

Town of Manlius

Planning Board Meeting

February 27, 2023

6:30PM

1. Zoom Meeting Instructions

Documents:

[ZOOM PLANNING BOARD MEETING INSTRUCTIONS FEBRUARY 27, 2023.PDF](#)

2. Pledge Of Allegiance

3. Approval Of Minutes February 13, 2023

4. Special Use Permit Renewal - 4967 North Eagle Village Road

Documents:

[4967 NORTH EAGLE VILLAGE ROAD - SPECIAL USE PERMIT RENEWAL APPLICATION AND LETTER.PDF](#)

[4967 NORTH EAGLE VILLAGE ROAD - PREVIOUS RESOLUTION.PDF](#)

[4967 NORTH EAGLE VILLAGE ROAD - MEMO FROM CODE OFFICER.PDF](#)

5. Daniel Nagy - 8014 Peck Road, Kirkville, NY 13082 - Public Hearing - 2-Lot Subdivision - Same Address - Tax Map #'s 043.-01-11.5 And 043.-01-11.9

Documents:

[8014 PECK ROAD - APPLICATION.PDF](#)

[8014 PECK ROAD SUBDIVISION - SURVEY.PDF](#)

[8014 PECK ROAD - UPDATED SURVEY.PDF](#)

6. Horizon Solar Power And Catalyze Energy - 33 Boston Post Road West - Suite 220, Marlborough, MA 01752 - Site Plan And Subdivision - 4.25 MW Solar Array - 4869 Peck Road, Kirkville, 13082 - Tax Map # 042.-021-32.1

Documents:

[7869 PECK ROAD - FAA LETTER.PDF](#)

[7869 PECK ROAD PROPOSED SUBDIVISION \(ZBA SURVEY\).PDF](#)

[7869 PECK ROAD PROPOSED SUBDIVISION.PDF](#)

[20230111 - COVER LETTER FOR PB UPDATED DOCS.PDF](#)

[UPDATED DRP \(DECOM AND REMOVAL PLAN\) WITH COST ESTIMATES.PDF](#)

[WARNER PLANS_REV 2023-01-10-STAMPED.PDF](#)

[7869 PECK ROAD - VISUAL ANALYSIS.PDF](#)

[7869 PEK ROAD - SWPPP_FINAL DRAFT 2022.10.26 REDUCED.PDF](#)

7. Twin Ponds Housing LLC. - PO Box 515 Syracuse, NY 13205 - 2nd Presentation - Twin Ponds Housing - 5440 North Burdick Street, Fayetteville, NY 13066 - Tax Map # 086.-02-06.1

Documents:

0 - COVER LETTER-TWIN PONDS-2-15-23.PDF
080118_C-100 CONCEPT SITE PLAN 02-15-2023 REV1.PDF
080118_C-101 USABLE SPACE PLAN 02-15-2023 REV1.PDF
080118_C-102 SECTION PLAN 02-15-2023 REV1.PDF

8. Icon Companies, LLC - 344 South Warren Street, Syracuse, NY 13202 - Initial Presentation
- Site Plan - 4600 Enders Road, Manlius, NY 13104 - Tax Map # 117.2-01-04

Documents:

4600 ENDERS DISCLOSURE AFFIDAVIT.PDF
4600 ENDERS ROAD - OVERALL UPDATED SITE PLAN.PDF
4600 ENDERS ROAD - PLANNING BOARD APPLICATION SIGNED.PDF
4600 ENDERS ROAD - PLANS.PDF

9. Other Business
10. Adjournment



February 27, 2023

Virtual Planning Board Meeting

Instructions to attend the February 27, 2023 virtual Planning Board meeting:

The easiest way to join is to go to our website www.TownOfManlius.org and click on the link that is located on the homepage. You can also watch on our Facebook page by searching for "Town of Manlius"

Enter the meeting url web address as listed below:

<https://us02web.zoom.us/j/83021320689?>

Password to join when prompted:

Password: 876551

Enter your email address and name and join the meeting!

Join by telephone by dialing the number below:

1-(929) -436-2866

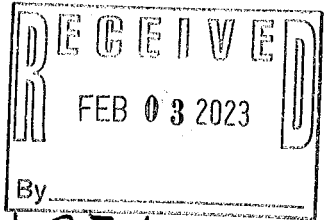
When prompted to enter the Webinar ID, use the number below followed by #

Webinar ID: 830 2132 0689

Press # again to skip the personal id and enter the password below followed by #

Password: 876551

TOWN OF MANLIUS
Special Permit Renewal Application



DATE: 2/1/23

Tax Map # 099-01-27.1

I Stephen J. Rufo as applicant relative to property located

at ^{Applicant's Name} 4967 North Eagle Village Rd., Manlius, NY 13104
hereby request renewal of a Special Permit from the Town of Manlius, Town Board as required by the Town of Manlius Code, submit the following application and information. I further acknowledge that should any information be later determined as false or not credible in any material respect, any special permit renewed based thereon may be determined by the Town Board as void from the start or revocable.

There are no changes of information or exhibits to the existing special permit originally issued on
November 1, 2016 Yes ☐ No ☒
_{Date}

If you answered yes to above question, please state in detail the changes you are requesting. Please attach a letter if more space is needed.

Update Contact Information:

Name Stephen J. Rufo

Address 4967 North Eagle Village Rd, Manlius, NY 13104

Phone 315-863-3832

E-mail Rufoslandscapes@gmail.com

315-682-4100

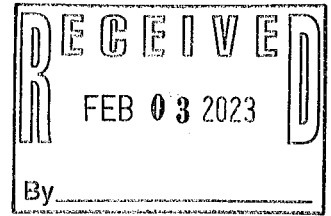
Stephen J. Rufo
_{Applicant's Signature}

2/1/23
_{Date}

Stephen J. Rufo
_{Applicant Print Name}

Town Code Officers Comments:

**RUFO'S LANDSCAPES, LLC
4967 NORTH EAGLE VILLAGE RD.
MANLIUS, NY 13104
(315) 682-4100**



Ms. Lisa Beeman
Planning Board Clerk
301 Brooklea Drive
Fayetteville, NY 13066

Re: Renewal of Special Permit

2/1/23

Dear Ms. Beeman:

Thanks for mailing out the Special Users Permit renewal application.

My business operations have not changed since I was last issued the permit in November of 2016. My desire is to maintain my landscaping business exactly in the "status quo" state as already approved by the Town of Manlius. I would like to have another 7 year extension on the permit if possible.

Enclosed you will find the completed application and the application fee of \$100 as requested.

Thank you for your consideration and attention to this matter. I look forward to hearing from you.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Stephen J. Rufo".

Stephen J. Rufo
Rufo's Landscapes, LLC

IN THE MATTER

Of

**The Application of STEPHEN J. RUFO for the
renewal of a Special Permit Pursuant to Chapter
155, Section 155-27 of the Town of Manlius Code**

**RESOLUTION GRANTING
RENEWAL OF SPECIAL
PERMIT FOR THE STEPHEN
J. RUFO**

The **TOWN BOARD OF THE TOWN OF MANLIUS**, in the County of Onondaga, State of New York, met in regular session at the Town Hall in the Town of Manlius, located at 301 Brooklea Drive in the Village of Fayetteville, County of Onondaga, State of New York, on the 11th day of May, 2016, at 7:00 p.m. The meeting was called to order by Edmond Theobald, Supervisor, and the following were present, namely:

Edmond Theobald	Supervisor
David Marnell, Sr.	Councilor
Karen Green	Councilor
Vincent Giordano	Councilor
Richard Rossetti	Councilor
Nicholas Marzola	Councilor
John R. Loeffler	Councilor

The following resolution was moved, seconded and adopted:

WHEREAS, application has been made to the Town Board of the Town of Manlius for the renewal of a Special Permit to continue the operation of a small scale home landscaping business 4967 N. Eagle Village Road, Manlius, New York 13104; Tax Map No. 099-01-27.1; consisting of approximately 8.66 acres; recorded in Onondaga County Book of Deeds 4288 at Page 217, for the purpose outlined in the renewal application, of which the existing use has been previously granted on the 23rd day of November, 2005; and

WHEREAS, all of the requirements of the State Environmental Quality Review Act, the Manlius Town Code and State Law have been complied with during the initial application for a Special Permit for the operation of the small scale landscaping business; and

WHEREAS, the proposed special use has been in operation at the site for several years, under the direction and control of each of the applicant or its predecessor in interest; and

WHEREAS, the Code Enforcement Officer for the Town of Manlius has indicated by written report to the Town Board that the applicant has been operating under a special permit granted by the Town of Manlius;

WHEREAS, the Code Enforcement Officer for the Town of Manlius further indicated by written report to the Board that the applicant has been operating its businesses according to the special permit and that there have been no complaints filed with his office regarding its operation;

WHEREAS, in the opinion of the members of the Town Board, the granting of renewals of the Special Permit requested by applicant will not adversely affect the health, safety, morals, and/or the general welfare of the public; and

WHEREAS, all other requirements of Law have been complied with;

NOW, THEREFORE, BE IT

RESOLVED, that the Town Board of the Town of Manlius finds as follows:

1. The use proposed possesses characteristics that will blend desirably with the neighboring properties and will secure the objectives of the Zoning Ordinance of the Town of Manlius.
2. The location, size of the uses of and structures, the nature and intensity of the operations involved, the size of the site in relation to it, and the location of the site with respect

to the streets giving access to it are such that it will be in harmony with the orderly development of the district.

