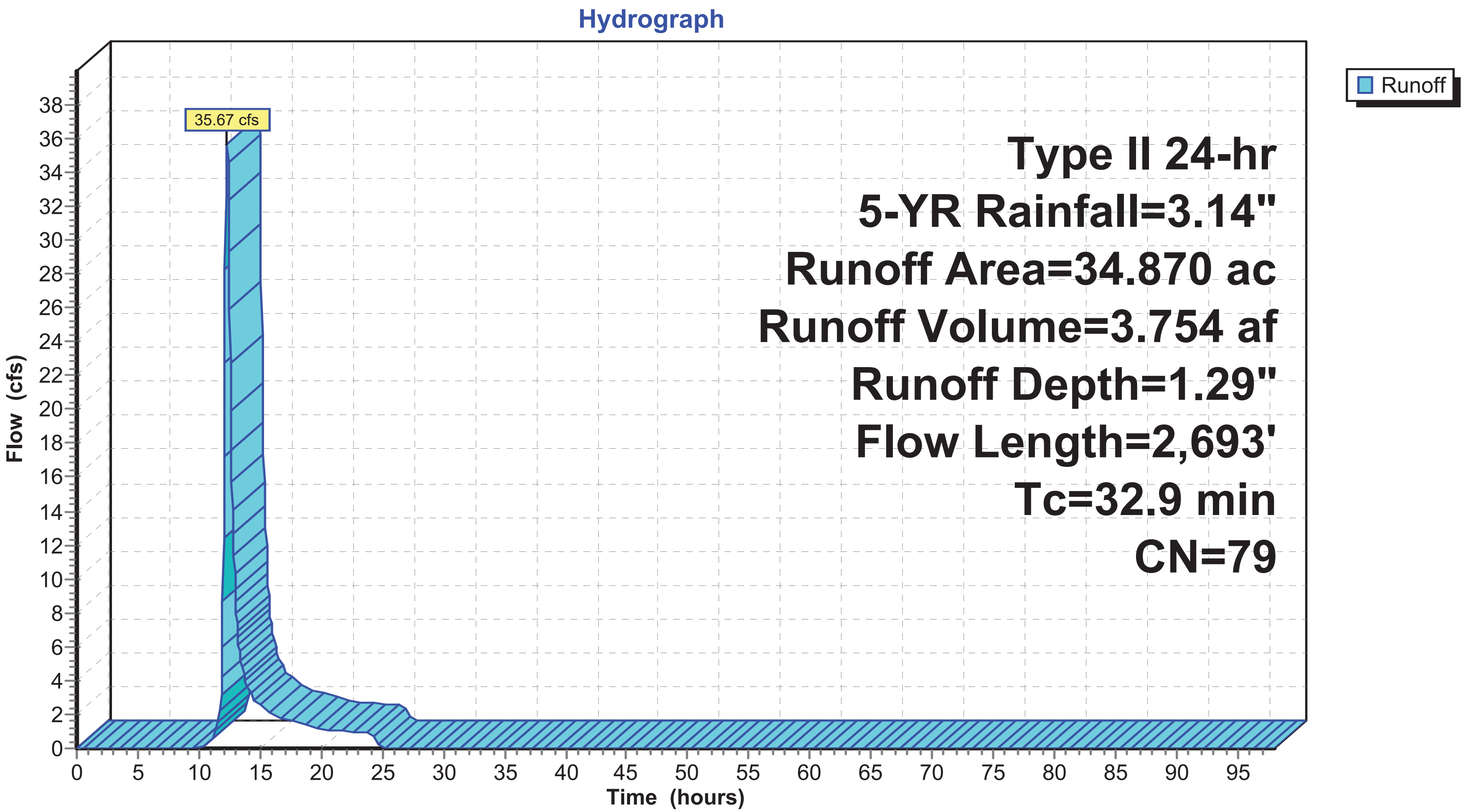
Runoff = 35.67 cfs @ 12.29 hrs, Volume= 3.754 af, Depth= 1.29"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
0.140	89	Gravel roads, HSG C
11.170	74	>75% Grass cover, Good, HSG C
2.740	98	Paved parking, HSG C
8.560	80	1/2 acre lots, 25% imp, HSG C
2.600	98	Roofs, HSG C
1.960	89	Pasture/grassland/range, Poor, HSG D
7.700	70	Woods, Good, HSG C
34.870	79	Weighted Average
27.390		78.55% Pervious Area
7.480		21.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0250	0.11		**Sheet Flow, 100' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
5.4	897	0.0300	2.79		**Shallow Concentrated Flow, 610'+287' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
0.9	233	0.0800	4.55		**Shallow Concentrated Flow, 233' Unpaved Shallow concentrated flow at 8%** Unpaved Kv= 16.1 fps
12.0	1,463	0.0160	2.04		**Shallow Concentrated Flow, 1463' Unpaved Shallow concentrated flow at 1.6%** Unpaved Kv= 16.1 fps
32.9	2,693	Total			

Subcatchment B: B DA



Summary for Subcatchment C: C DA

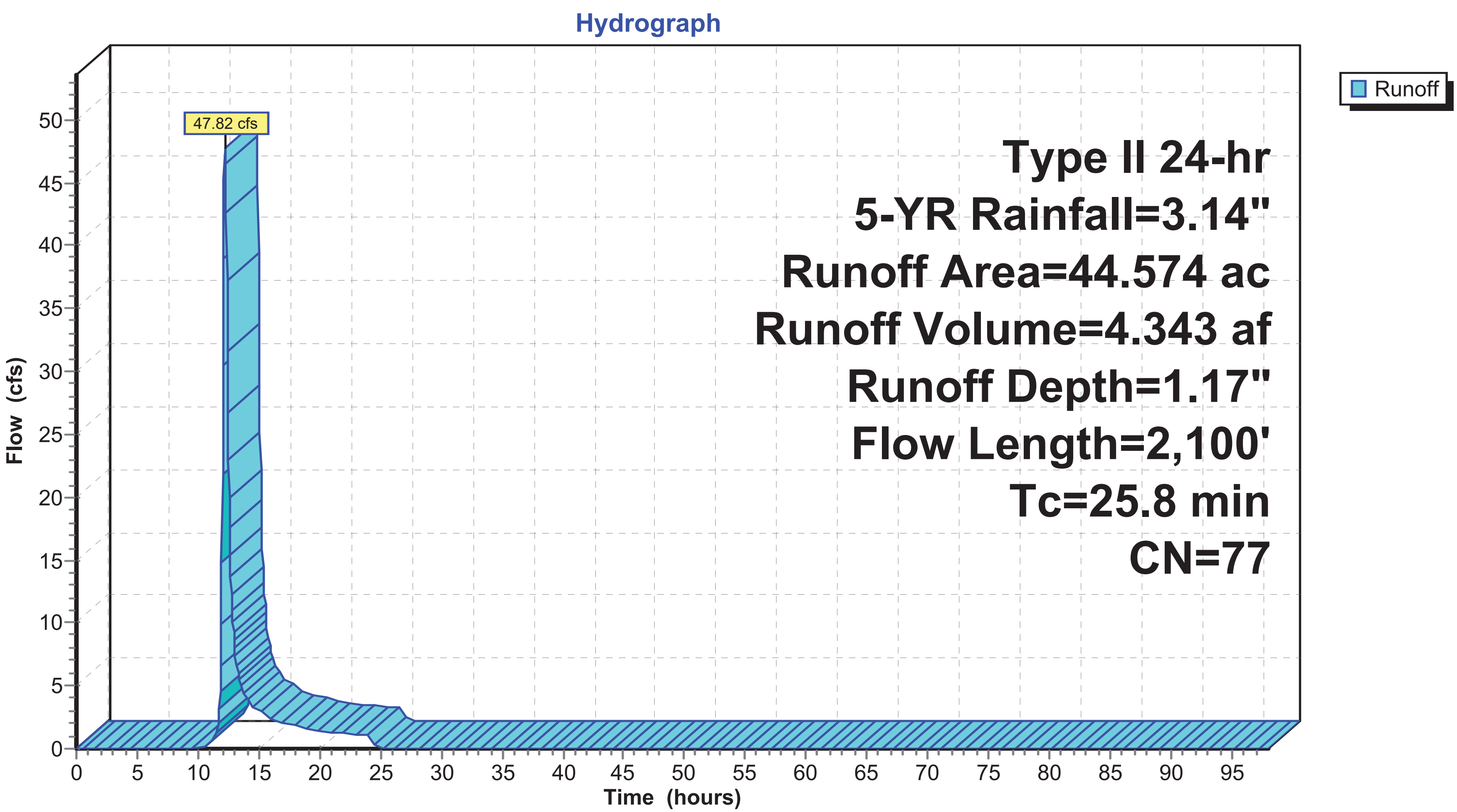
Runoff = 47.82 cfs @ 12.21 hrs, Volume= 4.343 af, Depth= 1.17"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
0.050	89	Gravel roads, HSG C
1.024	98	Paved parking, HSG C
26.650	80	1/2 acre lots, 25% imp, HSG C
0.690	89	Pasture/grassland/range, Poor, HSG D
16.160	70	Woods, Good, HSG C
44.574	77	Weighted Average
36.887		82.76% Pervious Area
7.686		17.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.5	100	0.0300	0.12		**Sheet Flow, 100' Lawn sheet flow at 3%** Grass: Dense n= 0.240 P2= 2.57"
1.5	250	0.0300	2.79		**Shallow Concentrated Flow, 250' Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
10.8	1,750	0.0280	2.69		**Shallow Concentrated Flow, 1750' Unpaved Shallow concentrated flow at 2.8%** Unpaved Kv= 16.1 fps
25.8	2,100	Total			

Subcatchment C: C DA



Summary for Subcatchment D: D DA

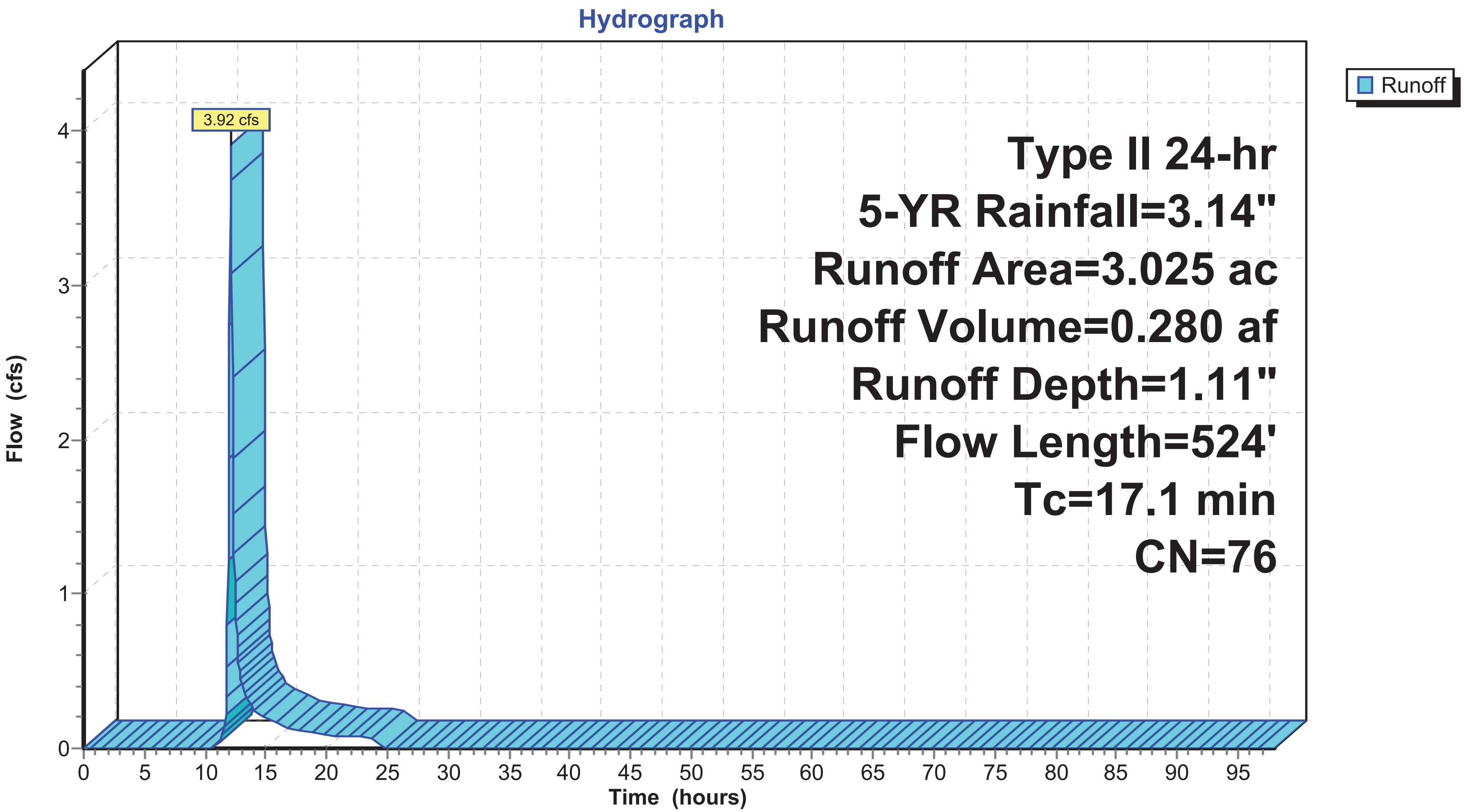
Runoff = 3.92 cfs @ 12.11 hrs, Volume= 0.280 af, Depth= 1.11"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
1.765	80	1/2 acre lots, 25% imp, HSG C
1.260	70	Woods, Good, HSG C
3.025	76	Weighted Average
2.584		85.41% Pervious Area
0.441		14.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	100	0.0250	0.11		**Sheet Flow, 100' Lawn sheet flow at 2.5%** Grass: Dense n= 0.240 P2= 2.57"
2.5	424	0.0300	2.79		**Shallow Concentrated Flow, 424' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
17.1	524	Total			

Subcatchment D: D DA



Summary for Subcatchment E: E DA

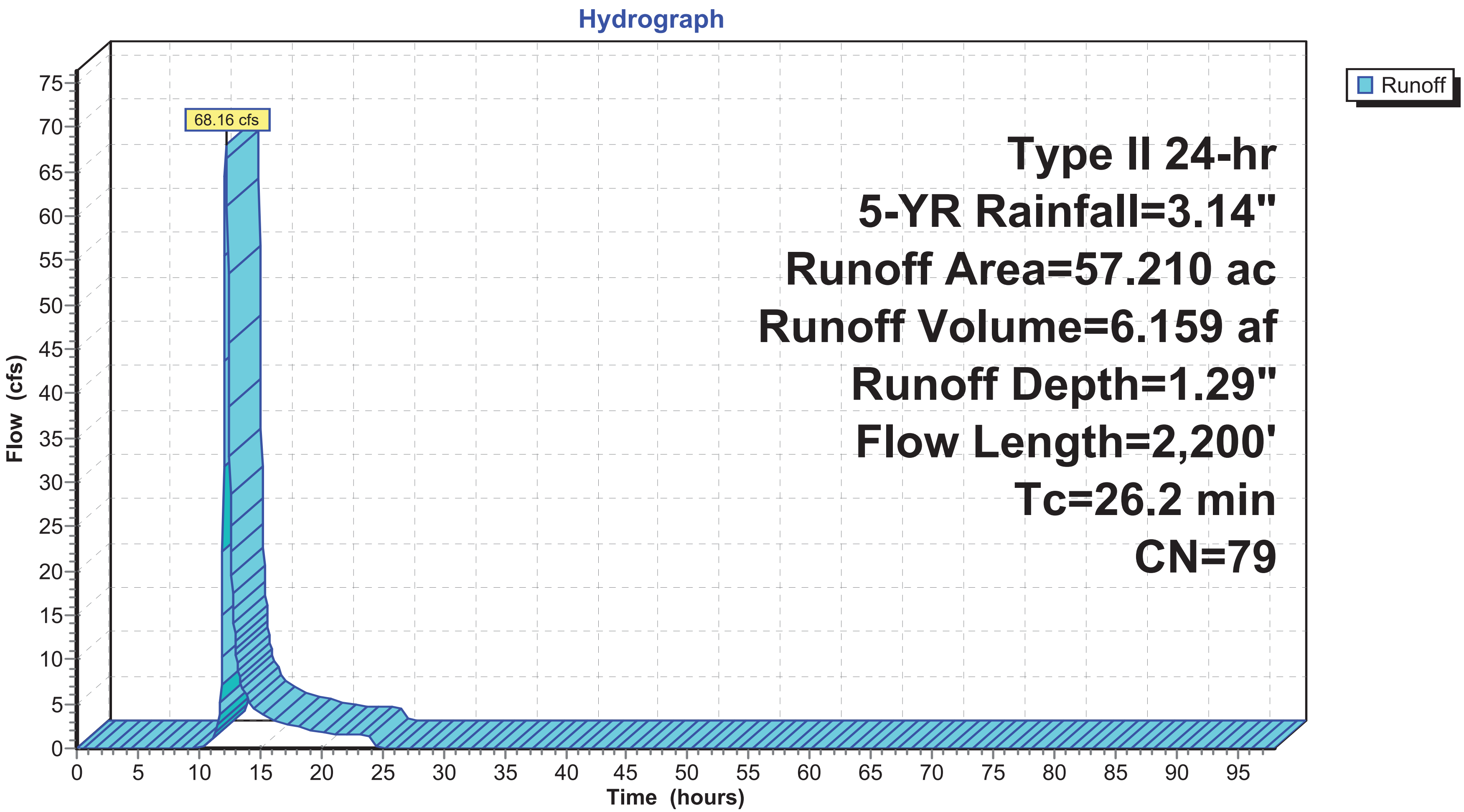
Runoff = 68.16 cfs @ 12.21 hrs, Volume= 6.159 af, Depth= 1.29"
Routed to Link 1 : POINT OF STUDY 1

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
53.320	80	1/2 acre lots, 25% imp, HSG C
3.890	70	Woods, Good, HSG C
57.210	79	Weighted Average
43.880		76.70% Pervious Area
13.330		23.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0	100	0.0275	0.12		**Sheet Flow, 100' Lawn sheet flow at 2.75%** Grass: Dense n= 0.240 P2= 2.57"
9.8	1,640	0.0300	2.79		**Shallow Concentrated Flow, 1640' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
2.4	460	0.0390	3.18		**Shallow Concentrated Flow, 460' Unpaved Shallow concentrated flow at 3.9%** Unpaved Kv= 16.1 fps
26.2	2,200	Total			

Subcatchment E: E DA



Summary for Subcatchment F: POST-F DA

[47] Hint: Peak is 236% of capacity of segment #5

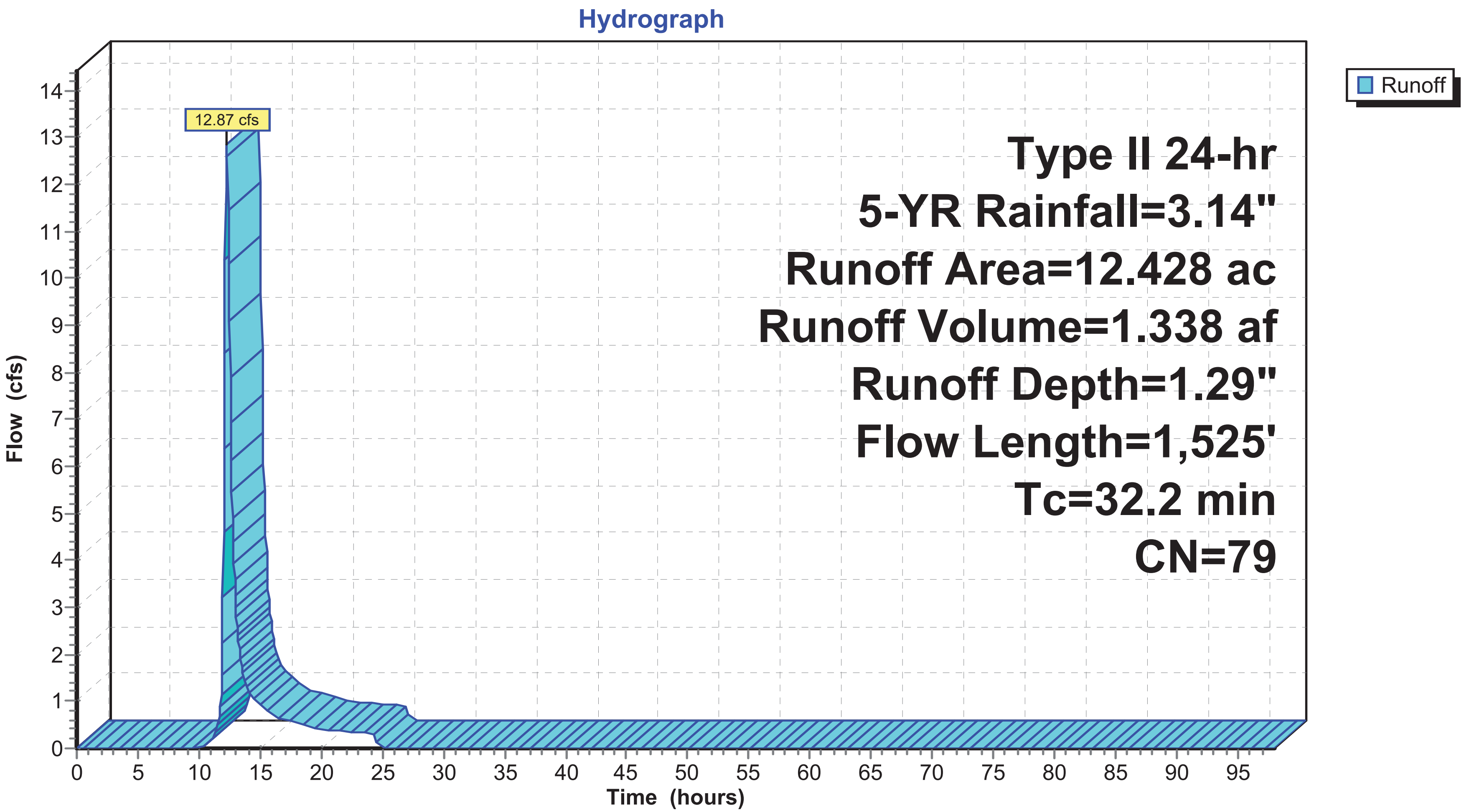
Runoff = 12.87 cfs @ 12.28 hrs, Volume= 1.338 af, Depth= 1.29"
Routed to Link 2 : POINT OF STUDY 2

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 5-YR Rainfall=3.14"

Area (ac)	CN	Description
1.938	74	>75% Grass cover, Good, HSG C
0.410	98	Paved parking, HSG C
4.550	80	1/2 acre lots, 25% imp, HSG C
0.240	98	Roofs, HSG C
2.110	89	Pasture/grassland/range, Poor, HSG D
3.180	70	Brush, Fair, HSG C
12.428	79	Weighted Average
10.640		85.62% Pervious Area
1.787		14.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0	100	0.0080	0.07		**Sheet Flow, 100' Lawn sheet flow at 0.8%** Grass: Dense n= 0.240 P2= 2.57"
2.8	475	0.0300	2.79		**Shallow Concentrated Flow, 430' Unpaved Shallow concentrated flow at 3%** Unpaved Kv= 16.1 fps
1.0	157	0.0240	2.49		**Shallow Concentrated Flow, 157' Unpaved Shallow concentrated flow at 2.4%** Unpaved Kv= 16.1 fps
0.2	30	0.0240	2.32		**Shallow Concentrated Flow, 30' Grassed Waterway Shallow concentrated flow at 2.4%** Grassed Waterway Kv= 15.0 fps
0.1	30	0.0200	6.95	5.46	**Pipe Channel, 30' Pipe Flow at 2%** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
0.2	30	0.0240	2.32		**Shallow Concentrated Flow, 30' Grassed Waterway Shallow concentrated flow at 2.4%** Grassed Waterway Kv= 15.0 fps
0.6	88	0.0240	2.49		**Shallow Concentrated Flow, 68' Unpaved Shallow concentrated flow at 2.4%** Unpaved Kv= 16.1 fps
4.3	615	0.0114	2.41	28.92	**Trap/Vee/Rect Channel Flow, 615' Earth, dense weeds channel flow at 1.14%** Bot.W=2.00' D=2.00' Z= 2.0 '/' Top.W=10.00' n= 0.070
32.2	1,525	Total			

Subcatchment F: POST-F DA



Summary for Pond SS1: EX- A1 CHAMBERS

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).

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[92] Warning: Device #5 is above defined storage

Inflow Area = 2.310 ac, 58.01% Impervious, Inflow Depth = 1.94" for 5-YR event
Inflow = 5.14 cfs @ 12.11 hrs, Volume= 0.374 af
Outflow = 0.87 cfs @ 12.63 hrs, Volume= 0.341 af, Atten= 83%, Lag= 31.1 min
Primary = 0.87 cfs @ 12.63 hrs, Volume= 0.341 af
Routed to Link 1 : POINT OF STUDY 1

Routing by Stor-Ind method, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Peak Elev= 299.85' @ 12.63 hrs Storage= 8,002 cf

Plug-Flow detention time= 191.1 min calculated for 0.341 af (91% of inflow)
Center-of-Mass det. time= 146.5 min (971.1 - 824.5)

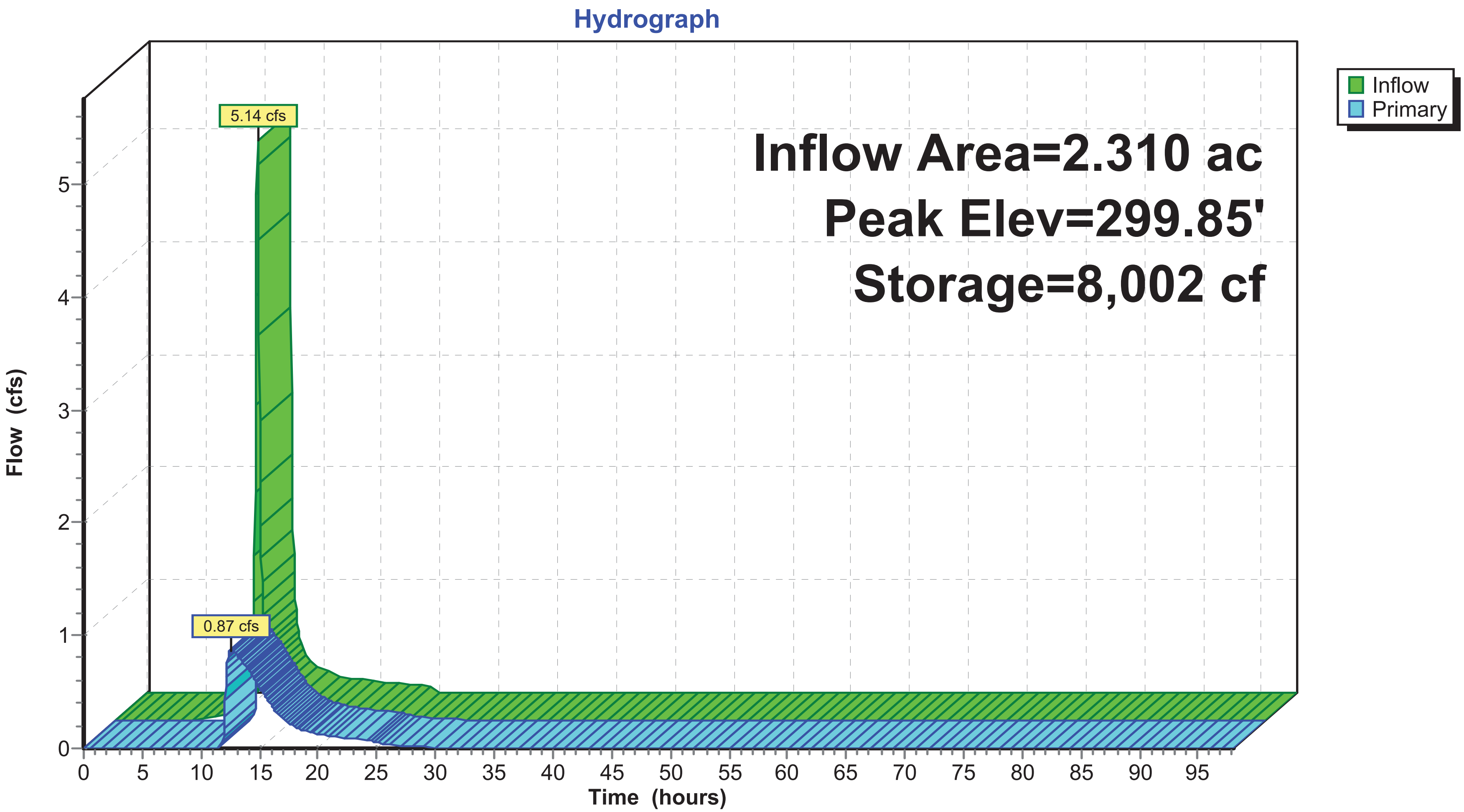
Volume	Invert	Avail.Storage	Storage Description
#1	298.25'	15,953 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
298.25	0	0
298.60	735	735
298.95	1,610	2,345
299.30	2,250	4,595
299.65	2,201	6,796
300.00	2,118	8,914
300.35	1,993	10,907
300.70	1,811	12,718
301.05	1,534	14,252
301.40	966	15,218
301.75	735	15,953

Device	Routing	Invert	Outlet Devices
#1	Primary	298.25'	**12.0" Round Culvert** L= 296.0' Ke= 0.600 Inlet / Outlet Invert= 298.25' / 296.50' S= 0.0059 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	298.75'	**6.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	300.92'	**2.5' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	301.16'	**2.2' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#5	Device 1	303.25'	**18.8' long x 0.7' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 Coef. (English) 2.76 2.82 2.93 3.09 3.18 3.22 3.27 3.30 3.32 3.31 3.32

Primary OutFlow Max=0.87 cfs @ 12.63 hrs HW=299.85' (Free Discharge)
└─**1=Culvert** (Passes 0.87 cfs of 3.13 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.87 cfs @ 4.44 fps)
  ├─**3=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)
  ├─**4=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)
  └─**5=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Pond SS1: EX- A1 CHAMBERS



Summary for Pond SS2: EX-A2 CHAMBERS

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).

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[92] Warning: Device #4 is above defined storage

Inflow Area = 3.150 ac, 74.29% Impervious, Inflow Depth = 2.29" for 5-YR event
Inflow = 9.24 cfs @ 12.06 hrs, Volume= 0.602 af
Outflow = 0.46 cfs @ 13.63 hrs, Volume= 0.602 af, Atten= 95%, Lag= 94.1 min
Primary = 0.46 cfs @ 13.63 hrs, Volume= 0.602 af
Routed to Link 1 : POINT OF STUDY 1

Routing by Stor-Ind method, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs
Peak Elev= 299.94' @ 13.63 hrs Storage= 15,242 cf

Plug-Flow detention time= 407.8 min calculated for 0.602 af (100% of inflow)
Center-of-Mass det. time= 409.2 min (1,212.2 - 803.0)

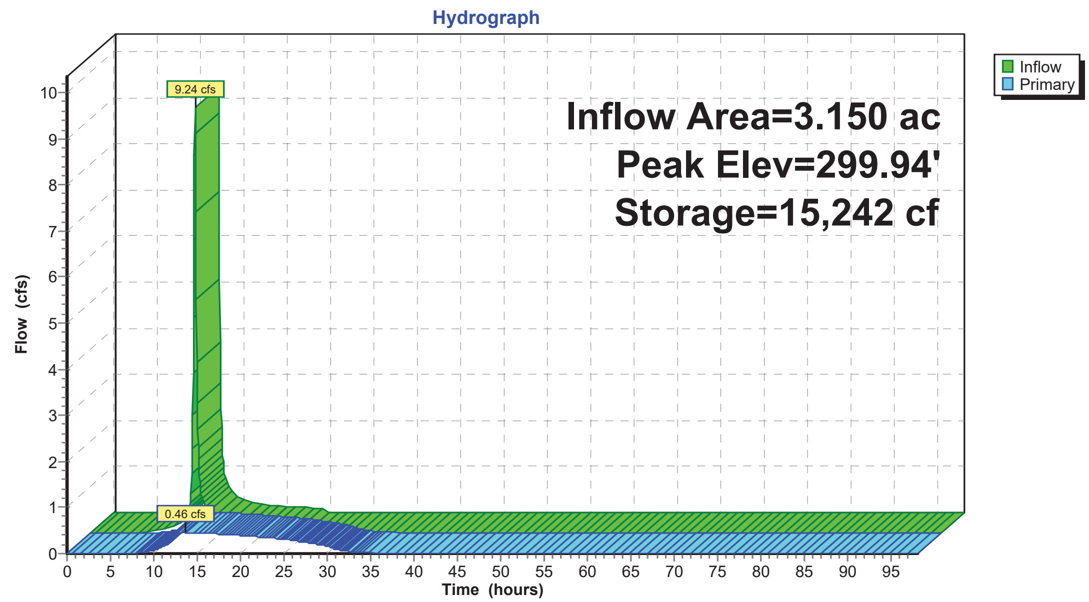
Volume	Invert	Avail.Storage	Storage Description
#1	298.58'	37,155 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
298.58	0	0
298.93	1,711	1,711
299.28	3,751	5,462
299.63	5,240	10,702
299.98	5,127	15,829
300.33	4,933	20,762
300.68	4,642	25,404
301.03	4,219	29,623
301.38	3,572	33,195
301.73	2,249	35,444
302.08	1,711	37,155

Device	Routing	Invert	Outlet Devices
#1	Primary	298.00'	**12.0" Round Culvert** L= 215.0' Ke= 0.600 Inlet / Outlet Invert= 298.00' / 296.50' S= 0.0070 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	298.58'	**4.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	301.33'	**4.7' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	303.58'	**18.8' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.46 cfs @ 13.63 hrs HW=299.94' (Free Discharge)
└─**1=Culvert** (Passes 0.46 cfs of 3.63 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.46 cfs @ 5.26 fps)
  ├─**3=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)
  └─**4=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

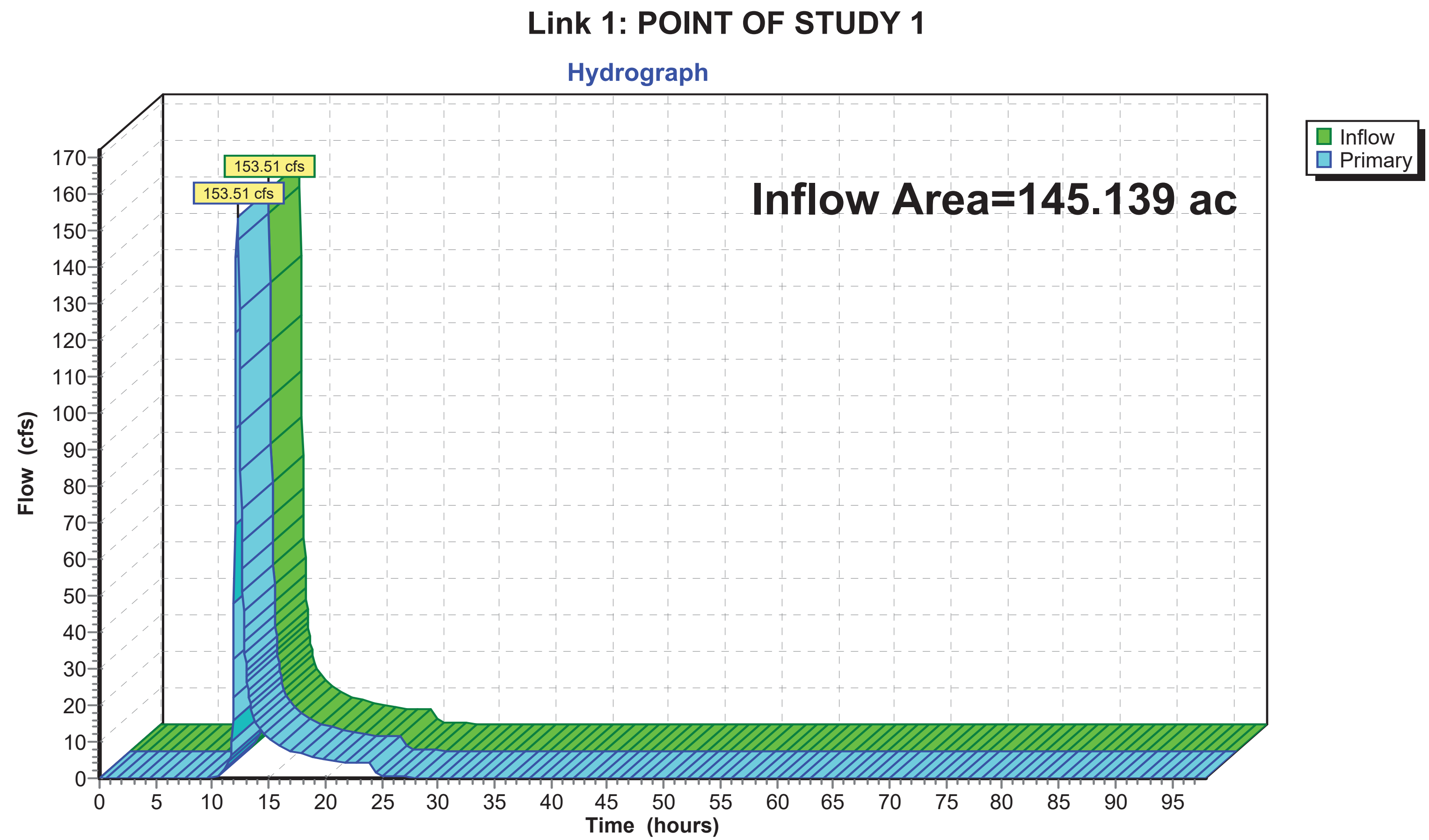
Pond SS2: EX-A2 CHAMBERS



Summary for Link 1: POINT OF STUDY 1

Inflow Area = 145.139 ac, 22.47% Impervious, Inflow Depth = 1.28" for 5-YR event
Inflow = 153.51 cfs @ 12.22 hrs, Volume= 15.479 af
Primary = 153.51 cfs @ 12.22 hrs, Volume= 15.479 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2 : POINT OF STUDY 2