3. The location, nature and height of the buildings, walls and fences, if any, will not discourage the appropriate development and use of adjacent land and buildings or impair their value.

4. The use shall not conflict with any master plan or part thereof.

5. The renewal will not significantly impair the safety of the general public nor unreasonably increase traffic congestion.

6. The renewal will not significantly increase the possibility of nuisance or noise from the site.

7. The renewal provides for adequate parking in accordance with the Zoning Ordinance of the Town of Manlius.

and be it further

RESOLVED, that the Applicant be, and hereby is, granted a renewal of its special permit pursuant to the provisions of Section 155-27 of the Town of Manlius Code under the same terms and conditions of its existing special permit (which is attached hereto and the terms and conditions incorporated herein), for a period of seven (7) years, commencing on November 1, 2016.

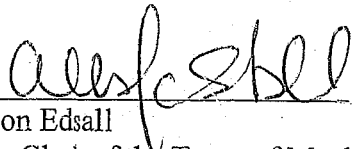
I, **ALLISON EDSALL**, Town Clerk of the Town of Manlius, **DO HEREBY CERTIFY** that the preceding Resolution was duly adopted by the Town Board of the Town of Manlius at a regular meeting of the Board duly called and held on the 11th day of May, 2016; that said Resolution was entered in the minutes of said meeting; that I have compared the foregoing

copy with the original thereof now on file in my office; and that the same is a true and correct transcript of said Resolution and of the whole thereof.

I FURTHER CERTIFY that all members of said Board had due notice of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Manlius, this 11th day of May, 2016.

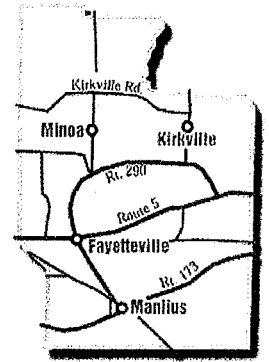
DATED: May 11, 2016
Fayetteville, New York



Allison Edsall
Town Clerk of the Town of Manlius
Onondaga County, New York

Town of Manlius

Planning and Development



DATE: February 14, 2023

TO: Town of Manlius Planning Board

FROM: Tom Poitras, Code Enforcement Officer

RE: Special Use Permit Renewal Application

1. Rufo's Landscaping, 4967 North Eagle Village Road - Tax Map # 099.-01-27.1

I have reviewed the attached application and find it to be in order.

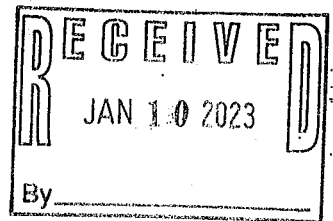
There have not been any complaints or violations from the neighboring property owners. There have also been no changes from the original Special Use Permit approvals, and I recommend that each renewal be approved for a period of seven years (7) to expire February 27, 2030.

John Deer, Supervisor

Town Board – Sara Bollinger, Elaine Denton, Heather Waters, Kaitlyn Kriesel, Alissa Italiano and William Nicholson

Expected
Fee: _____

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION



DATE: 01/04/2023

Name of Project: NAGY LOT ADJUSTMENT

Applicant must submit ~~2~~ 2 copies of all site plans, surveys, and supporting data with the final application before a planning board meeting can be scheduled.

Location of Project: 8014 PECK RD., T. MANLIUS

Type of Project:

☐ Division of Land ☐ Subdivision ☐ Accessory Use ☐ Zone Change ☐ Site Review ☒ Other LOT ADJUSTMENT

Developer: _____

Phone: _____

Address: _____

Zip: _____

Tax Map Number(#)/s: 43-01-11.5 (NAGY) + 43-01-11.9 (HAUSLER)

Present Zoning: _____

Desired Zoning: _____

Total Acreage: _____

Total Number of Lots: _____

Property Owner/s: DANIEL NAGY

Phone: 315-627-0243

Address: 8014 PECK RD., KIRKVILLE NY

Zip: 13082

Tax Map#(s): 43-01-11.5

Owner's Signature: Daniel P. Nagy

Printed Name: DANIEL NAGY

Property Owner/s: ROBERT HAUSLER

Phone: 315-420-8011

Address: 7250 OXBOW RD., KIRKVILLE NY

Zip: 13082

Tax Map#(s): 43-01-11.9

Owner's Signature: Robert Hausler

Printed Name: ROBERT HAUSLER

Use next page for additional known property owners' information

Planning Board Meeting Date Assignment: _____

Fee: _____

Paid: _____

Per: ☐ Credit/Debit Card ☐ Check ☐ Cash

Planning Board - Initial

Short Environmental Assessment Form

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			
LOT ADJUSTMENT - T.M #'S 43-01-11.5 + 43-01-11.9			
Name of Action or Project: LOT ADJUSTMENT			
Project Location (describe, and attach a location map): 804 PECK RD, KIRKVILLE NY 13082 (SURVEY ATTACHED)			
Brief Description of Proposed Action: CONVEY 27,543 SF (0.632 ACRE) OUT OF TAX PARCEL 43-01-11.9 (NAVLEE) AND ADD IT TO TAX PARCEL 43-01-11.5 (NAGY)			
Name of Applicant or Sponsor: JOSEPH V. SALLIN, LS		Telephone: 315-633-2737 E-Mail: SallinSurvey@gmail.com	
Address: 2973 ST. RT. 31			
City/PO: CANASTOTA		State: NY	Zip Code: 13032
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation?		NO	YES
If Yes, attach a narrative description of the intent of the proposed action and the environmental impact 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? If Yes, list agency(s) name and permit or approval:			
3.a. Total acreage of the site of the proposed action? 0.632 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? 3.1 acres			
4. Check all land uses that occur on, adjoining and near the proposed action.			
☐ Urban ☒ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☐ Res ☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): ☐ Parkland			

APPLICANT
CALL W/
QUESTIONS
CALL WHEN
APPLICATION
COMPLETE
ZONING CLASS
DIFFERENT

5. Is the proposed action, a. A permitted use under the zoning regulations?	NO ☐	YES ☐	N/A ☐
b. Consistent with the adopted comprehensive plan?	☐	☐	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO ☐	YES ☒	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO ☐	YES ☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO ☒	YES ☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☐	☒	
c. Are any pedestrian accommodations or bicycle routes available on or near 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: _____	NO ☐	YES ☐	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____	NO ☒	YES ☐	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____	NO ☒	YES ☐	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places? b. Is the proposed action located in an archeological sensitive area?	NO ☒ ☐	YES ☐ ☐	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency? b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	NO ☐ ☒	YES ☒ ☐	
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 plain?	NO ☐	YES ☒	
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? ☐ NO ☐ YES b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: _____	NO ☒ ☐	YES ☐ ☐	

18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	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 AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE		
Applicant/sponsor name: <u>JOSEPH V. SALLIN, LLC</u>		Date: <u>01/01/2023</u>
Signature: <u>Joe V Sallin LLC</u>		

STOP

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. 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., wetland, waterbodies, groundwater, air quality, flora and fauna)?	☐	☐

	No, or small impact may occur	Moderate to large impact may occur
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?	☐	☐

Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3. 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.

☐	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.
Name of Lead Agency Date	
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

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. JOSEPH V. SALLIN, being duly sworn, deposes and says that (s) he is:

APPLICANT

(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
 - 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: JAN 4, 2023.

Date: _____, 20_____.

JOSEPH V. SALLIN
(Print Name)

(Print Name)

Joe V Salli 23
(Signature)

(Signature)

N/A
(Entity Name)

(Entity Name)

N/A
By (Officer) (Title)

By (Officer) (Title)

2473 ST. RT 31 CANASTOTA
(Mailing Address of Applicant)

(Mailing Address of Applicant)

315-633-2737
(Telephone Number)

(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 4th day of January in the year 2023, before me, the undersigned, a notary public in and for said state, personally appeared Joseph V. Sallin,

N/A, and N/A 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 Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

Kristin L. Sayre
Notary Public

KRISTIN L. SAYRE
Notary Public, State of New York
No. 01540150379
Qualified in Onondaga County
Commission Expires January 7, 2024

LOT ADJUSTMENT FOR TM# 43-01-11.5
PART OF LOT 16 IN THE TOWN OF MANLIUS
ONONDAGA COUNTY, NEW YORK

THE UNDERSIGNED SURVEYOR HEREBY
CERTIFIES THAT THIS IS AN ACCURATE
MAP OF AN ACTUAL SURVEY COMPLETED
ON 12-01-2022.

DATE: JANUARY 2, 2023

PLS. LICENSE NO. 1056641111



JOSEPH VINCENT SALLIN P.L.S.
2473 NYS ROUTE 31
CANASTOTA, NY, 13032
(315) 633 - 2737

UNAUTHORIZED REPRODUCTION OR ADDITION TO A SURVEY MAP BEARING A
LICENSED SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2,
OF THE NEW YORK STATE EDUCATION LAW.

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SEAL SHALL NOT BE CONSIDERED TO BE A VALID TRUE COPY.

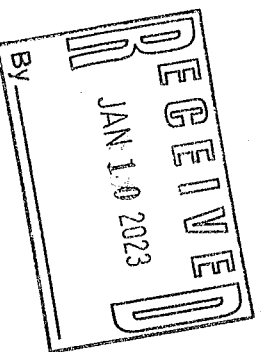
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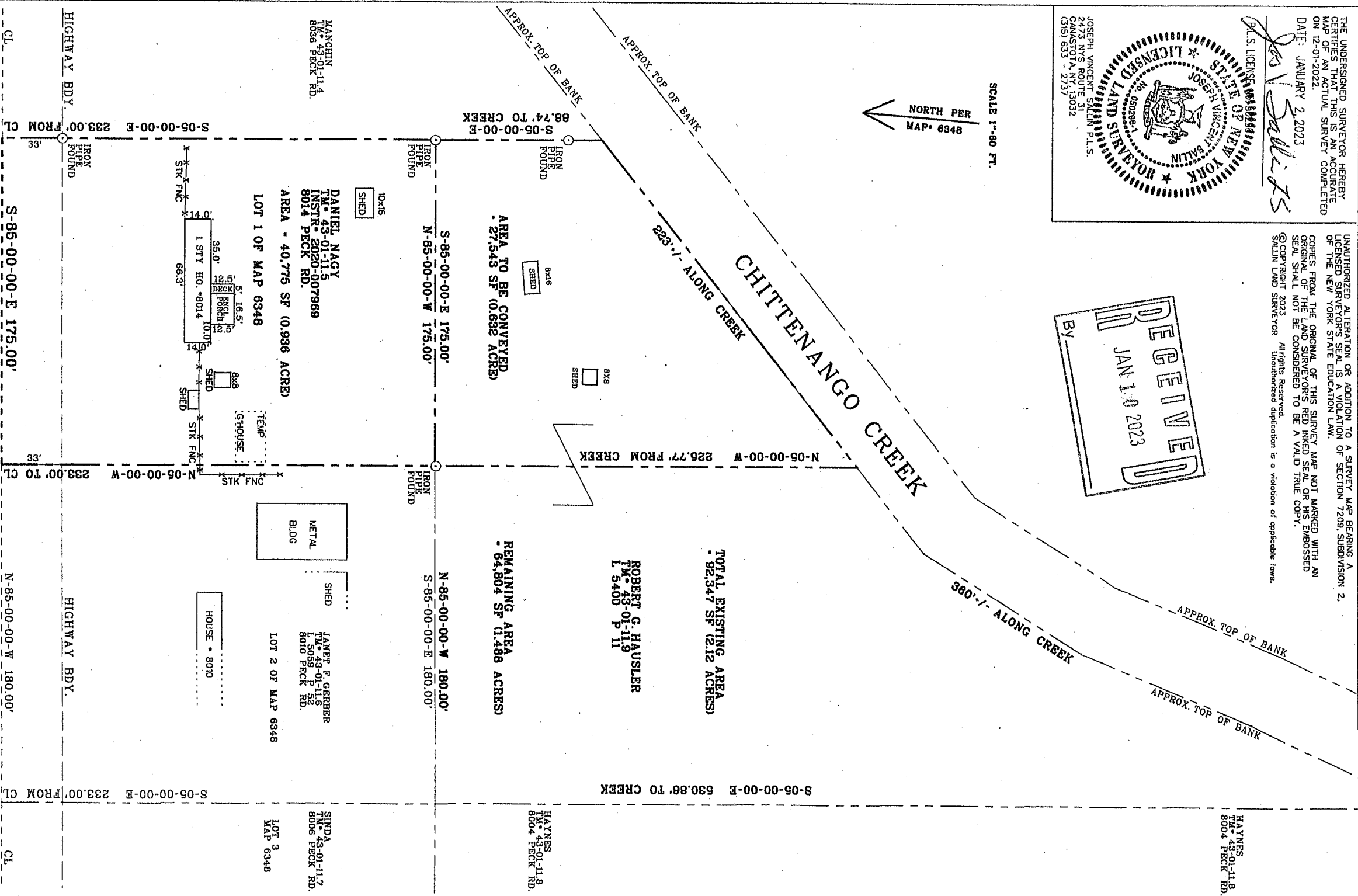
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SCALE 1"-60 FT.

NORTH PER
MAP- 6348



PECK RD. (66' WIDE)

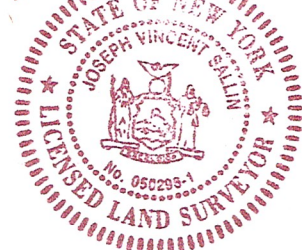
LOT ADJUSTMENT FOR TM# 43-01-11.5
PART OF LOT 16 IN THE TOWN OF MANLIUS
ONONDAGA COUNTY, NEW YORK

THE UNDERSIGNED SURVEYOR HEREBY
CERTIFIES THAT THIS IS AN ACCURATE
MAP OF AN ACTUAL SURVEY COMPLETED
ON 12-01-2022.

DATE: FEBRUARY 16, 2023

Joseph V. Sallin 25

P.L.S. LICENSE No. 50296

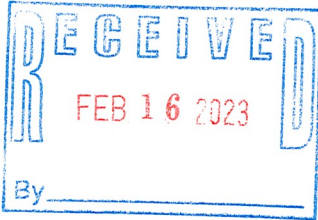


JOSEPH VINCENT SALLIN P.L.S.
2473 NYS ROUTE 31
CANASTOTA, NY, 13032
(315) 633 - 2737

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SCALE 1"=60 FT.



CHITTENANGO CREEK

APPROX. TOP OF BANK

APPROX. TOP OF BANK

360' +/- ALONG CREEK

223' +/- ALONG CREEK

LOT 1

AREA TO BE CONVEYED
- 27,543 SF (0.632 ACRE)

8x8

SHED

8x16

SHED

IRON
PIPE
FOUND

S-05-00-00-E
88.74' TO CREEK

IRON
PIPE
FOUND

S-85-00-00-E 175.00'

N-85-00-00-W 175.00'

10x16

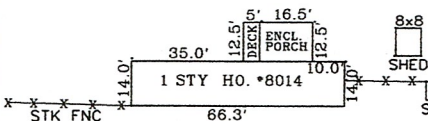
SHED

MANCHIN
TM# 43-01-11.4
8036 PECK RD.

DANIEL NAGY
TM# 43-01-11.5
INSTR# 2020-007969
8014 PECK RD.

AREA - 40,775 SF (0.936 ACRE)

LOT 1 OF MAP 6348



STK FNC

8x8

SHED

SHED

TEMP

G'HOUSE

STK FNC

N-05-00-00-W

233.00' TO CL

CL

CL

CL

CL

CL

CL

CL

CL

CL

CL

CL

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CL

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CL

CL

CL

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ROBERT G. HAUSLER
TM# 43-01-11.9
L 5400 P 11

TOTAL EXISTING AREA
PRIOR TO LOT ADJUSTMENT
- 92,347 SF (2.12 ACRES)

LOT 2

LOT 2 IS NOT AN APPROVED BUILDING LOT

REMAINING AREA
AFTER LOT ADJUSTMENT
- 64,804 SF (1.488 ACRES)

N-85-00-00-W 180.00'

S-85-00-00-E 180.00'

IRON
PIPE
FOUND

METAL
BLDG

SHED

JANET F. GERBER
TM# 43-01-11.6
L 5059 P 52
8010 PECK RD.

LOT 2 OF MAP 6348

HOUSE - 8010

HAYNES
TM# 43-01-11.8
8004 PECK RD.

SINDA
TM# 43-01-11.7
8006 PECK RD.

LOT 3
MAP 6348

S-05-00-00-E 630.86' TO CREEK

S-05-00-00-E 233.00' FROM CL

HIGHWAY BDY.

HIGHWAY BDY.

S-85-00-00-E 175.00'

N-85-00-00-W 180.00'

PECK RD. (66' WIDE)



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2022-AEA-18597-OE

Issued Date: 01/12/2023

Andy Melka
NYSOLAR07 LLC
33 Boston Post Rd – Suite 220
Marlborough, MA 01752

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Solar Panel Warner Farm Solar Array
Location:	Kirkville, NY
Latitude:	43-06-50.30N NAD 83
Longitude:	75-58-49.40W
Heights:	410 feet site elevation (SE) 10 feet above ground level (AGL) 420 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6068, or Dianne.Marin@FAA.GOV. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-AEA-18597-OE.

Signature Control No: 565342185-568172895

(DNE)