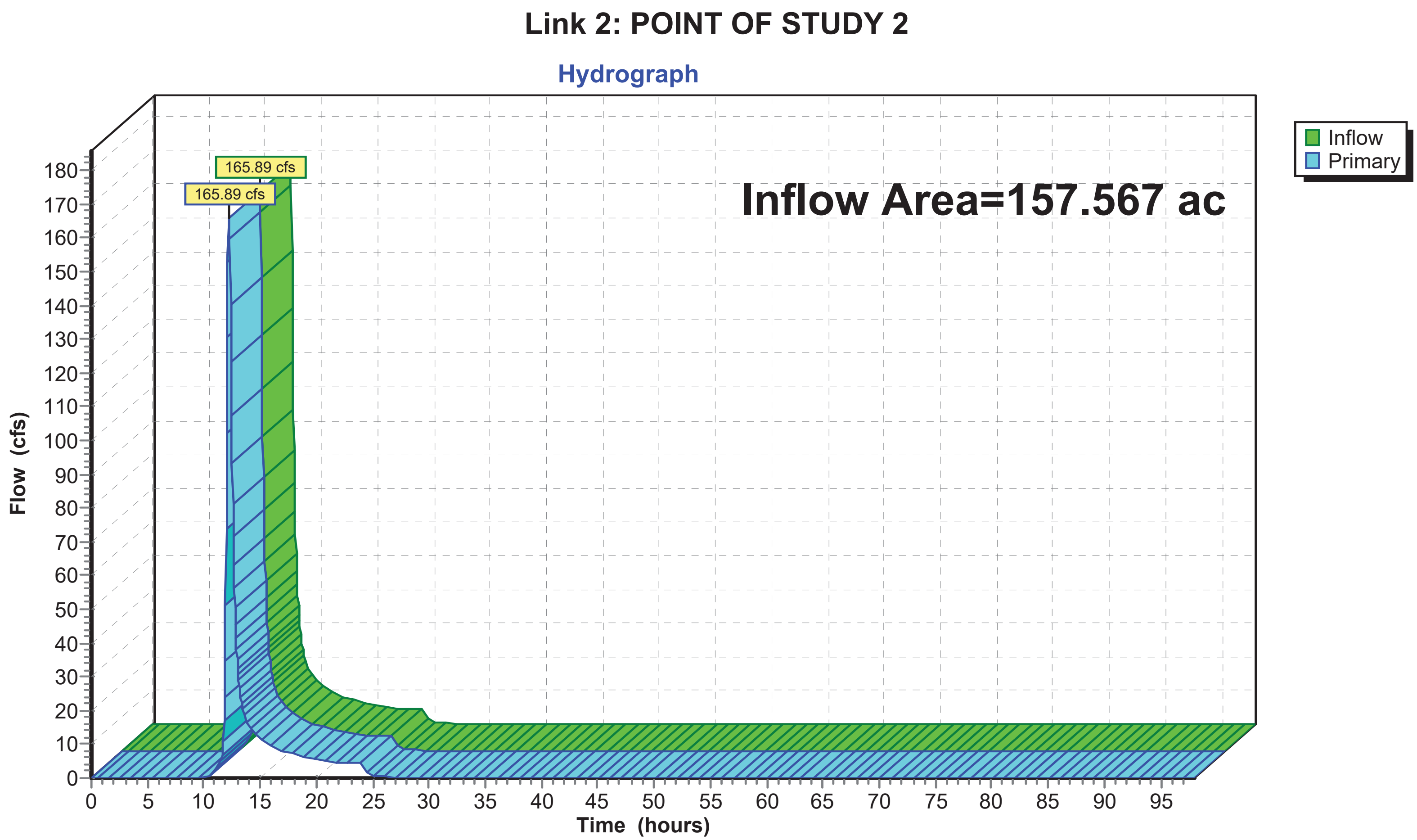
Primary outflow = Inflow, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs



Summary for Link 2: POINT OF STUDY 2

Inflow Area = 157.567 ac, 21.84% Impervious, Inflow Depth = 1.28" for 5-YR event
Inflow = 165.89 cfs @ 12.22 hrs, Volume= 16.817 af
Primary = 165.89 cfs @ 12.22 hrs, Volume= 16.817 af, Atten= 0%, Lag= 0.0 min

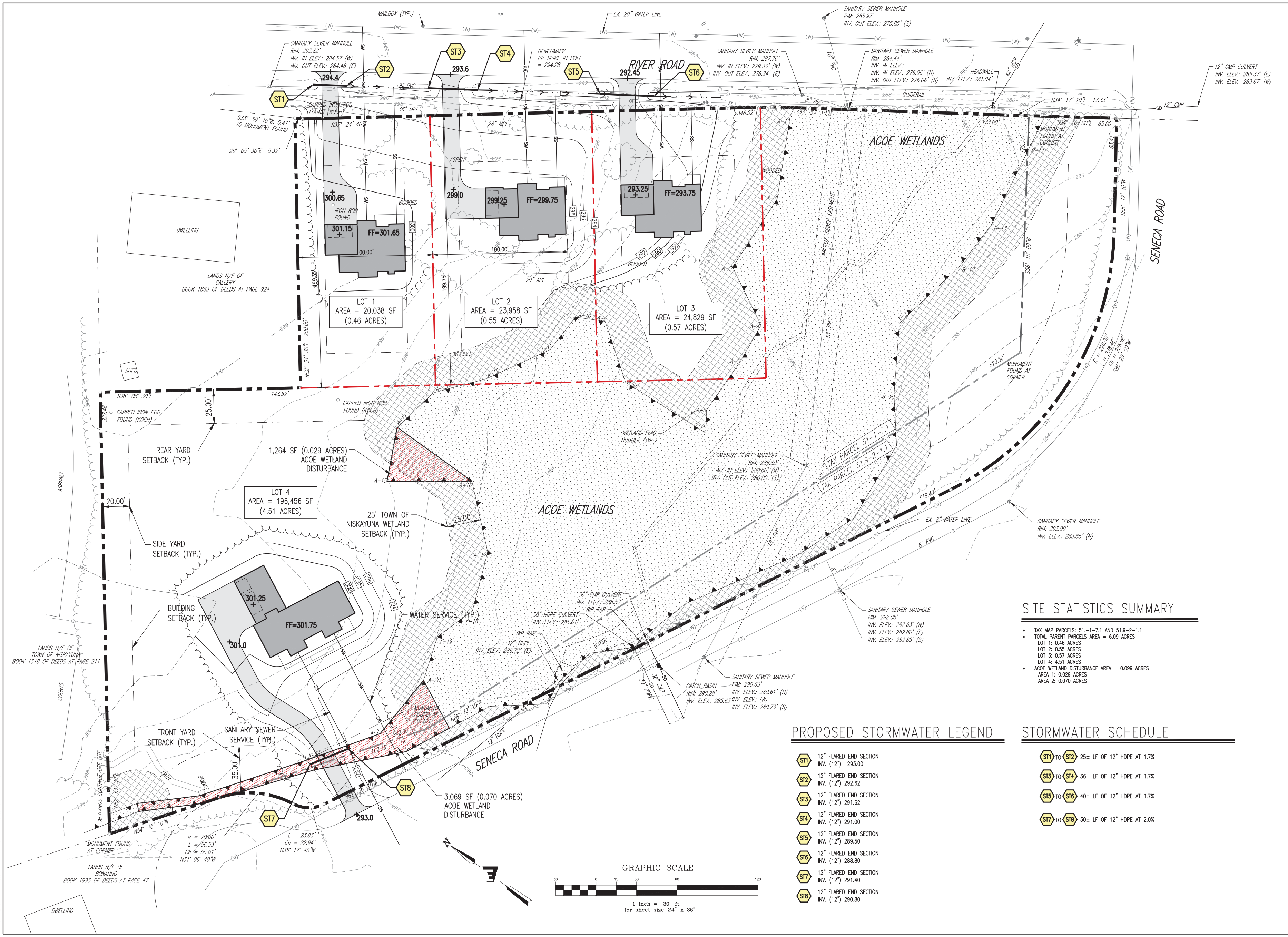
Primary outflow = Inflow, Time Span= 0.00-98.00 hrs, dt= 0.05 hrs



Attachment 7

Site Plan

Drawing 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: 0.46 ACRES
  - LOT 2: 0.55 ACRES
  - LOT 3: 0.57 ACRES
  - LOT 4: 4.51 ACRES
- ACOE WETLAND DISTURBANCE AREA = 0.099 ACRES
  - AREA 1: 0.029 ACRES
  - AREA 2: 0.070 ACRES

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") 289.50
ST6	12" FLARED END SECTION INV. (12") 288.80
ST7	12" FLARED END SECTION INV. (12") 291.40
ST8	12" FLARED END SECTION INV. (12") 290.80

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 40± LF OF 12" HDPE AT 1.7%
- ST7 TO ST8 30± LF OF 12" HDPE AT 2.0%

No.	Description	Date

Stamp

ENGINEERING VENTURES PC
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414 Union Street, Schenectady, NY 12305 • 518-205-9141
www.engineeringventures.com

RPL Family Trust
2505 Whamer Lane
Niskayuna, NY 12309

Sheet Title: SUBDIVISION PLAN PROPOSED 4-LOT

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

EV Project #	22352
Drawn By:	HMB
Checked By:	MHD
Scale:	AS NOTED
Date:	8/23/2023

C101

TOWN OF NISKAYUNA
PLANNING BOARD AND ZONING COMMISSION

AGENDA STATEMENT

AGENDA ITEM NO. VIII. 2 MEETING DATE: 11/13/2023

ITEM TITLE: DISCUSSION: 2141 Eastern Parkway – A site plan application for a tenant change to Brianna Ryan Dance ME LLC Dance Studio.

PROJECT LEAD: TBD

APPLICANT: Brianna Ryan

SUBMITTED BY: Brianna Ryan

REVIEWED BY:
☐ Conservation Advisory Council (CAC) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
☐ OTHER:

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

SUMMARY STATEMENT:

Ms. Ryan submitted an application for a tenant change to operate a dance studio at this address. The building was most recently used as a medical office building.

In her application Ms. Ryan states that she will be purchasing the building and that there will be no change to the exterior of the building.

This is the first appearance of this project before the Planning Board.

COMPREHENSIVE PLAN

The proposed application complies with the Economic Development section, beginning on page 73, of the 2013 Niskayuna Comprehensive Plan.

BACKGROUND INFORMATION

The property is located in the C-N Neighborhood Commercial zoning district. The Planning Office and Planning Board have classified Tae-kwon-do studios and other dance studios (Pure Barre and Dance Fire) as retail service uses which are permitted principal uses in the district. The zoning code parking space requirements for medical office uses and retail sales and service uses are the same with 1 parking space being required for every 225 square feet of gross floor area.

The hours of operation of the proposed studio are:

- Monday – Thursday: 4 PM to 9 PM
- Saturday: 9 AM – 12 PM

- Friday & Sunday: Closed

The maximum number of staff and patrons in the building at one time is estimated to be 70 people.

The Town of Niskayuna conferred with the City of Schenectady concerning the project, as a portion of the parking is within the City of Schenectady, and they deferred review to the Town of Niskayuna with no objections. The parking complies with code.

The Planning Board should review the project with Ms. Ryan and discuss the proposed interior layout of the building.

TOWN OF NISKAYUNA

One Niskayuna Circle
Niskayuna, New York 12309-4381

Phone: (518) 386-4530

Application for Site Plan Review

Applicant (Owner or Agent):

Name Brianna Ryan Dance Me LLC
Bartlett Pontiff Stewart & Rhodes, Agent

Address 1 Washington Street
Glens Falls, NY
12801

Location:

Number & Street 2141 Eastern Parkway, Schenectady, NY 12309

Section-Block-Lot 50.10 - 3 - 33

Email sdb@bpsrlaw.com

Telephone 518-832-6419 Fax ____

Zoning District CN 220-10

Proposal Description:

Tenant Change- Brianna Ryan Dance ME LLC will be purchasing the property to open it as a dance studio. There is no change to the exterior of existing building

Signature of applicant: ____ Date: 10/2/23

Signature of owner (if different from applicant): ____
Tammy T Russo

Date: 10/16/2023

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 Brianna Ryan/ Dance ME LLC		
Name of Action or Project: Dance ME LLC		
Project Location (describe, and attach a location map): 2141 Eastern Parkway		
Brief Description of Proposed Action: Change of tenancy for property into a dance studio		
Name of Applicant or Sponsor: Brianna Ryan Dance ME LLC	Telephone: 518-832-6419 E-Mail:	
Address: 1619 Union St		
City/PO: Schenectady	State: NY	Zip Code: 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:	☑	☐

3. a. Total acreage of the site of the proposed action? 0.44 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 00.44 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?	☐	☑
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: ______________________________	☑	☐
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?	☐	☑
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: ______________________________ ______________________________	☐	☑
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: ______________________________ ______________________________	☐	☑
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: ______________________________ ______________________________	☐	☑
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?	☐	☑
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: ______________________________ ______________________________ ______________________________		

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: ____________________	☑	☐
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

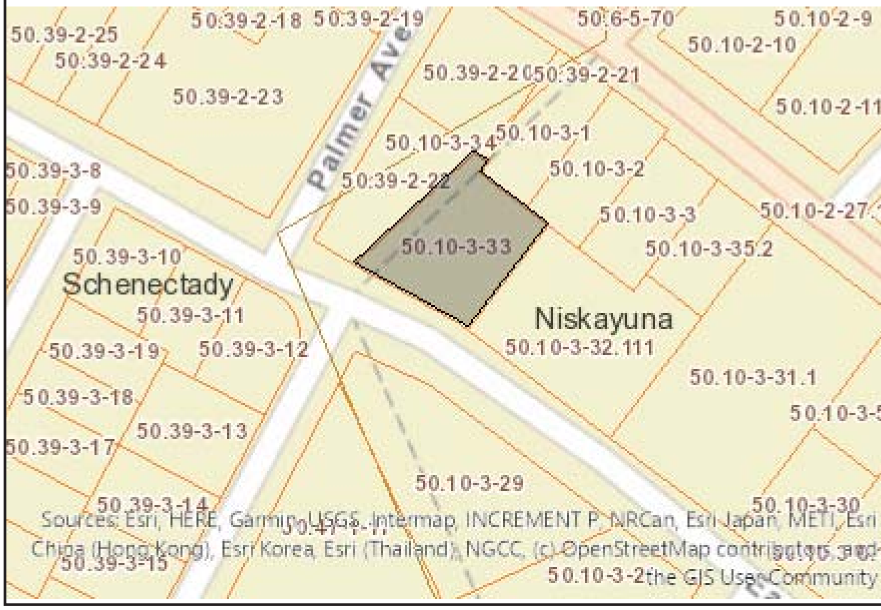
Applicant/sponsor/name: ____________________ Date: ____________

Signature: ____________________ Title: ____________________

PRINT FORM

EAF Mapper Summary Report

Thursday, October 12, 2023 4:24 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]	No
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

2141 Eastern Parkway
Zoning: C-N Neighborhood Commercial

TOWN OF NISKAYUNA

PLANNING BOARD AND ZONING COMMISSION

AGENDA STATEMENT

AGENDA ITEM NO. VIII. 3 MEETING DATE: 11/13/2023

ITEM TITLE: DISCUSSION: 1430 Balltown Rd. – A site plan application for an addition to the existing building and expansion of the parking lot.

PROJECT LEAD: TBD

APPLICANT: John Roth, Highbridge Development

SUBMITTED BY: John Roth

REVIEWED BY:
☐ Conservation Advisory Council (CAC) ☐ Zoning Board of Appeals (ZBA) ☐ Town Board
☐ OTHER:

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

SUMMARY STATEMENT:

Mr. Roth submitted an application for an addition to expand the existing 9,980 sq. ft. building by 2,700 sq. ft. (27%) and expand the parking lot area from approximately 39 to 61 parking spaces (64%). The building was most recently used as a law office building.

This is the first appearance of this project before the Planning Board.

COMPREHENSIVE PLAN

The 2013 Comprehensive Plan includes several references to the area encompassing 1430 Balltown Rd.

- Page 21 – The "Transportation" portion of the Comprehensive Plan states the importance of an efficient, safe and flexible system.
  - Page 22 states "The Balltown corridor continues to be an area of concern that affects the entire Town because it is the primary north south arterial. This is ranked as the highest priority for this section and encompasses the most complex set of problems."
- Page 94 – Subarea Recommendations includes the following recommendation for subarea B5 (which includes the Town Center Overlay District (TCOD) and 1430 Balltown Rd.)
  - "Subarea B5: The Town Center is located in this subarea. The Town has adopted the Town Center Overlay District (TCOD) which includes design standards for any type of construction or renovation for any building located in the TCOD. The Town should continue to uphold the existing zoning standards and encourage pedestrian friendly development."

BACKGROUND INFORMATION

The property is located in the C-N Neighborhood Commercial zoning district and Town Center Overlay District. Professional offices, non-medical, are permitted principal uses in the C-N district.

The following drawings and documents were provided with the application.

1. A 2-page drawing set entitled "Preliminary Site Plan Layout Building Addition 1430 Balltown Rd." by ABD Engineers and Surveyors dated 11/3/23 with no subsequent revisions.
2. A Short Form Environmental Assessment Form (EAF) signed by Luigi A. Palleschi P.E. dated 11/2/23 with no subsequent revisions.
3. A Stormwater Management Report entitled "2,700 sq. ft. Building Addition & Parking Lot Expansion 1430 Balltown Rd., Town of Niskayuna, Schenectady County, NY" by Luigi A. Palleschi, P.E. ABD Engineers & Surveyors, LLP dated 11/3/23 with no subsequent revisions.
4. A Stormwater Pollution Prevention Plan entitled "Basic Stormwater Pollution Prevention Plan Erosion & Sediment Controls Only for 2,700 sq. ft. Building Addition & Parking Lot Expansion 1430 Balltown Rd. Town of Niskayuna Schenectady County, New York" by Luigi A. Palleschi, P.E. ABD Engineers & Surveyors, LLP dated 11/3/23 with no subsequent revisions.
5. Two (2) colored elevation renderings showing the building with the proposed addition

The site plan drawing includes the following zoning code and pre and post development lot details.

ZONING:	C–N (NEIGHBORHOOD COMMERCIAL)		
	REQUIRED	EXISTING	PROPOSED
LOT SIZE:	15,000 SF MIN.	86,179± SF (1.98± AC)	
LOT WIDTH:	100' MIN.	435.01'	
BLDG. HEIGHT:	100' MAX.	XX'	XX'
BLDG. COVERAGE:	20% MAX	9,980± SF (11.6%)	12,680± SF (14.7%)
SETBACKS:			
FRONT:	15'	115.1'	109.5'
SIDE:	10' (20' BOTH)	44.8', 63.2'	44.8', 24.5'
REAR:	20' MIN.	154.4'	154.4'

Parking

Building Area (SF)	Actual Parking Spaces	Required Parking Spaces (1/225 SF)	Surplus / Deficit
9,980	39	45	-6
12,680	61	57	+4

Niskayuna Zoning Code Schedule I-D C-N District Column 8 item 8 reads as follows: "There shall be a minimum 25% of the total land area of the site reserved as landscaped open space. At the discretion of the Planning Board, a portion of this open space shall be used to provide landscaping internal to required off-street parking areas." The proposed site plan should be reviewed relative to this requirement.

Article VIIIA Town Center Overlay District, Neighborhood Commercial and Highway Commercial Standards provides standards to “identify an identifiable center of the Town of Niskayuna”, “define a sense of community”, “promote a traditional architectural and visual environment” and “promote revitalization, not change it into a better place”. The proposed building addition and parking lot expansion should be reviewed relative to the sections of the zoning code within Article VIIIA, including but not limited to the following.

Section 220-48.5 Pedestrian and streetscape amenities

- C (1) Sidewalks
- C (3) lighting
- C (4) Amenities: benches, bike racks, trash receptacles.
- C (5) Parking: screening shall be applied in the parking lot design along parcel boundaries in order to maintain an aesthetic quality
- C (6) Landscaping

11/8/2023 Conservation Advisory Council – The CAC looked at this project preliminarily and had the following initial comments:

1. Requested a map showing tree removal and tree planting – native species should be used
2. Recommend pesticide free practices for the property
3. Recommend installation of EV Charging stations at the parking lot
4. Requested whether new lighting will be added – should be dark skies friendly
5. Requested whether or not solar panels can be added to the new roof addition
6. Requested knowing what type of office use was proposed – wanted to know if it would increase the intensity of use of the building
7. Recommended more plantings and landscaping in front of the building to reduce the large lawn (lawns are high maintenance and poor habitat)

The applicant is before the Board this evening to present the proposed project and answer questions that may arise.

TOWN OF NISKAYUNA

One Niskayuna Circle
Niskayuna, New York 12309-4381

Phone: (518) 386-4530
Fax: (518) 386-4592

Application for Site Plan Review

Applicant (Owner or Agent):

Name Highbridge Development HRS, LLC

Address 2165 Technology Drive
Schenectady, NY 12308

Email jroth@plankllc.com

Telephone 518-344-5400 Fax N/A

Location:

Number & Street 1430 Balltown Road

Section-Block-Lot 40 - 1 - 20.11

Zoning District C-N (Neighborhood Commercial)

Proposal Description:

Proposing an addition to an existing building and expanding the parking lot.

Signature of applicant: [signature] Date: 11/2/2023

Signature of owner (if different from applicant): ____________

Date: ____________

Each site plan application shall be accompanied by:

1. Three (3) full size copies and twelve (12) 11x 17 copies of any large scale plans or maps prepared by a licensed engineer, architect or surveyor.

   a. The site plan shall include the following: the title of the drawing, including the name(s), address(es), phone and fax numbers of the applicant and the name address, phone and fax number of the person, firm or organization preparing the map.
   b. The North point, date and scale.
   c. Boundaries of the property.
   d. Existing watercourses and direction of existing and proposed drainage flow.
   e. The location of all proposed site improvements; proposed water and utility facilities; a description of the method of sewage disposal and location of such facilities; the location of all proposed signs; and location of proposed areas of vegetation.

2. A lighting plan showing the lighting distribution of existing or proposed lights, specifications, photometric data, and catalog cuts of the proposed fixture(s) which meet the requirements of Article VIIIB of the Zoning Ordinance of the Town of Niskayuna entitled "Guidelines for Lighting of Outdoor Areas under Site Plan Review".

3. Six (6) copies of the short or long Environmental Assessment Form (EAF), as required by 6NYCRR Part 617, "State Environmental Quality Review", and Chapter 95, "Environmental Quality Review" of the Code of the Town of Niskayuna.

4. If the application is being made by someone other than the current property owner, the applicant or the agent for the applicant must provide proof that they are authorized to pursue this site plan approval. Such proof may be in the form of a contract for sale or letter by the current owner that the applicant/agent is authorized to proceed with this application.

5. Administration Fees: An application for site plan approval shall be submitted to the Planning Board at least ten (10) business days prior to a regular meeting of the Planning Board. Each petition shall be accompanied by a minimum fee of **$200.00** plus an additional fee based on the square footage of new building construction. Fees are payable to the Town of Niskayuna.

6. Consulting Fees: The cost incurred by the Town for the review of an application by the Town Engineer, consulting engineering firm or other consulting fees, in connection with a Board's review of a proposed application shall be charged to the applicant. The Board to whom the application is made shall obtain an estimate from any designated consultant of the amount sufficient to defray the cost of such services and shall collect from the applicant the estimated charges. Any portion of the estimated charges so collected, which are not expended by the Town, shall be returned to the applicant. Any such costs incurred by the Town beyond the estimated charges initially collected from the applicant, shall be collected from the applicant prior to final action upon the application.

PARTNERS
LUIGI A. PALLESCHI, P.E.
JOSEPH J. BIANCHINE, P.E.
ROBERT D. DAVIS, JR., P.L.S.

ABD ENGINEERS SURVEYORS
411 Union Street Schenectady, N.Y. 12305
518-377-0315 Fax 518-377-0379
www.abdeng.com

DEDICATED
RESPONSIVE
PROFESSIONAL

November 3, 2023

Re:

1430 Balltown Road
Town of Niskayuna
Project #5618A

Ms. Laura Robertson, Town Planner
Town of Niskayuna
One Niskayuna Circle
Niskayuna, NY 12309-4381

Dear Laura:

The Applicant, Highbridge Development HRS, LLC is proposing an addition to the existing building located at 1430 Balltown Road. The existing parking lot is to be expanded as well.

Enclosed for review of this site plan are the following materials:

1. Application for Site Plan Review
2. Three (3) full size copies of the Site Plan
3. Twelve (12) 11"x17" copies of the Site Plan
4. Twelve (12) copies of building elevations
5. Six (6) copies of the Short EAF
6. Two (2) copies of the Basic SWPPP
7. Two (2) copies of the Stormwater Management Report
8. Check in the amount of $200.00 for the application fee

We would greatly appreciate being placed on the November 13th Planning Board agenda to present this project. Should you have any questions or need anything further, please do not hesitate to contact me.

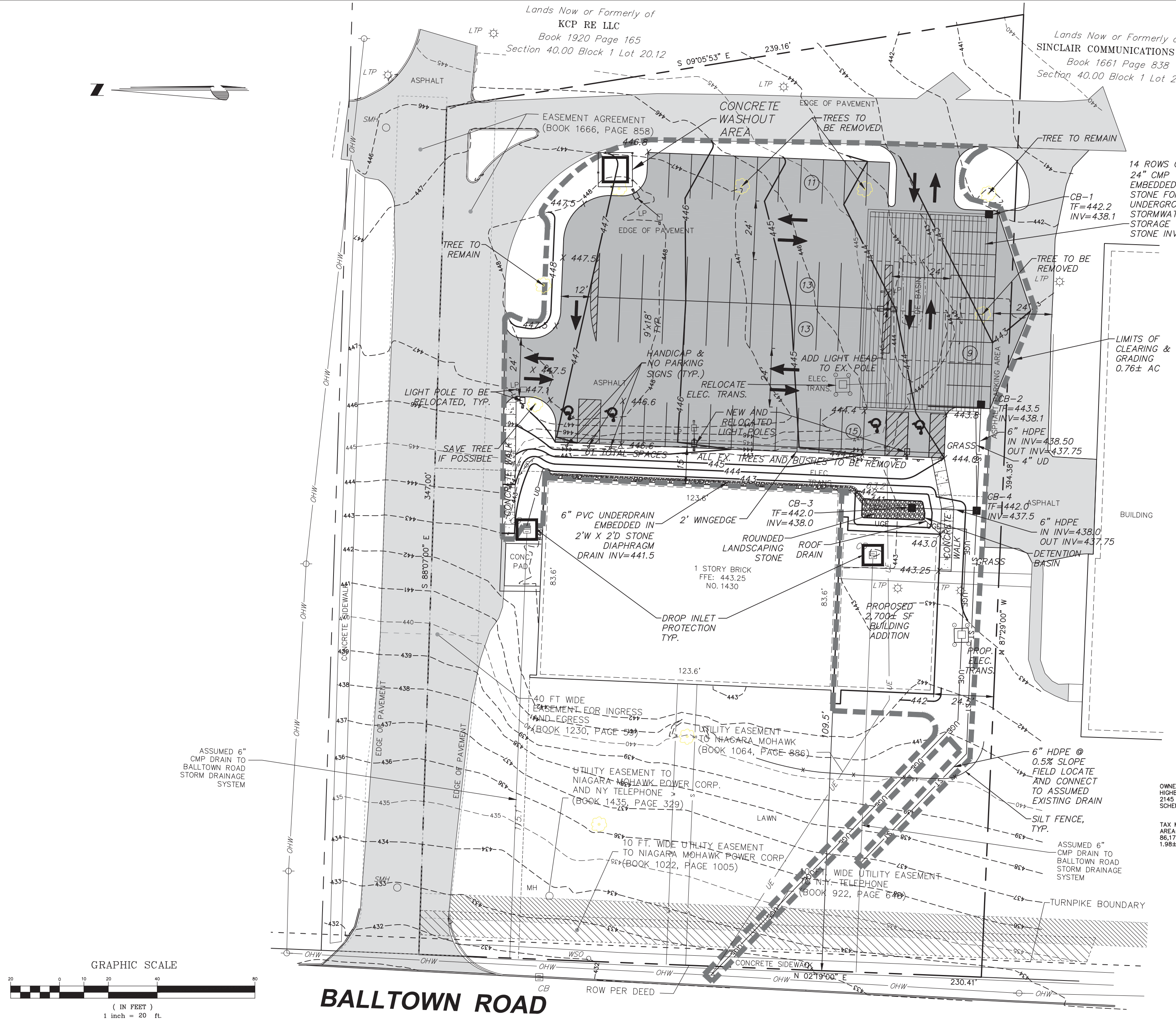
Very truly yours,
ABD ENGINEERS & SURVEYORS, LLP

Luigi A. Palleschi, P.E.
Partner

LAP:dmk
encl.
cc: John Roth w/encl. (via email)
5618A-2023-1103


1430


1430



SITE LOCATION MAP

GENERAL NOTES:

1. BASE MAPPING PREPARED BY ABD ENGINEERS, LLP FROM MAP REFERENCE AND ALBANY COUNTY GIS DATA.

2. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVEGROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST WITHIN THE WORKING AREA. EXACT LOCATION OF WHICH MAY VARY FROM THE LOCATIONS INDICATED. IN PARTICULAR, THE CONTRACTOR IS WARNED THAT THE EXACT OR EVEN APPROXIMATE LOCATION OF SUCH PIPE LINES, SUBSURFACE STRUCTURES AND/OR UTILITIES IN THE ARE MAY BE DIFFERENT FROM THAT SHOWN OR MAY NOT BE SHOWN AND IT SHALL BE HIS OR HER RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK. PROVIDE (48) HOURS BEFORE YOU DIG, DRILL OR BLAST, CALL U.F.P.O. (1-800-962-7962).

Dig Safely New York Call 811 before you dig

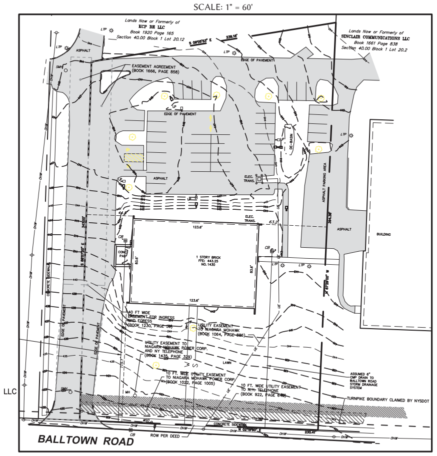
MAP REFERENCES:

1. "SURVEY MAPS OF LANDS OF HIGHBRIDGE DEVELOPMENT HRS, LLC." PREPARED BY AUSFELD & WALDRUFF LAND SURVEYORS LLP, AND DATED DECEMBER 29, 2021.

ZONING:	C-N (NEIGHBORHOOD COMMERCIAL)		
	REQUIRED	EXISTING	PROPOSED
LOT SIZE:	15,000 SF MIN.	86,179± SF (1.98± AC)	
LOT WIDTH:	100' MIN.	435.01'	
BLDG. HEIGHT:	100' MAX.	XX'	XX'
BLDG. COVERAGE:	20% MAX	9,980± SF (11.6%)	12,680± SF (14.7%)
SETBACKS:			
FRONT:	15'	115.1'	109.5'
SIDE:	10' (20' BOTH)	44.8', 63.2'	44.8', 24.5'
REAR:	20' MIN.	154.4'	154.4'

EXISTING PARKING LAYOUT

SCALE: 1" = 60'



OWNER/APPLICANT:
HIGHBRIDGE DEVELOPMENT HRS, LLC
2145 TECHNOLOGY PARK
SCHENECTADY, NY 12305

TAX MAP #: 40.00-1-20.11
AREA=
86,179± SQ. FT.
1.98± ACRES

NO.	REVISION	BY	DATE

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS ILLEGAL

STATE OF NEW YORK · LUIGI A. PALLESCHI · 94676 · LICENSED PROFESSIONAL ENGINEER

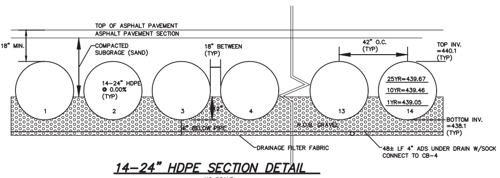
LUIGI A. PALLESCHI, P.E.
N.Y.S. LICENSE NO. 94676

PRELIMINARY SITE PLAN LAYOUT
BUILDING ADDITION
1430 BALLTOWN ROAD

TOWN OF NISKAYUNA	COUNTY OF SCHENECTADY
STATE OF NEW YORK	

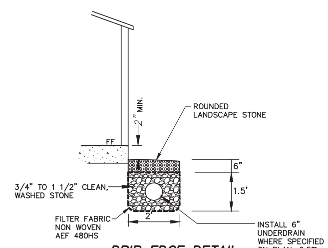
ABD ENGINEERS SURVEYORS
411 Union Street Schenectady, N.Y. 12305
518-377-0315 Fax.518-377-0379
www.abdeng.com

DATE:	SCALE:	DWG.	SHEET OF
NOVEMBER 3, 2023	1" = 20'	5618A-S3	1 2



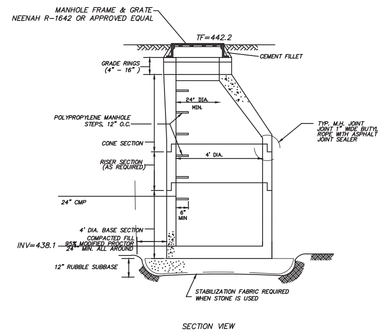
14–24" HDPE SECTION DETAIL

NO SCALE



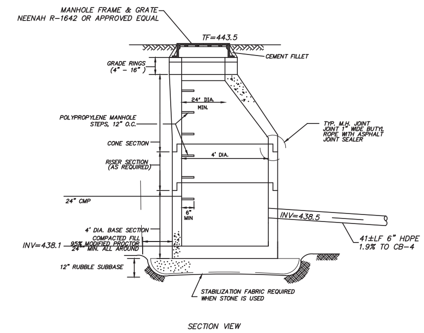
DRIP EDGE DETAIL

NO SCALE



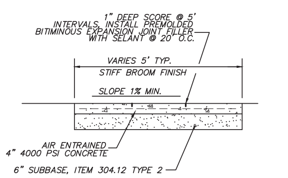
CB–1 STORM MANHOLE DETAIL

NO SCALE



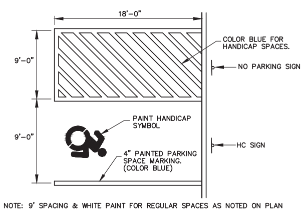
CB–2 STORM MANHOLE DETAIL

NO SCALE



SIDEWALK DETAIL

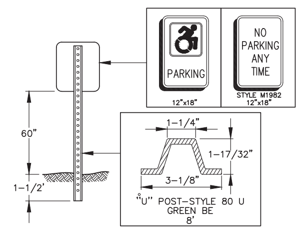
NO SCALE



NOTE: 9' SPACING & WHITE PAINT FOR REGULAR SPACES AS NOTED ON PLAN

PAINT STRIPING DETAIL & HANDICAP MARKING

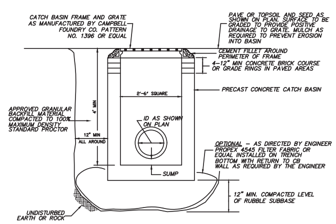
NO SCALE



NOTE:
PROVIDE "NO PARKING" SIGN IN FRONT OF HC ACCESS AISLE

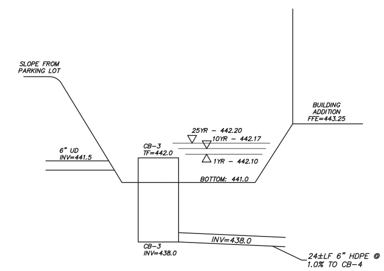
SETON POST & HANDICAP SIGN DETAIL

NO SCALE



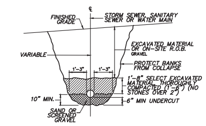
2'–6" SQUARE PRECAST REINFORCED CONCRETE CATCH BASIN

NO SCALE



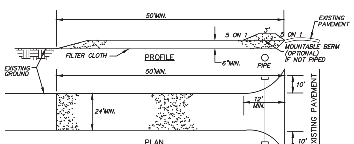
STORMWATER DETENTION BASIN CROSS–SECTION

NO SCALE



TYPICAL TRENCH SECTION FOR STORM SEWER

NO SCALE

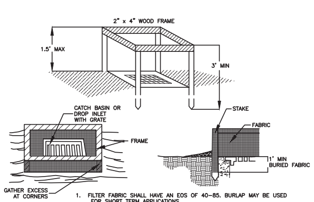


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE– USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET
3. THICKNESS – NOT LESS THAN SIX (6) INCHES.
4. WIDTH – NOT LESS THAN THE FULL DRIVEWAY WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' MINIMUM IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. 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, AND REPAIR AND/OR CLEAN–ING OF ANY MEASURES USED TO TRAP SEDIMENT.
8. WASHING – WHEELS SHALL BE CLEANED WHEN NECESSARY TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

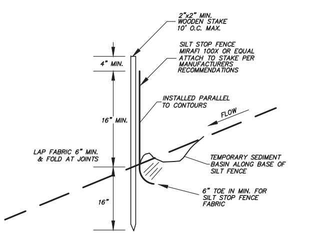
NO SCALE



1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFIELD IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2"x4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

FILTER FABRIC DROP INLET PROTECTION DETAIL

NO SCALE

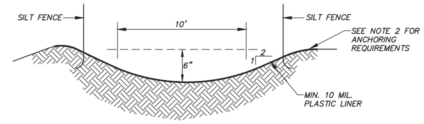


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE DETAIL

NO SCALE



CONCRETE WASHOUT AREA DETAIL

NOT TO SCALE

CONCRETE WASHOUT NOTES

1. SIGNS SHALL BE PLACED TO DIRECT DRIVERS TO THE FACILITY AFTER THEIR LOAD IS DISCHARGED.

2. PLASTIC LINER SHALL BE HAVE A MINIMUM THICKNESS OF 10 MIL. WITH NO HOLES OR TEARS, AND ANCHORED BEYOND THE TOP OF THE PIT WITH AN EARTHEN BERM, SAND BAGS, STONE, OR OTHER STRUCTURAL APPURTENANCE EXCEPT AT ACCESS POINT.

CONCRETE WASHOUT MAINTENANCE NOTES

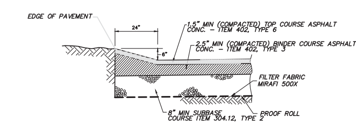
1. ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDEN CONCRETE SHOULD BE PUMPED TO A STABILIZED AREA SUCH AS A GRASS FILTER STRIP.

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 HARDENED MATERIAL OFF–SITE IN A CONSTRUCTION/DEMOLITION LANDFILL. ON–SITE DISPOSAL MAY BE ALLOWED IF THIS HAS BEEN APPROVED AND ACCEPTED AS PART OF THE PROJECT SWPPP. IN THAT CASE, THE MATERIAL SHOULD 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.



WINGEDGE AND PAVEMENT SECTION DETAIL

NO SCALE

NO.	REVISION	BY	DATE

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS ILLEGAL

LUIGI A. PALLESCHI, P.E.
N.Y.S. LICENSE NO. 94676

PRELIMINARY SITE PLAN DETAILS
BUILDING ADDITION
1430 BALLTOWN ROAD

TOWN OF NISKAYUNA	COUNTY OF SCHENECTADY
STATE OF NEW YORK	

ABD ENGINEERS SURVEYORS
411 Union Street Schenectady, N.Y. 12305
518-377-0315 Fax.518-377-0379
www.abdeng.com

DATE:	SCALE:	DWG.	SHEET OF
NOVEMBER 3, 2023	AS SHOWN	5618A-S3	2 2

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: Building addition and parking lot expansion				
Project Location (describe, and attach a location map): 1430 Balltown Road				
Brief Description of Proposed Action: The Applicant is proposing an addition to the existing building. The parking lot is to be expanded as well.				
Name of Applicant or Sponsor: Highbridge Development HRS, LLC	Telephone: 518-344-5400 E-Mail: jroth@plankllc.com			
Address: 2165 Technology Drive				
City/PO: Schenectady	State: NY	Zip Code: 12308		
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.			NO ☑	YES ☐
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: Niskayuna Planning Board, Niskayuna Building Department			NO ☐	YES ☑
3. a. Total acreage of the site of the proposed action? 1.98± acres b. Total acreage to be physically disturbed? 0.76± acres c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 1.98± 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?	☐	☑	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: ______	☑	☐	
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?	☐	☑	
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: Per NYS Building Codes	☐	☑	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: ______	☐	☑	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: ______	☐	☑	
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?	☐	☑	
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: ______			

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		
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?	NO ☑	YES ☐
16. Is the project site located in the 100-year flood plan?	NO ☑	YES ☐
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO ☐	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: Underground Stormwater system	☐	☑
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:	NO ☑	YES ☐
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:	NO ☑	YES ☐
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: 447054	NO ☐	YES ☑

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

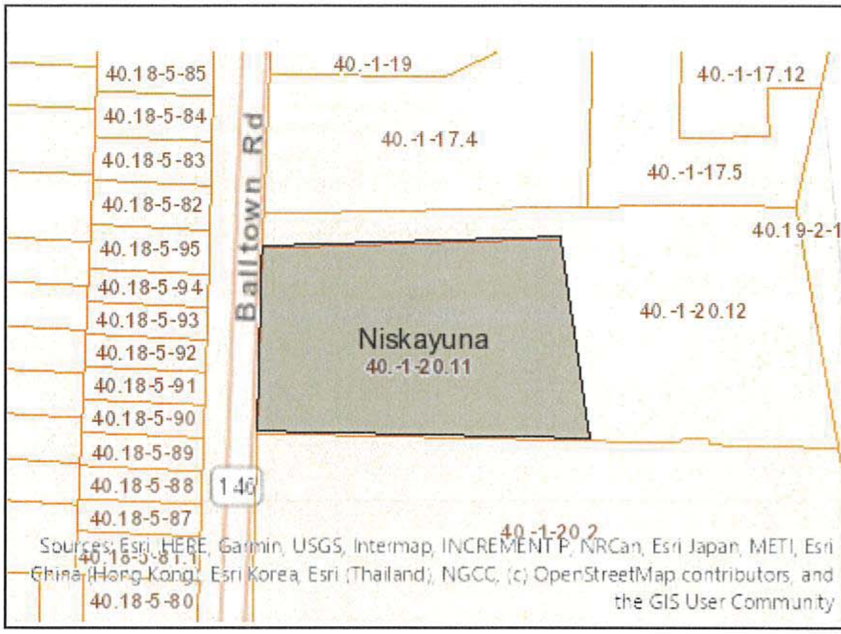
Applicant/sponsor/name: Luigi A. Palleschi, P.E., ABD Engineers & Surveyors, LLP Date: November 2, 2023

Signature: [signature] Title: Professional Engineer

PRINT FORM

EAF Mapper Summary Report

Wednesday, November 1, 2023 10:54 AM



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.

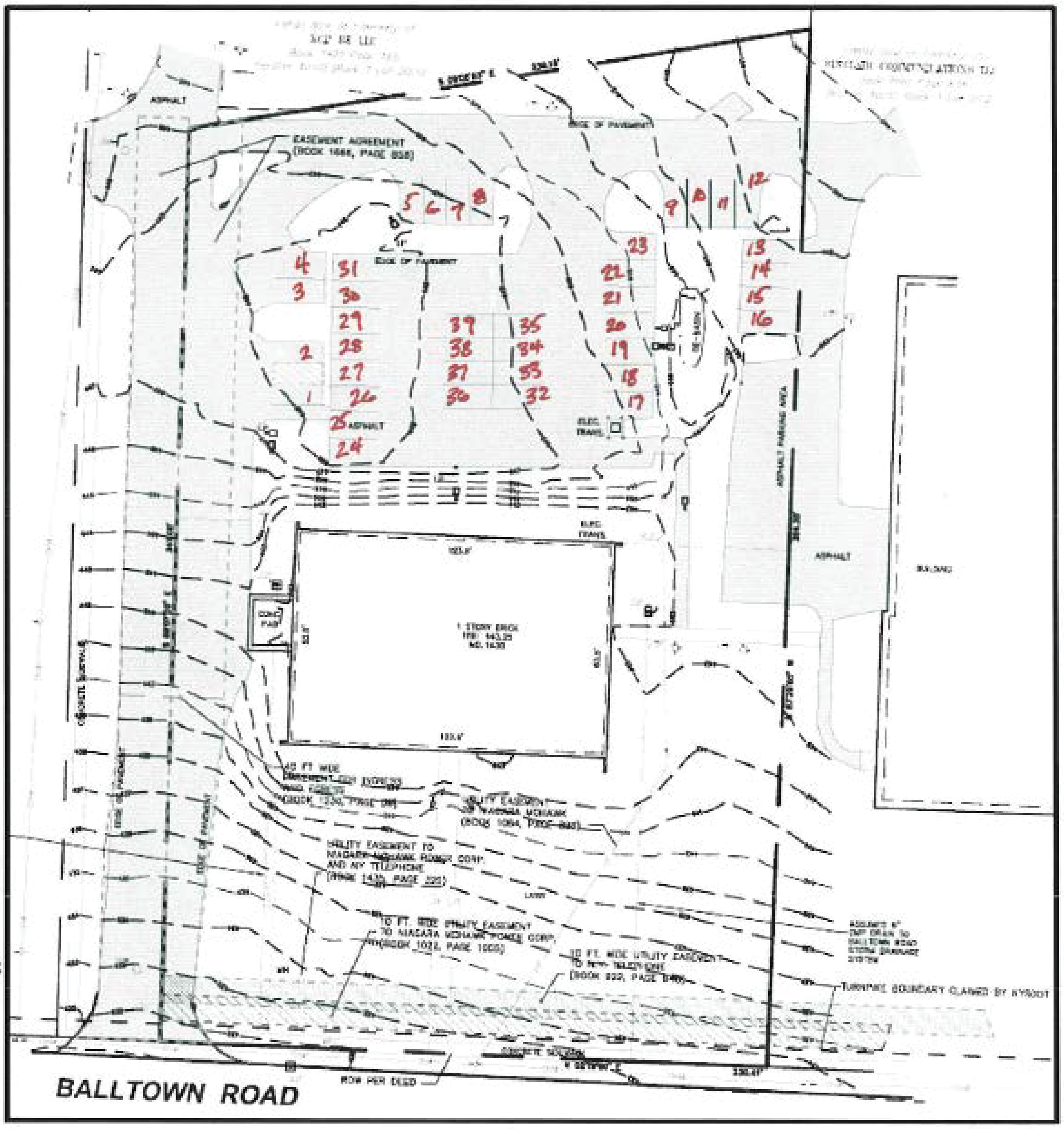
Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	Yes
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	No
Part 1 / Question 15 [Threatened or Endangered Animal]	No
Part 1 / Question 16 [100 Year Flood Plain]	No
Part 1 / Question 20 [Remediation Site]	Yes

1430 Balltown Rd.

39 Parking Spaces

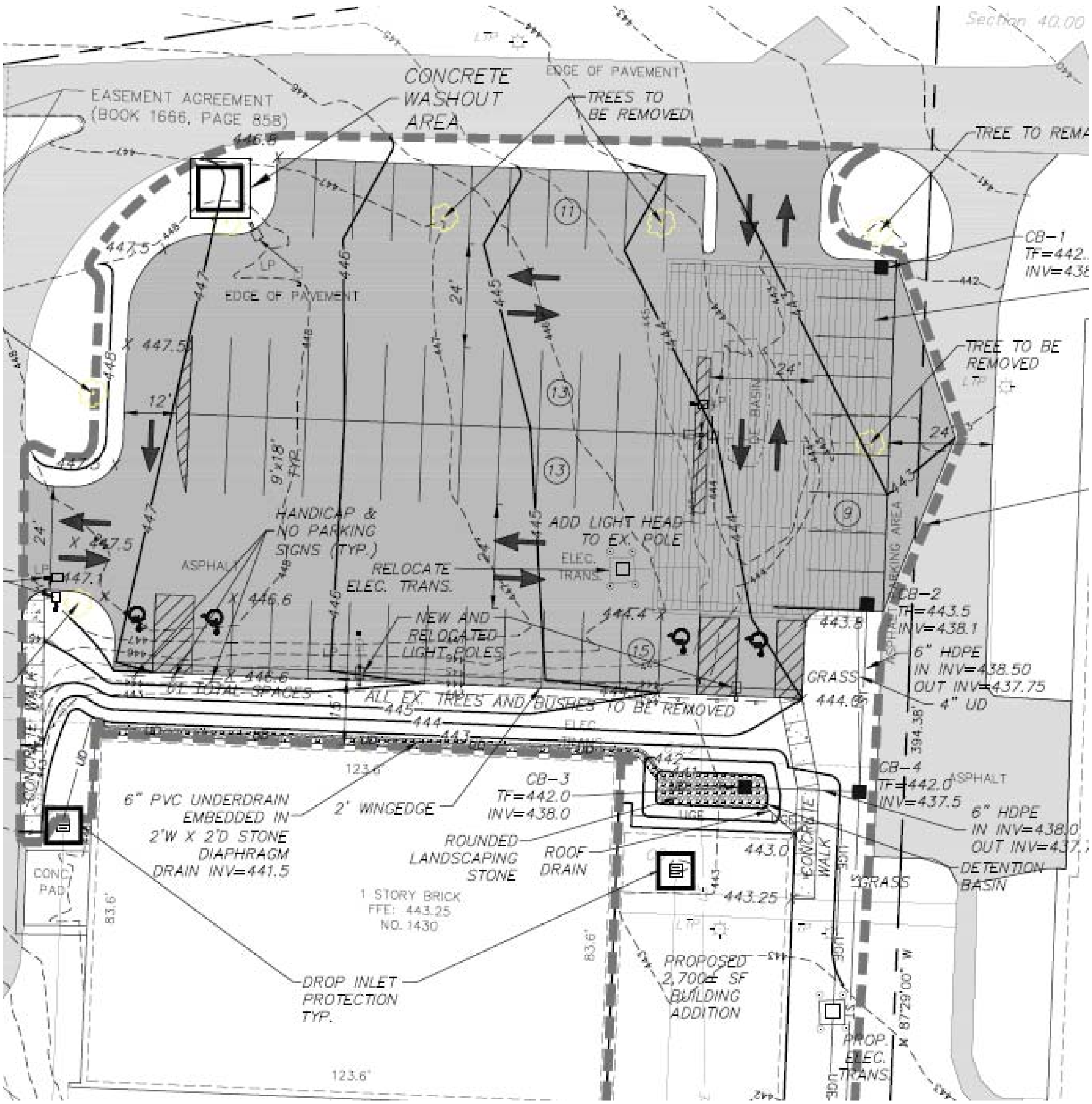
1430 Balltown Rd.

EXISTING PARKING LAYOUT
SCALE: 1" = 60'



Proposed parking

61 parking spaces
(9+15+13+13+11=61)



STORMWATER MANAGEMENT REPORT

FOR

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

Prepared For:

Highbridge Development HRS, LLC
2145 Technology Park
Schenectady, NY 12305

November 3, 2023

Project No. 5618A

Prepared By:

Luigi A. Palleschi, P.E.
ABD Engineers & Surveyors, LLP
411 Union Street
Schenectady, NY 12305
(518) 377-0315

STORMWATER MANAGEMENT REPORT

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

TABLE OF CONTENTS

STORMWATER MANAGEMENT REPORT

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

PROJECT LOCATION

The proposed facility is located on Balltown Road in the Town of Niskayuna, Schenectady County, New York (see Exhibit 1). The site is bordered on the north by Hatchet Hardware of Niskayuna, on the east by Niskayuna KinderCare, on the south by WRGB CBS 6, and on the west by Balltown Road.

GENERAL SITE DEVELOPMENT

The Owner/Applicant, Highbridge Development HRS, LLC is proposing to further develop the 1.98± acre parcel in order to construct a 2,700± SF addition to the existing office building, and to expand the existing parking lot from 39 spaces to 61 spaces, along with associated pavement, utilities, and stormwater management areas. Access to the site will continue to be provided off Balltown Road and through parking lot connections with neighboring properties.

SOIL TYPES, GROUNDWATER & TOPOGRAPHY

According to the Schenectady County NRCS, the primary hydrologic soil group is Type-C/D, channery silt loam. The site drains offsite to the Balltown Road stormwater drainage system.

STORMWATER MANAGEMENT PLAN

The stormwater management plan for the proposed project will utilize surface sheet flow across pavement, rooftop, and grass to the stormwater detention areas as shown on the site plans.

Total site disturbance is less than 1 acre, therefore NYSDEC Stormwater Regulations do not apply. However, the Town of Niskayuna requires that the site stormwater management system be designed to control peak discharge rates for the 1, 10, and 25-year storm events to less than or equal to those of the pre-development condition. Post-development discharge within the drainage area is controlled to less than the pre-development condition with the retention and release of stormwater runoff up to and including the 25-year event.

ANALYSIS

The pre-development and post-development drainage maps are located in Exhibit 2 and 3. HydroCAD TR-20 method is utilized for the stormwater analysis. Stormwater calculations for the pre and post-development conditions are presented in Appendix A. The entire site ultimately drains offsite to the Balltown Road stormwater drainage system and may be considered a single drainage area. However, the site was split into multiple drainage areas and each was modelled individually to accurately determine runoff and off-site discharge due to the existing stormwater management system and the wide variation in potential flow paths to the Balltown Road drainage system.

Pre-Development

In the **pre-development condition,** there are 3 drainage areas, with Pre Area 1 and Pre Area 2 each split into two subcatchments (refer to Exhibit 2).

Pre Area 1A is 0.28± acres and consists of rooftop, grass, and sidewalk. An area weighted CN value of 87 is used for the calculation. Stormwater runoff drains into the two existing catch basins at the north and south sides of the building to be conveyed off-site via culvert pipe to the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.44± cfs, 1.01± cfs, and 1.28± cfs respectively with a time of concentration of 10 minutes.

Pre Area 1B is 0.97± acres and consists of grass, asphalt pavement, rooftop, and sidewalk. An area weighted CN value of 82 is used for the calculation. Stormwater runoff is conveyed off-site via sheet flow directly into the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.94± cfs, 2.51± cfs, and 3.30± cfs respectively with a time of concentration of 15 minutes.

Pre Area 2A is 0.27± acres and consists of asphalt pavement, grass, and sidewalk. An area weighted CN value of 94 is used for the calculation. Stormwater runoff is conveyed via sheet flow to the existing on-site detention pond. Overflow is provided for the pond by an emergency spillway which outlets off-site onto the adjacent property to the south, ultimately entering the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.73± cfs, 1.38± cfs, and 1.68± cfs respectively with a time of concentration of 6 minutes. The detention pond controls peak discharge rates for the 1, 10, and 25-year storm events to 0.72± cfs, 1.37± cfs, and 1.67± cfs respectively.

Pre Area 2B is 0.42± acres and consists of asphalt pavement and grass. An area weighted CN value of 91 is used for the calculation. Stormwater runoff is conveyed off-site via sheet flow onto the adjacent property to the south, ultimately entering the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.97± cfs, 1.97± cfs, and 2.44± cfs respectively with a time of concentration of 6 minutes.

Pre Area 3 is 0.04± acres and consists of asphalt pavement and grass. An area weighted CN value of 94 is used for the calculation. Stormwater runoff is conveyed via sheet flow off-site onto the adjacent property to the north, ultimately entering the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.11± cfs, 0.22± cfs, and 0.26± cfs respectively with a time of concentration of 6 minutes.

Post-Development

In the **post-development condition,** there are 3 drainage areas, with Post Area 1 split into two subcatchments, with one of the subcatchments further subdivided in two, and Post Area 2 split into two subcatchments (refer to Exhibit 2).

Post Area 1A-1 is 0.26± acres and consists of rooftop, grass, and sidewalk. An area weighted CN value of 88 is used for the calculation. Stormwater runoff drains into the stone diaphragm to be conveyed via underdrain into the existing catch basin at the north side of the building, or into the proposed detention basin at the south side of the building, both to be conveyed off-site via culvert pipe to the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.52± cfs, 1.14± cfs, and 1.43± cfs respectively with a minimum time of concentration of 6 minutes.

Post Area 1A-2 is 0.06± acres and consists of rooftop. An area weighted CN value of 98 is used for the calculation. Stormwater runoff drains via roof drain into the proposed detention basin at the south side of the building to be conveyed off-site via culvert pipe to the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 0.19± cfs, 0.33± cfs, and 0.40± cfs respectively with a minimum time of concentration of 6 minutes.

The detention basin controls the combined peak discharge rates for Post Area 1A for the 1, 10, and 25-year storm events to 0.70± cfs, 1.46± cfs, and 1.78± cfs respectively.

Post Area 1B is 0.85± acres and consists of grass, asphalt pavement, rooftop, and sidewalk. An area weighted CN value of 81 is used for the calculation. Stormwater runoff is conveyed off-site via sheet flow directly into the Balltown Road drainage system, as in the pre-development condition. The peak runoff rates for the 1, 10, and 25-year storm events are 0.96± cfs, 2.61± cfs, and 3.44± cfs respectively with a time of concentration of 9 minutes.

Post Area 2A is 0.48± acres and consists of asphalt pavement and grass. An area weighted CN value of 98 is used for the calculation. Stormwater runoff is conveyed via sheet flow into the proposed underground storage system, and is released at a controlled rate via culvert pipe to the Balltown Road drainage system. The peak runoff rates for the 1, 10, and 25-year storm events are 1.47± cfs, 2.58± cfs, and 3.09± cfs respectively with a time of concentration of 6 minutes. The underground storage controls the peak discharge rates for the 1, 10, and 25-year storm events to 0.52± cfs, 0.80± cfs, and 0.91± cfs respectively.

Post Area 2B is 0.28± acres and consists of grass and asphalt pavement. An area weighted CN value of 85 is used for the calculation. Stormwater runoff is conveyed off-site via sheet flow onto the adjacent property to the south, ultimately entering the Balltown Road drainage system, as in the pre-development condition. The peak runoff rates for the 1, 10, and 25-year storm events are 0.47± cfs, 1.11± cfs, and 1.42± cfs respectively with a time of concentration of 6 minutes.

Post Area 3 is 0.04± acres and consists of asphalt pavement and grass. An area weighted CN value of 94 is used for the calculation. Stormwater runoff is conveyed off-site via sheet flow onto the adjacent property to the north, ultimately entering the

Balltown Road drainage system, as in the pre-development condition. The peak runoff rates for the 1, 10, and 25-year storm events are 0.11± cfs, 0.21± cfs, and 0.25± cfs respectively with a time of concentration of 6 minutes.

<u>SUMMARY</u>

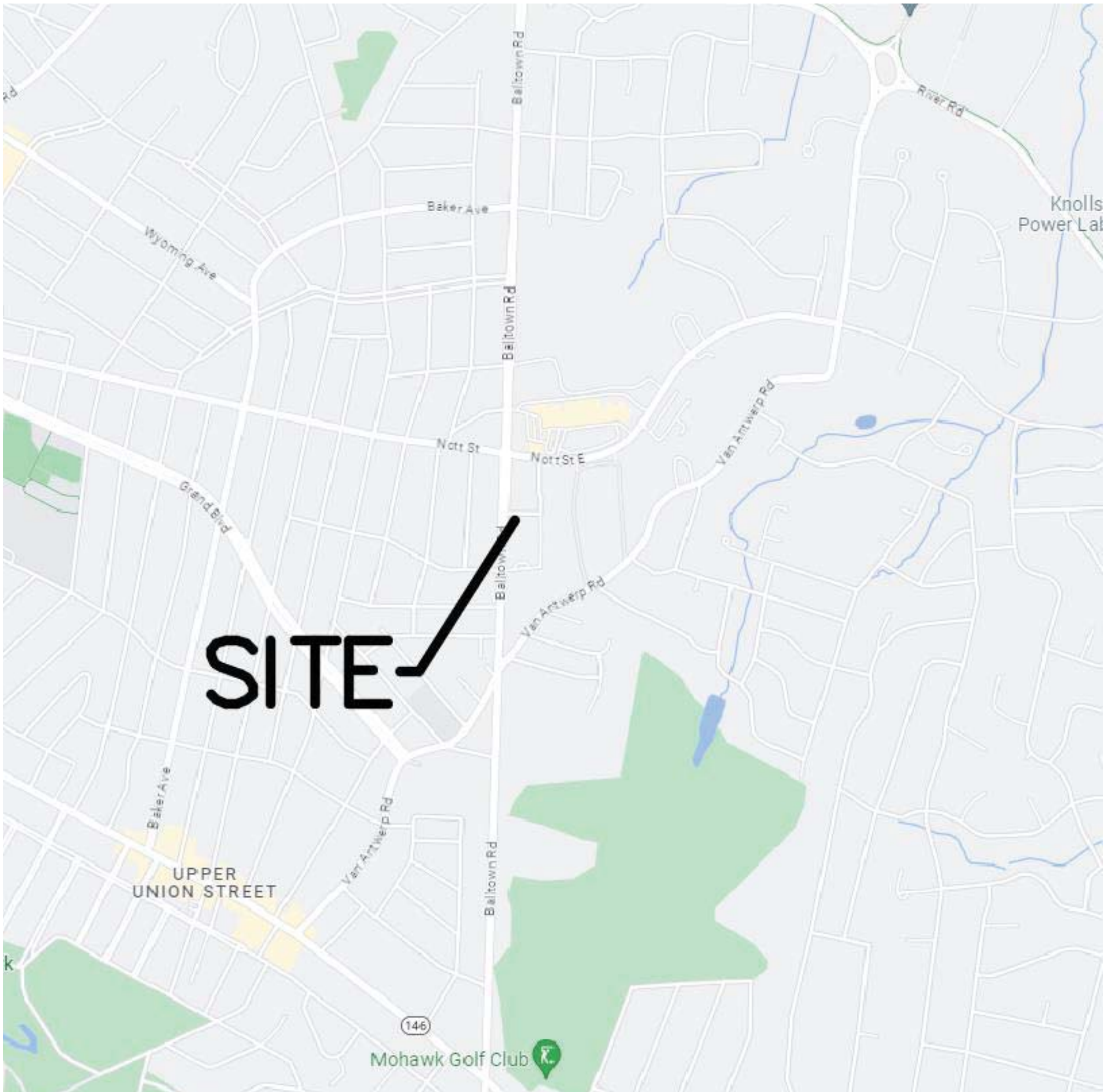
Drainage Area	Peak Runoff Generated (cfs)			Peak Discharge (cfs)		
	1-Year	10-Year	25-Year	1-Year	10-Year	25-Year
Pre 1A	0.44	1.01	1.28	0.44	1.01	1.28
Pre 1B	0.94	2.51	3.30	0.94	2.51	3.30
Pre 2A	0.73	1.38	1.68	0.72	1.37	1.67
Pre 2B	0.97	1.97	2.44	0.97	1.97	2.44
Pre 3	0.11	0.22	0.26	0.11	0.22	0.26
Total Pre	**3.19**	**7.09**	**8.96**	**3.18**	**7.08**	**8.95**
Post 1A-1	0.52	1.14	1.43	0.70	1.46	1.78
Post 1A-2	0.19	0.33	0.40			
Post 1B	0.96	2.61	3.44	0.96	2.61	3.44
Post 2A	1.47	2.58	3.09	0.52	0.80	0.91
Post 2B	0.47	1.11	1.42	0.47	1.11	1.42
Post 3	0.11	0.21	0.25	0.11	0.21	0.25
Total Post	**3.72**	**7.98**	**10.03**	**2.76**	**6.19**	**7.80**
Net Change	*0.53*	*0.89*	*1.07*	*-0.42*	*-0.89*	*-1.15*

The peak discharge rates for the post-development condition are less than the pre-development condition for all storm events up to and including the 25-year event. The stormwater management plan will meet the needs of the project and the Town of Niskayuna. The stormwater management plan will function adequately and will not adversely affect adjacent or downstream properties.

Luigi A. Palleschi, P.E.

EXHIBIT 1:

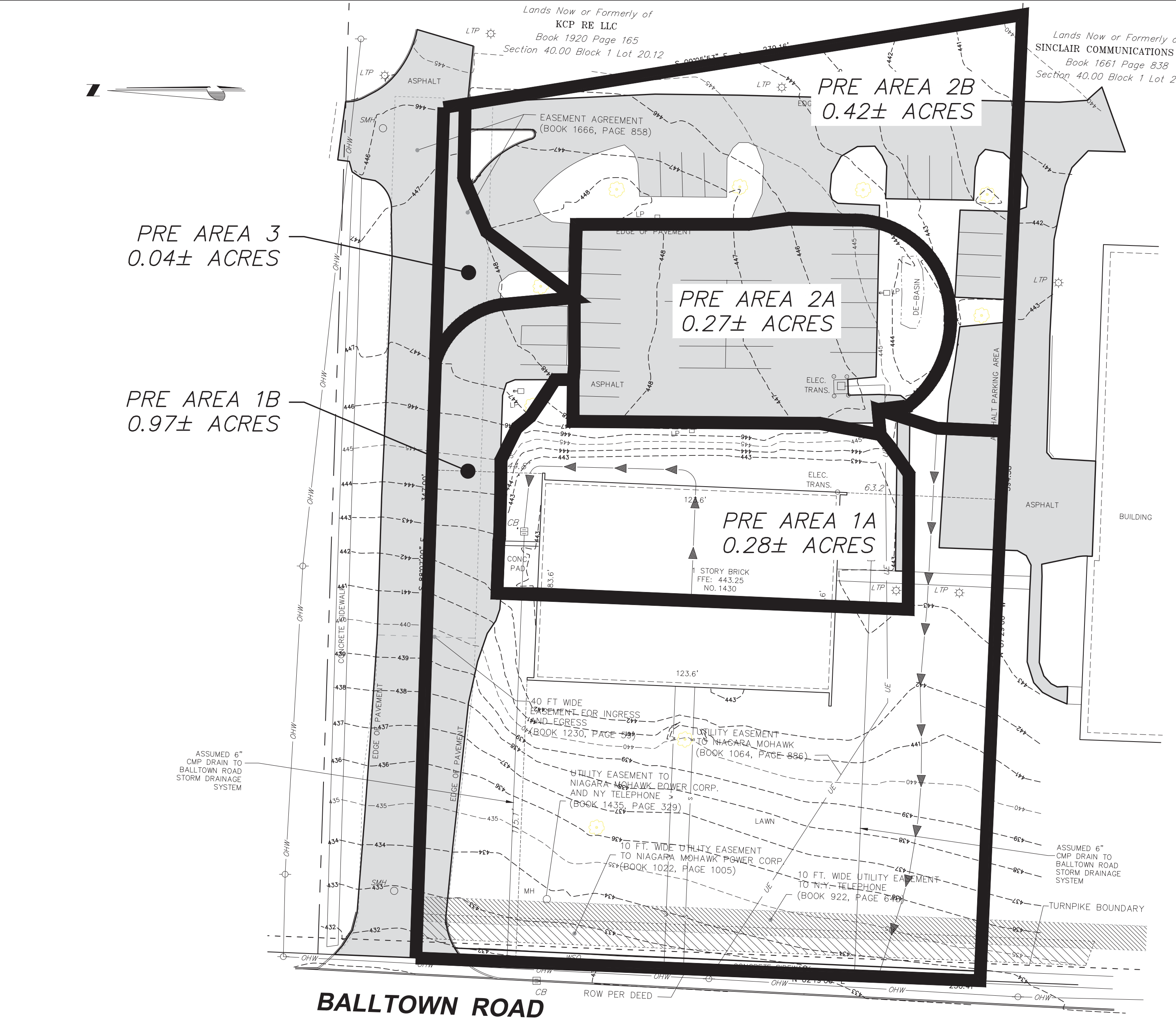
SITE LOCATION MAP



SITE
Balltown Rd
Baker Ave
Wyoming Ave
Nott St
Nott St E
Van Antwerp Rd
Grand Blvd
River Rd
Knolls Power Lab
UPPER UNION STREET
146
Mohawk Golf Club

EXHIBIT 2:

PRE-DEVELOPMENT DRAINAGE MAP



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N.Y.S. LICENSE NO. 94676

PRE-DEVELOPMENT DRAINAGE
BUILDING ADDITION
1430 BALLTOWN ROAD

TOWN OF NISKAYUNA	COUNTY OF SCHENECTADY
STATE OF NEW YORK	

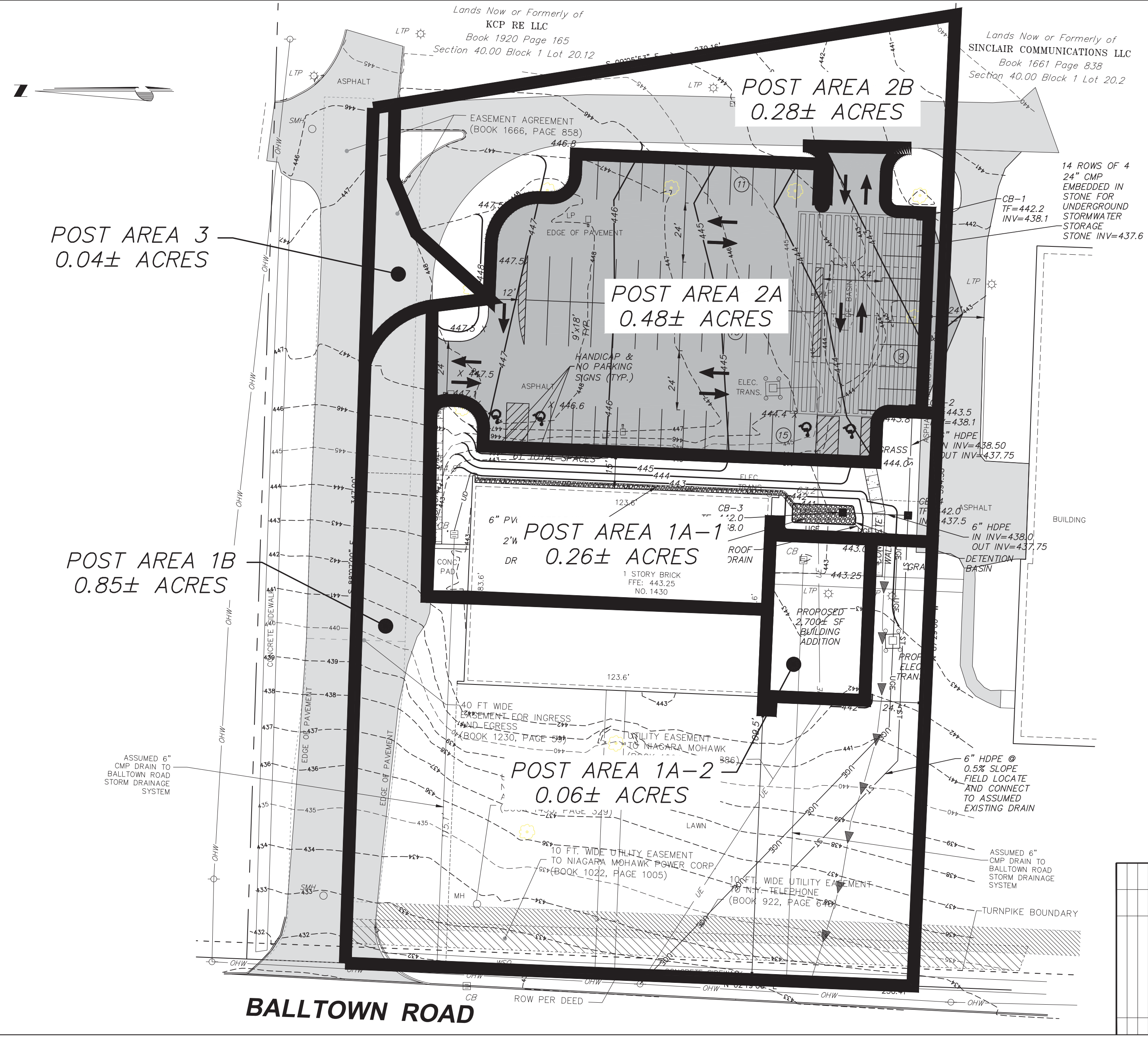
ABD ENGINEERS SURVEYORS
411 Union Street Schenectady, N.Y. 12305
518-377-0315 Fax.518-377-0379
www.abdeng.com

DATE:	SCALE:	DWG.	SHEET	OF
NOVEMBER 3, 2023	NO SCALE	561BA-S3	1	1

NO.	REVISION	BY	DATE

EXHIBIT 3:

POST-DEVELOPMENT DRAINAGE MAP



NO.	REVISION	BY	DATE

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LUIGI A. PALLESCHI, P.E.
N.Y.S. LICENSE NO. 94676

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APPENDIX A:

STORMWATER CALCULATIONS

Routing Diagram for 5618A-S3-HydroCAD
Prepared by ABD Engineers, LLP, Printed 11/3/2023
HydroCAD® 10.00-26 s/n 00936 © 2020 HydroCAD Software Solutions LLC

Summary for Subcatchment 3S: POST 2A

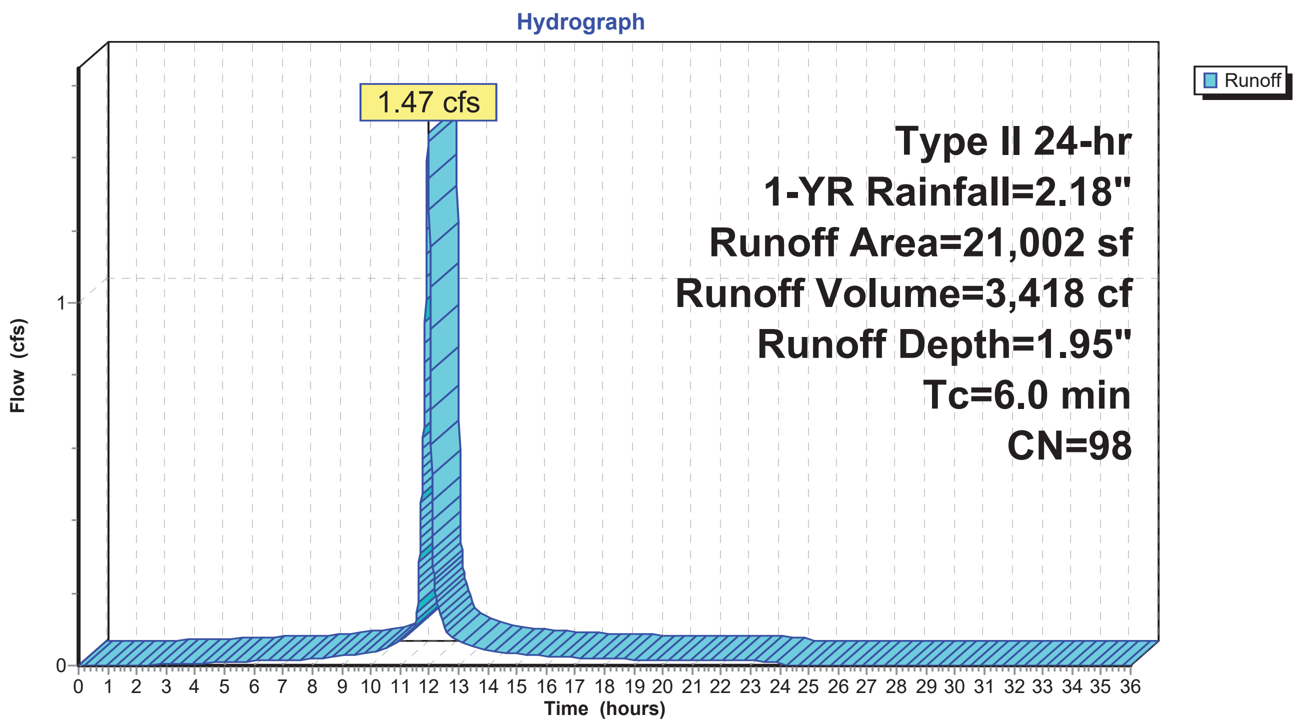
Runoff = 1.47 cfs @ 11.97 hrs, Volume= 3,418 cf, Depth= 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
20,682	98	Paved parking, HSG C
320	74	>75% Grass cover, Good, HSG C
21,002	98	Weighted Average
320		1.52% Pervious Area
20,682		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: POST 2A



Summary for Subcatchment 4S: PRE 2A

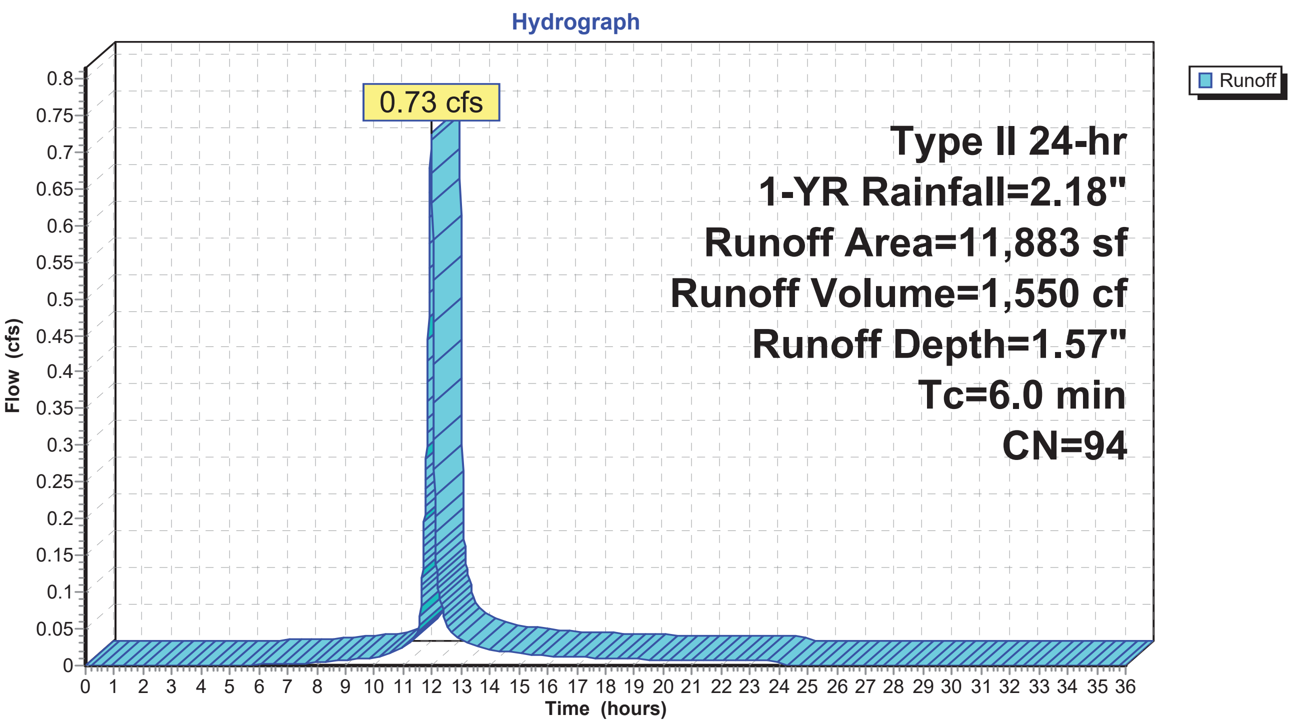
Runoff = 0.73 cfs @ 11.97 hrs, Volume= 1,550 cf, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
10,104	98	Paved parking, HSG C
1,779	74	>75% Grass cover, Good, HSG C
11,883	94	Weighted Average
1,779		14.97% Pervious Area
10,104		85.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: PRE 2A