Dianne Marin

Technician

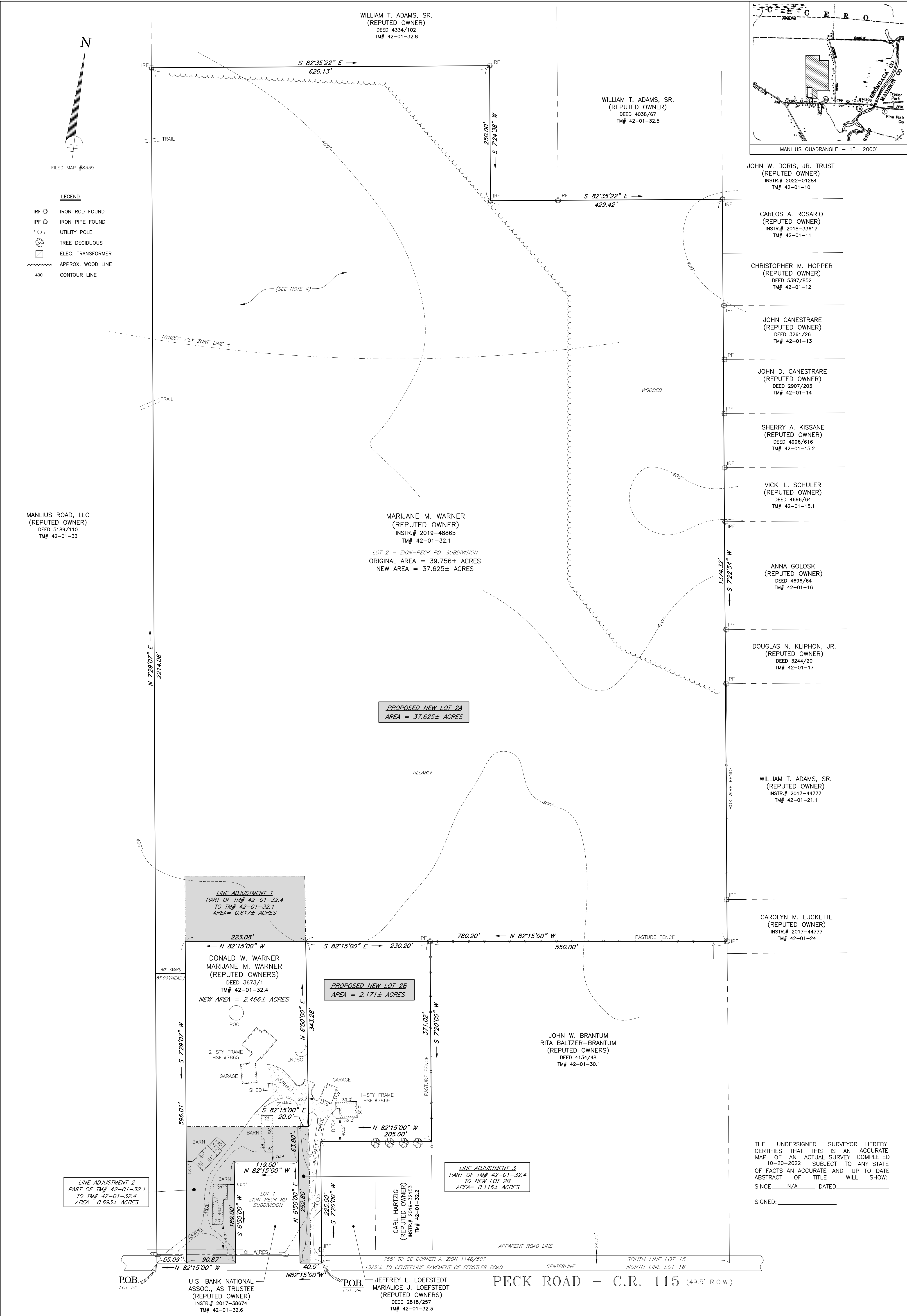
Attachment(s)

Case Description

Map(s)

planned 4.25MWac single-axis-tracking solar array





Town of Manlius Planning Board
c/o Lisa Beeman, Planning Board Secretary
301 Brooklea Dr
Fayetteville, NY 13066

With an email copy to:

- lbeeman@townofmanlius.org

January 11th, 2023

Dear Town Planning Board,

We are pleased to submit updated documents and plans for site plan approval and special use permit for the Warner Farm Solar Project. Below are our responses to the discussion items raised by the Planning Board at the meeting on November 14th, 2022.

Revisions to the site plans have been made in accordance with the below comments and based on our updated detailed design efforts. The updated site plan and other plans are attached as **Appendix A**.

Property Split/Combination and likely Area Variance:

The Warners have applied for a parcel split and combination to achieve the goals of this solar project, as well as to clean up some of the property line and access issues that exist with the existing parcel boundaries. The proposed new property boundaries are attached hereto as **Appendix B**. The Warners and we believe that this rearrangement of property lines will align the dimensions of the parcels more closely with the Town's goals and development standards, regardless of a potential solar project. Specifically, the split/combination will (i) End the reliance on a shared driveway, (ii) increase the frontage of the Warner's house from twenty feet (20') to over ninety feet (>90'), (iii) adjust the property lines to incorporate the buildings used by Don and Marijane into the house lot, including a barn that was previously straddling a property line, (iv) ensure the access by the Warners for equipment and vehicles from Peck Rd, (v) maintain more than sufficient access of sixty feet (60') to the remainder farmland/solar property, (vi) increase the road frontage for the rental house (new parcel) from twenty feet (20') to forty feet (40'), (vii) facilitate the future transfer of the rental house to the Warner's heirs and successors, by making it contained within its own ~2.17-acre parcel, and (viii) allow the solar project to use a more uniform parcel of land, allowing more efficient use of space and landscape screening.

Site Plan and Engineering:

Given the above rearrangement of the property lines, our engineers have revised the layout of the solar system slightly. The main equipment pads have been moved closer to the middle of the property, to reduce electrical losses in low-voltage DC circuitry. Thus, we have moved the access roads to accommodate large vehicular access to those equipment pads, both for installation of the transformers

and for future access by maintenance personnel and EMS (if ever required). These changes do not affect the overall impact to the property. We have also reduced the height of the fence seven feet (7') as discussed.

Interconnection:

We discussed the possibility of a ground-mounted interconnection with National Grid, and have concluded that it is not a feasible option for this project, based on time and schedule considerations. The additional cost of the equipment itself is well into six figures, which is too great for the project to bear, especially given the fact that this project's interconnection is several times more expensive than a standard interconnection. In addition, National Grid would require additional study time and fees, which would unacceptably delay the project's schedule. Lastly, a pad mounted interconnect at this location would have a notably greater impact on the drainage of the area, compared to a few new poles. The existing vegetation and general site conditions of this project will do more to reduce the visibility of the new interconnection poles compared to other projects that are more out in the open.

FAA Review:

We have submitted the project to the FAA for their review. The case has been accepted and is under review by the FAA.

Decommissioning Estimate:

As requested, we have prepared an engineering estimate for the decommissioning costs and salvage value for the solar project. Then updated Decommissioning and Removal Plan (DPR) is attached as **Appendix C**. The salvage value for the solar project greatly exceeds the cost of decommissioning, thus we propose that no decommissioning security be required in the initial five years of the operation of the solar project. The costs and salvage value would then be reevaluated in five years' time, per the submitted.

I look forward to discussing this project in more depth at your meeting on the 23rd.

Sincerely,



Andy Melka
Director, Development

Appendix A – Updated Site Plan

Appendix B – Proposed New Property Boundaries

Appendix C – Decommissioning Estimate

Decommissioning and Removal Plan

("DRP")

for

Warner Farm Solar

NYSOLAR07 LLC

7865 Peck Road

Kirkville, NY 13082

Submitted to the Town of Manlius

October 26, 2022

Relevant Town Code – SECTION 155-27.2.D(4)(b)[14] of CHAPTER 155

[14]

[a] The Applicant shall submit a decommissioning and removal plan (DRP) to the Planning Board. The DRP shall include specific plans on how the owner plans to remove the obsolete or unused solar panel arrays and accessory structures and return the property to a state acceptable to the Town within a specific time period after the cessation of operations. This plan shall be approved by the Planning board and prior to the granting of the special use permit. A site restoration plan shall be included as part of any decommission plan, to include, at a minimum, stockpiling of any topsoil removed during construction, for use in site restoration, removal of all foundations, de-compacting and de-rocking all disturbed areas, and removal of any roadways.

Decommissioning and Reclamation:

The decommissioning of the site is essentially “building the site plan in reverse”. Upon the expiration of the site permit, or the end of commercial operations, NYSOLAR07 will be responsible for removing solar facilities at the site as detailed in this plan, and for restoring and reclaiming the site to pre-construction topography and topsoil quality to the extent feasible. NYSOLAR07 reserves the right to extend the Project instead of decommissioning. If NYSOLAR07 seeks to extend the life of the Project, NYSOLAR07 will decide whether to continue operation with existing equipment or to retrofit solar panels and power system with upgrades based on new technologies.

Notice of Decommissioning:

NYSOLAR07 will submit a letter of intent to the Planning Board and Building Inspector within 30 days of the discontinuance of commercial operations. If commercial operations do not occur for a period of six consecutive months or greater, NYSOLAR07 will submit a letter to the Office of Planning and Development indicating whether it plans to resume operations or whether decommissioning of the site, as described in the DRP, will commence. If NYSOLAR07 intends to continue operations, it has an additional six months to resume commercial operations. If commercial operations do not commence within six months, decommissioning of the site will commence, unless other arrangements have been made between NYSOLAR07 and the Town of Manlius.

Summary of Decommissioning Activities:

Decommissioning includes removing the solar panels, solar panel racking, steel foundation piles and beams, inverters, transformers, overhead and underground cables and lines, equipment pads and foundations, equipment cabinets, and ancillary equipment to a depth of thirty-six (36) inches. The civil facilities, access road, security fence, and any drainage structures are included in the decommissioning scope, unless requested by the site landowner to remain and upon approval by the Town of Manlius. Standard decommissioning practices would be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the solar energy improvements. After the equipment and appurtenant structures are removed, holes or voids created by foundations, poles, concrete pads and other equipment will be filled in with soil to the surrounding grade and seeded with an approved non-invasive seed mix. Minimal topsoil will be excavated during construction, and topsoil will not be stockpiled onsite after construction. Topsoil will be spread around the work areas to achieve proper grading. During decommissioning and reclamation, if necessary, topsoil will be imported to the site to

accommodate the filling and grading activities described above. Access roads will be removed with excavators, bulldozers, or the proper heavy equipment, including the use of rock pickers if necessary. Areas compacted by equipment or other construction traffic will be de-compacted to a depth of eighteen (18) inches from finished grade prior to fine grading and seeding. This may include re-vegetation as native prairie or meadow, returning the site to agricultural use consistent with the landowners' desires, or re-developing the land for other beneficial uses (upon approval of any jurisdiction and in compliance with all relevant laws).