Summary for Subcatchment 5S: PRE 2B

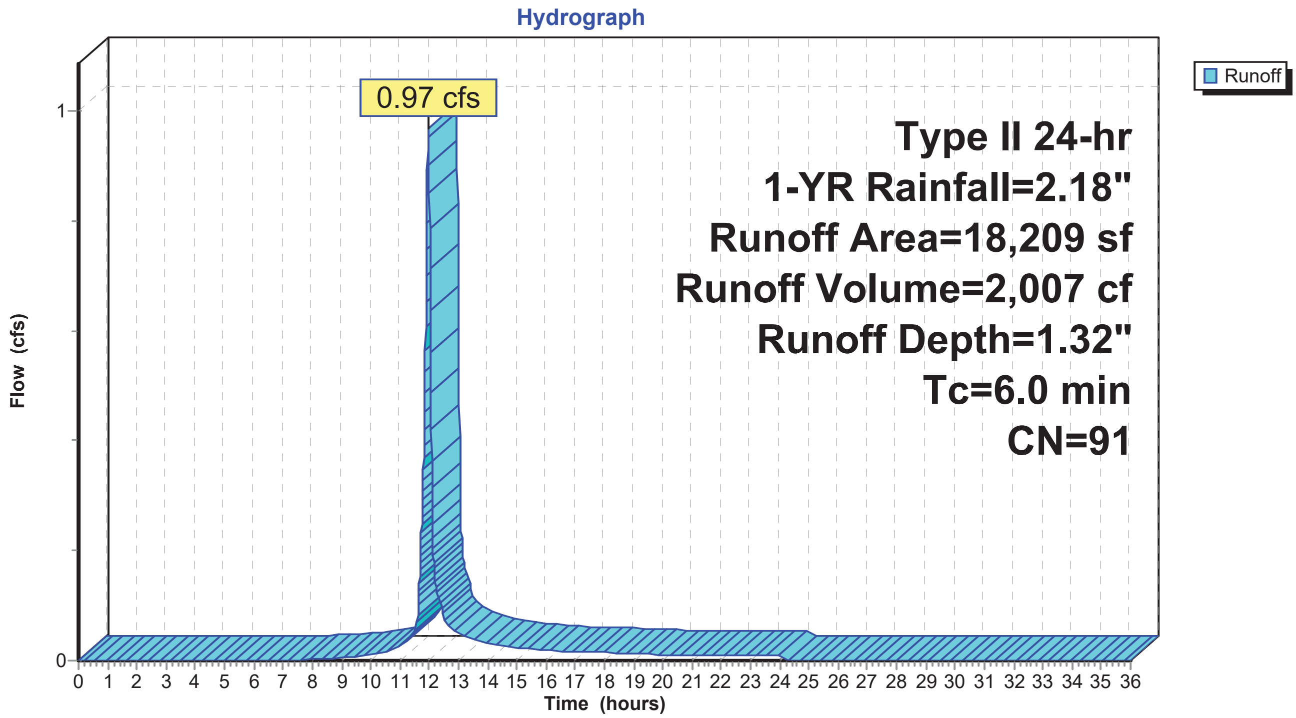
Runoff = 0.97 cfs @ 11.97 hrs, Volume= 2,007 cf, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
12,591	98	Paved parking, HSG C
5,618	74	>75% Grass cover, Good, HSG C
18,209	91	Weighted Average
5,618		30.85% Pervious Area
12,591		69.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: PRE 2B



Summary for Subcatchment 6S: POST 1A-2

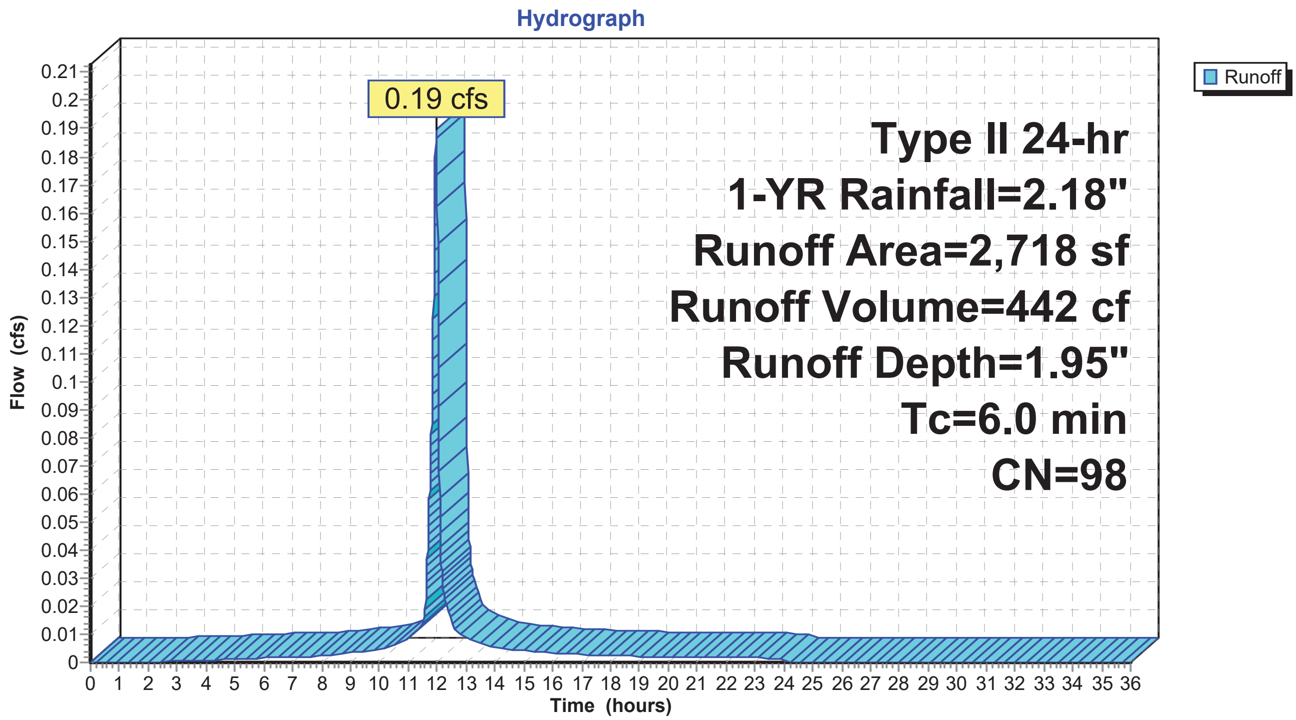
Runoff = 0.19 cfs @ 11.97 hrs, Volume= 442 cf, Depth= 1.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
2,718	98	Roofs, HSG C
2,718		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: POST 1A-2



Summary for Subcatchment 7S: PRE 1A

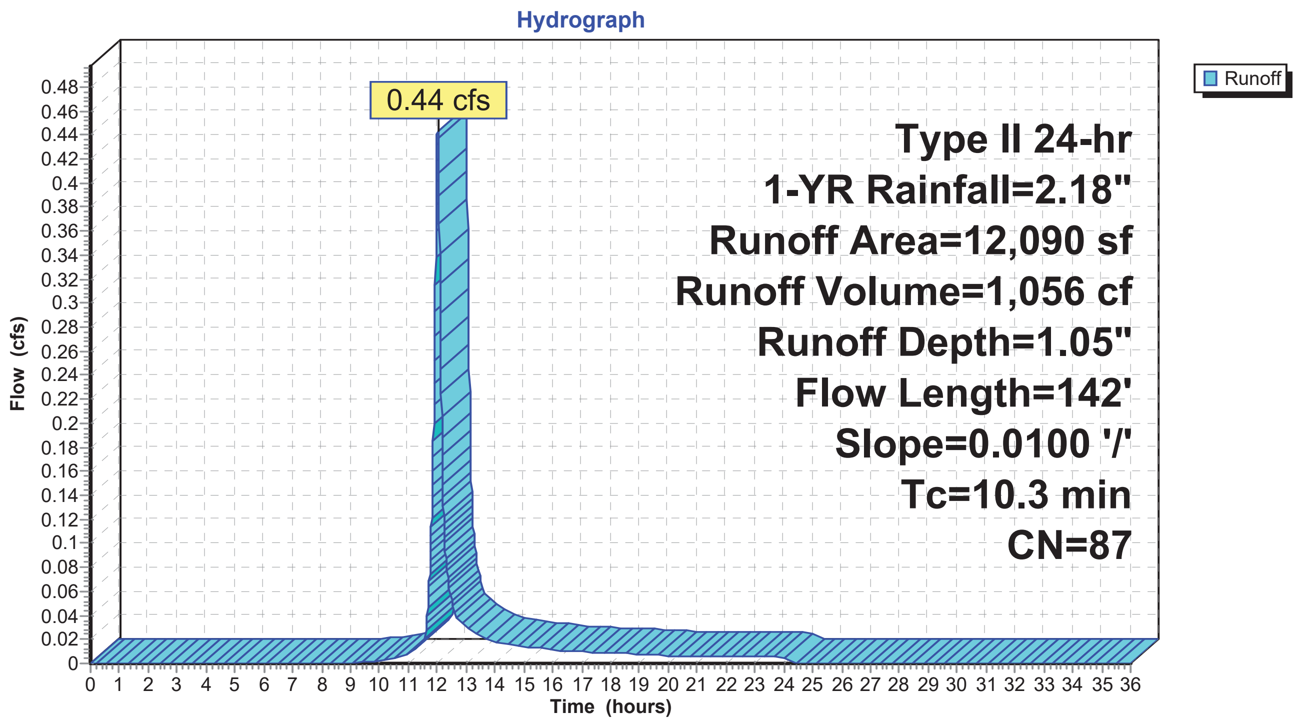
Runoff = 0.44 cfs @ 12.02 hrs, Volume= 1,056 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
6,431	98	Paved parking, HSG C
5,659	74	>75% Grass cover, Good, HSG C
12,090	87	Weighted Average
5,659		46.81% Pervious Area
6,431		53.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	46	0.0100	0.83		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.80"
8.4	54	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
1.0	42	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.3	142	Total			

Subcatchment 7S: PRE 1A



Summary for Subcatchment 8S: PRE 1B

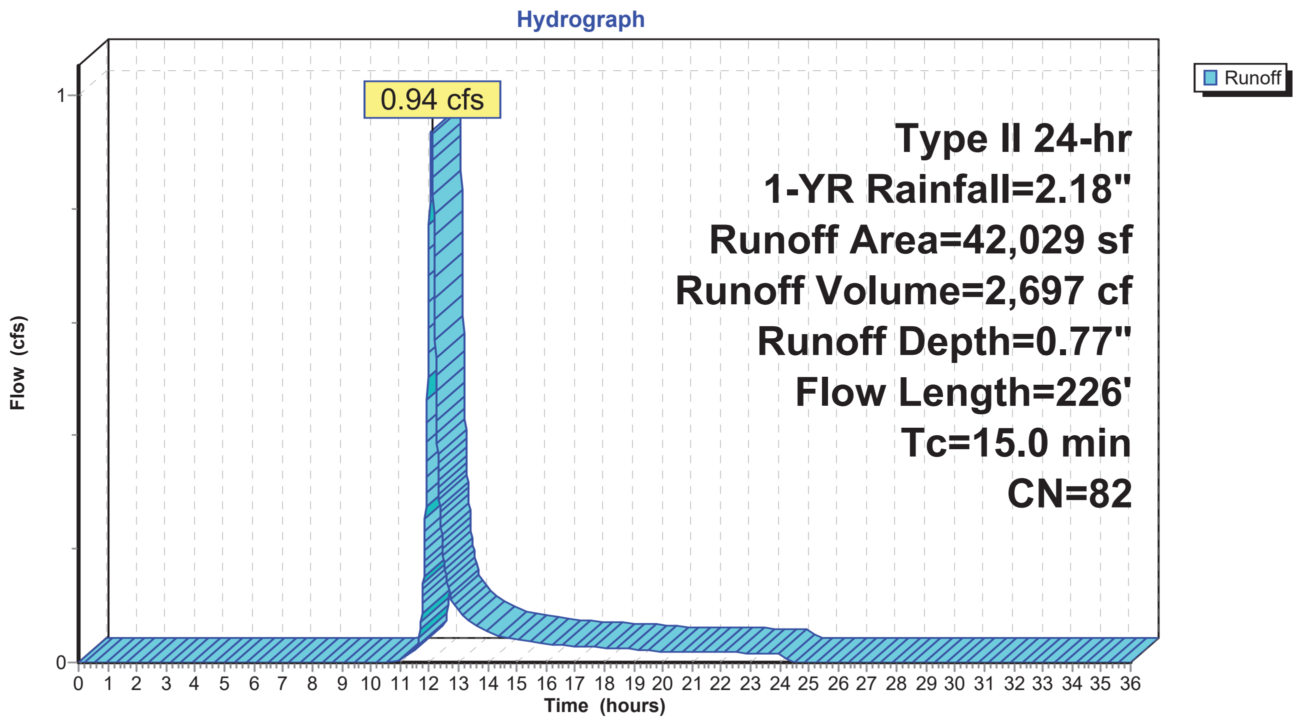
Runoff = 0.94 cfs @ 12.08 hrs, Volume= 2,697 cf, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
13,546	98	Paved parking, HSG C
28,483	74	>75% Grass cover, Good, HSG C
42,029	82	Weighted Average
28,483		67.77% Pervious Area
13,546		32.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
1.2	126	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.0	226	Total			

Subcatchment 8S: PRE 1B



Summary for Subcatchment 9S: PRE 3

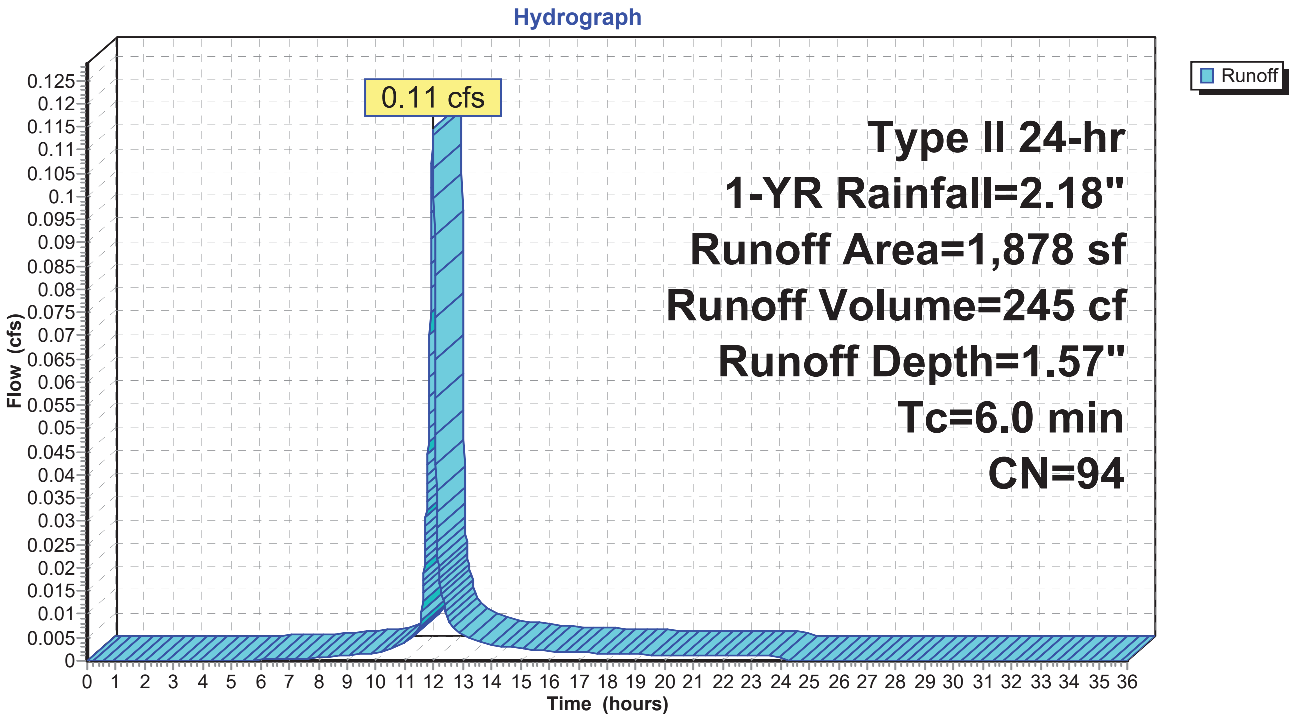
Runoff = 0.11 cfs @ 11.97 hrs, Volume= 245 cf, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
1,604	98	Paved parking, HSG C
274	74	>75% Grass cover, Good, HSG C
1,878	94	Weighted Average
274		14.59% Pervious Area
1,604		85.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: PRE 3



Summary for Subcatchment 15S: POST 3

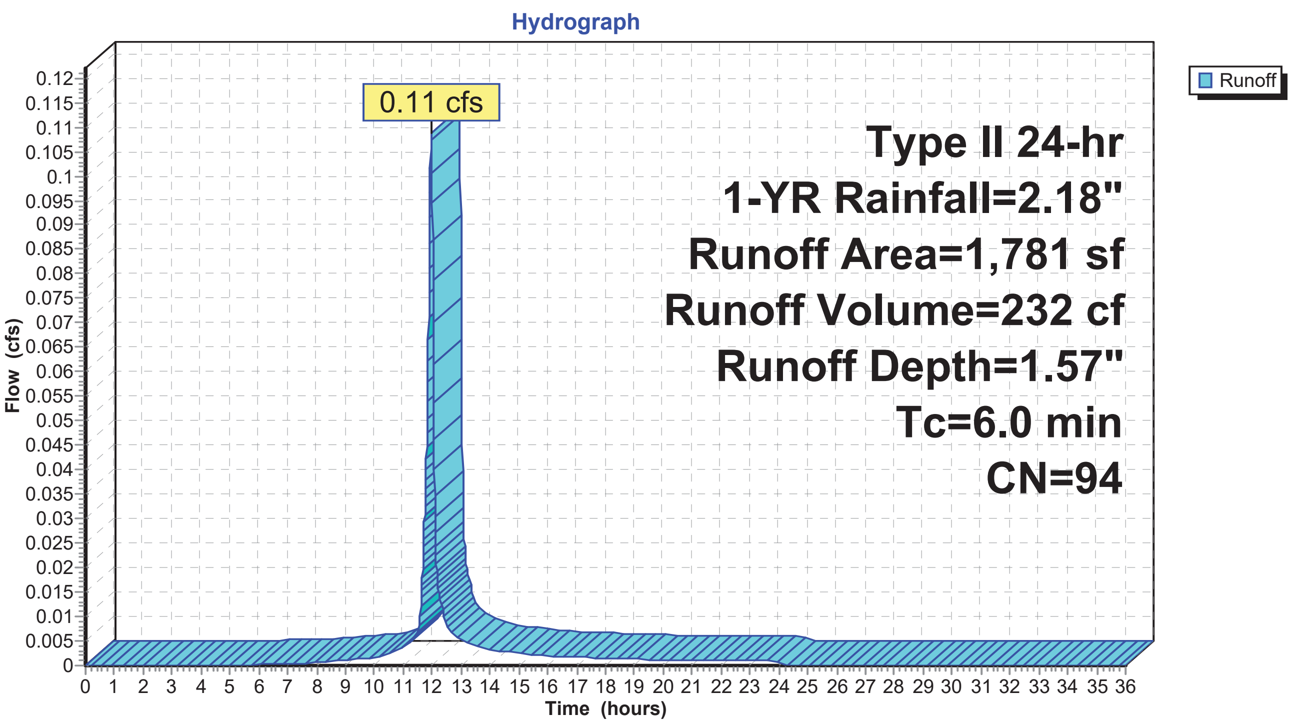
Runoff = 0.11 cfs @ 11.97 hrs, Volume= 232 cf, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
1,520	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
1,781	94	Weighted Average
261		14.65% Pervious Area
1,520		85.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: POST 3



Summary for Subcatchment 16S: POST 2B

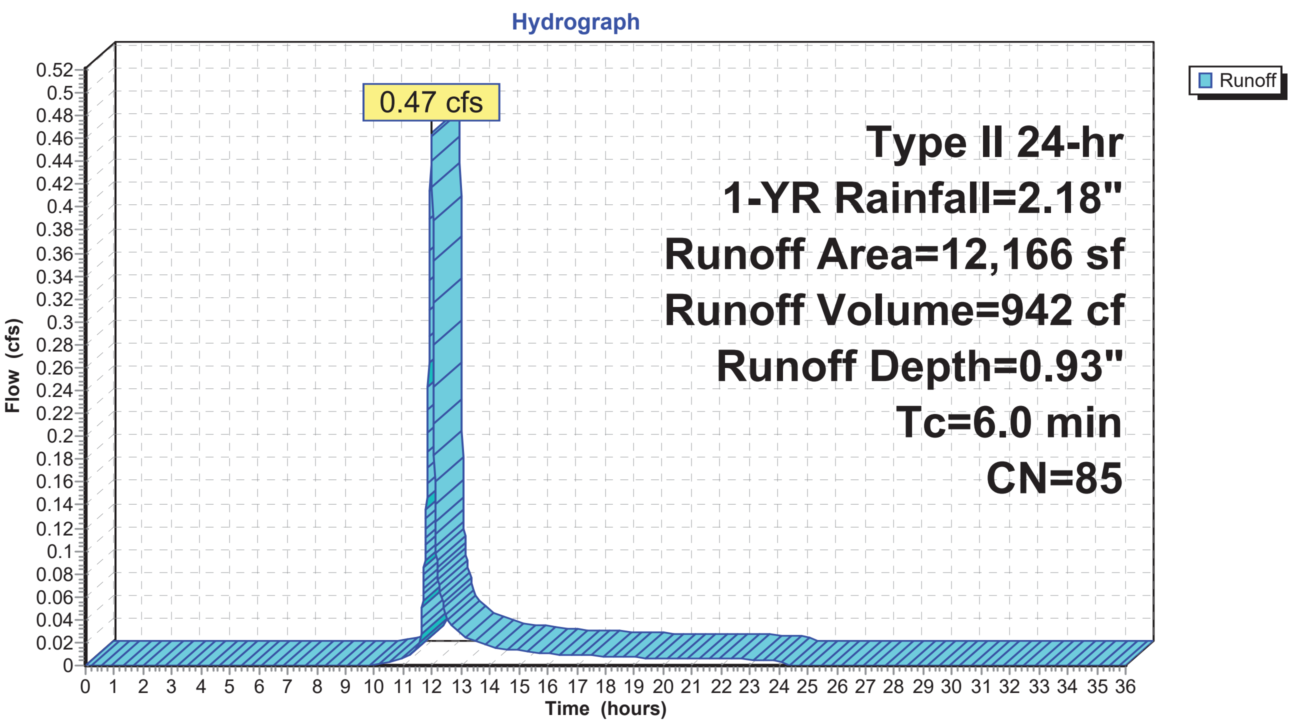
Runoff = 0.47 cfs @ 11.98 hrs, Volume= 942 cf, Depth= 0.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
5,818	98	Paved parking, HSG C
6,348	74	>75% Grass cover, Good, HSG C
12,166	85	Weighted Average
6,348		52.18% Pervious Area
5,818		47.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: POST 2B



Summary for Subcatchment 18S: POST 1B

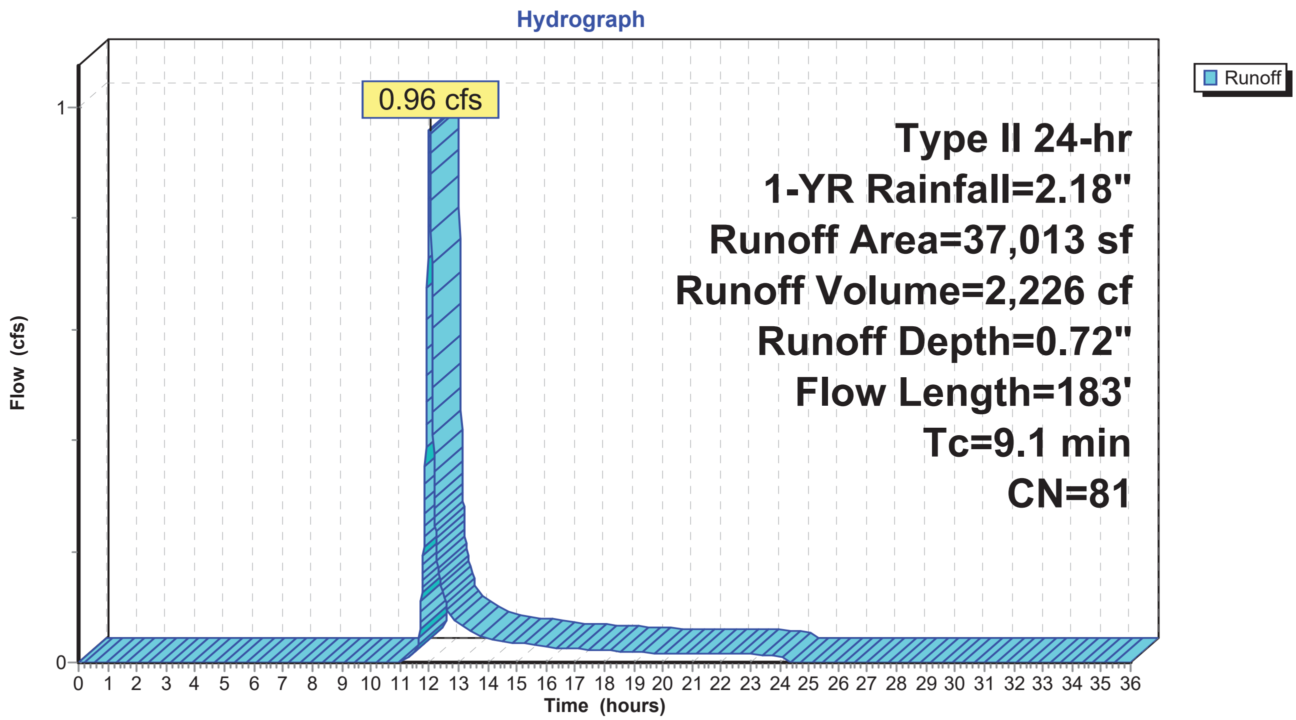
Runoff = 0.96 cfs @ 12.02 hrs, Volume= 2,226 cf, Depth= 0.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
10,913	98	Paved parking, HSG C
26,100	74	>75% Grass cover, Good, HSG C
37,013	81	Weighted Average
26,100		70.52% Pervious Area
10,913		29.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0350	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
0.7	83	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.1	183	Total			

Subcatchment 18S: POST 1B



Summary for Subcatchment 19S: POST 1A-1

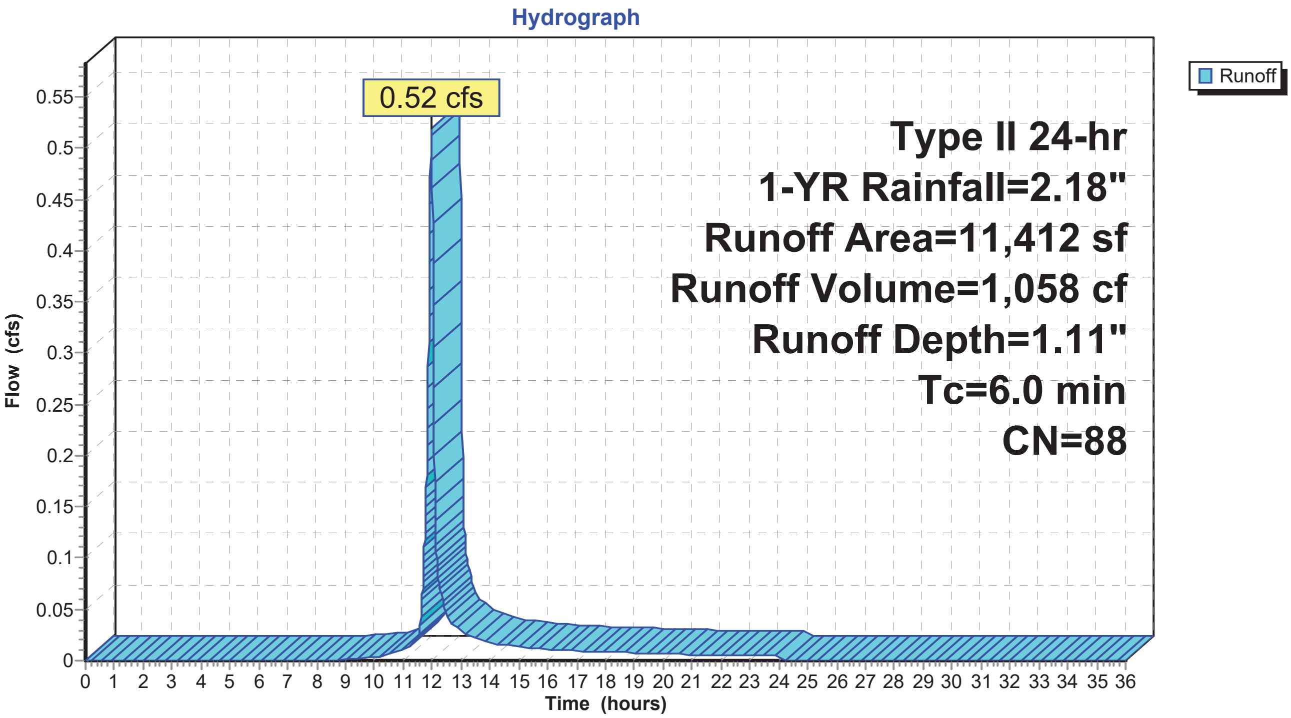
Runoff = 0.52 cfs @ 11.97 hrs, Volume= 1,058 cf, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-YR Rainfall=2.18"

Area (sf)	CN	Description
6,499	98	Paved parking, HSG C
4,913	74	>75% Grass cover, Good, HSG C
11,412	88	Weighted Average
4,913		43.05% Pervious Area
6,499		56.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: POST 1A-1



Summary for Pond 3P: UNDERGROUND DETENTION

Inflow Area = 21,002 sf, 98.48% Impervious, Inflow Depth = 1.95" for 1-YR event
Inflow = 1.47 cfs @ 11.97 hrs, Volume= 3,418 cf
Outflow = 0.52 cfs @ 12.08 hrs, Volume= 2,901 cf, Atten= 65%, Lag= 6.8 min
Primary = 0.52 cfs @ 12.08 hrs, Volume= 2,901 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 439.05' @ 12.08 hrs Surf.Area= 4,059 sf Storage= 1,649 cf

Plug-Flow detention time= 181.4 min calculated for 2,901 cf (85% of inflow)
Center-of-Mass det. time= 113.0 min (874.5 - 761.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	437.60'	0 cf	**49.50'W x 82.00'L x 3.00'H Field A** 12,177 cf Overall - 3,519 cf Embedded = 8,658 cf x 0.0% Voids
#2A	438.10'	3,519 cf	**CMP Round 24** x 56 Inside #1 Effective Size= 24.0"W x 24.0"H => 3.14 sf x 20.00'L = 62.8 cf Overall Size= 24.0"W x 24.0"H x 20.00'L 56 Chambers in 14 Rows
		3,519 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	438.50'	**6.0" Round Culvert** L= 40.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 438.50' / 437.75' S= 0.0185 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.52 cfs @ 12.08 hrs HW=439.05' (Free Discharge)
1=Culvert (Inlet Controls 0.52 cfs @ 2.64 fps)

Pond 3P: UNDERGROUND DETENTION - Chamber Wizard Field A

Chamber Model = CMP Round 24 (Round Corrugated Metal Pipe)
Effective Size= 24.0"W x 24.0"H => 3.14 sf x 20.00'L = 62.8 cf
Overall Size= 24.0"W x 24.0"H x 20.00'L

24.0" Wide + 18.0" Spacing = 42.0" C-C Row Spacing

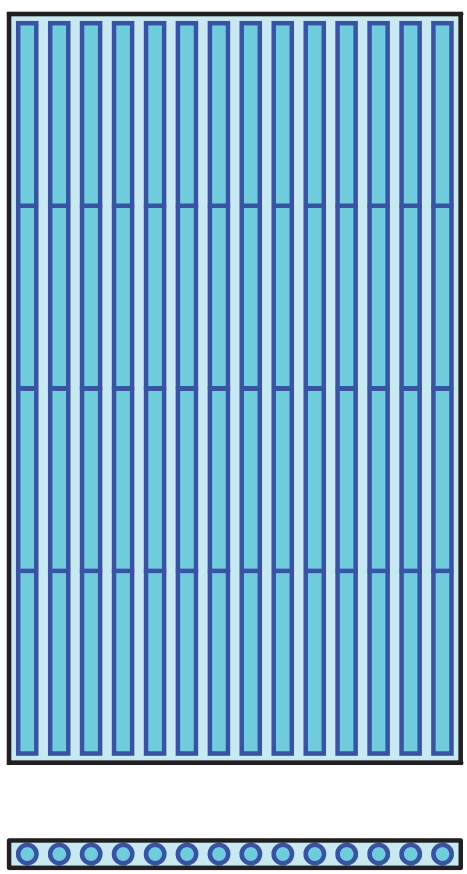
4 Chambers/Row x 20.00' Long = 80.00' Row Length +12.0" End Stone x 2 = 82.00' Base Length
14 Rows x 24.0" Wide + 18.0" Spacing x 13 + 12.0" Side Stone x 2 = 49.50' Base Width
6.0" Base + 24.0" Chamber Height + 6.0" Cover = 3.00' Field Height

56 Chambers x 62.8 cf = 3,518.6 cf Chamber Storage

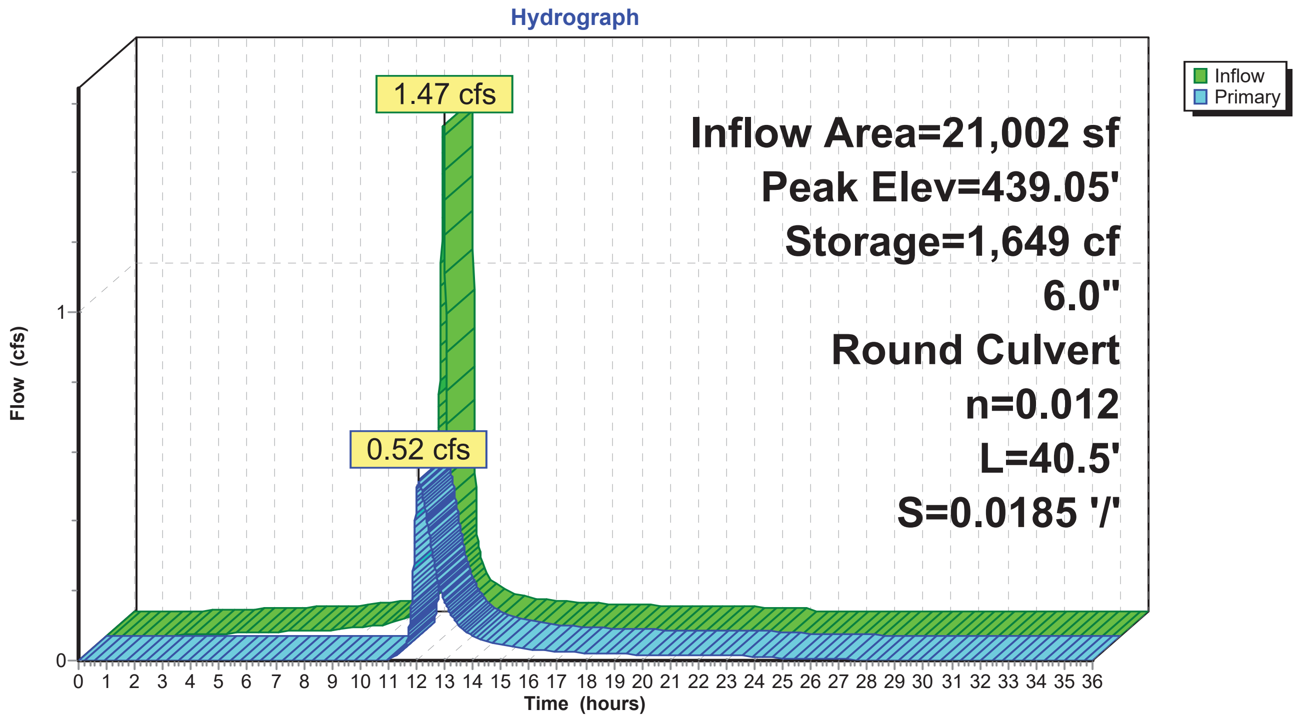
12,177.0 cf Field - 3,518.6 cf Chambers = 8,658.4 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 3,518.6 cf = 0.081 af
Overall Storage Efficiency = 28.9%
Overall System Size = 82.00' x 49.50' x 3.00'

56 Chambers
451.0 cy Field
320.7 cy Stone



Pond 3P: UNDERGROUND DETENTION



Summary for Pond 7P: DETENTION BASIN

Inflow Area =		14,130 sf,	65.23% Impervious,	Inflow Depth = 1.27"	for 1-YR event
Inflow	=	0.71 cfs @	11.97 hrs, Volume=	1,500 cf	
Outflow	=	0.70 cfs @	11.98 hrs, Volume=	1,191 cf,	Atten= 1%, Lag= 0.7 min
Primary	=	0.70 cfs @	11.98 hrs, Volume=	1,191 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 442.10' @ 11.98 hrs Surf.Area= 454 sf Storage= 355 cf

Plug-Flow detention time= 130.0 min calculated for 1,191 cf (79% of inflow)
Center-of-Mass det. time= 44.9 min (853.7 - 808.9)

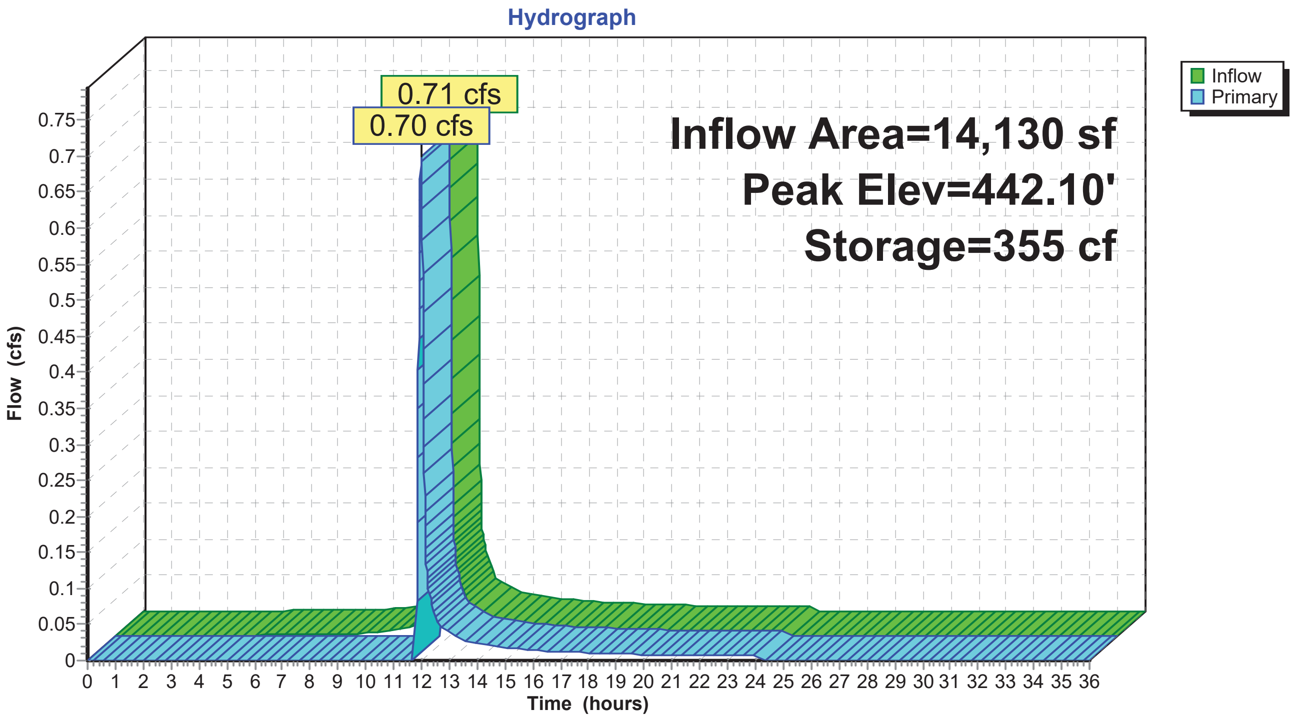
Volume	Invert	Avail.Storage	Storage Description
#1	441.00'	556 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
441.00	193	0	0
442.00	425	309	309
442.50	563	247	556

Device	Routing	Invert	Outlet Devices
#1	Primary	438.00'	**6.0" Round Culvert** L= 23.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 438.00' / 437.75' S= 0.0106 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Device 1	442.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.70 cfs @ 11.98 hrs HW=442.10' (Free Discharge)
└─**1=Culvert** (Passes 0.70 cfs of 1.76 cfs potential flow)
  └─**2=Orifice/Grate** (Weir Controls 0.70 cfs @ 1.06 fps)

Pond 7P: DETENTION BASIN



Summary for Pond 11P: DETENTION BASIN

Inflow Area = 11,883 sf, 85.03% Impervious, Inflow Depth = 1.57" for 1-YR event
Inflow = 0.73 cfs @ 11.97 hrs, Volume= 1,550 cf
Outflow = 0.72 cfs @ 11.98 hrs, Volume= 1,385 cf, Atten= 1%, Lag= 0.6 min
Primary = 0.72 cfs @ 11.98 hrs, Volume= 1,385 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 443.81' @ 11.98 hrs Surf.Area= 721 sf Storage= 205 cf

Plug-Flow detention time= 80.6 min calculated for 1,385 cf (89% of inflow)
Center-of-Mass det. time= 27.2 min (824.5 - 797.3)

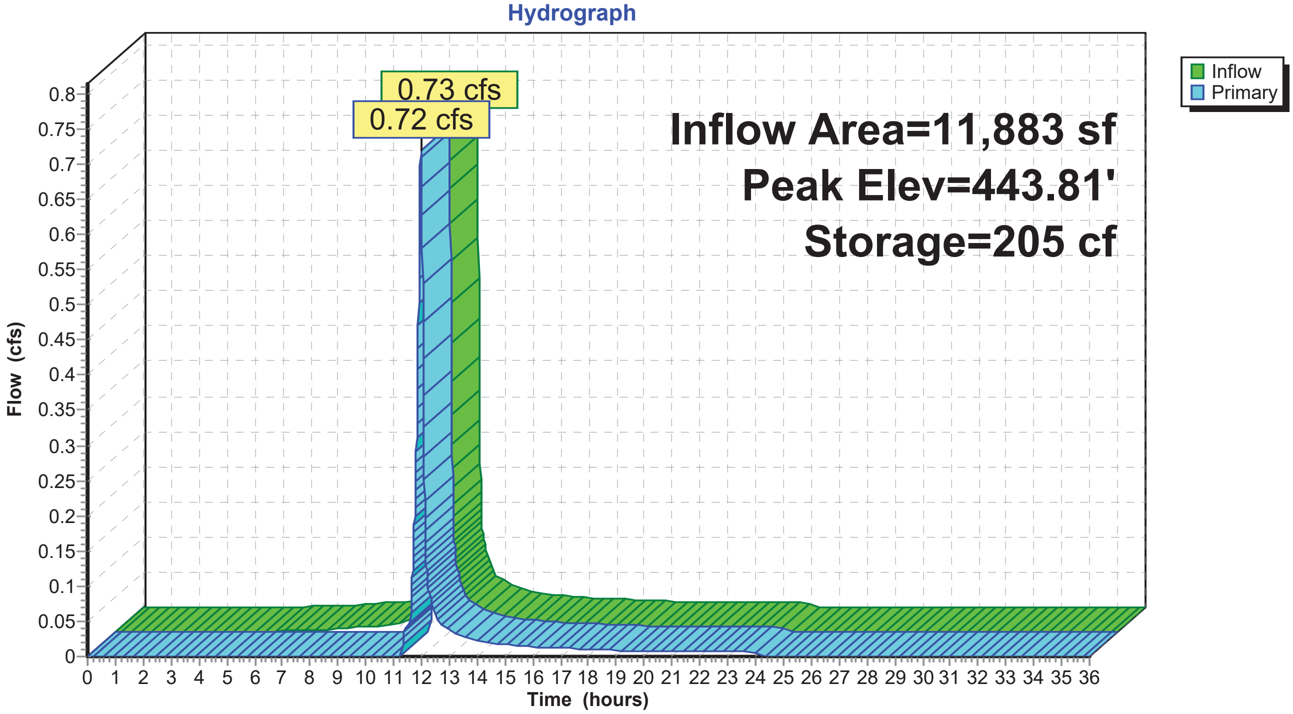
Volume	Invert	Avail.Storage	Storage Description
#1	443.50'	351 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
443.50	617	0	0
444.00	786	351	351

Device	Routing	Invert	Outlet Devices
#1	Primary	443.75'	**22.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.72 cfs @ 11.98 hrs HW=443.81' (Free Discharge)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 0.72 cfs @ 0.58 fps)

Pond 11P: DETENTION BASIN



Summary for Subcatchment 3S: POST 2A

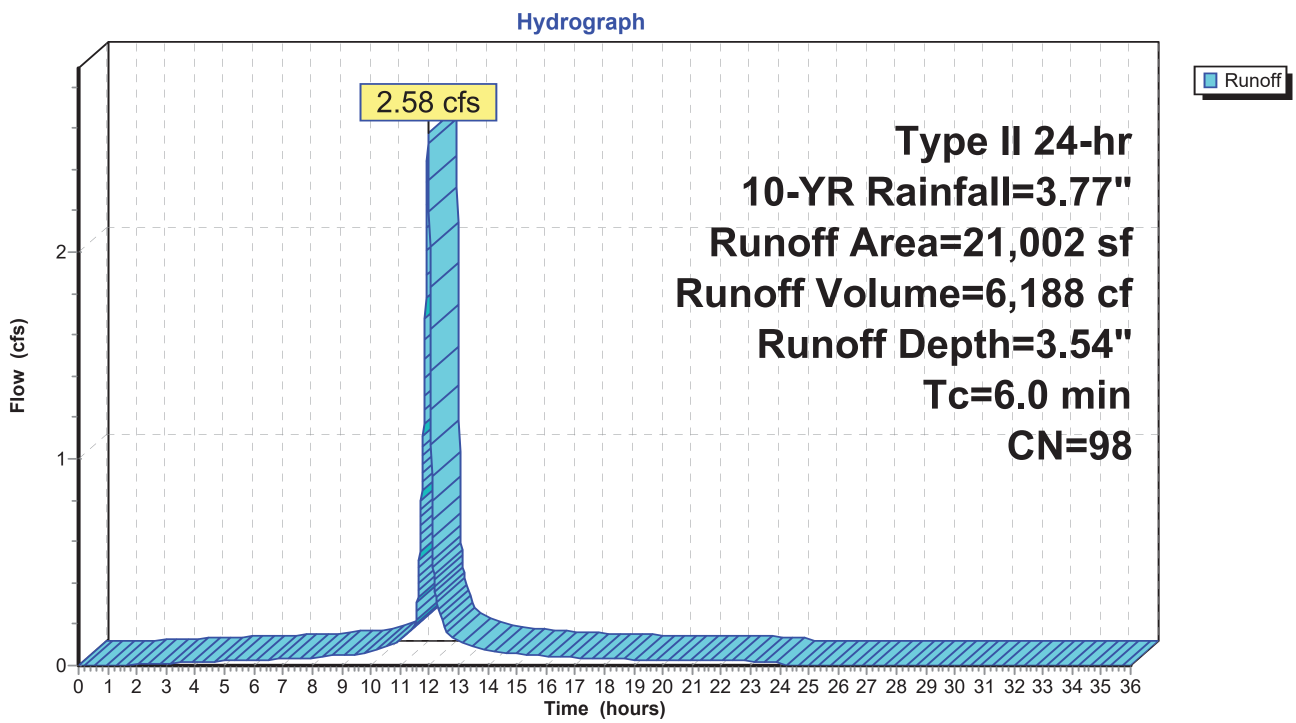
Runoff = 2.58 cfs @ 11.97 hrs, Volume= 6,188 cf, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
20,682	98	Paved parking, HSG C
320	74	>75% Grass cover, Good, HSG C
21,002	98	Weighted Average
320		1.52% Pervious Area
20,682		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: POST 2A



Summary for Subcatchment 4S: PRE 2A

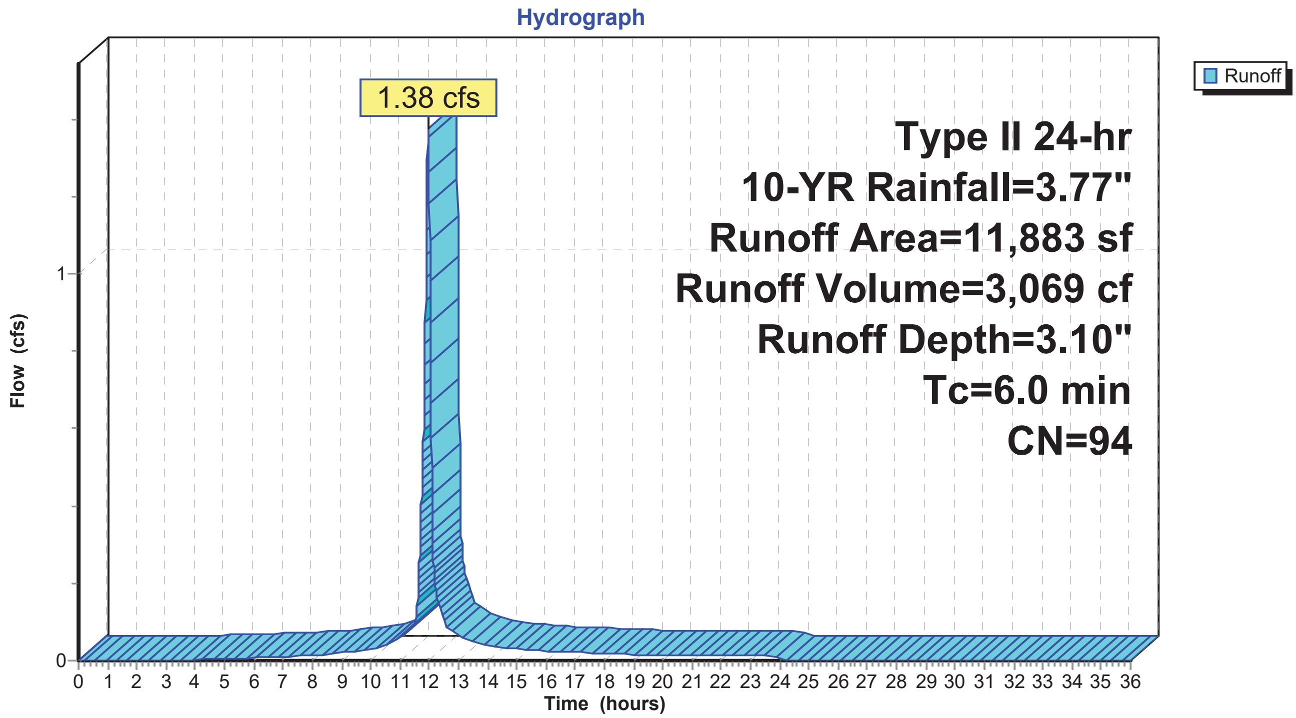
Runoff = 1.38 cfs @ 11.97 hrs, Volume= 3,069 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
10,104	98	Paved parking, HSG C
1,779	74	>75% Grass cover, Good, HSG C
11,883	94	Weighted Average
1,779		14.97% Pervious Area
10,104		85.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: PRE 2A



Summary for Subcatchment 5S: PRE 2B

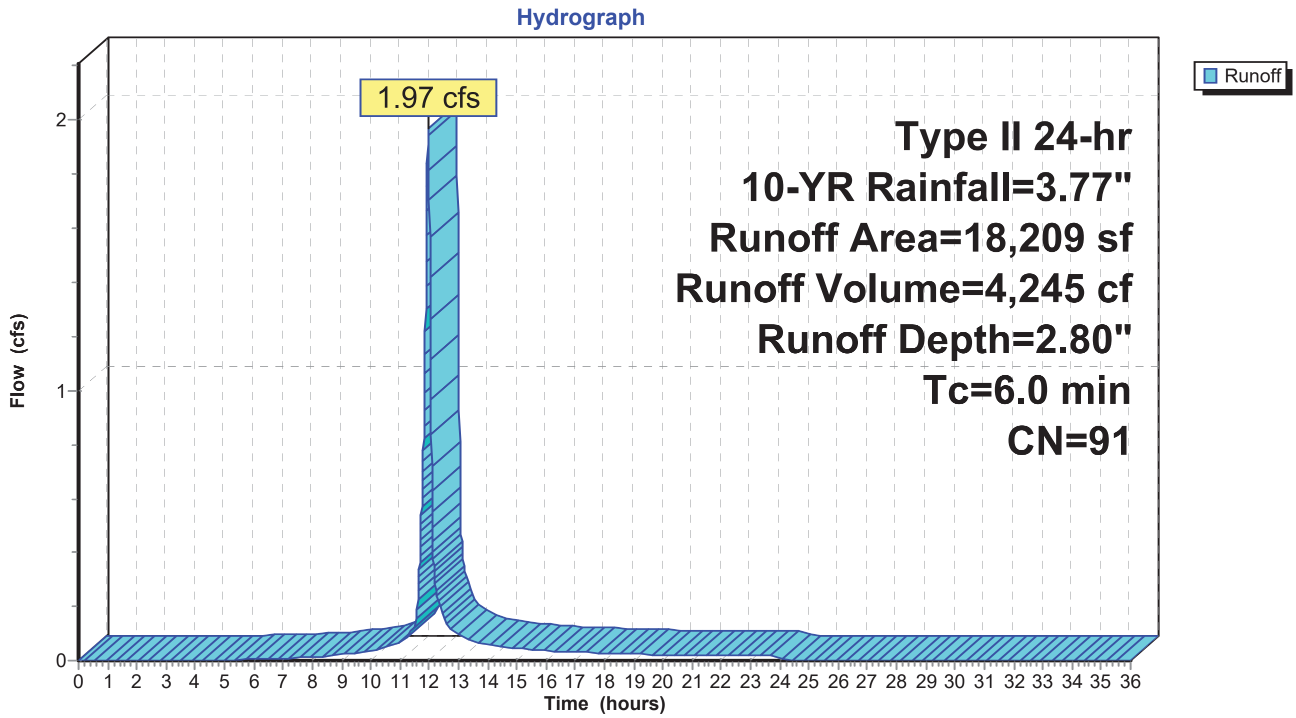
Runoff = 1.97 cfs @ 11.97 hrs, Volume= 4,245 cf, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
12,591	98	Paved parking, HSG C
5,618	74	>75% Grass cover, Good, HSG C
18,209	91	Weighted Average
5,618		30.85% Pervious Area
12,591		69.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: PRE 2B



Summary for Subcatchment 6S: POST 1A-2

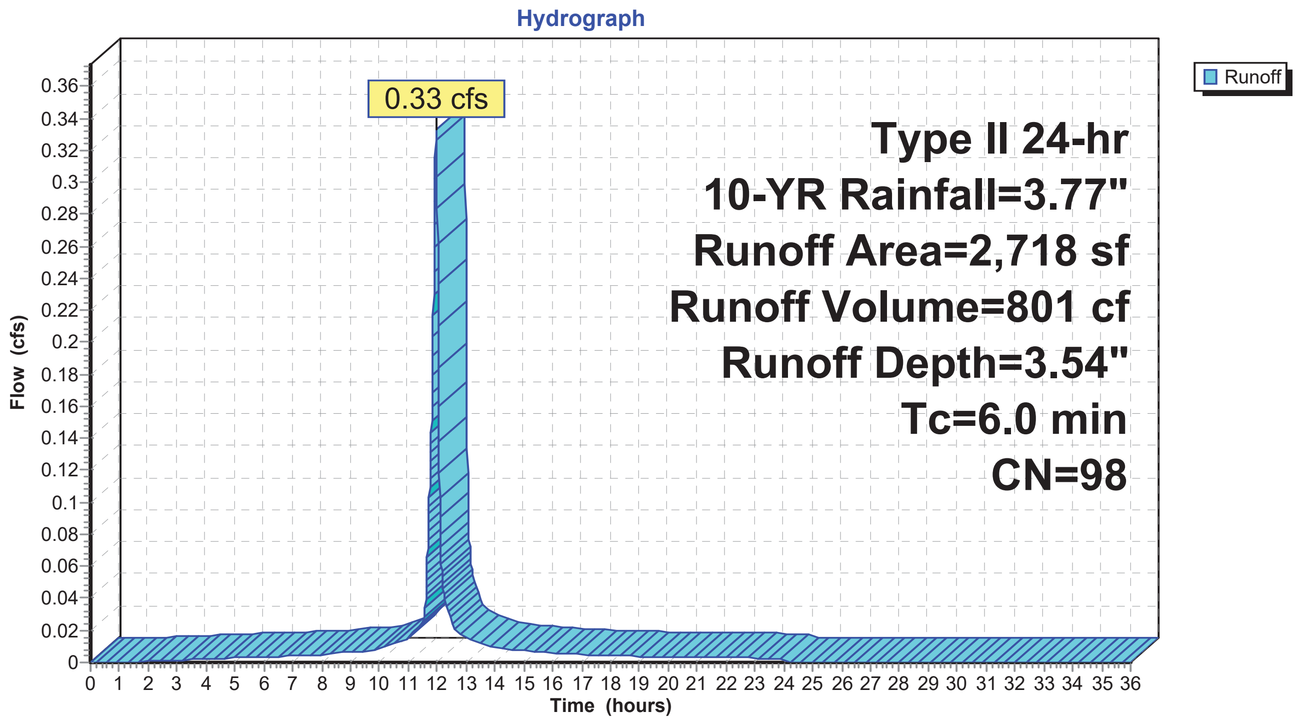
Runoff = 0.33 cfs @ 11.97 hrs, Volume= 801 cf, Depth= 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
2,718	98	Roofs, HSG C
2,718		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: POST 1A-2



Summary for Subcatchment 7S: PRE 1A

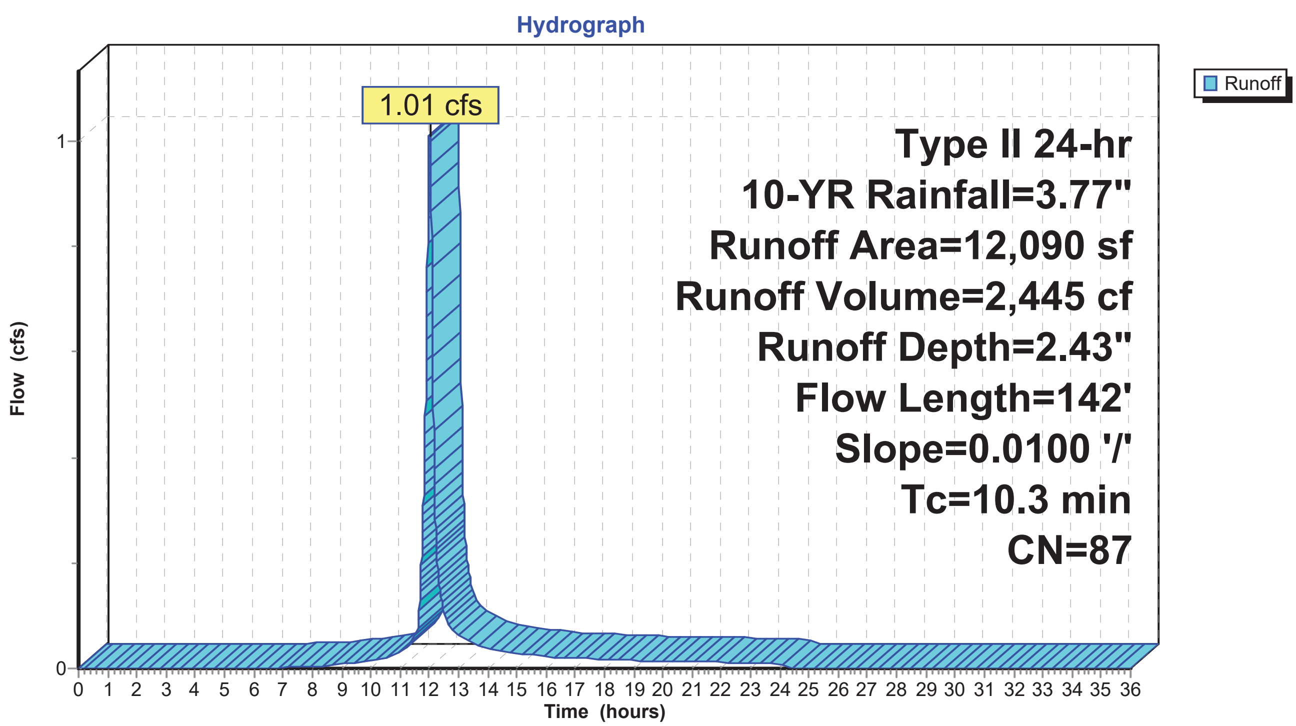
Runoff = 1.01 cfs @ 12.02 hrs, Volume= 2,445 cf, Depth= 2.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
6,431	98	Paved parking, HSG C
5,659	74	>75% Grass cover, Good, HSG C
12,090	87	Weighted Average
5,659		46.81% Pervious Area
6,431		53.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	46	0.0100	0.83		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.80"
8.4	54	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
1.0	42	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.3	142	Total			

Subcatchment 7S: PRE 1A



Summary for Subcatchment 8S: PRE 1B

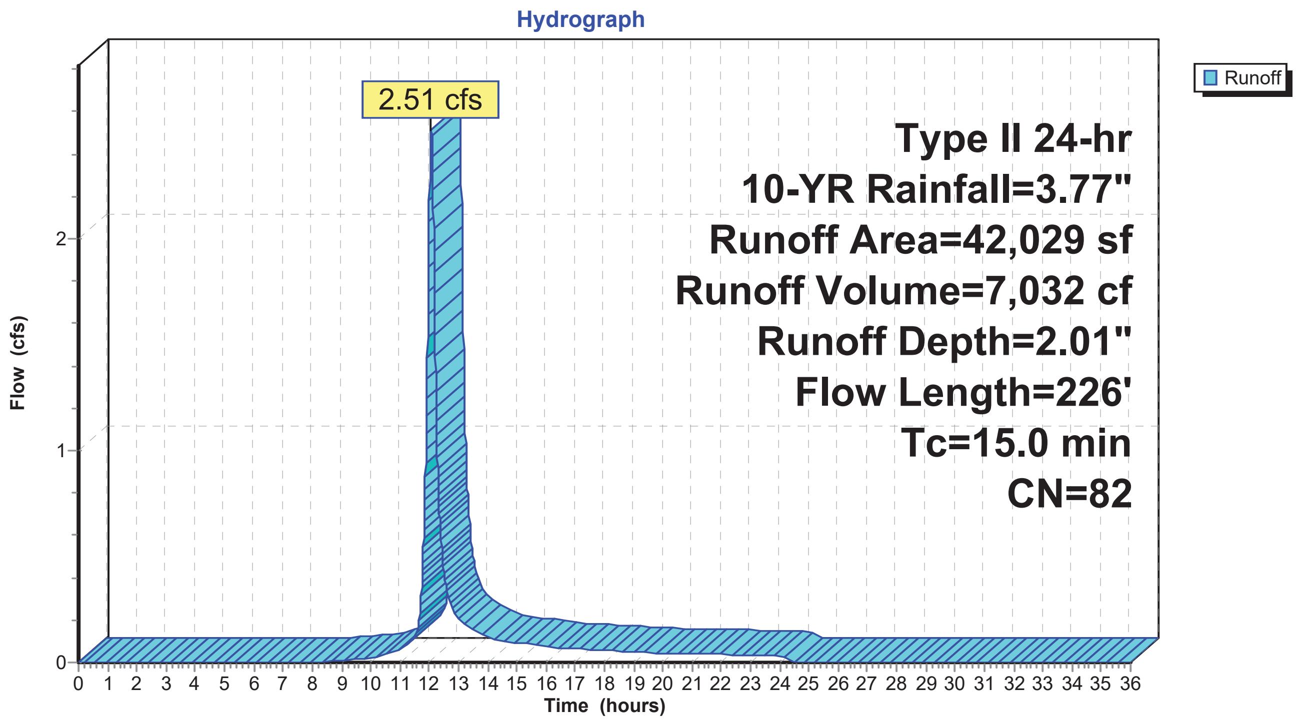
Runoff = 2.51 cfs @ 12.07 hrs, Volume= 7,032 cf, Depth= 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
13,546	98	Paved parking, HSG C
28,483	74	>75% Grass cover, Good, HSG C
42,029	82	Weighted Average
28,483		67.77% Pervious Area
13,546		32.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
1.2	126	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.0	226	Total			

Subcatchment 8S: PRE 1B



Summary for Subcatchment 9S: PRE 3

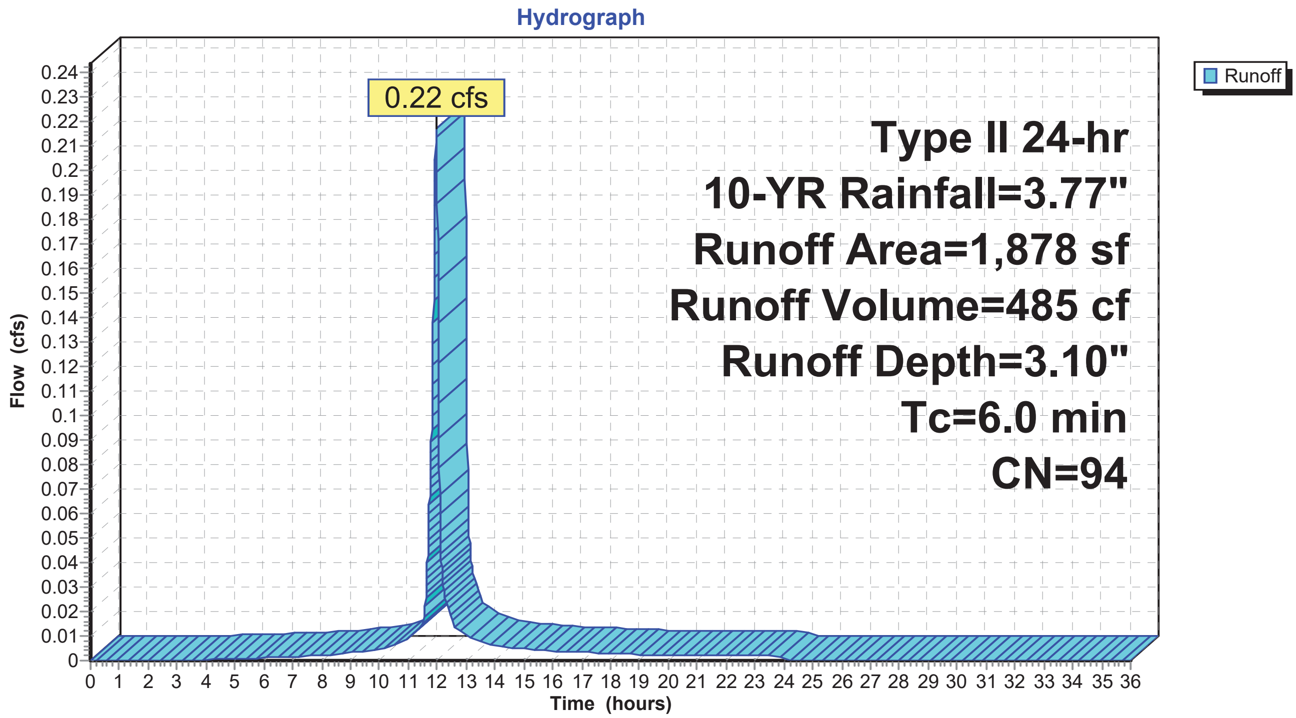
Runoff = 0.22 cfs @ 11.97 hrs, Volume= 485 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
1,604	98	Paved parking, HSG C
274	74	>75% Grass cover, Good, HSG C
1,878	94	Weighted Average
274		14.59% Pervious Area
1,604		85.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: PRE 3



Summary for Subcatchment 15S: POST 3

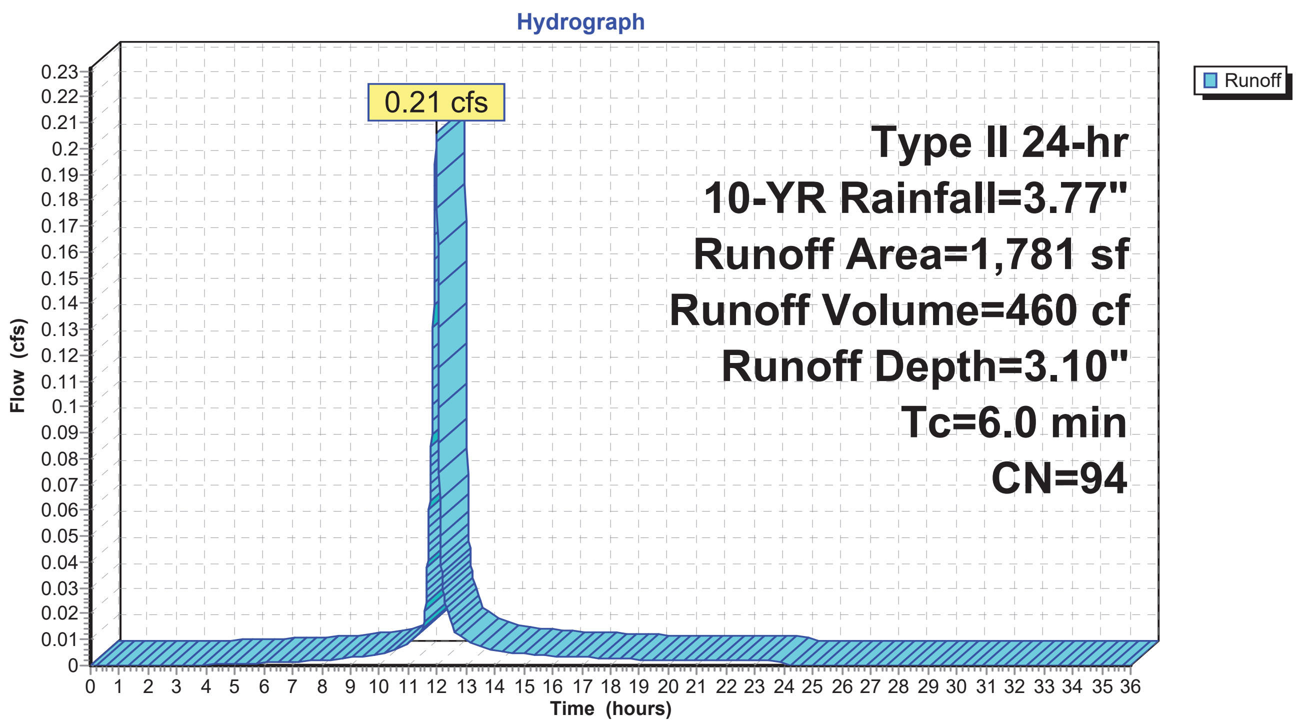
Runoff = 0.21 cfs @ 11.97 hrs, Volume= 460 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
1,520	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
1,781	94	Weighted Average
261		14.65% Pervious Area
1,520		85.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: POST 3



Summary for Subcatchment 16S: POST 2B

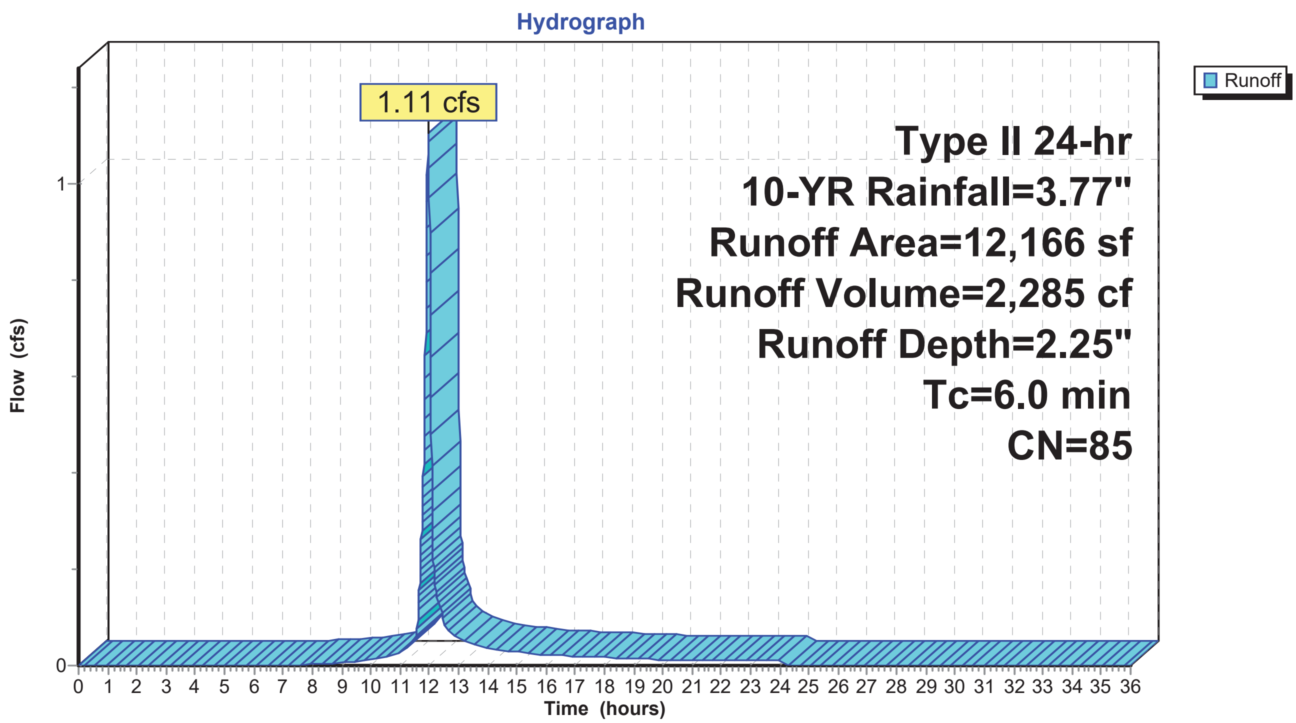
Runoff = 1.11 cfs @ 11.97 hrs, Volume= 2,285 cf, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
5,818	98	Paved parking, HSG C
6,348	74	>75% Grass cover, Good, HSG C
12,166	85	Weighted Average
6,348		52.18% Pervious Area
5,818		47.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: POST 2B



Summary for Subcatchment 18S: POST 1B

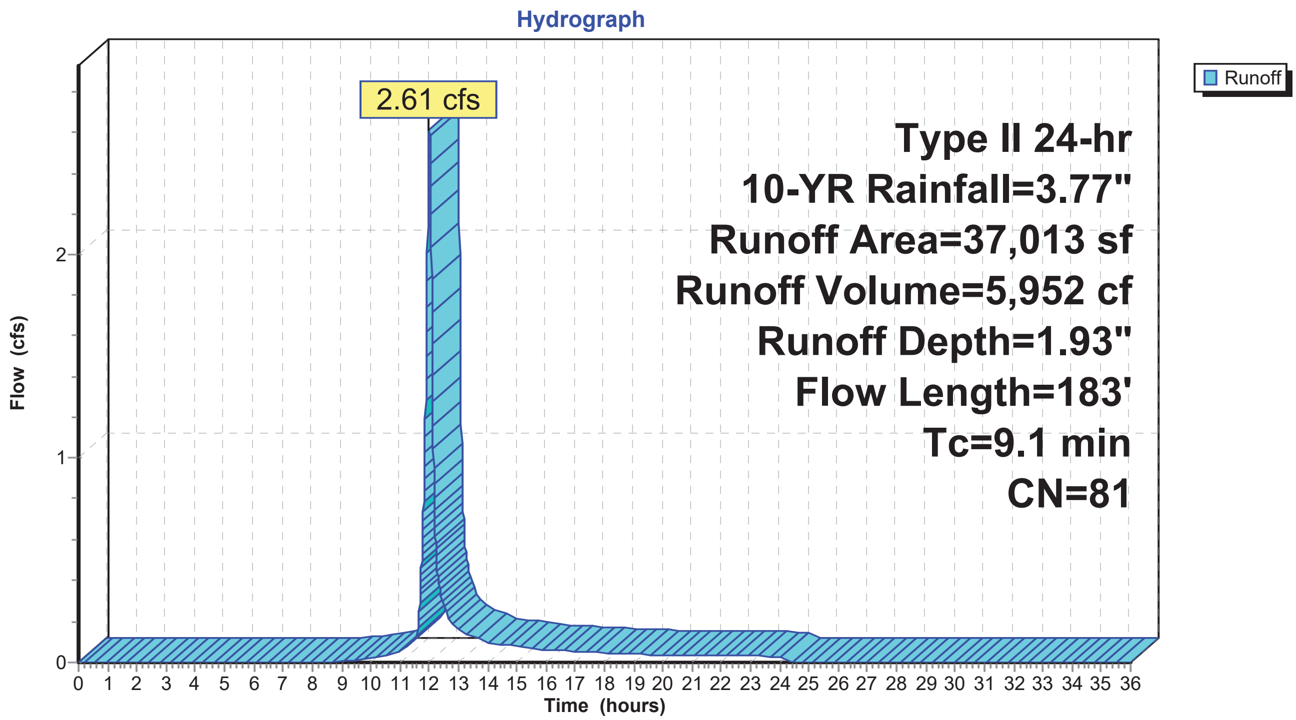
Runoff = 2.61 cfs @ 12.01 hrs, Volume= 5,952 cf, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
10,913	98	Paved parking, HSG C
26,100	74	>75% Grass cover, Good, HSG C
37,013	81	Weighted Average
26,100		70.52% Pervious Area
10,913		29.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0350	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
0.7	83	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.1	183	Total			