Timeline

Decommissioning is estimated to take six to eight weeks to complete, and the decommissioning crew will ensure that equipment and materials are recycled or disposed of properly at off-site locations. Decommissioning and restoration activities at the site will be completed within 365 days after the date the site ceases to operate, per the Town Code.

Detailed Sequence and Description of Decommissioning Activities:

The steps taken for the removal, recycling, resale and/or disposal of the site components are listed below, in sequential order:

1. **Modules:** Modules will be inspected for physical damage, tested for functionality, disconnected and removed from racking for resale or recycling. Modules will be packed and stored in an offsite facility pending their reuse or resale by NYSOLAR07. Any non-functioning modules will be packed, palletized, and shipped to the manufacturer or a third party for recycling.
2. **Racking:** Racking and racking components will be disassembled and removed from the steel foundation piles, sorted for resale, or processed to appropriate size to be sent to a metal recycling facility.
3. **Steel Foundation Piles:** All structural foundation piles will be pulled out, processed to appropriate size, and shipped to a recycling facility. During decommissioning, the area around the foundation posts may be compacted by equipment and, if compacted, the area will be de-compacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent with native prairie or agricultural uses.
4. **Overhead and Underground Cables and Lines:** The cables and conduits contain no materials known to be harmful to the environment. As part of the decommissioning of the project, these items will be removed up to a depth of 36 inches and shipped to an off-site facility for resale or recycling. Topsoil will be segregated and stockpiled for later use prior to any excavation and the subsurface soils will be staged next to the excavation. Following the removal of the cable and conduits the excavation will be backfilled with the spoils previously removed. The subgrade will be compacted to a density similar to native prairie or previous agricultural uses. Topsoil will be redistributed across the disturbed area. All cable and conduit buried deeper than 36 inches will remain and be abandoned in place.
5. **Inverters, Transformers, and Ancillary Equipment:** All electrical equipment will be disconnected, disassembled and sold or recycled. All parts will be removed, reconditioned, reused, sold as scrap, recycled, or disposed of appropriately at NYSOLAR07's discretion.
6. **Equipment Pads and Ancillary Foundations:** Topsoil will be removed from an area surrounding the foundations, equipment pad or ancillary foundation and stockpiled for later use.

Foundations will be excavated to a depth sufficient to remove all conduits, cables, aggregate and concrete to a depth of thirty-six (36) inches below grade. The remaining excavation will be filled with clean subgrade materials of quality comparable to the immediate surrounding area. All unexcavated areas compacted by equipment used in decommissioning will be decompacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent and compatible with native prairie or agricultural uses. All materials will be removed from the site, reconditioned, reused, sold as scrap, recycled, or disposed of appropriately, at NYSOLAR07's discretion.

7. Fence: All fence parts and foundations will be removed from the site, reconditioned, reused, sold as scrap, recycled, or disposed of appropriately, at NYSOLAR07's discretion. The surrounding areas will be restored to pre-construction conditions to extent feasible.
8. Access Roads: Facility access roads will be used for decommissioning purposes. After final clean-up, roads may be left intact through mutual agreement between the Landowner and NYSOLAR07, unless otherwise restricted by Federal, State, or Local Regulations. If a road is to be removed, aggregate will be removed and shipped from the site to be reused, sold, or disposed of appropriately, at NYSOLAR07's discretion, consistent with applicable regulations and industry standards. Ditch crossings connecting access roads to public roads will be removed unless the landowner requests they remain. The subgrade will be de-compacted to a density similar to surrounding sub-grade material. Topsoil will be distributed across the open area. The access roads and adjacent areas that are compacted by equipment will be de-compacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent with native prairie or agricultural uses. If excess rock has accumulated outside of the access road areas, rock pickers will be utilized to collect excess rock.
9. Land Leveling: As part of site decommissioning, to the extent commercially reasonable, NYSOLAR07 will restore the area disturbed by construction to pre-construction elevation and contour to extent feasible. If uneven settling occurs or surface drainage problems develop as a result of Project decommissioning, NYSOLAR07 will provide additional grading services to remedy the situation.

Restoration/Reclamation of Site:

NYSOLAR07 assumes that the site will be utilized for agriculture after decommissioning and will implement appropriate measures to facilitate agricultural use. If no specific use is identified, NYSOLAR07 will vegetate the site with a native grassland seed mix. The goal of restoration will be to restore natural hydrology and plant communities to the greatest extent practicable while minimizing new disturbance and removal of native vegetation. The decommissioning best management practices (BMP's) to minimize erosion and contain sediment that will be employed on the Project to the extent practicable with the intent of meeting this goal include:

1. Minimize new disturbance and removal of native vegetation to the greatest extent practicable.
2. Any topsoil that is removed from the surface for decommissioning will be stockpiled to be reused when restoring plant communities. Once decommissioning activity is complete, topsoil will be restored to assist in establishing and maintaining plant communities.

3. Stabilize soils and re-vegetate with native vegetation and plantings appropriate for the soil conditions and adjacent habitat and use local seed sources where feasible, consistent with landowner objectives. Restoration of native plants will not be performed for site that will be returned to agricultural use or other more intensive beneficial uses.
4. During and after decommissioning activities, install erosion and sediment control measures in all disturbance areas where potential for erosion and sediment transport exists, consistent with storm water management objectives and requirements.

Post-Restoration Monitoring

Decommissioning of the site will not require new permits or approvals except potentially a NPDES/SDS CSW Permit and SWPPP, if grading activities are necessary and exceed applicable permit thresholds. Decommissioning should include post-restoration monitoring as required by the NPDES/SDS CSW Permit and SWPPP or other applicable requirements. In addition, the NYSOLAR07 Field Representative assigned to decommissioning monitoring will stay in contact with landowners, including onsite check-ins until the NPDES/ SDS CSW permit is closed.

Decommissioning Costs

NYSOLAR07 will be responsible for all costs to decommission the project and associated facilities. Net decommissioning costs are expected to be negative, by a substantial amount. The engineering firm GEI estimated a conservative gross decommissioning estimate of \$451,483.29 and a current resale/salvage value of the modules, scrap aluminum, steel and other components of \$708,923.37, for a net decommissioning cash flow of \$121,995.09 (i.e., more cash would be generated by the resale of the components than the cost of decommissioning). Please note that this is a preliminary estimate, and we propose to update the cost estimates upon final engineering of the site, prior to issuance of a building permit. A detailed breakdown of this cost estimate is attached below.

Decommissioning Financial Surety Plan

NYSOLAR07 will provide financial surety to the Town to ensure the decommissioning is funded. NYSOLAR07 proposes providing either (i) a mutually acceptable escrow agreement (the “Escrow Agreement”) establishing an escrow (the “Escrow”) to secure NYSOLAR07 obligations for decommissioning, (ii) a “Letter of Credit” or equivalent form of security, or (iii) a bond, in either case naming the Town of Manlius as the beneficiary. At this time, NYSOLAR07 requests flexibility in the form of security to allow us to evaluate the options and costs of obtaining the security given market conditions at the time of issuance. The mutually agreed upon form of security will be established prior to the installation of any physical equipment on the site.

The decommissioning security amount and type will be updated every five (5) years by NYSOLAR07 utilizing an independent, third-party engineering firm to evaluate the difference between the estimated decommissioning costs and salvage value. The escrow or security shall be held, administered, and disbursed by a title company, bank or other qualified escrow agent mutually satisfactory to NYSOLAR07 and the Town of Manlius. If NYSOLAR07 does not remove the solar facilities within three hundred sixty-five (365) days after the expiration of the lease or earlier termination of the lease, the Town may draw from the Escrow or security an amount sufficient to complete the decommissioning of the site. The security shall remain in place until such decommissioning is complete.



Project: Warner Solar
Client: NYSOLAR07, LLC

Engineer: P.J. Snyder
Issue Date: 1/12/2023

OPINION OF PROBABLE COST-PV PLANT DECOMMISSIONING-ANNUAL INFLATION=1.36%-END OF LIFE: YEAR 35					
DISASSEMBLY AND DISPOSAL					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	PV Modules	13895	EA	\$ 2.79	\$ 38,767.05
2	PV Inverters	2	EA	\$ 1,437.00	\$ 2,874.00
3	PV Transformers	2	EA	\$ 718.00	\$ 1,436.00
4	ESS Inverters	2	EA	\$ 718.00	\$ 1,436.00
5	ESS Containers	2	EA	\$ 3,018.00	\$ 6,036.00
6	ESS Transformers	2	EA	\$ 718.00	\$ 1,436.00
7	Racking Frame (Single Axis)	121	EA	\$ 172.00	\$ 20,812.00
8	Racking Posts	1573	EA	\$ 19.00	\$ 29,887.00
9	Tracker Motors	121	EA	\$ 23.00	\$ 2,783.00
10	Racking Wiring	145898	LF	\$ 0.10	\$ 14,589.80
11	Underground Cable (LV, MV, Comm)	4544	LF	\$ 0.82	\$ 3,726.08
12	7' High Chain Link Fence	4734	LF	\$ 2.91	\$ 13,775.94
13	Security Gate	1	EA	\$ 2,082.00	\$ 2,082.00
14	Interconnection Facilities	1	EA	\$ 8,347.00	\$ 8,347.00
15	Concrete	12	CY	\$ 107.00	\$ 1,284.00
16	Gravel	1222	CY	\$ 40.61	\$ 49,625.42
17	Offsite Disposal by Volume	100	CY	\$ 46.86	\$ 4,686.00
18	Offsite Disposal by Weight	100	TON	\$ 99.00	\$ 9,900.00
19	General Conditions		LS	\$ 5,760.00	\$ -
				SUBTOTAL	\$ 213,483.29