Subcatchment 18S: POST 1B



Summary for Subcatchment 19S: POST 1A-1

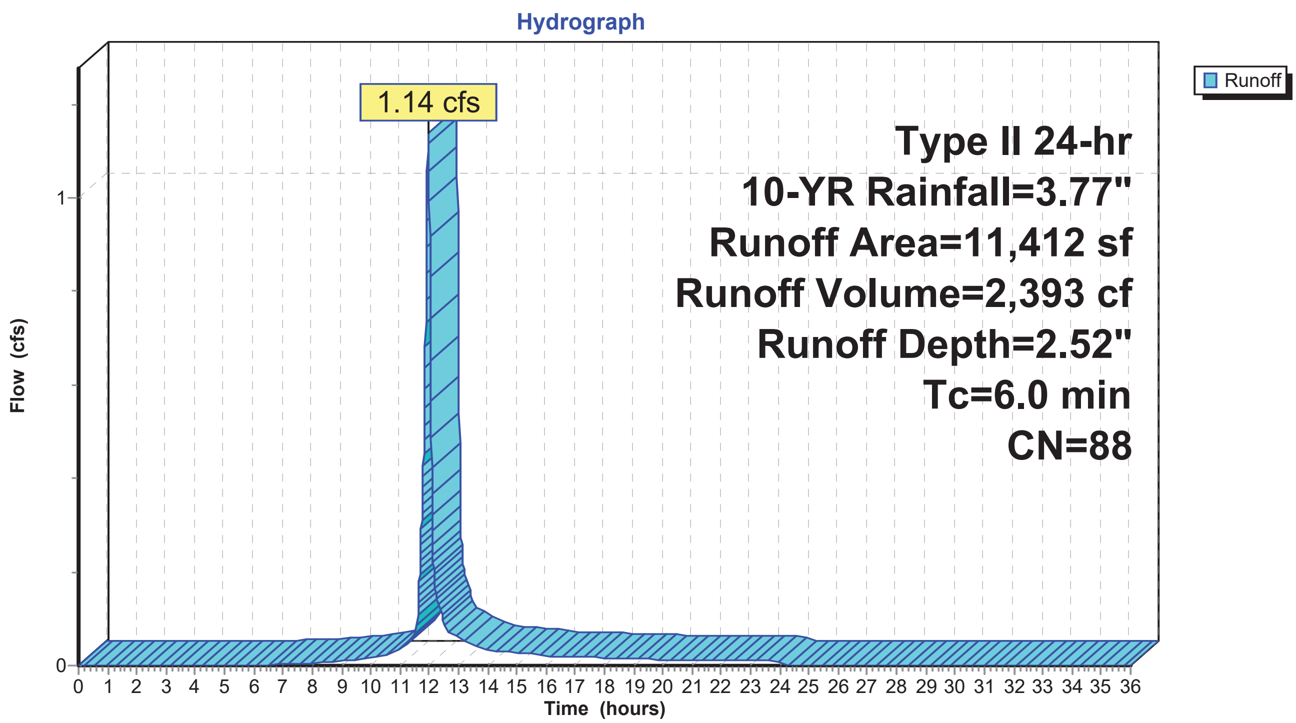
Runoff = 1.14 cfs @ 11.97 hrs, Volume= 2,393 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-YR Rainfall=3.77"

Area (sf)	CN	Description
6,499	98	Paved parking, HSG C
4,913	74	>75% Grass cover, Good, HSG C
11,412	88	Weighted Average
4,913		43.05% Pervious Area
6,499		56.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: POST 1A-1



Summary for Pond 3P: UNDERGROUND DETENTION

Inflow Area = 21,002 sf, 98.48% Impervious, Inflow Depth = 3.54" for 10-YR event
Inflow = 2.58 cfs @ 11.97 hrs, Volume= 6,188 cf
Outflow = 0.80 cfs @ 12.09 hrs, Volume= 5,670 cf, Atten= 69%, Lag= 7.4 min
Primary = 0.80 cfs @ 12.09 hrs, Volume= 5,670 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 439.46' @ 12.09 hrs Surf.Area= 4,059 sf Storage= 2,554 cf

Plug-Flow detention time= 138.9 min calculated for 5,670 cf (92% of inflow)
Center-of-Mass det. time= 92.9 min (842.1 - 749.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	437.60'	0 cf	**49.50'W x 82.00'L x 3.00'H Field A** 12,177 cf Overall - 3,519 cf Embedded = 8,658 cf x 0.0% Voids
#2A	438.10'	3,519 cf	**CMP Round 24** x 56 Inside #1 Effective Size= 24.0"W x 24.0"H => 3.14 sf x 20.00'L = 62.8 cf Overall Size= 24.0"W x 24.0"H x 20.00'L 56 Chambers in 14 Rows
		3,519 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	438.50'	**6.0" Round Culvert** L= 40.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 438.50' / 437.75' S= 0.0185 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.80 cfs @ 12.09 hrs HW=439.46' (Free Discharge)
└─**1=Culvert** (Inlet Controls 0.80 cfs @ 4.07 fps)

Pond 3P: UNDERGROUND DETENTION - Chamber Wizard Field A

Chamber Model = CMP Round 24 (Round Corrugated Metal Pipe)
Effective Size= 24.0"W x 24.0"H => 3.14 sf x 20.00'L = 62.8 cf
Overall Size= 24.0"W x 24.0"H x 20.00'L

24.0" Wide + 18.0" Spacing = 42.0" C-C Row Spacing

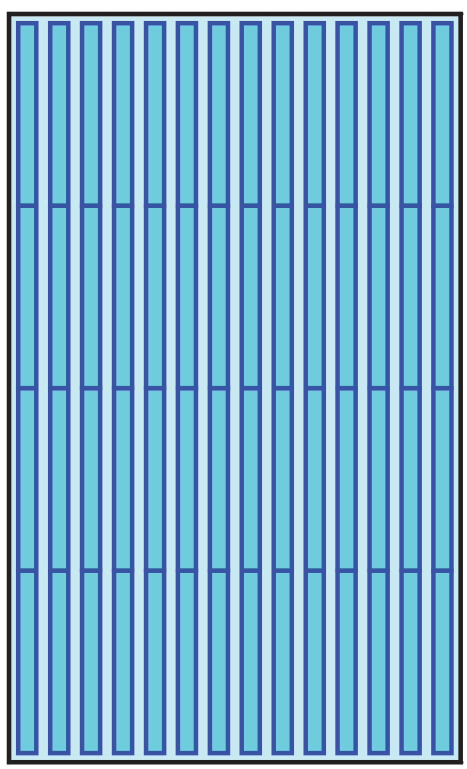
4 Chambers/Row x 20.00' Long = 80.00' Row Length +12.0" End Stone x 2 = 82.00' Base Length
14 Rows x 24.0" Wide + 18.0" Spacing x 13 + 12.0" Side Stone x 2 = 49.50' Base Width
6.0" Base + 24.0" Chamber Height + 6.0" Cover = 3.00' Field Height

56 Chambers x 62.8 cf = 3,518.6 cf Chamber Storage

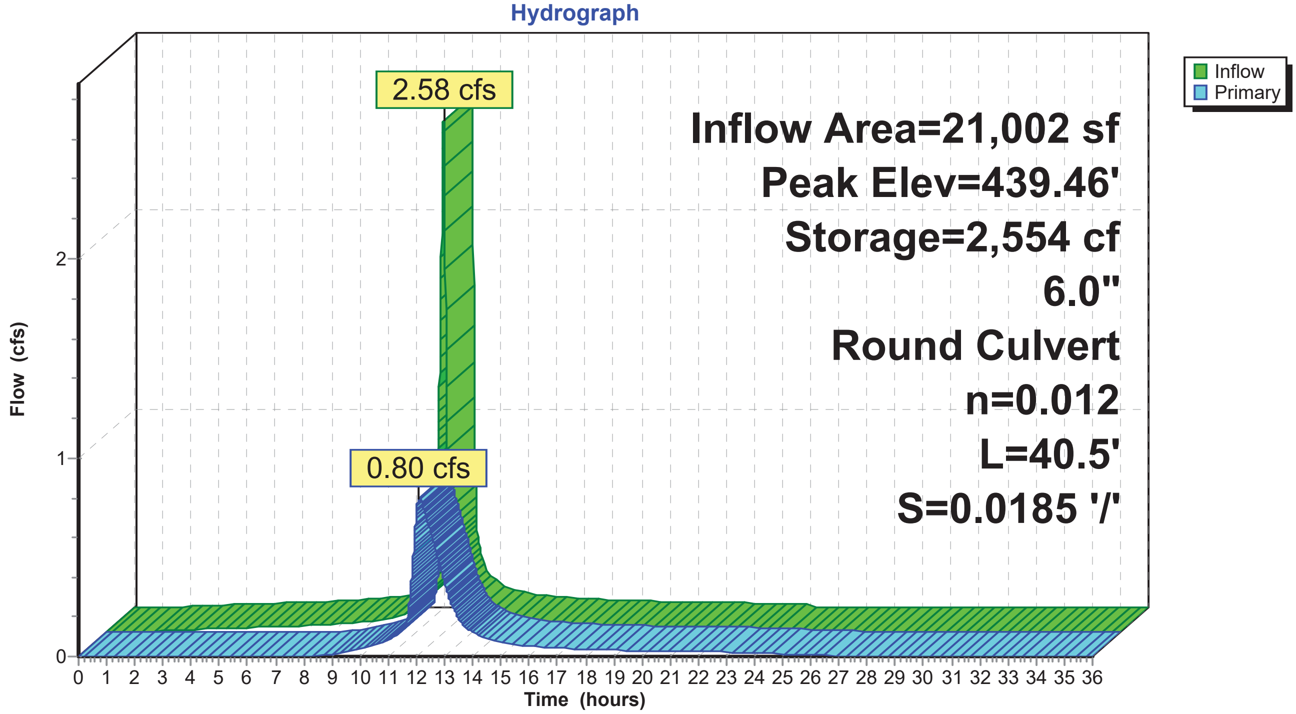
12,177.0 cf Field - 3,518.6 cf Chambers = 8,658.4 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 3,518.6 cf = 0.081 af
Overall Storage Efficiency = 28.9%
Overall System Size = 82.00' x 49.50' x 3.00'

56 Chambers
451.0 cy Field
320.7 cy Stone



Pond 3P: UNDERGROUND DETENTION



Summary for Pond 7P: DETENTION BASIN

Inflow Area = 14,130 sf, 65.23% Impervious, Inflow Depth = 2.71" for 10-YR event
Inflow = 1.47 cfs @ 11.97 hrs, Volume= 3,194 cf
Outflow = 1.46 cfs @ 11.98 hrs, Volume= 2,885 cf, Atten= 1%, Lag= 0.6 min
Primary = 1.46 cfs @ 11.98 hrs, Volume= 2,885 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 442.17' @ 11.98 hrs Surf.Area= 472 sf Storage= 386 cf

Plug-Flow detention time= 79.9 min calculated for 2,884 cf (90% of inflow)
Center-of-Mass det. time= 29.7 min (821.0 - 791.3)

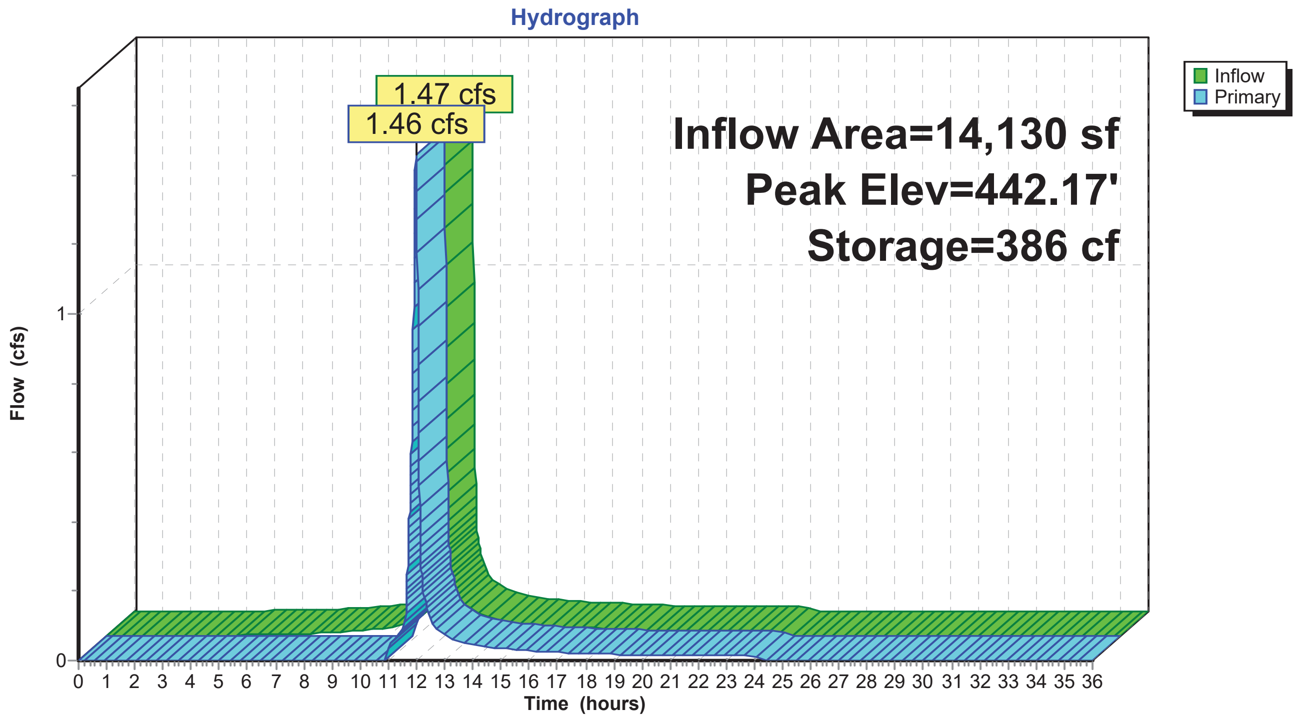
Volume	Invert	Avail.Storage	Storage Description
#1	441.00'	556 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
441.00	193	0	0
442.00	425	309	309
442.50	563	247	556

Device	Routing	Invert	Outlet Devices
#1	Primary	438.00'	**6.0" Round Culvert** L= 23.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 438.00' / 437.75' S= 0.0106 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Device 1	442.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.46 cfs @ 11.98 hrs HW=442.17' (Free Discharge)
└─**1=Culvert** (Passes 1.46 cfs of 1.78 cfs potential flow)
  └─**2=Orifice/Grate** (Weir Controls 1.46 cfs @ 1.35 fps)

Pond 7P: DETENTION BASIN



Summary for Pond 11P: DETENTION BASIN

Inflow Area = 11,883 sf, 85.03% Impervious, Inflow Depth = 3.10" for 10-YR event
Inflow = 1.38 cfs @ 11.97 hrs, Volume= 3,069 cf
Outflow = 1.37 cfs @ 11.98 hrs, Volume= 2,904 cf, Atten= 1%, Lag= 0.5 min
Primary = 1.37 cfs @ 11.98 hrs, Volume= 2,904 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 443.84' @ 11.98 hrs Surf.Area= 731 sf Storage= 227 cf

Plug-Flow detention time= 52.6 min calculated for 2,904 cf (95% of inflow)
Center-of-Mass det. time= 21.4 min (799.9 - 778.5)

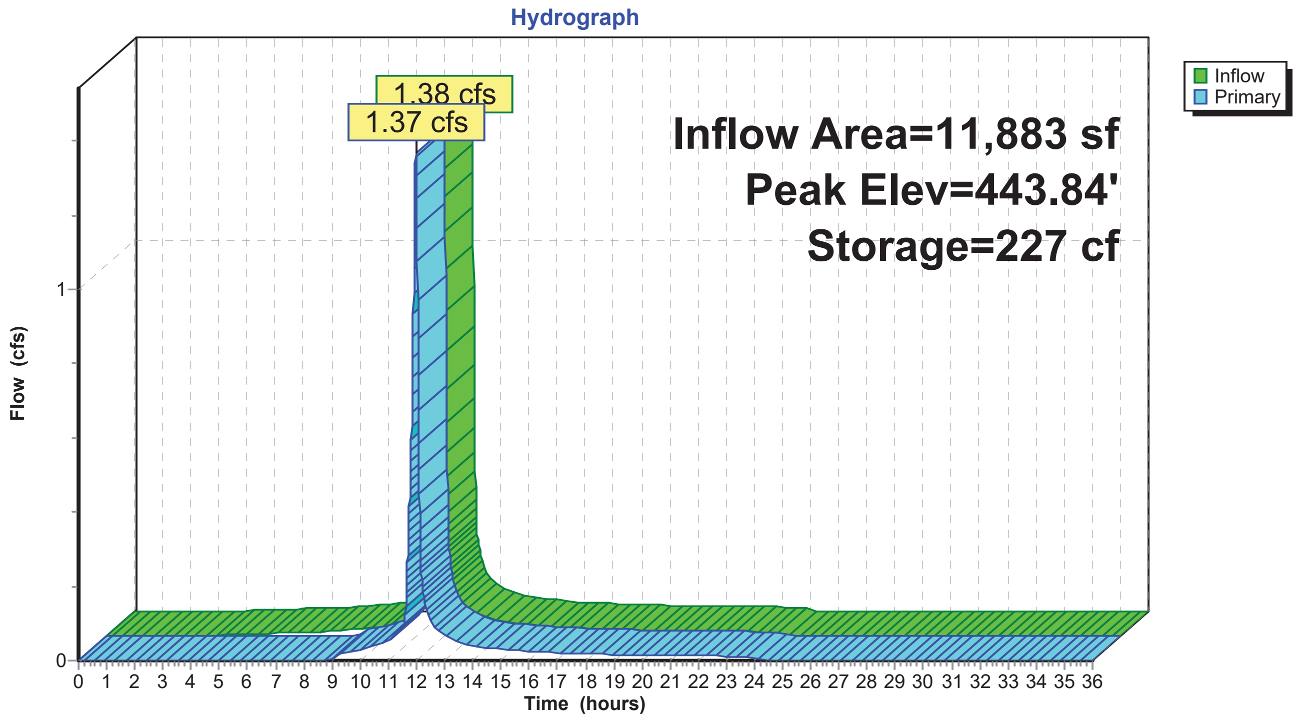
Volume	Invert	Avail.Storage	Storage Description
#1	443.50'	351 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
443.50	617	0	0
444.00	786	351	351

Device	Routing	Invert	Outlet Devices
#1	Primary	443.75'	**22.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.37 cfs @ 11.98 hrs HW=443.84' (Free Discharge)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 1.37 cfs @ 0.72 fps)

Pond 11P: DETENTION BASIN



Summary for Subcatchment 3S: POST 2A

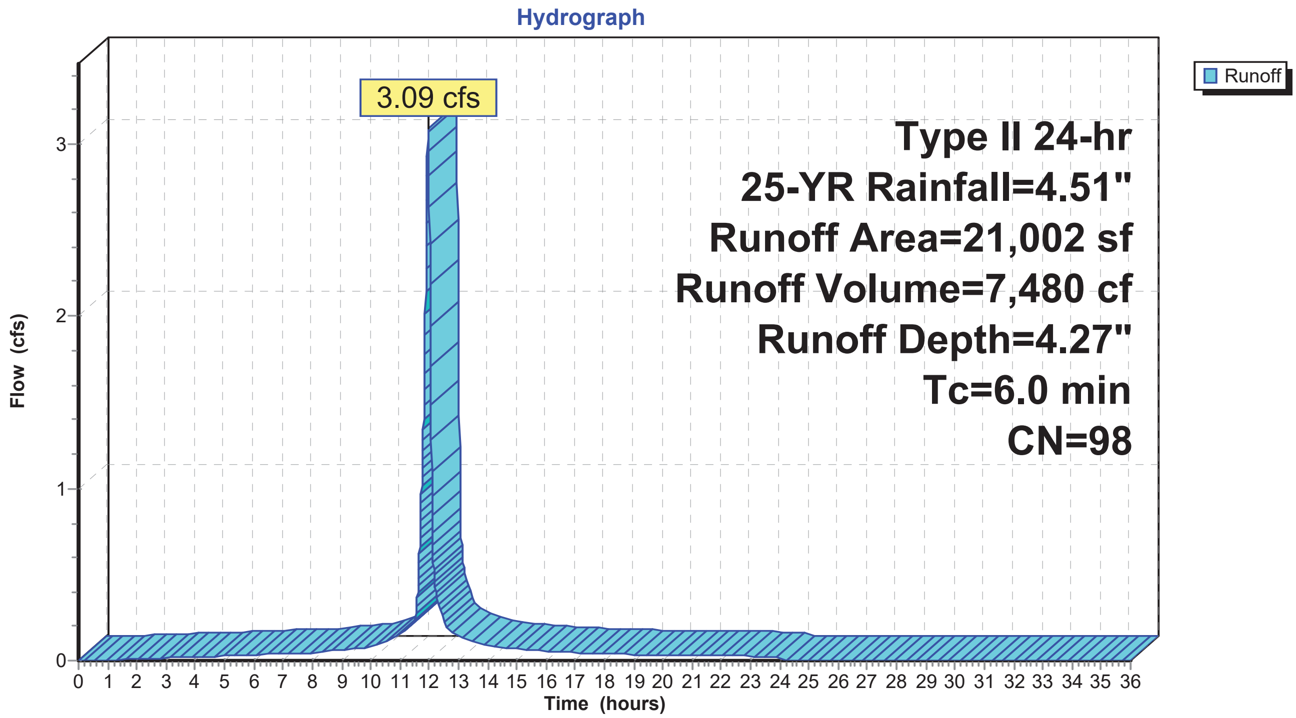
Runoff = 3.09 cfs @ 11.97 hrs, Volume= 7,480 cf, Depth= 4.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
20,682	98	Paved parking, HSG C
320	74	>75% Grass cover, Good, HSG C
21,002	98	Weighted Average
320		1.52% Pervious Area
20,682		98.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 3S: POST 2A



Summary for Subcatchment 4S: PRE 2A

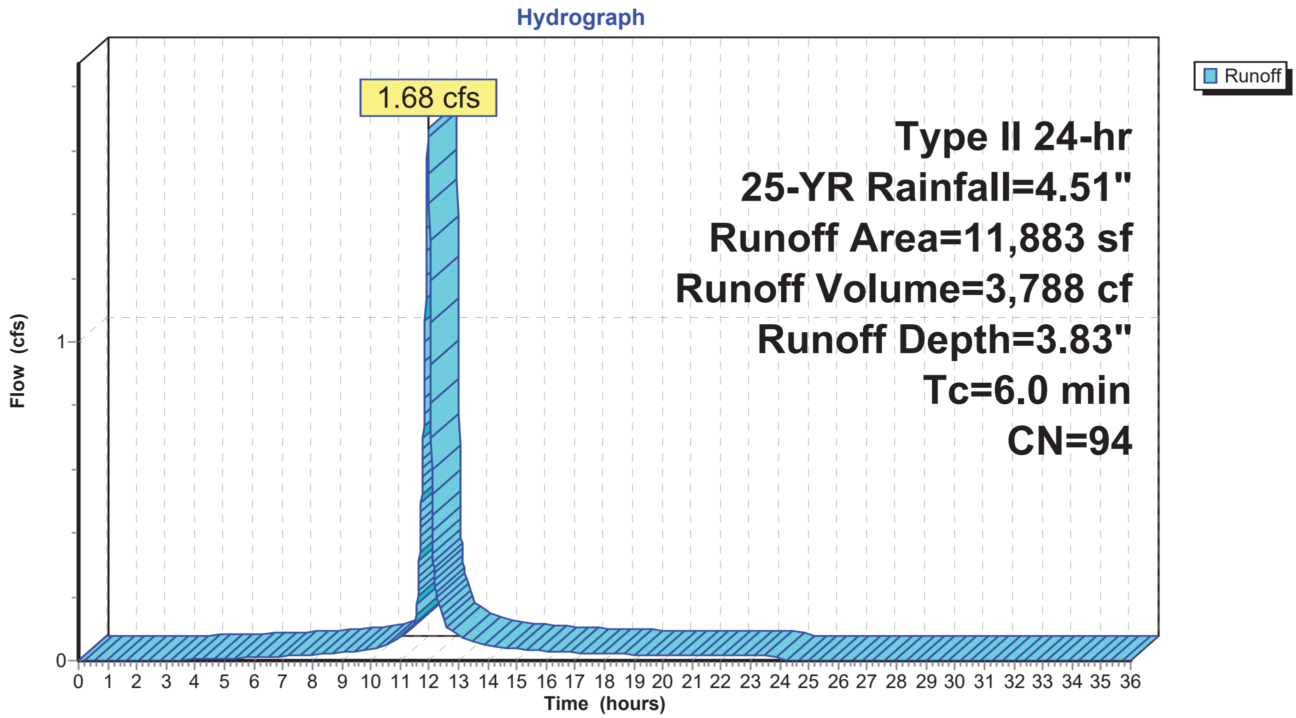
Runoff = 1.68 cfs @ 11.97 hrs, Volume= 3,788 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
10,104	98	Paved parking, HSG C
1,779	74	>75% Grass cover, Good, HSG C
11,883	94	Weighted Average
1,779		14.97% Pervious Area
10,104		85.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 4S: PRE 2A



Summary for Subcatchment 5S: PRE 2B

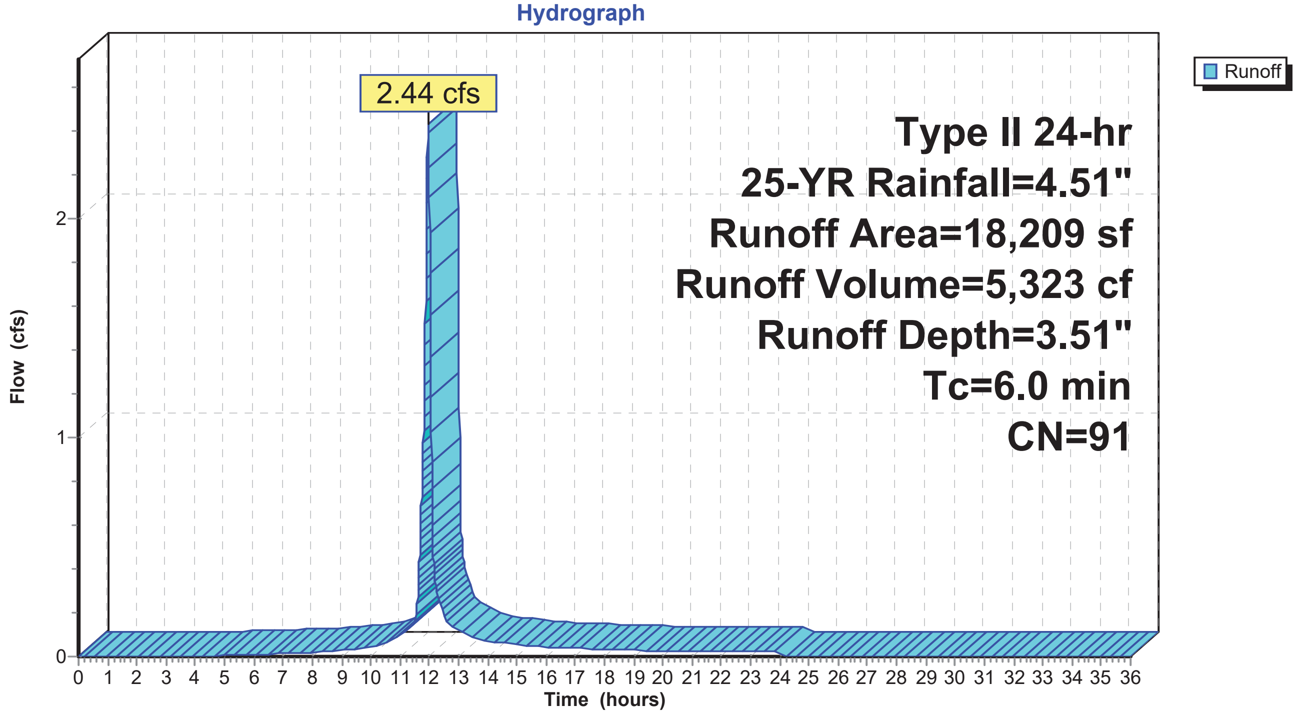
Runoff = 2.44 cfs @ 11.97 hrs, Volume= 5,323 cf, Depth= 3.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
12,591	98	Paved parking, HSG C
5,618	74	>75% Grass cover, Good, HSG C
18,209	91	Weighted Average
5,618		30.85% Pervious Area
12,591		69.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 5S: PRE 2B



Summary for Subcatchment 6S: POST 1A-2

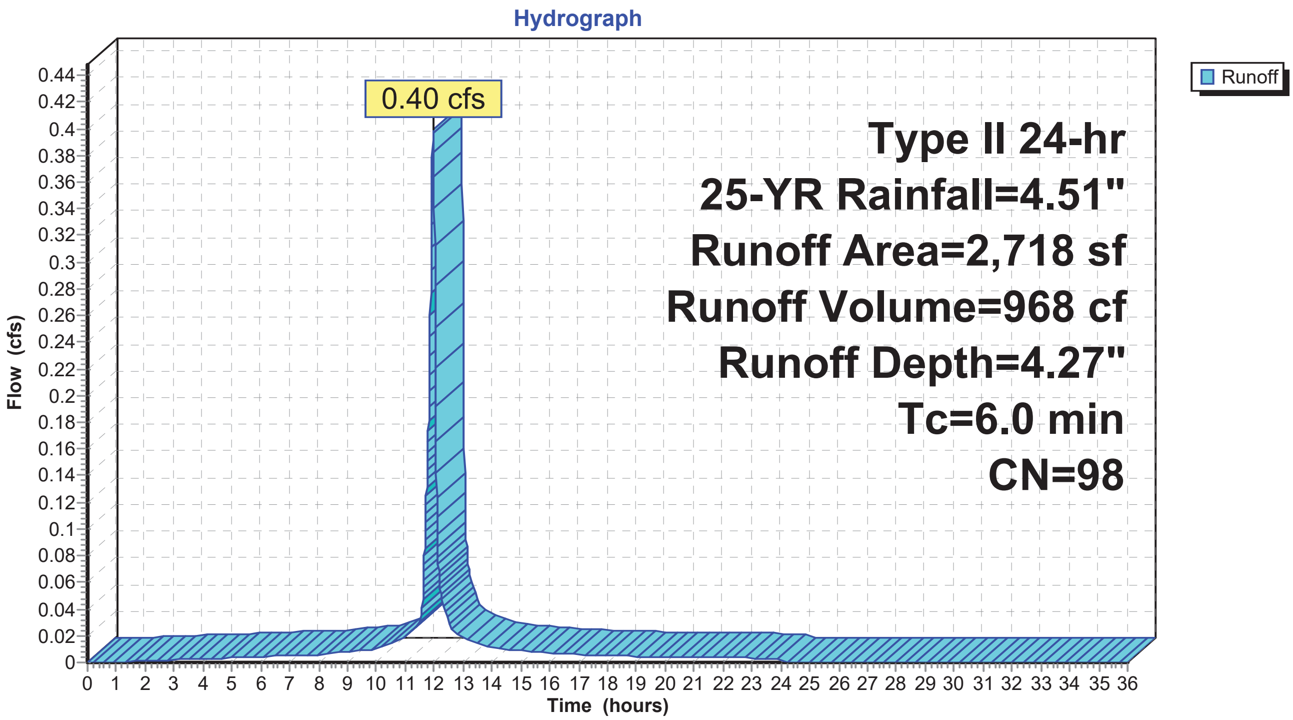
Runoff = 0.40 cfs @ 11.97 hrs, Volume= 968 cf, Depth= 4.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
2,718	98	Roofs, HSG C
2,718		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 6S: POST 1A-2



Summary for Subcatchment 7S: PRE 1A

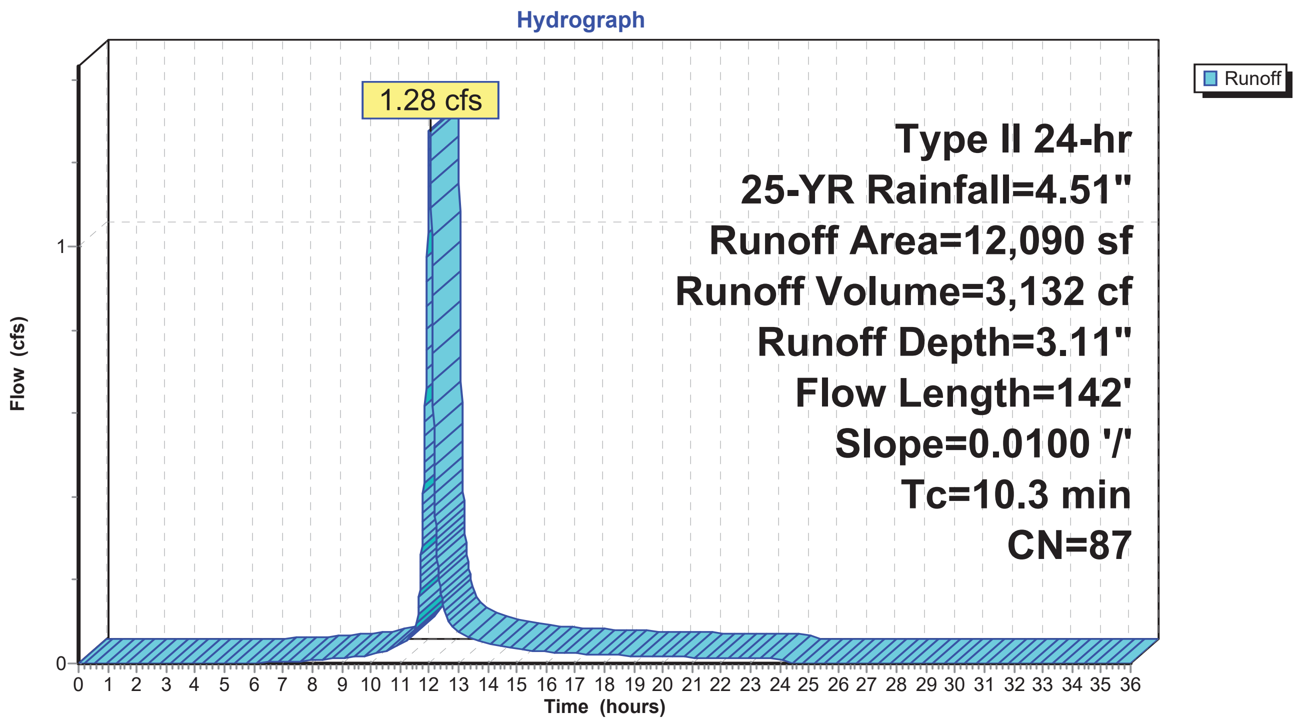
Runoff = 1.28 cfs @ 12.02 hrs, Volume= 3,132 cf, Depth= 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
6,431	98	Paved parking, HSG C
5,659	74	>75% Grass cover, Good, HSG C
12,090	87	Weighted Average
5,659		46.81% Pervious Area
6,431		53.19% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	46	0.0100	0.83		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.80"
8.4	54	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
1.0	42	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.3	142	Total			

Subcatchment 7S: PRE 1A



Summary for Subcatchment 8S: PRE 1B

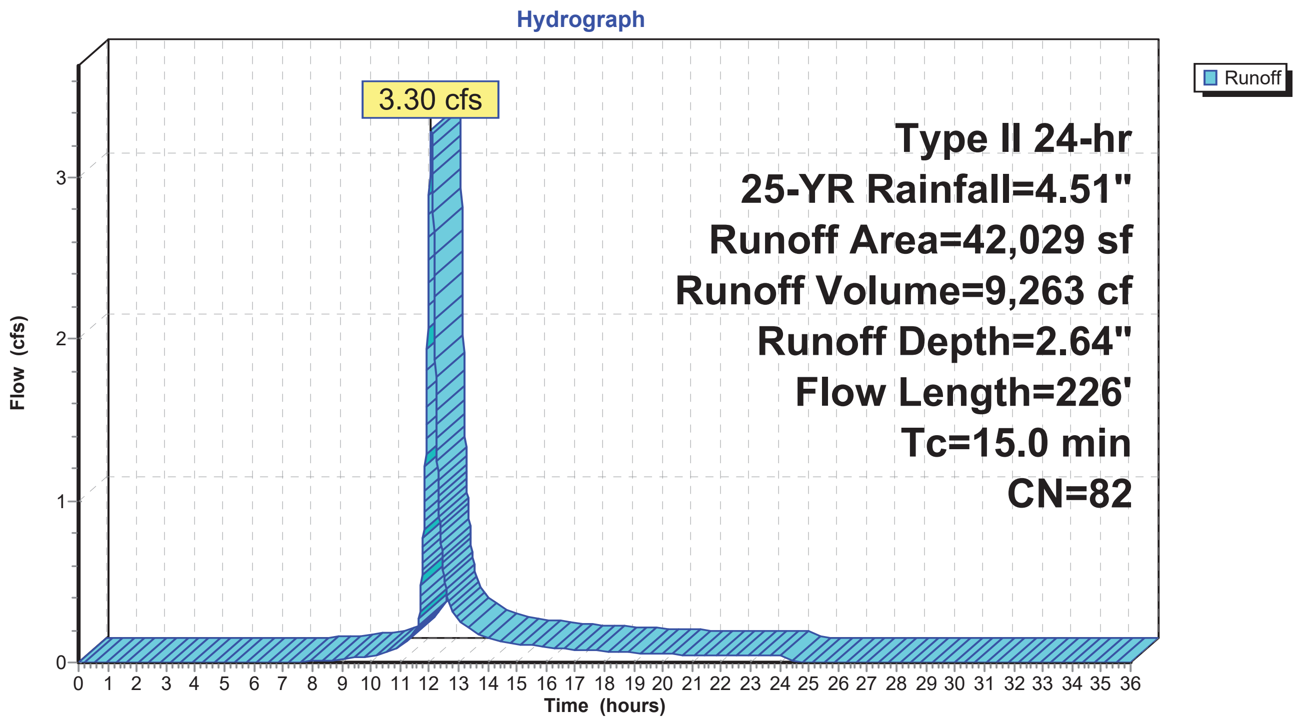
Runoff = 3.30 cfs @ 12.07 hrs, Volume= 9,263 cf, Depth= 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
13,546	98	Paved parking, HSG C
28,483	74	>75% Grass cover, Good, HSG C
42,029	82	Weighted Average
28,483		67.77% Pervious Area
13,546		32.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	100	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
1.2	126	0.0670	1.81		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.0	226	Total			

Subcatchment 8S: PRE 1B



Summary for Subcatchment 9S: PRE 3

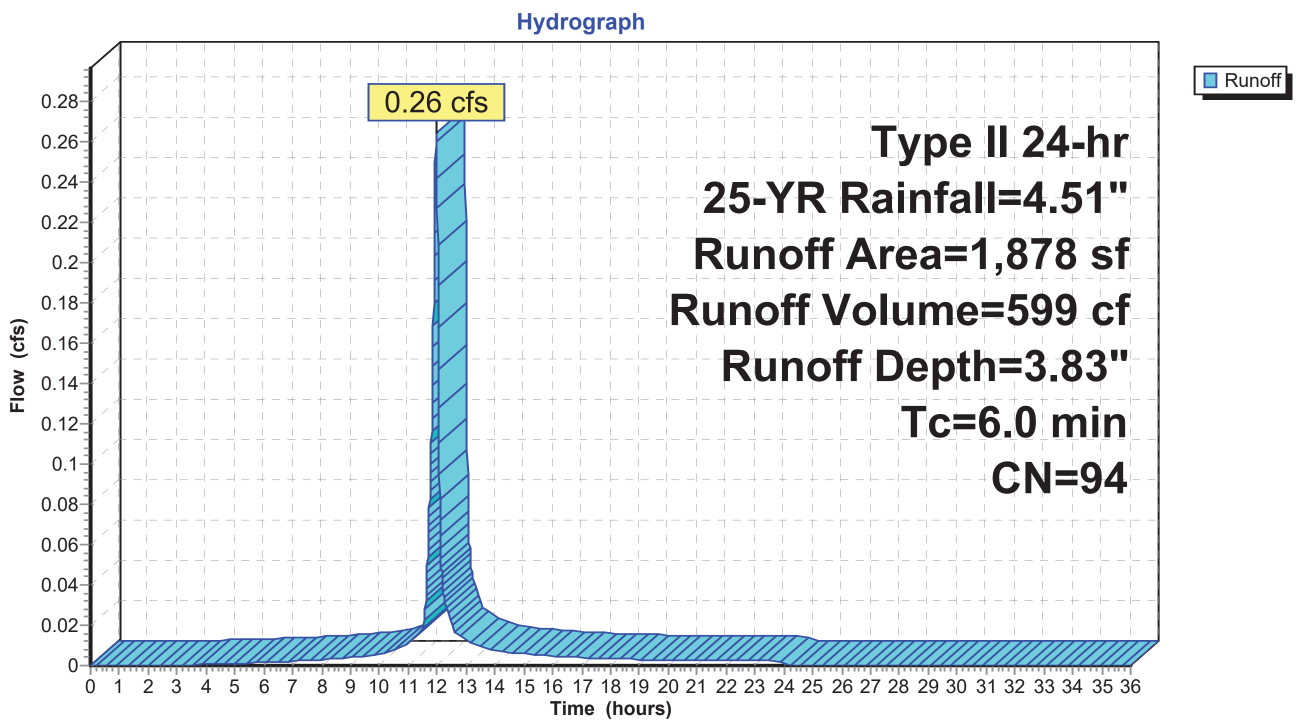
Runoff = 0.26 cfs @ 11.97 hrs, Volume= 599 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
1,604	98	Paved parking, HSG C
274	74	>75% Grass cover, Good, HSG C
1,878	94	Weighted Average
274		14.59% Pervious Area
1,604		85.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 9S: PRE 3



Summary for Subcatchment 15S: POST 3

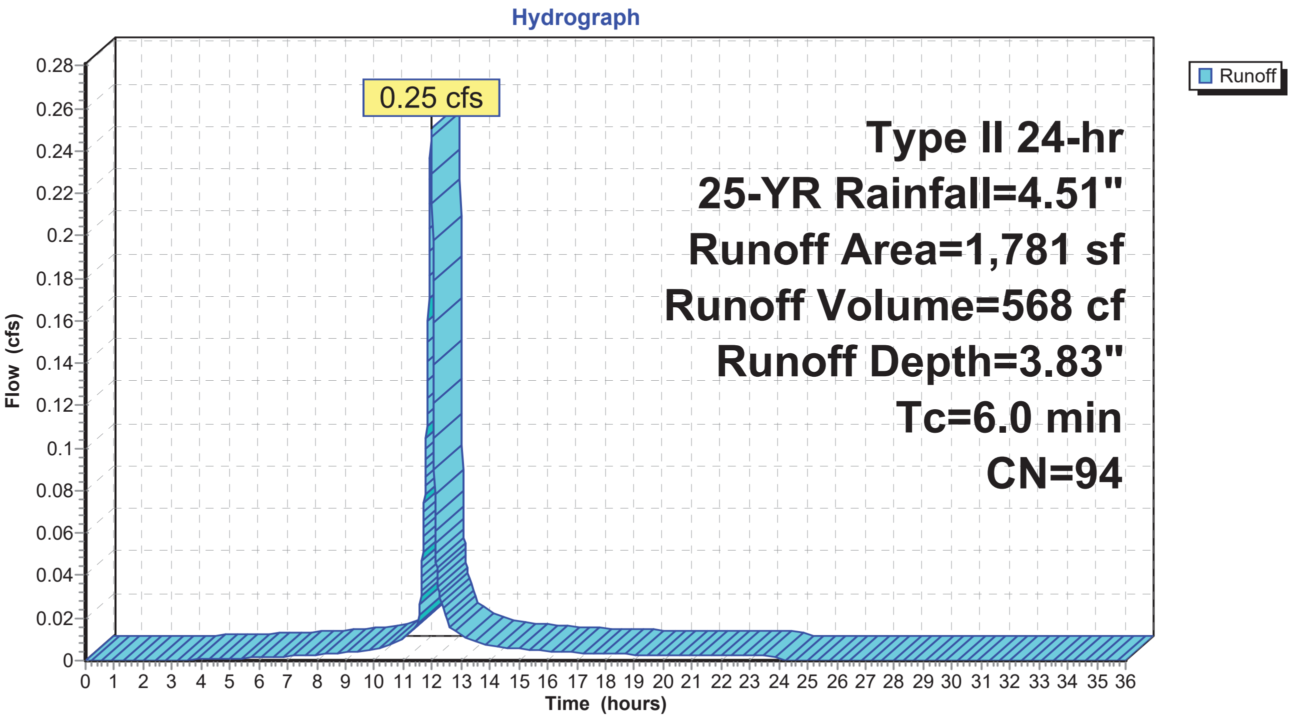
Runoff = 0.25 cfs @ 11.97 hrs, Volume= 568 cf, Depth= 3.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
1,520	98	Paved parking, HSG C
261	74	>75% Grass cover, Good, HSG C
1,781	94	Weighted Average
261		14.65% Pervious Area
1,520		85.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 15S: POST 3



Summary for Subcatchment 16S: POST 2B

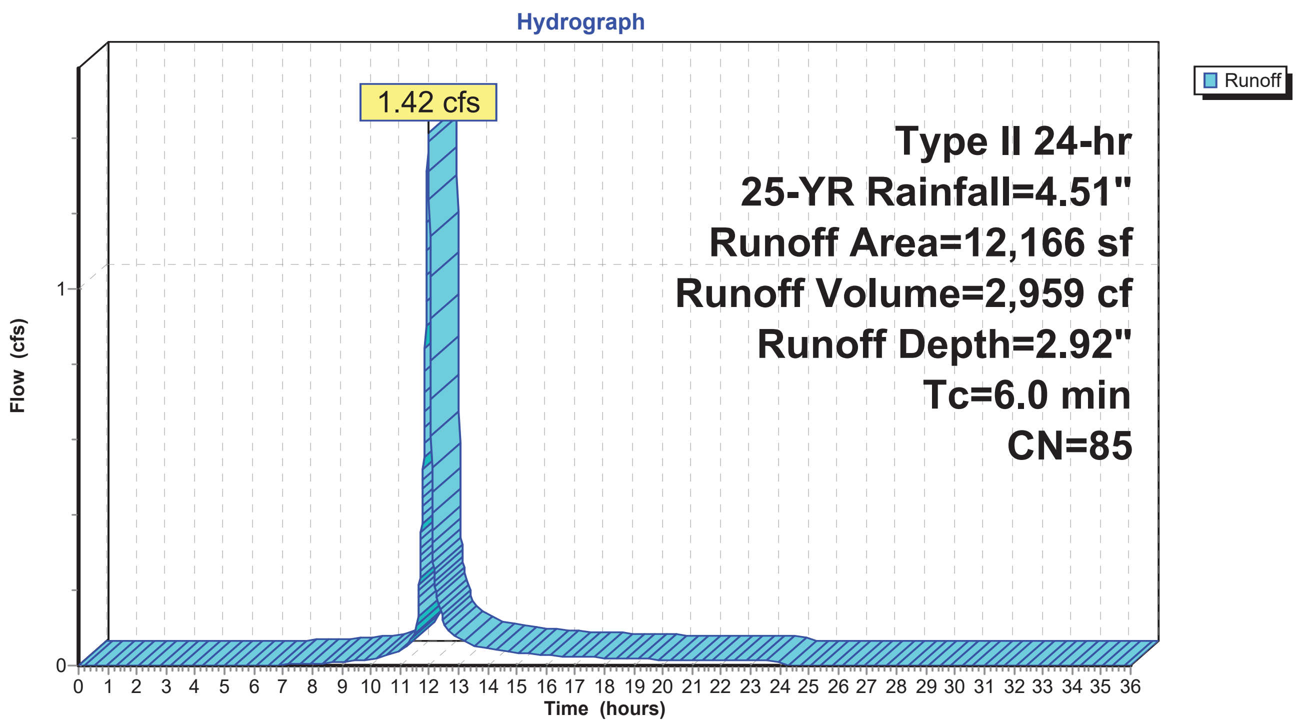
Runoff = 1.42 cfs @ 11.97 hrs, Volume= 2,959 cf, Depth= 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
5,818	98	Paved parking, HSG C
6,348	74	>75% Grass cover, Good, HSG C
12,166	85	Weighted Average
6,348		52.18% Pervious Area
5,818		47.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 16S: POST 2B



Summary for Subcatchment 18S: POST 1B

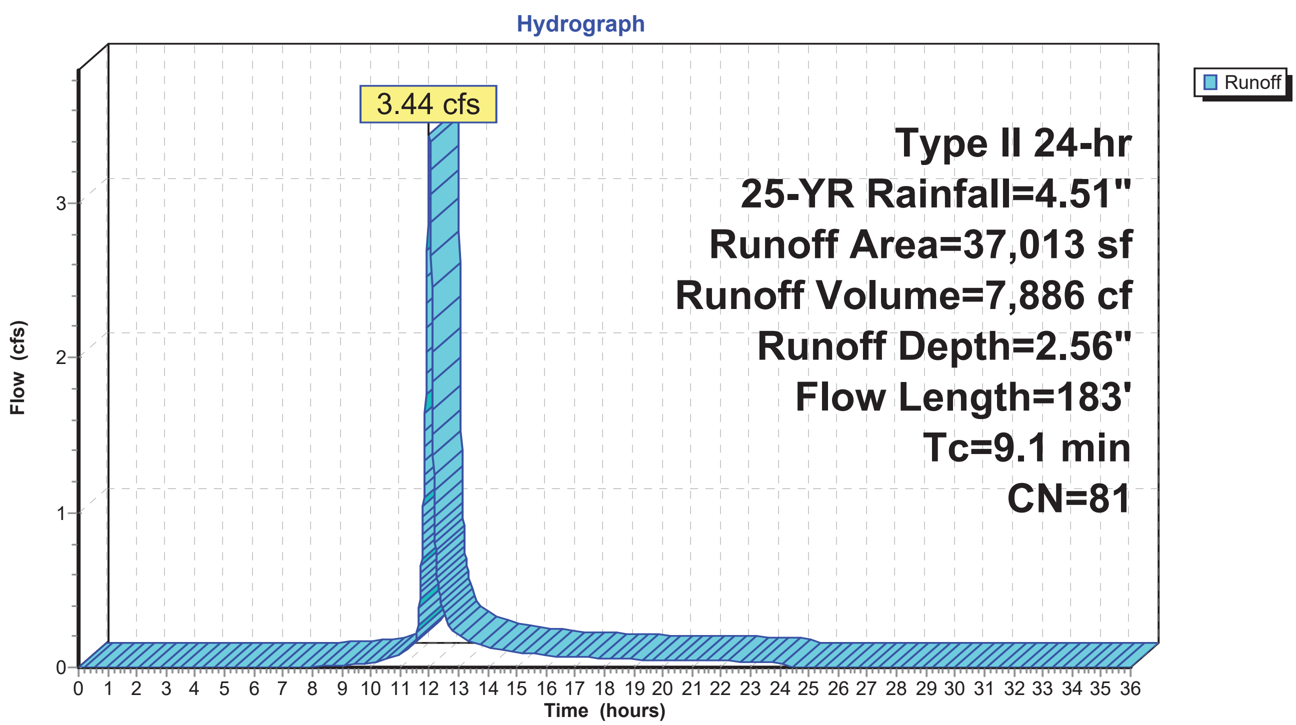
Runoff = 3.44 cfs @ 12.01 hrs, Volume= 7,886 cf, Depth= 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
10,913	98	Paved parking, HSG C
26,100	74	>75% Grass cover, Good, HSG C
37,013	81	Weighted Average
26,100		70.52% Pervious Area
10,913		29.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4	100	0.0350	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 2.80"
0.7	83	0.0780	1.95		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.1	183	Total			

Subcatchment 18S: POST 1B



Summary for Subcatchment 19S: POST 1A-1

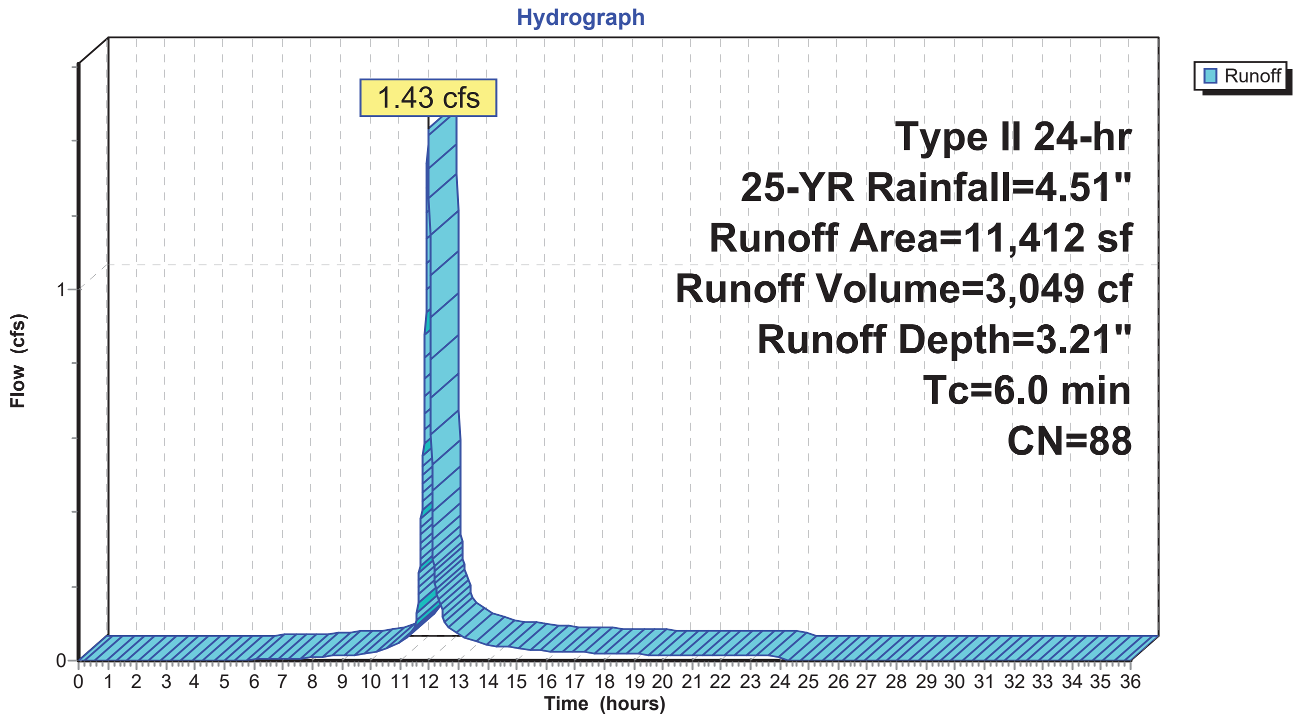
Runoff = 1.43 cfs @ 11.97 hrs, Volume= 3,049 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-YR Rainfall=4.51"

Area (sf)	CN	Description
6,499	98	Paved parking, HSG C
4,913	74	>75% Grass cover, Good, HSG C
11,412	88	Weighted Average
4,913		43.05% Pervious Area
6,499		56.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 19S: POST 1A-1



Summary for Pond 3P: UNDERGROUND DETENTION

Inflow Area = 21,002 sf, 98.48% Impervious, Inflow Depth = 4.27" for 25-YR event
Inflow = 3.09 cfs @ 11.97 hrs, Volume= 7,480 cf
Outflow = 0.91 cfs @ 12.09 hrs, Volume= 6,961 cf, Atten= 71%, Lag= 7.6 min
Primary = 0.91 cfs @ 12.09 hrs, Volume= 6,961 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 439.67' @ 12.09 hrs Surf.Area= 4,059 sf Storage= 2,972 cf

Plug-Flow detention time= 127.1 min calculated for 6,960 cf (93% of inflow)
Center-of-Mass det. time= 87.6 min (833.3 - 745.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	437.60'	0 cf	**49.50'W x 82.00'L x 3.00'H Field A** 12,177 cf Overall - 3,519 cf Embedded = 8,658 cf x 0.0% Voids
#2A	438.10'	3,519 cf	**CMP Round 24** x 56 Inside #1 Effective Size= 24.0"W x 24.0"H => 3.14 sf x 20.00'L = 62.8 cf Overall Size= 24.0"W x 24.0"H x 20.00'L 56 Chambers in 14 Rows
		3,519 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	438.50'	**6.0" Round Culvert** L= 40.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 438.50' / 437.75' S= 0.0185 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.91 cfs @ 12.09 hrs HW=439.67' (Free Discharge)
1=Culvert (Inlet Controls 0.91 cfs @ 4.63 fps)

Pond 3P: UNDERGROUND DETENTION - Chamber Wizard Field A

Chamber Model = CMP Round 24 (Round Corrugated Metal Pipe)
Effective Size= 24.0"W x 24.0"H => 3.14 sf x 20.00'L = 62.8 cf
Overall Size= 24.0"W x 24.0"H x 20.00'L

24.0" Wide + 18.0" Spacing = 42.0" C-C Row Spacing

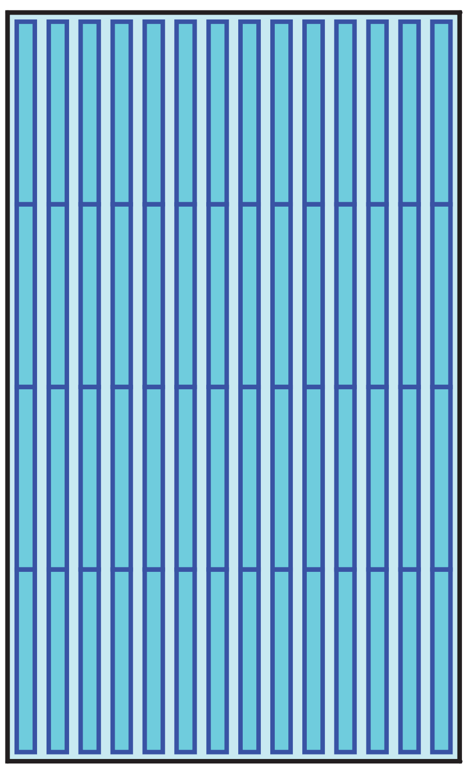
4 Chambers/Row x 20.00' Long = 80.00' Row Length +12.0" End Stone x 2 = 82.00' Base Length
14 Rows x 24.0" Wide + 18.0" Spacing x 13 + 12.0" Side Stone x 2 = 49.50' Base Width
6.0" Base + 24.0" Chamber Height + 6.0" Cover = 3.00' Field Height

56 Chambers x 62.8 cf = 3,518.6 cf Chamber Storage

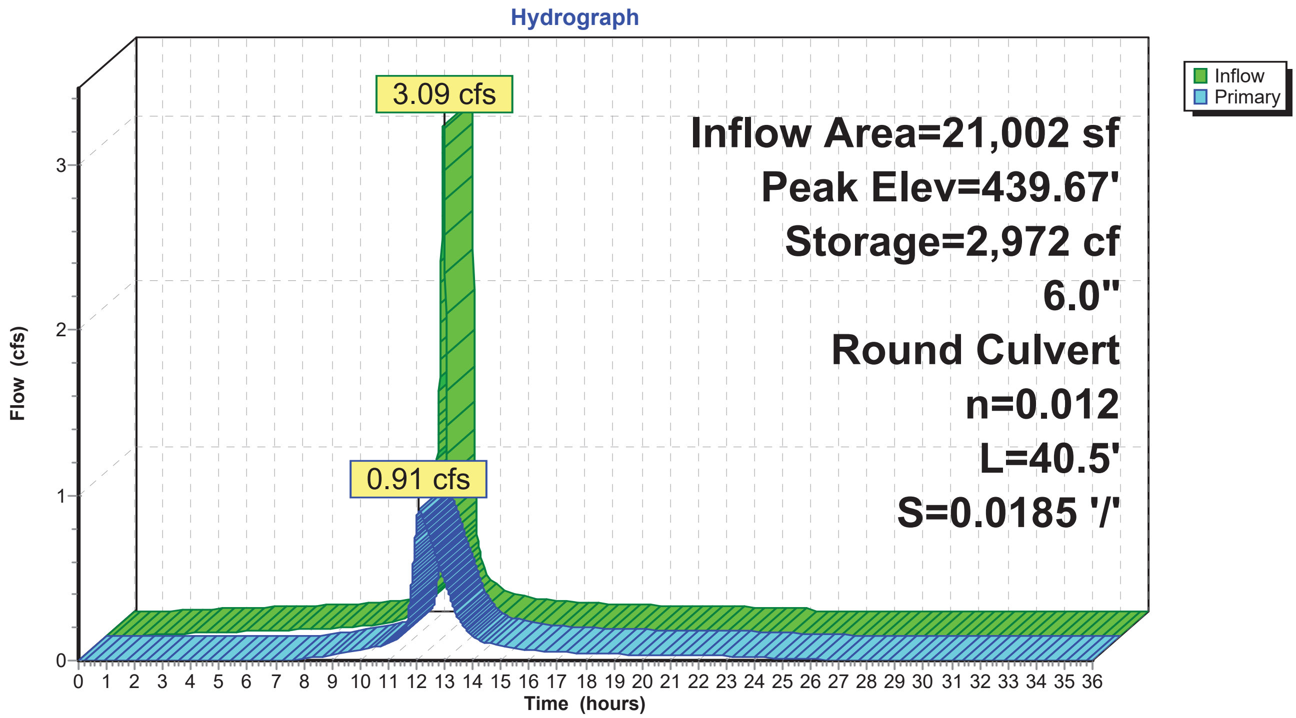
12,177.0 cf Field - 3,518.6 cf Chambers = 8,658.4 cf Stone x 0.0% Voids = 0.0 cf Stone Storage

Chamber Storage = 3,518.6 cf = 0.081 af
Overall Storage Efficiency = 28.9%
Overall System Size = 82.00' x 49.50' x 3.00'

56 Chambers
451.0 cy Field
320.7 cy Stone



Pond 3P: UNDERGROUND DETENTION



Summary for Pond 7P: DETENTION BASIN

Inflow Area = 14,130 sf, 65.23% Impervious, Inflow Depth = 3.41" for 25-YR event
Inflow = 1.83 cfs @ 11.97 hrs, Volume= 4,017 cf
Outflow = 1.78 cfs @ 11.99 hrs, Volume= 3,708 cf, Atten= 3%, Lag= 1.2 min
Primary = 1.78 cfs @ 11.99 hrs, Volume= 3,708 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 442.20' @ 11.99 hrs Surf.Area= 482 sf Storage= 402 cf

Plug-Flow detention time= 69.0 min calculated for 3,707 cf (92% of inflow)
Center-of-Mass det. time= 27.0 min (812.8 - 785.8)

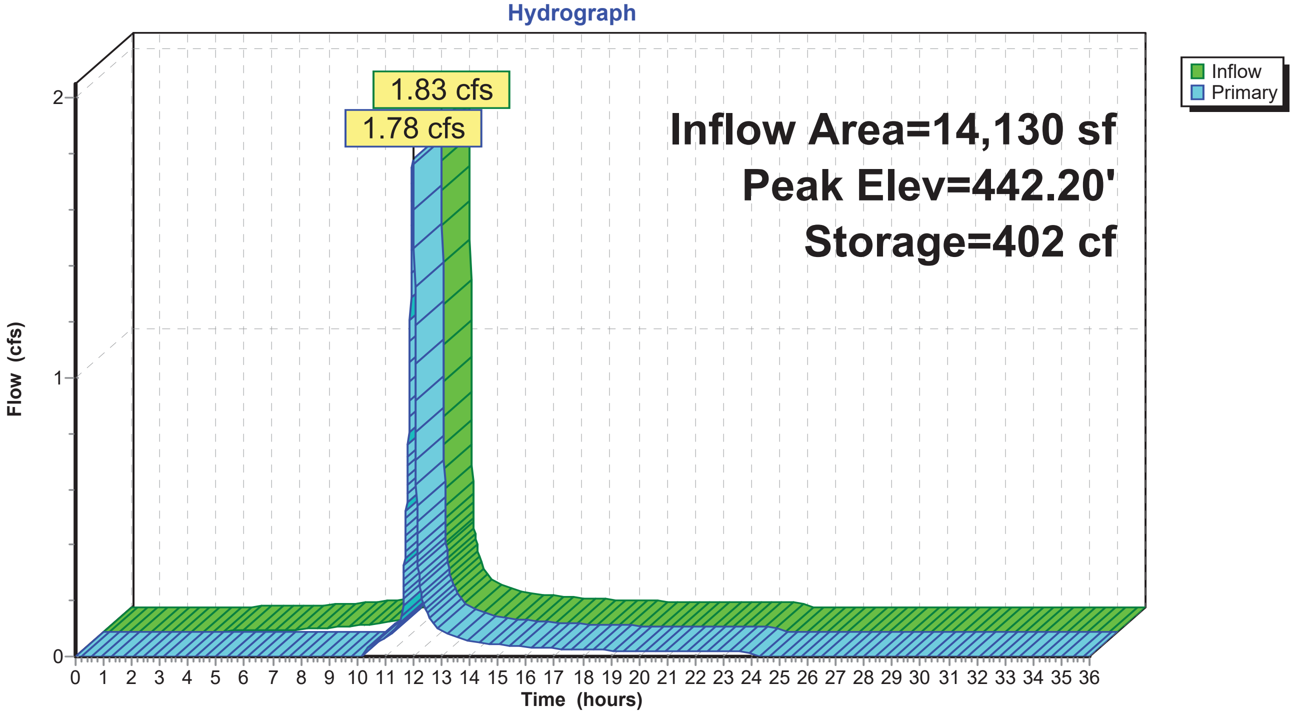
Volume	Invert	Avail.Storage	Storage Description
#1	441.00'	556 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
441.00	193	0	0
442.00	425	309	309
442.50	563	247	556

Device	Routing	Invert	Outlet Devices
#1	Primary	438.00'	**6.0" Round Culvert** L= 23.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 438.00' / 437.75' S= 0.0106 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.20 sf
#2	Device 1	442.00'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.78 cfs @ 11.99 hrs HW=442.20' (Free Discharge)
└─**1=Culvert** (Barrel Controls 1.78 cfs @ 9.09 fps)
  └─**2=Orifice/Grate** (Passes 1.78 cfs of 1.90 cfs potential flow)

Pond 7P: DETENTION BASIN



Summary for Pond 11P: DETENTION BASIN

Inflow Area = 11,883 sf, 85.03% Impervious, Inflow Depth = 3.83" for 25-YR event
Inflow = 1.68 cfs @ 11.97 hrs, Volume= 3,788 cf
Outflow = 1.67 cfs @ 11.98 hrs, Volume= 3,623 cf, Atten= 1%, Lag= 0.5 min
Primary = 1.67 cfs @ 11.98 hrs, Volume= 3,623 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 443.85' @ 11.98 hrs Surf.Area= 735 sf Storage= 236 cf

Plug-Flow detention time= 45.5 min calculated for 3,622 cf (96% of inflow)
Center-of-Mass det. time= 19.4 min (792.4 - 773.0)

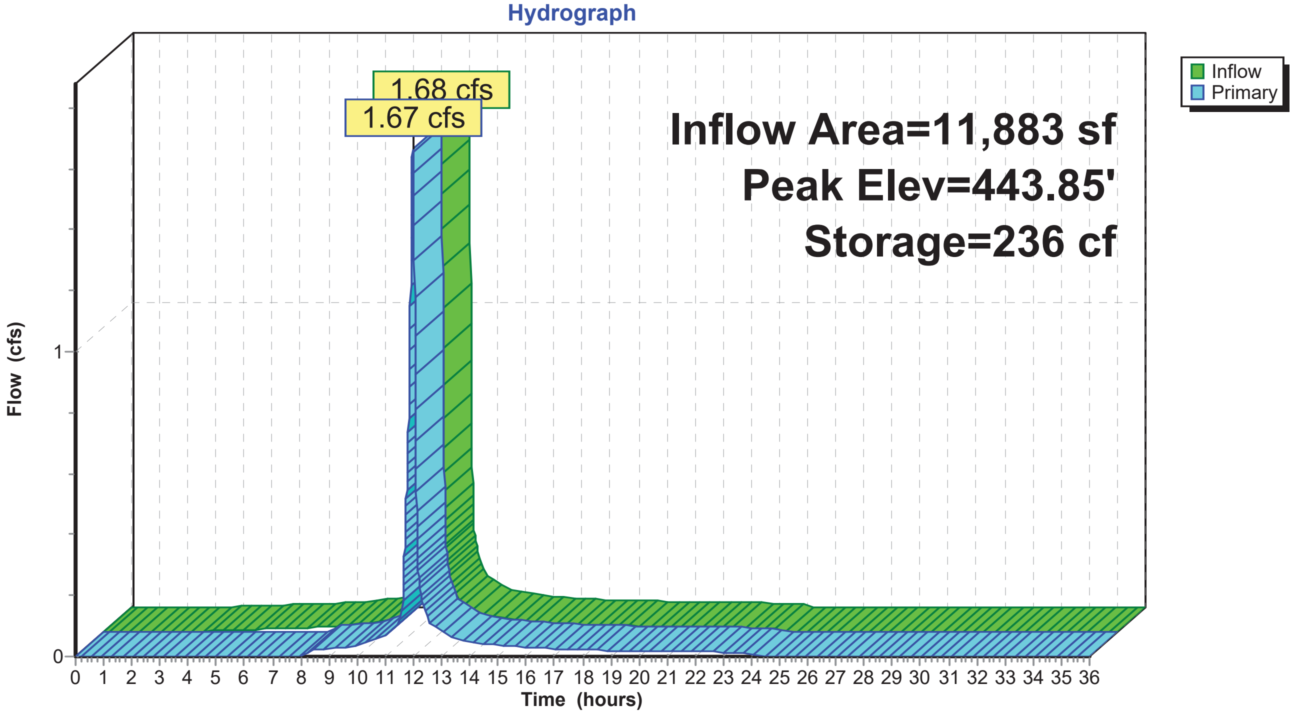
Volume	Invert	Avail.Storage	Storage Description
#1	443.50'	351 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
443.50	617	0	0
444.00	786	351	351

Device	Routing	Invert	Outlet Devices
#1	Primary	443.75'	**22.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.66 cfs @ 11.98 hrs HW=443.85' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 1.66 cfs @ 0.77 fps)

Pond 11P: DETENTION BASIN



"BASIC"
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROLS ONLY

FOR

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

Prepared For:

Highbridge Development HRS, LLC
2145 Technology Park
Schenectady, NY 12305

November 3, 2023

Project No. 5618A

Prepared By:

Luigi A. Palleschi, P.E.
ABD Engineers & Surveyors, LLP
411 Union Street
Schenectady, NY 12305
(518) 377-0315

“BASIC”
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROLS ONLY

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
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“BASIC”
STORMWATER POLLUTION PREVENTION PLAN
EROSION & SEDIMENT CONTROLS ONLY

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

1.0 SITE DESCRIPTION

1.1 PROJECT NAME AND LOCATION

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

1.2 OWNER NAME AND ADDRESS

Highbridge Development HRS, LLC
376 Broadway
Schenectady, NY 12305

1.3 PLANS AND REPORTS

Plans and additional reports to be listed in conjunction with this Stormwater Management Pollution Prevention Plan are as follows:

- Plans entitled “Preliminary Site Plan, Building Addition, 1430 Balltown Road, Town of Niskayuna, New York”, prepared by ABD Engineers & Surveyors, LLP, and dated November 3, 2023, as revised.
- Stormwater Management Report entitled “2,700± SF Building Addition & Parking Lot Expansion, 1430 Balltown Road, Town of Niskayuna, New York”, prepared by ABD Engineers & Surveyors, LLP, and dated November 3, 2023, as revised.

1.4 DESCRIPTION: (PURPOSE AND TYPES OF SOIL DISTURBING ACTIVITIES)

The proposed facility is located on Balltown Road in the Town of Niskayuna, Schenectady County, New York (see Exhibit 1). The site is bordered on the north by Hatchet Hardware of Niskayuna, on the east by Niskayuna KinderCare, on the south by WRGB CBS 6, and on the west by Balltown Road.

The Owner/Applicant, Highbridge Development HRS, LLC is proposing to further develop the 1.98± acre parcel in order to construct a 2,700± SF addition to the existing office building, and to expand the existing parking lot from 39 spaces to 61 spaces, along with associated pavement, utilities, and stormwater management areas. Access to the site will continue to be provided off Balltown Road and through parking lot connections with neighboring properties. The total disturbance area proposed is 0.76± acres and is less than 1 acre which does not require the development of a SWPPP in accordance with the SPDES General Permit.

According to the Schenectady County NRCS, the primary hydrologic soil group is Type-C/D, channery silt loam. The site drains offsite to the Balltown Road stormwater drainage system.

Soil disturbing activities include cuts and fills to produce suitable grades for construction of the project components listed above. Installation of utilities will require trench excavation and backfilling. An area of about 0.76± acres will be disturbed during construction.

1.5 Stormwater Management Plan

See Stormwater Management Report separately attached.

1.6 Sequence of Major activities

The following is the general sequence to complete the construction on the site:

1.61 Site Preparation. Silt fence along the disturbance limits will be installed and shall remain in place until all areas being served are stabilized. Perimeter sediment traps will be constructed prior to the commencement of construction activity. A temporary construction entrance will be installed within the site to complete the rough grading for the building. Clearing and earth disturbance shall be limited to that necessary to install temporary sediment control measures and stormwater detention areas.

1.62 Rough Grading. Additional trees and other vegetation will be removed from areas to be disturbed. Some topsoil stripping and stockpiling will take place to be used later in landscaped areas. Earthmoving to grade the site to approved finish grades may then occur. Any additional required silt fencing will be installed. Temporary sediment traps will be built to capture construction runoff and contain it onsite.

1.63 Site Preparation. Building location will be graded to establish the finished floor elevation. The construction of the building will occur concurrently with the remaining site work.

1.64 Utility Installation. Water, utilities, and drainage facilities will be installed once subgrades are established and fills are compacted.

1.65 Paving. The pavement will be installed. All pavement areas as shown on the plans will be paved.

1.66 Landscaping. All areas will be seeded in accordance with the plan. All disturbed areas must be stabilized. 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 fourteen (14) days from the date the current soil disturbance activity ceased.

1.7 Name of Receiving Waters

The nearest surface body of water is a tributary of the Mohawk River.

2.0 CONTROLS

2.1 Erosion and Sediment Controls. Stabilization Practices.

Disturbed areas within the limits of grading will be stabilized by planting/seeding and mulching. Where seeding stabilization is needed, perennial rye grass applied at a rate of 150 pounds per acre may be used. All seeded areas are then to be mulched using straw mulch at a rate of 2 ton per acre. If anchoring of the straw mulch is needed, wood fiber mulch may then be applied at a rate of 500 pounds per acre.

2.2 Structural Practices.

Silt fence will be placed on the downhill side of exposed slopes and trenches before clearing or excavation take place. The silt fence shall Marafi 100X geotextile fabric, or equal, attached to 2"x2" minimum wooden stakes as per manufacturer's recommendations as shown on the "Erosion and Sediment Control Details". It shall remain and be inspected and maintained until the site is stabilized. Maintenance shall be performed as needed, and sediment material removed when "bulges" develop in the silt fence. Inspections shall be frequent, and repairs shall be made promptly as needed. Silt barriers will also be installed in the flow line of drainage channels and ditches. Erosion control barriers will be supplemented as necessary during construction and will be maintained throughout the duration of site construction activity by the Contractor.

Runoff will be directed away from excavated areas, and temporary swales will be installed with a minimum grade of one percent. Stabilization shall occur as soon as practicable.

Watering of excavation and fill areas to minimize wind erosion during construction should be accomplished as required.

Stabilization in areas where soil disturbance has temporarily or permanently ceased should be initiated by the end of the next business day and completed within 14 days. During winter construction from November 15 to the following April 1, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days, in areas where soil disturbance activity has temporarily or permanently ceased.

At any location where surface runoff from disturbed or graded areas may flow off the construction area, temporary sediment control measures must be installed to prevent sediment from traveling off site. No grading, filling, or other disturbance is allowed within existing drainage swales.

At the end of each workday during earthwork, operators shall grade all areas to temporary sediment trap(s). Temporary and permanent sediment traps shall be dewatered after all rainfall events if captured water does not infiltrate within 24 hours after the end of rainfall. Traps should be dewatered to sediment bags located in relatively level areas, preferably undisturbed areas of native vegetation. At no time shall a trap be dewatered directly to a stream or wetland.

The onsite certified contractor is responsible to inspect all erosion control measures employed during construction activities to measure proper performance.

In areas where construction would take place in “wet soils”, curtain drains or subsurface drainage will be installed to de-water the soils.

The Contractor will be held responsible for any soil exposure and/or erosion that occurs outside the defined limits of work and haul roads, and will immediately install erosion and sediment control measures and stabilize disturbed areas. Furthermore, any fines that could arise as a result of improper implementation of this Stormwater Pollution Prevention Plan (SWPPP) will be the responsibility of the Contractor. Only the owner or his designated representative will have the authority to authorize Contractor-requested disturbance beyond the limits on these plans.

To prevent sediment laden water from entering the storm drain system through the inlets, all catch basins will be protected by the “fabric barrier drop inlet protection” practice until the drainage areas served by these catch basins are stabilized. The fabric barrier shall be inspected after each rain event and repairs made as needed. Sediment shall be removed as necessary and disposed of properly.

Locate temporary topsoil stockpiles in areas, which do not receive direct runoff from swales or streams. The temporary topsoil stockpiles shall be protected with diversion swales if necessary. Locate temporary topsoil stockpile areas beyond proposed grading activities. To minimize erosion potential, enclose temporary topsoil stockpile areas with silt fencing. Seed temporary topsoil stockpile areas to reduce erosion if stored for prolonged periods.

All silt or sediment accumulations will be cleaned from temporary sediment traps.

All temporary sediment traps and all drainage swales shall be kept free of debris and litter, and the vegetation should be maintained to allow unobstructed flow of stormwater.

Any slopes or embankments which have damaged vegetation will be reseeded as necessary.

All grass swale areas will be mowed so as to facilitate unobstructed flow of stormwater.

2.3 OTHER CONTROLS

2.31 Waste Disposal

2.311 Waste Materials:

All waste materials generated during site preparation and construction will be disposed of at a suitable landfill, transfer station or C & D landfill.