SITE RESTORATION					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
19	Re-Seeding	30	ACRES	\$ 7,500.00	\$ 225,000.00
20	Re-Grading	0	CY	\$ 27.00	\$ -
21	Erosion and Sediment Control	1	LS	\$ 13,000.00	\$ 13,000.00
				SUBTOTAL	\$ 238,000.00

SALVAGE					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
22	PV Modules	13200	EA	\$ 34.36	\$ 453,552.00
23	PV Inverters	2	EA	\$ 4,440.00	\$ 8,880.00
24	PV Transformers	2	EA	\$ 6,065.00	\$ 12,130.00
25	ESS Inverters	2	EA	\$ 4,500.00	\$ 9,000.00
26	ESS Containers	3486	LBS	\$ 0.24	\$ 836.64
27	ESS Transformers	2	EA	\$ 6,065.00	\$ 12,130.00
28	Racking Frame (Single Axis)	363000	LBS	\$ 0.26	\$ 94,380.00
29	Racking Posts	259545	LBS	\$ 0.26	\$ 67,481.70
30	Tracker Motors	6534	LBS	\$ 0.61	\$ 3,985.74
31	Interconnection Steel Structures	0	LBS	\$ 0.24	\$ -
32	Interconnection Power and Instrument Transformers	1652	LBS	\$ 1.19	\$ 1,965.88
33	Interconnection Disconnect Switches (1 and 3 Phase)	451	LBS	\$ 1.19	\$ 536.69
34	Interconnection Primary Conductor	0	LBS	\$ 0.24	\$ -
35	Control Panels	0	LBS	\$ 0.24	\$ -
36	Electronic Controls	26	LBS	\$ 0.36	\$ 9.36
37	LV Wiring (PV Plant & Interconnection)	4771	LBS	\$ 4.04	\$ 19,274.84
38	MV Wiring	2385	LBS	\$ 2.46	\$ 5,867.10
39	Chain Link Fence	72667	LBS	\$ 0.26	\$ 18,893.42
				SUBTOTAL	\$ 708,923.37

TOTAL DISASSEMBLY, DISPOSAL, & SITE RESTORATION COST \$ 451,483.29
 30% CONTINGENCY \$ 135,444.99
 TOTAL SALVAGE VALUE \$ 708,923.37
NET DECOMMISSIONING COST \$ (121,995.09)

P.J. Snyder, PE
Senior Project Manager

1/11/2023

Date

4.25MW AC GROUND MOUNTED SOLAR FARM

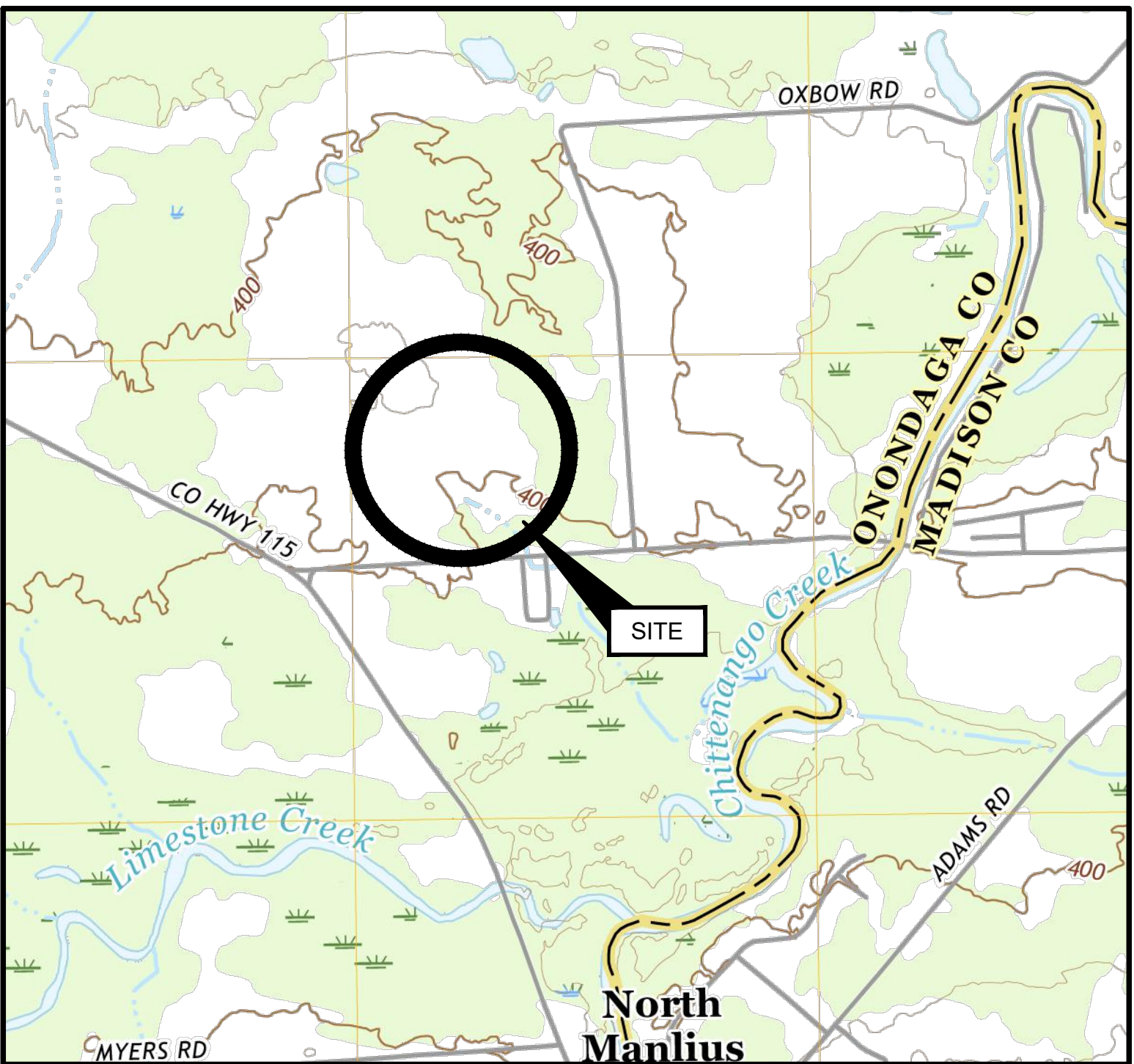
NYSOLAR07 LLC-WARNER SOLAR FACILITY

7859 PECK ROAD
KIRKVILLE, NY 13082



SOURCE:
"NEW YORK COUNTY MAP" BY: GISGEOGRAPHY

NEW YORK COUNTY MAP
(NOT TO SCALE)



SOURCE:
THIS IMAGE IS FROM U.S.G.S. TOPOGRAPHIC 7.5 MINUTE SERIES
MANILUS, NY QUADRANGLE, 2019

SITE LOCATION MAP
1"=1000'

SHEET NO.	TITLE
G-001	COVER SHEET
G-002	GENERAL NOTES
C-101	EXISTING CONDITIONS PLAN
C-102	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
C-103	SITE PLAN
C-104	GRADING AND UTILITY PLAN
C-105	LANDSCAPING PLAN
C-106	LANDSCAPING NOTES AND DETAILS
C-107	TYPICAL DETAILS 1 OF 2
C-108	TYPICAL DETAILS 2 OF 2

REVISION
B
A
B
B
B
B
A
B
B

TOWN OF MANLIUS APPROVALS

PLANNING BOARD CHAIRMAN _____ DATE _____

TOWN ENGINEER _____ DATE _____

PLANNING BOARD SECRETARY _____ DATE _____

PREPARED FOR:

NYSOLAR07, LLC
330 W GOETHE ST.
CHICAGO, ILLINOIS 60610

PREPARED BY:

GEI CONSULTANTS, INC., P.C.
1301 TRUMANSBURG ROAD
SUITE N
ITHACA, NY 14850
(607)216-8955



ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

					SHEET NO.
					G-001
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS		
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS		
NO.	DATE	ISSUE/REVISION	APP		

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GEI PROJECT NO. 223192

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2203192 Warner Solar Development\03_CAD\Sheet Set\SC-101 EXISTING CONDITIONS.dwg - 11/02/2023



- NOTES:
1. BOUNDARY SURVEY AND EXISTING CONDITIONS BASED ON SURVEY PERFORMED BY SPAULDING LAND SURVEY ON OCTOBER 26, 2022.
 2. EXISTING CONTOURS ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO STARTING EARTHWORK.
 3. WETLAND DELINIATED BY GEI CONSULTANTS, INC., P.C. ON SEPTEMBER 1, 2022.

LEGEND:

PROPERTY LINE	
WETLANDS	
EXISTING MINOR CONTOUR	
EXISTING MAJOR CONTOUR	
ADJACENT PROPERTY LINE	
EXISTING OVERHEAD UTILITIES	
EXISTING ROADWAY	
EXISTING DRIVEWAY	
EXISTING TREE LINE	
IRON POLE FOUND	
IRON ROD FOUND	
UTILITY POLE	
TREE DECIDUOUS	
ELECTRICAL TRANSFORMER	

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

SOURCE:
1. PARCEL BOUNDARIES AND TOPOGRAPHY OBTAINED FROM NYS GIS CLEARING HOUSE, ACCESSED AUGUST 22, 2022.

Attention: 	
If this scale bar does not measure 1" then drawing is not original scale.	
Designed: V. DICASTELNUOVO	
Drawn: V. DICASTELNUOVO	
Checked: B. MCDEVITT	
Approved: P. SNYDER	
P.E. No: 100361	
GEI Project 223192	



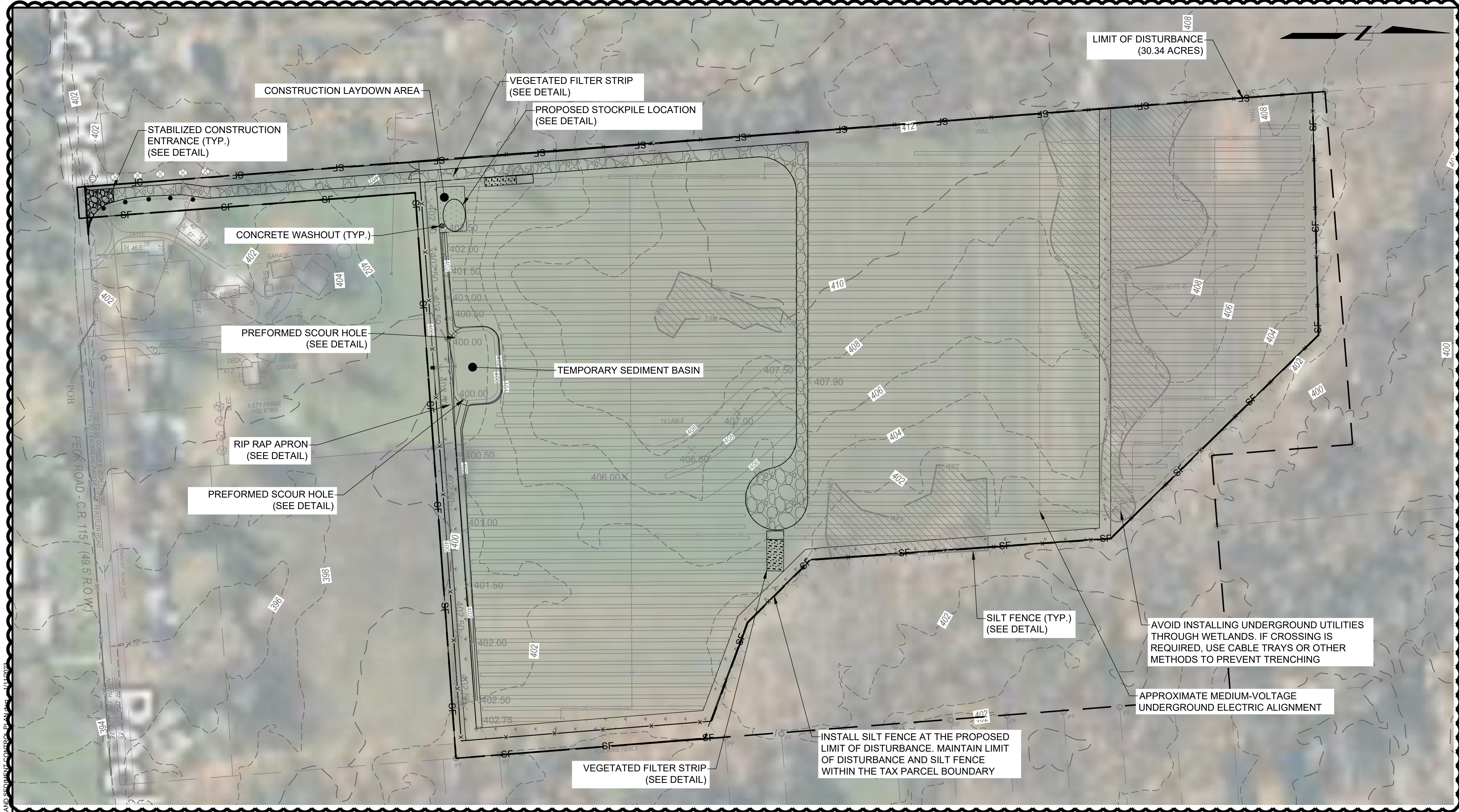
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300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME	SHEET NO.
EXISTING CONDITIONS PLAN	C-101

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Erosion and Sediment Control Plan.dwg 11/14/2023

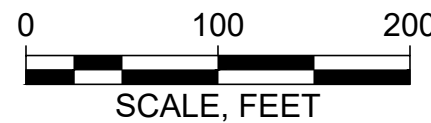


- SEDIMENT & EROSION CONTROL NOTES:**
1. CONDUCT SOIL DISTURBANCE IN SUCH A MANNER AS TO MINIMIZE EROSION. CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE TEMPORARY OR PERMANENT MEASURES FOR SOIL STABILIZATION.
 2. CONSTRUCT SOIL EROSION AND SEDIMENT CONTROL FEATURES PRIOR TO DISTURBING SOIL OR PERFORMING INTRUSIVE ACTIVITIES.
 3. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS AFTER END OF ACTIVE OR REDISTURBANCE.
 4. STABILIZE SLOPES GREATER THAN OR EQUAL TO 3 HORIZONTAL : 1 VERTICAL WITH EROSION CONTROL BLANKETS IN COMBINATION WITH SEEDING.
 5. STABILIZE CONSTRUCTION DITCHES AND SWALES WITH EROSION CONTROL BLANKETS IN COMBINATION WITH SEEDING.
 6. ERECT SILT FENCE AROUND SOIL STOCKPILES THAT ARE TO REMAIN EXPOSED FOR PERIODS MORE THAN 3 DAYS.
 7. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECT BY THE QUALIFIED SWPPP INSPECTOR, ENGINEER OR GOVERNING AGENCY.
 8. INSPECT AND MAINTAIN ALL TEMPORARY AND PERMANENT SEDIMENT AND EROSION CONTROL MEASURES AS NEEDED AND IN ACCORDANCE WITH THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY, PERMIT NO. GP-020-001 OR LATEST VERSION AVAILABLE, AND AS SPECIFIED IN THE SWPPP.

LEGEND:

PROPERTY LINE	— — —
PROPOSED UNDERGROUND ELECTRIC	— U/E —
PROPOSED CHAIN LINK FENCE	— X —
EXISTING MINOR CONTOUR	— 401 —
EXISTING MAJOR CONTOUR	— 400 —
PROPOSED MINOR CONTOUR	— 401 —
PROPOSED MAJOR CONTOUR	— 400 —
PROPOSED VEGETATED FILTER STRIP	— [Pattern] —
PROPOSED SILT FENCE	— SF —
LIMIT OF DISTURBANCE	— [Thick Dashed] —

**ISSUED FOR PERMIT
NOT FOR CONSTRUCTION**



Attention:
0 1" SCALE, FEET
If this scale bar does not measure 1" then drawing is not original scale.



Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192



NYSOLAR 07, LLC
300 W GOETH ST
CHICAGO, ILLINOIS 60610

**NYSOLAR07 LLC
WARNER SOLAR FACILITY**
7859 PECK ROAD
KIRKVILLE, NY 13082

B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
**EROSION AND SEDIMENT
CONTROL PLAN**

SHEET NO.
C-102

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\10\12\Manlius Solar Development\03_CADD_Sheet Set\03-03 SITE PLAN.dwg - 11/12/2023



ZONING COMPLIANCE (§155-12)

PROPERTY ADDRESS	7859 PECK ROAD, KIRKVILLE, NY 13082	
TAX PARCEL ID	BLOCK 1, LOT 32.1	
ZONING DISTRICT	RESTRICTED AGRICULTURE (R-A)	
PROPOSED USE	LARGE SCALE SOLAR ENERGY SYSTEM	
ITEM	REQUIRED	PROPOSED
MINIMUM LOT AREA		1,134,990 SF
PUBLIC SEWER	40,000 SF	1,134,990 SF
SEPTIC SYSTEM	100,000 SF	1,134,990 SF
MINIMUM LOT FRONTAGE		
PUBLIC SEWER	150 FT	N/A
SEPTIC SYSTEM	200 FT	N/A
MIN. FRONT YARD SETBACK	50 FT	50 FT
MIN SIDE YARD SETBACK	50 FT	50 FT
MIN REAR YARD SETBACK	50 FT	50 FT

(1) REQUIRED ZONING INFORMATION IN THIS TABLE IS TAKEN FROM SECTION 155-12 OF THE TOWN OF MANLIUS ZONING CODE
(2) GROUND-MOUNTED SOLAR ENERGY SYSTEMS ARE A PERMITTED USE WITHIN THE RESTRICTED AGRICULTURE (R-A) DISTRICT
(3) SETBACKS FOR SOLAR INSTALLATIONS ARE DEFINED IN SECTION 155-27.2 D.(4).[2] OF THE TOWN OF MANLIUS ZONING CODE

- NOTES:
1. INSTALL PERMANENT CHAIN LINK FENCE AT OR INSIDE LIMIT OF DISTURBANCE.
 2. LIMIT OF DISTURBANCE LINE NOT SHOWN ON THIS PLAN FOR CLARITY.