The contractors shall inspect for and have litter picked up on a daily basis.

2.312 Hazardous Waste

The project will not be a generator of hazardous waste and it is not anticipated that any hazardous waste will be generated during construction. If there are any materials generated, a licensed hazardous waste carrier will be contracted to dispose of the hazardous material at a suitable disposal site. If hazardous materials are discovered during construction, the work will be stopped until the issue is resolved.

2.313 Sanitary Waste

Portable sanitary facilities will be made available to construction personnel and will be serviced regularly.

2.32 Offsite Vehicle Tracking.

Earthwork equipment involved with the construction will remain on the project site and will not regularly egress or ingress the site. Any trucks used to bring in materials or remove materials will do so over a stabilized construction entrance so as to capture mud and debris before they enter the public highway. The stabilized construction entrance shall be 50 feet minimum in length by 24 feet minimum in width. Typar 3401, or equal, filter cloth will be placed over the entire area prior to the placement of 6 inches of 2" stone. The entrance shall be maintained in a condition that will prevent tracking, or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand. Periodic inspection and needed maintenance shall be provided after each rain. If significant off-site vehicle tracking begins to occur, the contractor will be directed to institute a regular street sweeping program in the vicinity of the site.

3.0 TIMING OF CONTROLS/MEASURES

Prior to commencement of construction activity, owner or operator must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices within this SWPPP. Temporary structural erosion controls will be installed prior to earthwork as per the aforementioned plans.

The Owner shall have the engineer conduct an assessment of the site prior to the commencement of construction, the appropriate erosion and sediment controls described in this SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Structural erosion controls and non-stabilized areas shall be inspected on a regular basis by a qualified contractor.

To prevent sediment laden water from entering the storm drain system through the inlets, all catch basins will be protected by the "fabric barrier drop inlet protection" practice until the drainage areas served by these catch basins are stabilized. The fabric barrier shall be inspected after each rain event and repairs made as needed. Sediment shall be removed as necessary and disposed of properly.

All temporary sediment traps shall be pumped out within 24 hours of the end of all rainfall events if stormwater has not drained or infiltrated.

Temporary erosion control devices will not be removed until the growth of vegetation or other erosion control measures stabilizes the area served.

In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased.

The Owner and Contractor shall retain copies of the Stormwater Pollution Prevention Plan on site at all times.

During construction of the project, all inspection, maintenance, and repair procedures as stated in this Stormwater Pollution Prevention Plan are the ultimate responsibility of the Owner of the project, his heirs or assigns.

All temporary measures that were installed in accordance with this Stormwater Pollution Prevention Plan shall remain the ultimate responsibility of the Owner of the project, his heirs or assigns, until such time as all areas being served are stabilized. Only after this stabilization occurs may these temporary measures be removed. A site can be considered finally stabilized when all soil disturbing activities have been completed and a uniform perennial vegetative cover with a density of 80% for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established.

The long term post-construction inspection, maintenance, and repair procedures as stated in this Stormwater Pollution Prevention Plan will be performed by the Owner of the project, his heirs or assigns.

The Owner of the project, his heirs or assigns, will have the ultimate responsibility of the long-term maintenance, and repair procedures for all of the entire stormwater system as shown on the plans.

4.0 CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

The proposed development will disturb less than 1 acre of soil and SPDES General Permit coverage is not required. The standard methods for Erosion and Sediment Control do still apply as shown on the plans and defined within the SWPPP.

5.0 MAINTENANCE/INSPECTION PROCEDURES

5.1 EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

These are the inspections and maintenance practices that will be used to maintain erosion and sediment controls:

- A trained individual, appointed by the Contractor’s construction manager, will supervise day to day activities on the site during soil disturbing activities and inspect the erosion control devices.
- All measures will be maintained in good working order and be fully operational. If repair is necessary, it will be initiated within 24 hours of discovery.
- Inspection, must look for evidence of the soil erosion on the site, potential of pollutants entering drainage systems, and signs of soil and mud transport from the site to the public road at the entrance.
- Silt fence maintenance shall be performed as needed, and sediment material removed when “bulges” develop in the silt fence.
- Built up sediment will be removed from silt fence if it ever reaches one-third the height of the structural control.

- Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- All temporary sediment traps should be inspected for stability and integrity once a week and after any storm event. Any structural failure in sediment traps or trenches that serve them will be repaired within 24 hours after detection.
- All temporary sediment traps shall be pumped dry after all rainfall events that cause water to accumulate in the trap. Traps shall be dewatered to an undisturbed upland area or to a sediment bag.
- All temporary sediment traps shall be cleaned out when one half the design depth of the basin has accumulated. All spoils shall be removed to a stabilized upland area.
- The "fabric barrier drop inlet protection", installed at all catch basins to keep sediment from entering the storm drain system, shall be inspected after each rain event and repairs made as needed. Sediment shall be removed as necessary and disposed of properly.
- Stabilized construction entrance inspection and needed maintenance shall be provided after each rain.
- The trained individual shall inspect for and have litter picked up on a daily basis.
- Where seeding stabilization is needed, perennial ryegrass applied at a rate of 150 pounds per acre may be used. All seeded areas are then to be mulched using straw mulch at a rate of 2 ton per acre. If anchoring of the straw mulch is needed, wood fiber mulch may then be applied at a rate of 500 pounds per acre.
- Seeded and planted areas will be inspected for bare spots, washouts and healthy growth. If necessary, replanting, reseeding or sodding will be implemented.

6.0 INVENTORY FOR POLLUTION PREVENTION PLAN: SPILL PREVENTION

6.1 MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

6.11 Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project:

- An effort will be made to store only enough product required to do the job.

- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers, and if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer,
- Whenever possible, all of a product will be used up before disposal.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The trained individual will inspect daily to ensure proper use and disposal of materials onsite.
- The contractor shall prohibit washing of tools, equipment and machinery in or within 100 feet of any watercourse or wetland and install sediment traps to filter runoff from washing operations that could enter any watercourse.

6.12 Hazardous Products

These practices are used to reduce the risks associated with hazardous materials:

- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data sheets will be retained; they contain important product information.
- If surplus product must be disposed of, manufacturers' or local and State recommended methods for proper disposal will be followed.

6.2 Product Specific Practices

The following product specific practices will be followed onsite:

6.21 Petroleum Products

- Construction personnel should be made aware that emergency telephone numbers are located in this SWPPP
- The contractor shall immediately contact NYSDEC in the event of a spill, and shall take all appropriate steps to contain the spill including constructing a dike around the spill and placing absorbent material over this spill. The sorbent material is to be swept up and disposed of legally offsite.
- The contractor shall instruct personnel that spillage of fuels, oils, and similar chemicals must be avoided.

- Fuels, oils and chemicals will be stored in appropriate and tightly capped containers. Containers shall not be disposed of on the project site.
- Store fuels, oils, chemicals, material and equipment and locate sanitary facilities away from trees and at least 100 feet from streams, wells, wet areas, and other environmentally sensitive sites.
- Dispose of chemical containers and surplus chemicals off the project site in accordance with label directions.
- Use tight connections and hoses with appropriate nozzles in all operations involving fuels, lubricating materials or chemicals.
- Use funnels when pouring fuels, lubricating materials or chemicals.
- Refueling and cleaning of construction equipment will take place from access roads, in staging areas along roadside areas whenever practical to provide rapid response to emergency situations.
- All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Any vehicle leaking fuel or hydraulic fuel will be immediately removed from the site.

6.22 Fertilizer

Fertilizer will be stored in original containers and on pallets. Proper delivery scheduling will minimize storage time. Any damaged containers will be repaired immediately upon discovery and any released fertilizer recovered to the fullest extent practicable. Fertilizers are not to be applied in rain nor when heavy rain is expected within 24 hours.

6.23 Paints

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm water or wastewater system, but will be properly disposed of according to manufacturers' instructions or State and local regulations.

6.24 Concrete Trucks

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site except in a designated upland area.

Concrete truck washout will not be allowed to discharge into waters or wetlands at any time.

6.25 Asphalt Trucks

Asphalt trucks shall not discharge surplus asphalt on the site.

6.3 Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be implemented for spill prevention and cleanup:

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies. Any spill in excess or suspected to be in excess of two gallons will be reported to the NYSDEC Spill Response Unit. Notification to NYSDEC (1-800-457-7362) must be completed within two hours of the discovery of the spill.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to: absorbent pads, brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with spilled substance.
- Spills of toxic or hazardous material will be reported to the appropriate State or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, and how to clean up the spill if there is another one. A description of the spill, what caused it, and the cleanup measures will also be included.
- The contractor/trained individual will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel who will receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of responsible spill personnel will be posted in the material storage area on the onsite construction office or trailer.
- A *Spill Response Report* is contained in Appendix B.

7.0 LONG TERM POST-CONSTRUCTION INSPECTION AND MAINTENANCE

After the site is completely stabilized, inspections will be performed at least twice a year (after the spring thaw and in the fall). Inspections shall also occur after major rain events. All swales and stormwater management systems will be inspected on a regular basis. Sediments will be pumped out and/or removed based on the inspections. It will be the responsibility of The Owner, his heirs or assigns, for documenting these inspections and clean out work.

Post-construction regularly scheduled inspections and maintenance will be necessary to ensure the permanent structural features remain optimally functional.

The Owner shall overtake responsibility of inspecting and maintaining drainage and erosion control features over the lifetime of the structures and stormwater components. Maintenance personnel, employed by the Owner, must be aware of the SWPPP and should be trained to recognize signs that stabilization measures may not be performing optimally or are failing. The inspection of on-site stabilization measures will become part of routine preventative maintenance practiced by the Owner and his employees. Inspection and maintenance should be performed as described below.

Inspection

Overall Site Inspection

The overall site and vegetation should be inspected regularly after every major rain event and at least twice a year (after the spring thaw and in the fall). The inspection should include but are not limited to:

1. Density and condition of vegetation and ground cover.
2. Erosion, differential settlement or cracking of soils.
3. Bulging or sliding of toe of embankments.
4. Sedimentation of lawn areas, paved areas.
5. Accumulation of pollutants, including oils or grease.
6. Damage of fatigue of storm associated components.

Maintenance

Overall Site Maintenance

Maintenance vegetative and structural measures for soil protection is necessary to keep the storm water system functioning properly. Maintenance should occur on a regular basis and should include but is not limited to:

<u>Seasonal Maintenance</u>

1. Vegetated areas should be maintained to promote vigorous and dense growth. Lawn areas should be mowed at least three times a year but may require more frequent mowing depending on the growth rate.
2. Paved areas should be swept at least twice a year and in the early spring for removal of deicing materials.

3. Accumulation of litter and debris should be removed during each mowing or sweep operation.
4. Structural components of the storm system should be addressed immediately following identification.
5. Cleanout of accumulated sediments and debris should occur.
6. Signs of scour should be repaired. Weeds and brush growth should be controlled as needed.

Winter Maintenance

1. Remove snow and ice away from inlet grates.
2. Use of deicing materials should be limited to sand and environmentally friendly chemical products. Use of salt mixtures should be kept to a minimum.
3. Sand used for deicing should be clean, course material free of fines, silt, and clay.
4. Materials used for deicing should be removed during the early spring by sweeping and/or vacuuming.

8.0 POLLUTION PREVENTION PLAN CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

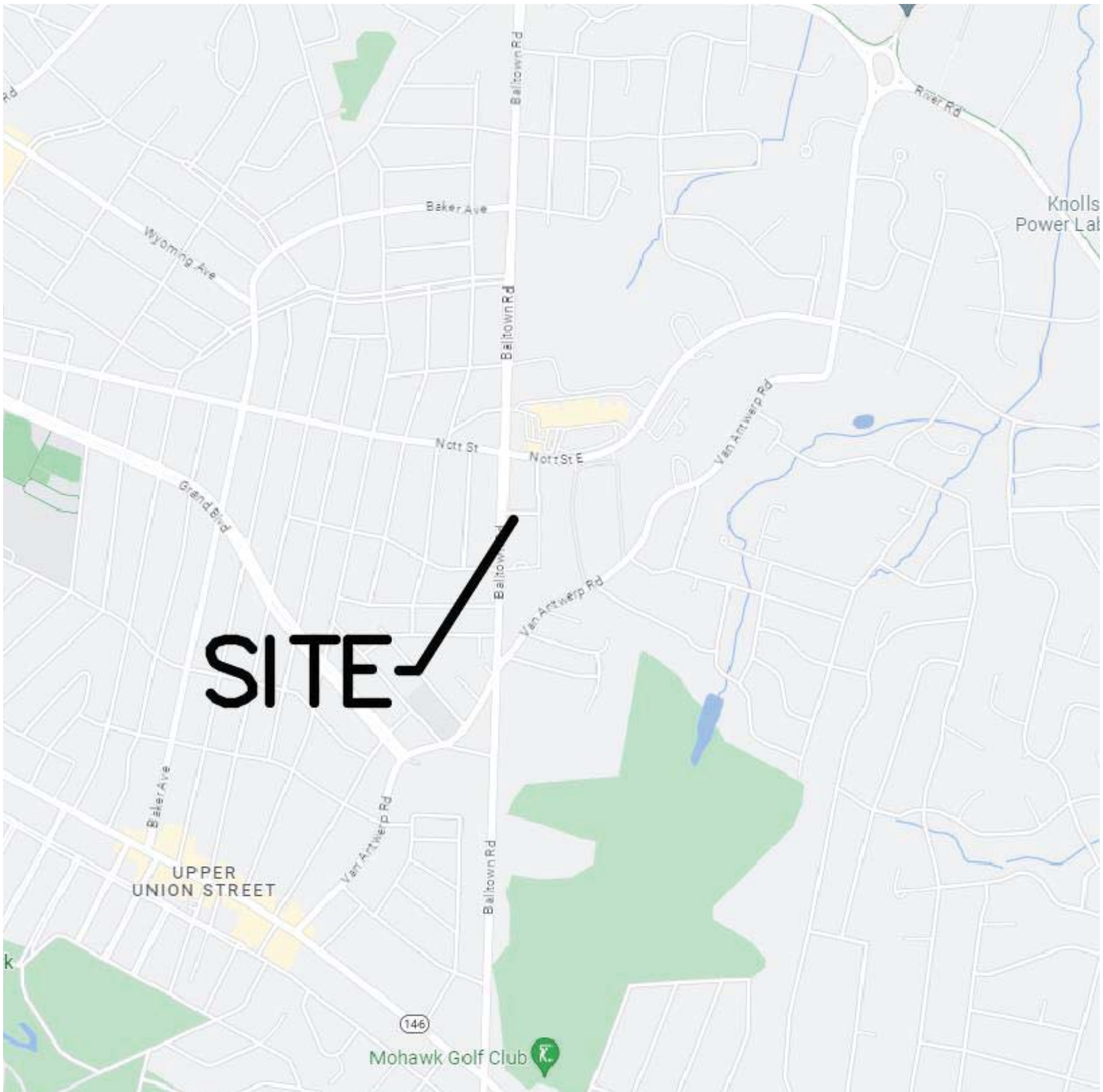
Signed: ______________________________

Name: **Luigi A. Palleschi, P.E.**

Title: **Professional Engineer, ABD Engineers & Surveyors, LLP**

Date: ______________________________

EXHIBIT 1
SITE LOCATION MAP &
SOIL INFORMATION



Balltown Rd
River Rd
Knolls Power Lab
Baker Ave
Wyoming Ave
Nott St
Nott St E
Van Antwerp Rd
Grand Blvd
SITE
UPPER UNION STREET
146
Mohawk Golf Club

Soil Map—Schenectady County, New York

Map Scale: 1:640 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 30 60 120 180

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
NuB	Nunda channery silt loam, 3 to 8 percent slopes	1.9	100.0%
Totals for Area of Interest		**1.9**	**100.0%**

Schenectady County, New York

NuB—Nunda channery silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: bd61
Elevation: 400 to 1,600 feet
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Nunda and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nunda

Setting

Landform: Till plains, hills, drumlinoid ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: A silty mantle over loamy till derived from calcareous shale and siltstone

Typical profile

H1 - 0 to 7 inches: channery silt loam
H2 - 7 to 25 inches: channery silt loam
H3 - 25 to 42 inches: gravelly silty clay loam
H4 - 42 to 60 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 15 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D

Ecological site: F101XY013NY - Moist Till
Hydric soil rating: No

Minor Components

Mohawk
Percent of map unit: 5 percent
Hydric soil rating: No

Burdett
Percent of map unit: 5 percent
Hydric soil rating: No

Lansing
Percent of map unit: 5 percent
Hydric soil rating: No

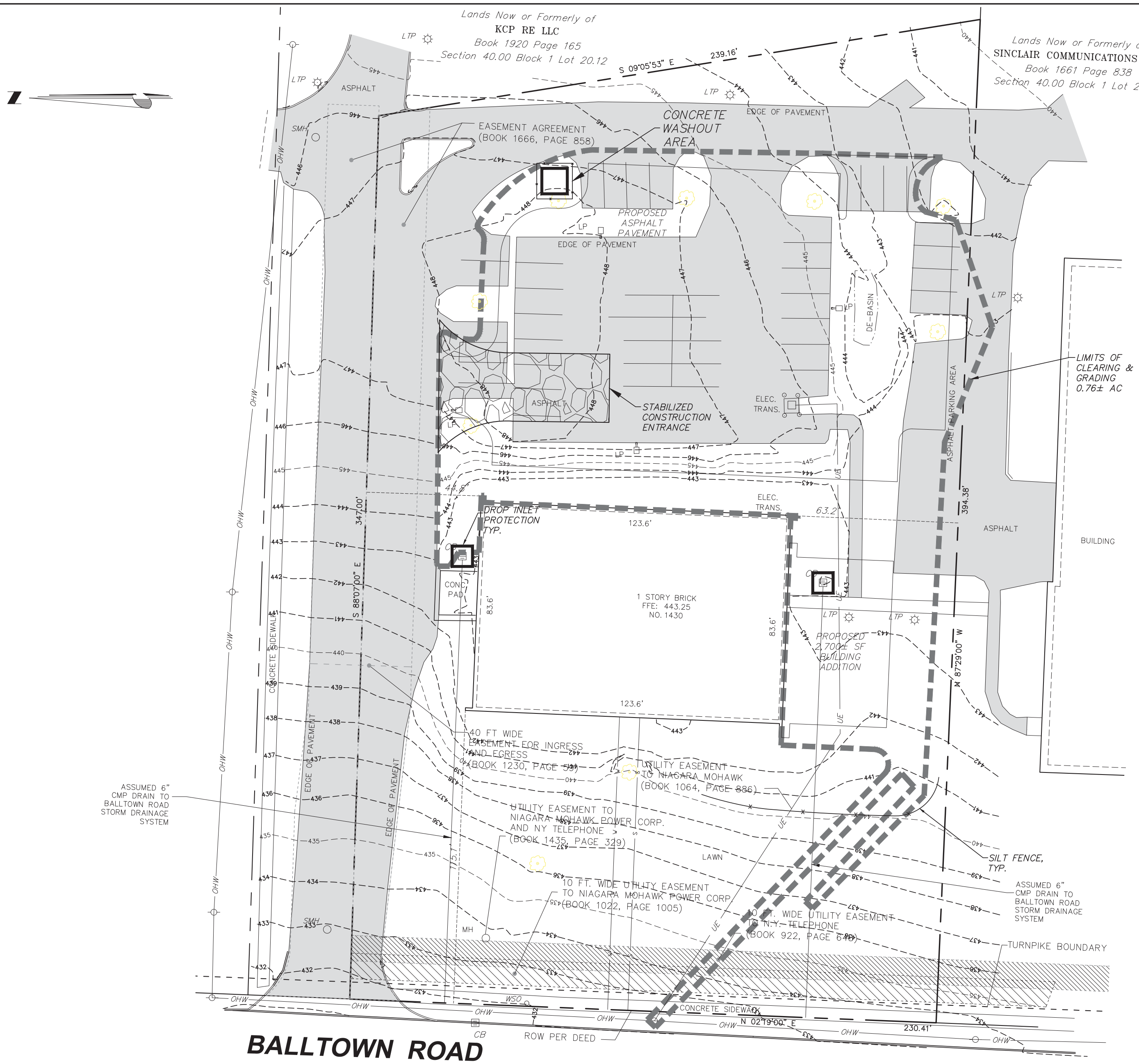
Darien
Percent of map unit: 5 percent
Hydric soil rating: No

Angola
Percent of map unit: 5 percent
Hydric soil rating: No

Data Source Information

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

APPENDIX A
EROSION AND SEDIMENT CONTROL
STANDARDS AND SPECIFICATIONS



NO.	REVISION	BY	DATE

ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER IS ILLEGAL

LUIGI A. PALLESCHI, P.E.
N.Y.S. LICENSE NO. 94676

EROSION & SEDIMENT CONTROL PLAN
BUILDING ADDITION
1430 BALLTOWN ROAD

TOWN OF NISKAYUNA | COUNTY OF SCHENECTADY
STATE OF NEW YORK

ABD ENGINEERS SURVEYORS
411 Union Street Schenectady, N.Y. 12305
518-377-0315 Fax.518-377-0379
www.abdeng.com

DATE:	SCALE:	DWG.	SHEET OF
NOVEMBER 3, 2023	NO SCALE	5618A-S3	1 1

STANDARD AND SPECIFICATIONS FOR CONCRETE TRUCK WASHOUT

Definition & Scope

A temporary excavated or above ground lined constructed pit 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 soil.

Conditions Where Practice Applies

Washout facilities shall be provided for every project where concrete will be poured or otherwise formed on the site. This facility will receive highly alkaline wash water from the cleaning of chutes, mixers, hoppers, vibrators, placing equipment, trowels, and screeds. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

Design Criteria

Capacity: The washout facility should be sized to contain solids, wash water, and rainfall and sized to allow for the evaporation of the wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the side slopes shall be 2 horizontal to 1 vertical.

Location: Locate the facility a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Prevent surface water from entering the structure except for the access road. Provide appropriate access with a gravel access road sloped down to the structure. Signs shall be placed to direct drivers to the facility after their load is discharged.

Liner: All washout facilities will be lined to prevent leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears, and anchored beyond the top of the pit with an earthen berm, sand bags, stone, or other structural appurtenance except at the access point.

If pre-fabricated washouts are used they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours. They shall be sited as noted in the location criteria.

Maintenance

- 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, such as a grass filter strip.
- 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.
- Dispose of the hardened material off-site in a construction/demolition landfill. On-site disposal may be allowed if this has been approved and accepted as part of the projects SWPPP. In that case, the material should 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.
- The plastic liner shall be replaced with each cleaning of the washout facility.
- Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS

Definition & Scope

A stabilized pad of aggregate underlain with geotextile 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 stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

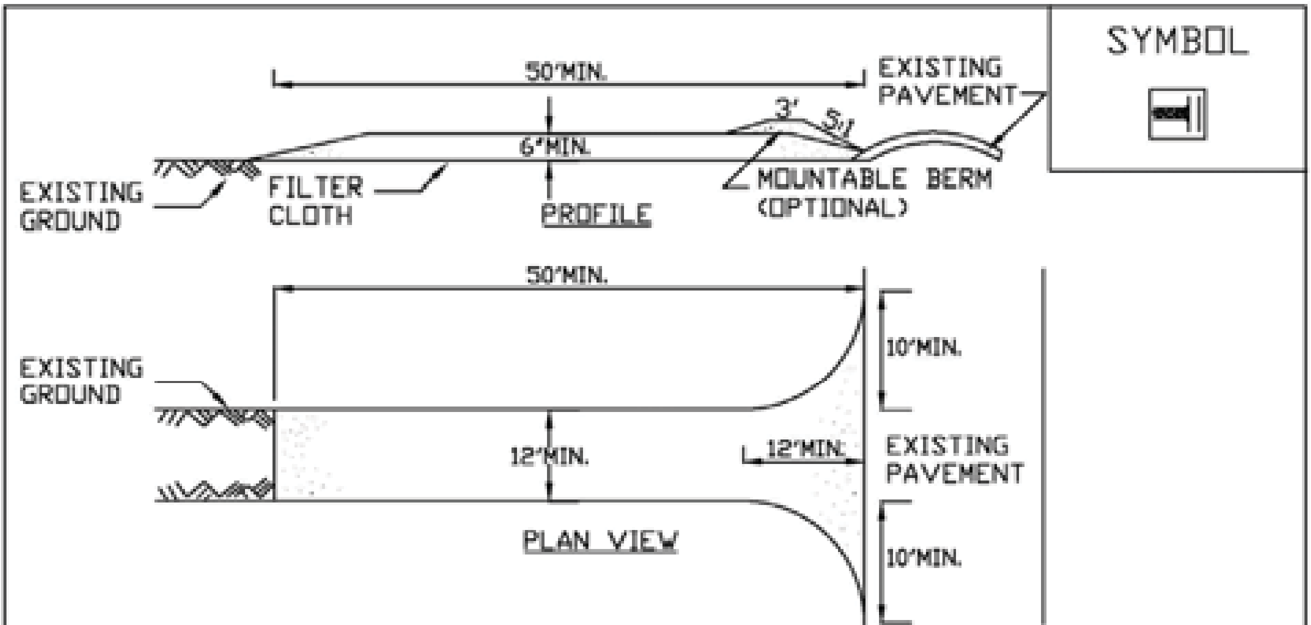
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

Figure 2.1
Stabilized Construction Access



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STABILIZED CONSTRUCTION ACCESS

STANDARD AND SPECIFICATIONS FOR MULCHING

Definition and Scope

Applying coarse plant residue or chips, or other suitable materials, to cover the soil surface to provide initial erosion control while a seeding or shrub planting is establishing. Mulch will conserve moisture and modify the surface soil temperature and reduce fluctuation of both. Mulch will prevent soil surface crusting and aid in weed control. Mulch can also be used alone for temporary stabilization in non-growing months. Use of stone as a mulch could be more permanent and should not be limited to non-growing months.

Conditions Where Practice Applies

On soils subject to erosion and on new seedings and shrub plantings. Mulch is useful on soils with low infiltration rates by retarding runoff.

Criteria

Site preparation prior to mulching requires the installation of necessary erosion control or water management practices and drainage systems.

Slope, grade and smooth the site to fit needs of selected mulch products.

Remove all undesirable stones and other debris to meet the needs of the anticipated land use and maintenance required.

Apply mulch after soil amendments and planting is accomplished or simultaneously if hydroseeding is used.

Select appropriate mulch material and application rate or material needs. Hay mulch shall not be used in wetlands or in areas of permanent seeding. Clean straw mulch is preferred alternative in wetland application. Determine local availability.

Select appropriate mulch anchoring material.

NOTE: The best combination for grass/legume establishment is straw (cereal grain) mulch applied at 2 ton/acre (90 lbs./1000sq.ft.) and anchored with wood fiber mulch (hydromulch) at 500 – 750 lbs./acre (11 – 17 lbs./1000 sq. ft.). The wood fiber mulch must be applied through a hydroseeder immediately after mulching.

Table 4.2
Guide to Mulch Materials, Rates, and Uses

Mulch Material	Quality Standards	per 1000 Sq. Ft.	per Acre	Depth of Application	Remarks
Wood chips or shavings	Air-dried. Free of objectionable coarse material	500-900 lbs.	10-20 tons	2-7”	Used primarily around shrub and tree plantings and recreation trails to inhibit weed competition. Resistant to wind blowing. Decomposes slowly.
Wood fiber cellulose (partly digested wood fibers)	Made from natural wood usually with green dye and dispersing agent	50 lbs.	2,000 lbs.	—	Apply with hydromulcher. No tie down required. Less erosion control provided than 2 tons of hay or straw.
Gravel, Crushed Stone or Slag	Washed; Size 2B or 3A—1 1/2”	9 cu. yds.	405 cu. yds.	3”	Excellent mulch for short slopes and around plants and ornamentals. Use 2B where subject to traffic. (Approximately 2,000 lbs./cu. yd.). Frequently used over filter fabric for better weed control.
Hay or Straw	Air-dried; free of undesirable seeds & coarse materials	90-100 lbs. 2-3 bales	2 tons (100-120 bales)	cover about 90% surface	Use small grain straw where mulch is maintained for more than three months. Subject to wind blowing unless anchored. Most commonly used mulching material. Provides the best micro-environment for germinating seeds.
Jute twisted yarn	Undyed, unbleached plain weave. Warp 78 ends/yd., Weft 41 ends/yd. 60-90 lbs./roll	48” x 50 yds. or 48” x 75 yds.	—	—	Use without additional mulch. Tie down as per manufacturers specifications. Good for center line of concentrated water flow.
Excelsior wood fiber mats	Interlocking web of excelsior fibers with photodegradable plastic netting	4’ x 112.5’ or 8’ x 112.5’.	—	—	Use without additional mulch. Excellent for seeding establishment. Anchor as per manufacturers specifications. Approximately 72 lbs./roll for excelsior with plastic on both sides. Use two sided plastic for centerline of waterways.
Straw or coconut fiber, or combination	Photodegradable plastic net on one or two sides	Most are 6.5 ft. x 3.5 ft.	81 rolls	—	Designed to tolerate higher velocity water flow, centerlines of waterways, 60 sq. yds. per roll.

Table 4.3
Mulch Anchoring Guide

Anchoring Method or Material	Kind of Mulch to be Anchored	How to Apply
1. Peg and Twine	Hay or straw	After mulching, divide areas into blocks approximately 1 sq. yd. in size. Drive 4-6 pegs per block to within 2” to 3” of soil surface. Secure mulch to surface by stretching twine between pegs in criss-cross pattern on each block. Secure twine around each peg with 2 or more tight turns. Drive pegs flush with soil. Driving stakes into ground tightens the twine.
2. Mulch netting	Hay or straw	Staple the light-weight paper, jute, wood fiber, or plastic nettings to soil surface according to manufacturer’s recommendations. Should be biodegradable. Most products are not suitable for foot traffic.
3. Wood cellulose fiber	Hay or straw	Apply with hydroseeder immediately after mulching. Use 500 lbs. wood fiber per acre. Some products contain an adhesive material (“tackifier”), possibly advantageous.
4. Mulch anchoring tool	Hay or straw	Apply mulch and pull a mulch anchoring tool (blunt, straight discs) over mulch as near to the contour as possible. Mulch material should be “tucked” into soil surface about 3”.
5. Tackifier	Hay or straw	Mix and apply polymeric and gum tackifiers according to manufacturer’s instructions. Avoid application during rain. A 24-hour curing period and a soil temperature higher than 45^0 Fahrenheit are required.

STANDARD AND SPECIFICATIONS FOR TEMPORARY CONSTRUCTION AREA SEEDING

Definition & Scope

Providing temporary erosion control protection to disturbed areas and/or localized critical areas for an interim period by covering all bare ground that exists as a result of construction activities or a natural event. Critical areas may include but are not limited to steep excavated cut or fill slopes and any disturbed, denuded natural slopes subject to erosion.

Conditions Where Practice Applies

Temporary seedings may be necessary on construction sites to protect an area, or section, where final grading is complete, when preparing for winter work shutdown, or to provide cover when permanent seedings are likely to fail due to mid-summer heat and drought. The intent is to provide temporary protective cover during temporary shutdown of construction and/or while waiting for optimal planting time.

Criteria

Water management practices must be installed as appropriate for site conditions. The area must be rough graded and slopes physically stable. Large debris and rocks are usually removed. Seedbed must be seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding.

Fertilizer or lime are not typically used for temporary seedings.

IF: Spring or summer or early fall, then seed the area with ryegrass (annual or perennial) at 30 lbs. per acre (Approximately 0.7 lb./1000 sq. ft. or use 1 lb./1000 sq. ft.).

IF: Late fall or early winter, then seed Certified 'Aroostook' winter rye (cereal rye) at 100 lbs. per acre (2.5 lbs./1000 sq. ft.).

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact.

Mulch the area with hay or straw at 2 tons/acre (approx. 90 lbs./1000 sq. ft. or 2 bales). Quality of hay or straw mulch allowable will be determined based on long term use and visual concerns. Mulch anchoring will be required where wind or areas of concentrated water are of concern. Wood fiber hydromulch or other sprayable products approved for erosion control (nylon web or mesh) may be used if applied according to manufacturers' specification. <u>Caution</u> is advised when using nylon or other synthetic products. They may be difficult to remove prior to final seeding and can be a hazard to young wildlife species.

STANDARD AND SPECIFICATIONS FOR TOPSOILING

Definition & Scope

Spreading a specified quality and quantity of topsoil materials on graded or constructed subsoil areas to provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

Conditions Where Practice Applies

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.
2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established. Topsoil stockpiles must be stabilized. Stockpile surfaces can be stabilized by vegetation, geotextile or plastic covers. This can be aided by orientating the stockpile lengthwise into prevailing winds.
3. Refer to USDA Natural Resource Conservation Service soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion and sediment control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
2. Complete rough grading and final grade, allowing for depth of topsoil to be added.
3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompacted in accordance with the Soil Restoration Standard.
4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.
2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.
5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
6. Topsoil may be manufactured as a mixture of a mineral component and organic material such as compost.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by “tracking” with suitable equipment.
3. Apply topsoil in the amounts shown in Table 4.7 below:

Table 4.7 - Topsoil Application Depth		
Site Conditions	**Intended Use**	**Minimum Topsoil Depth**
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	1 in.
2. Deep sandy loam	Mowed lawn	5 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more: silt loam, clay loam, loam, or silt	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and

2. Maximum ponding depth of 1.5 feet behind the fence; and

3. Erosion would occur in the form of sheet erosion; and

4. There is no concentration of water flowing to the barrier; and

5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.

2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.

3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/ min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.

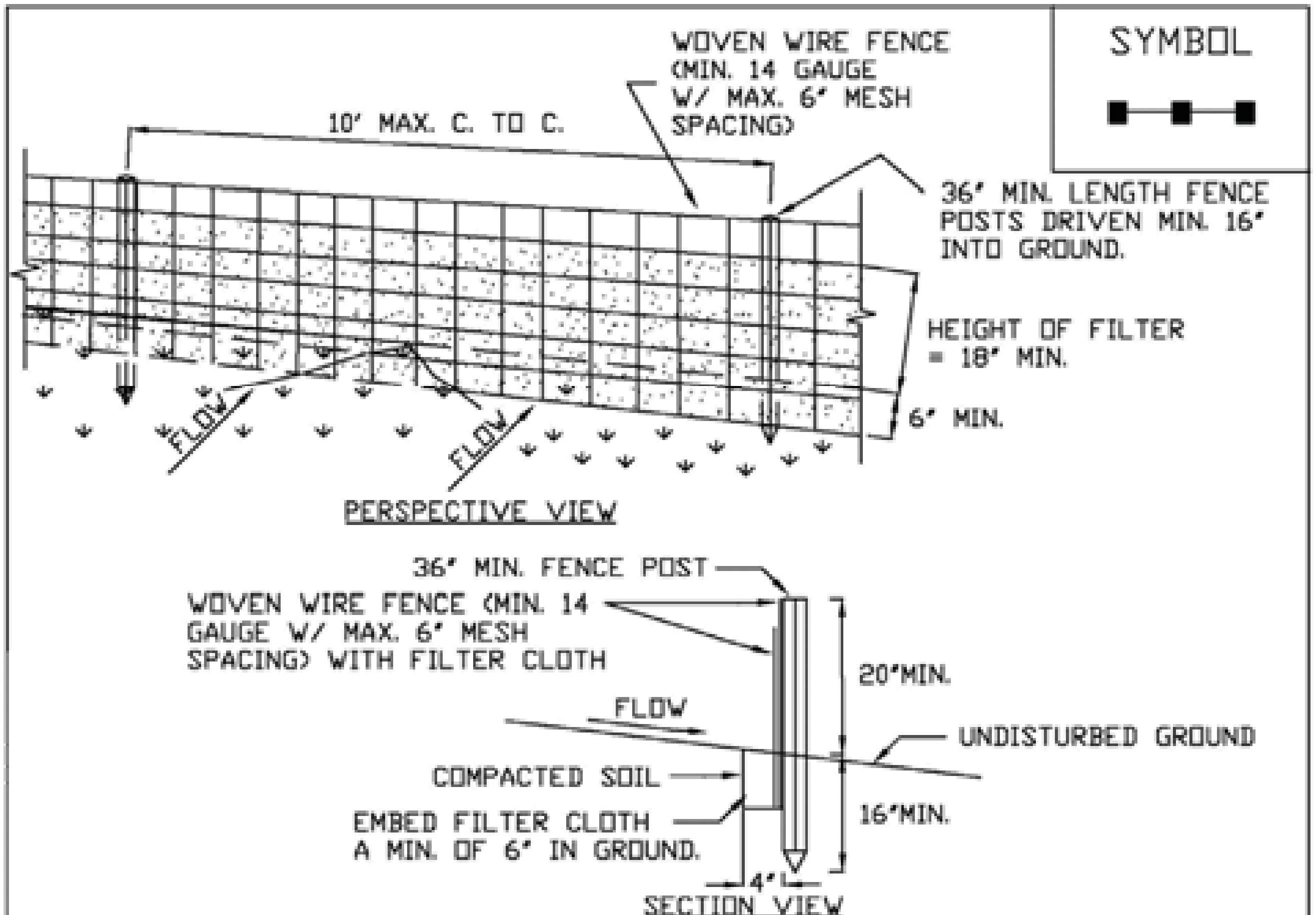
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Reinforced Silt Fence

Super Silt Fence

Figure 5.30
Reinforced Silt Fence



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	REINFORCED SILT FENCE

APPENDIX B
OTHER DOCUMENTS

9.0 OWNER'S CERTIFICATION

2,700± SF BUILDING ADDITION & PARKING LOT EXPANSION
1430 Balltown Road
Town of Niskayuna
Schenectady County, New York

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.
The Owner also certifies that all appropriate stormwater control measures will be in place before commencement of construction of any segment of the project that requires such measures.

Signature: ______________________________

Name (printed): ______________________________

Company Name: ______________________________

Address: ______________________________

____

Telephone No: ______________________________

Title/Responsible For: ______________________________

Certification Date: ______________________________

STORMWATER POLLUTION PREVENTION PLAN
SPILL RESPONSE REPORT

Within 1 hour of a spill discovery less than 2 gallons in volume the following must be notified:

1. **Highbridge Development HRS, LLC**
2. **ABD Engineers, LLP, 518-377-0315**
3. **Town of Niskayuna, 518-386-4500**

Within 1 hour of a spill discovery greater than 2 gallons in volume the following must be notified:

1. **NYSDEC Spill Response Hotline 800-457-7362**
2. **Highbridge Development HRS, LLC**
3. **ABD Engineers, LLP, 518-377-0315**
4. **Spill Response Contractor, *e.g.* Kleen Resources, 518-462-0400 or others by contractor.**
5. **Town of Niskayuna, 518-386-4500**

Please complete following information:

1. **Material Spilled:** ______________________________
2. **Approximate Volume:** ______________________________
3. **Location:** ______________________________
4. **Distance to nearest down gradient drainage way:** ______________________________
5. **Distance to nearest down gradient open water:** ______________________________
6. **Temporary control measures in place:** ______________________________

SIGNATURE OF PERSON REPORTING SPILL AND COMPLETING FORM:

____

PRINT NAME, TITLE AND COMPANY:

____

DATE AND TIME OF SPILL:

____

DATE AND TIME REPORTED:

____