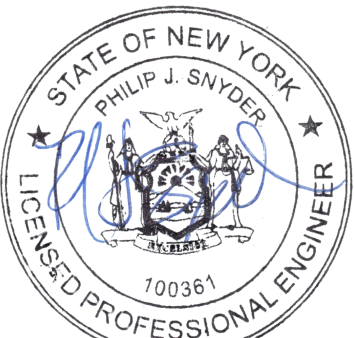
LEGEND:

PARCEL BOUNDARY LINE	---
WETLANDS	---WET---
SETBACK LINE	---
PROPOSED CHAIN LINK FENCE	---x---

ISSUED FOR PERMIT
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0 100 200
SCALE, FEET

Attention:
0 1"
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Checked:	B. MCDEVITT
Approved:	P. SNYDER
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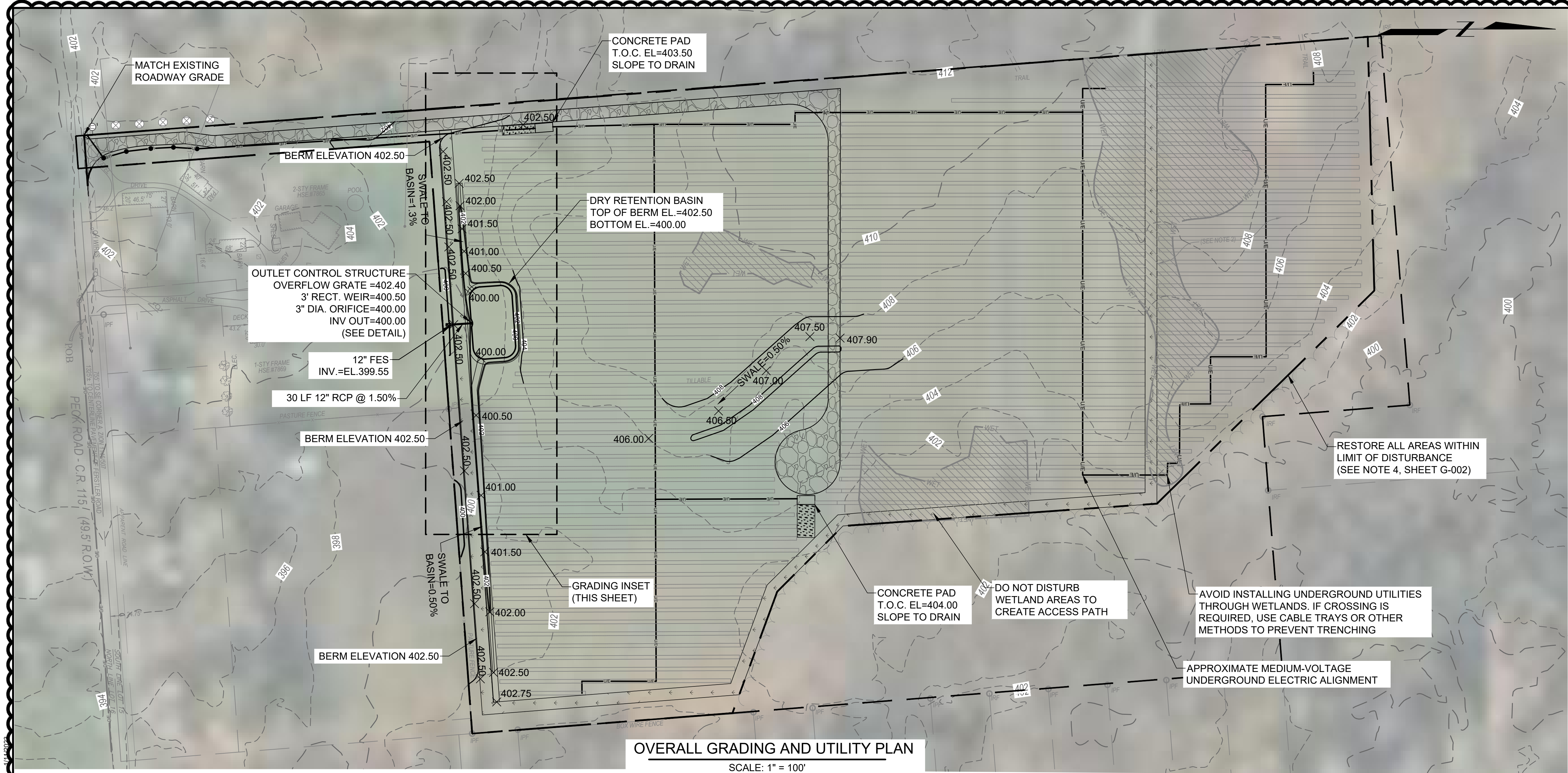


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KIRKVILLE, NY 13082

B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
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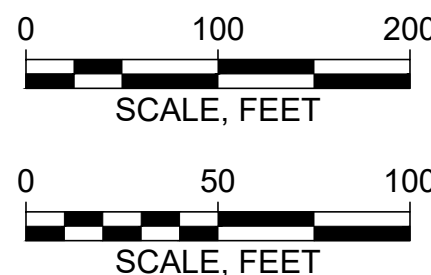
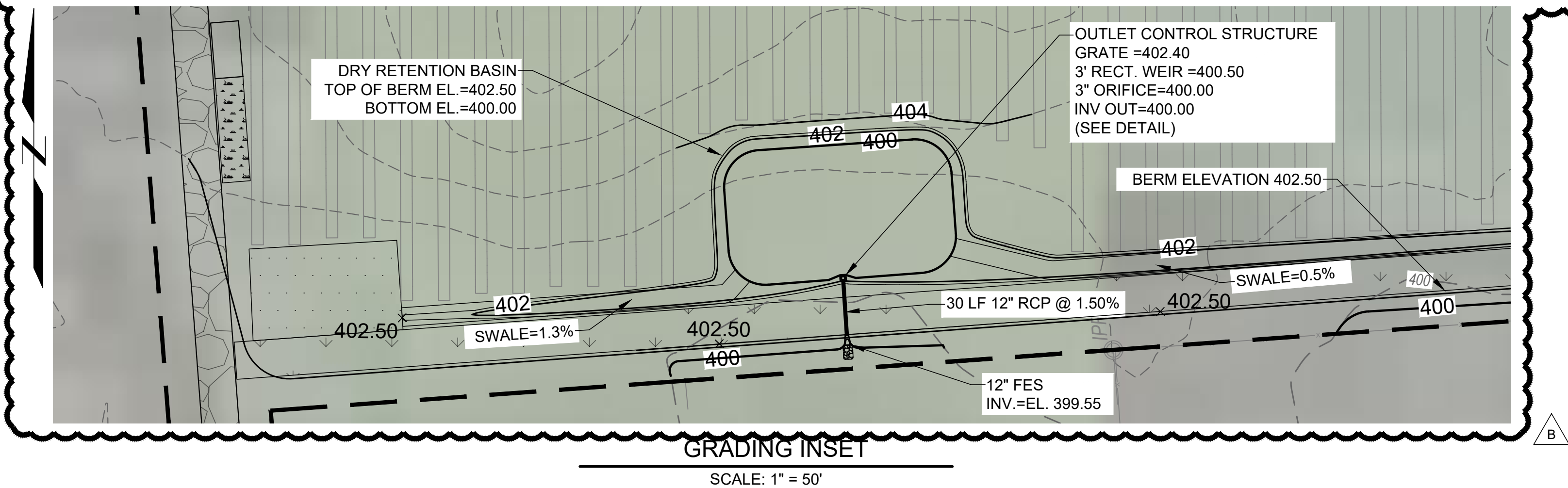
SHEET NAME
SITE PLAN
SHEET NO.
C-103



ABBREVIATIONS:
T.O.C. = TOP OF CONCRETE
FES = FLARED END SECTION
EL. = ELEVATION
RCP = REINFORCED CONCRETE
INV. = INVERT ELEVATION

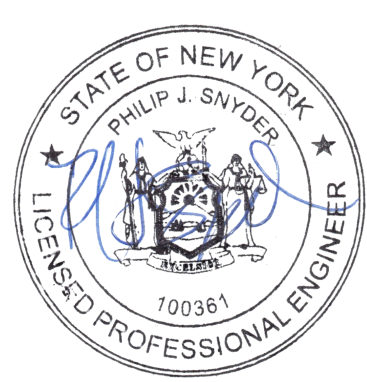
LEGEND:

PROPERTY LINE	---
WETLANDS	WET
SETBACK LINE	---
PROPOSED UNDERGROUND ELECTRIC	U/E
LIMIT OF DISTURBANCE	---
EXISTING MINOR CONTOUR	-401-
EXISTING MAJOR CONTOUR	-400-
PROPOSED MINOR CONTOUR	401
PROPOSED MAJOR CONTOUR	400
PROPOSED VEGETATED FILTER STRIP	



Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

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Designed:	V. DICASTELNUOVO
Drawn:	V. DICASTELNUOVO
Checked:	B. MCDEVITT
Approved:	P. SNYDER
P.E. No:	100361
GEI Project	223192



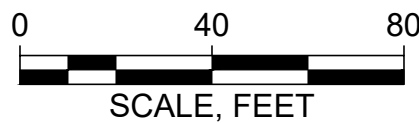
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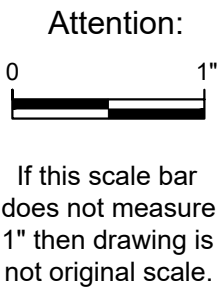
B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME	SHEET NO.
GRADING AND UTILITIES PLAN	C-104

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CADD_Sheet Set\03-105-106 LANDSCAPING PLAN, DETAIL AND NOTES.dwg - 11/1/2023



Warning:
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Designed: L. SCHWANOF
Drawn: D. CHECHURIN
Checked: V. DICASTELNUOVO
Approved: P. SNYDER
P.E. No: 100361
GEI Project 223192



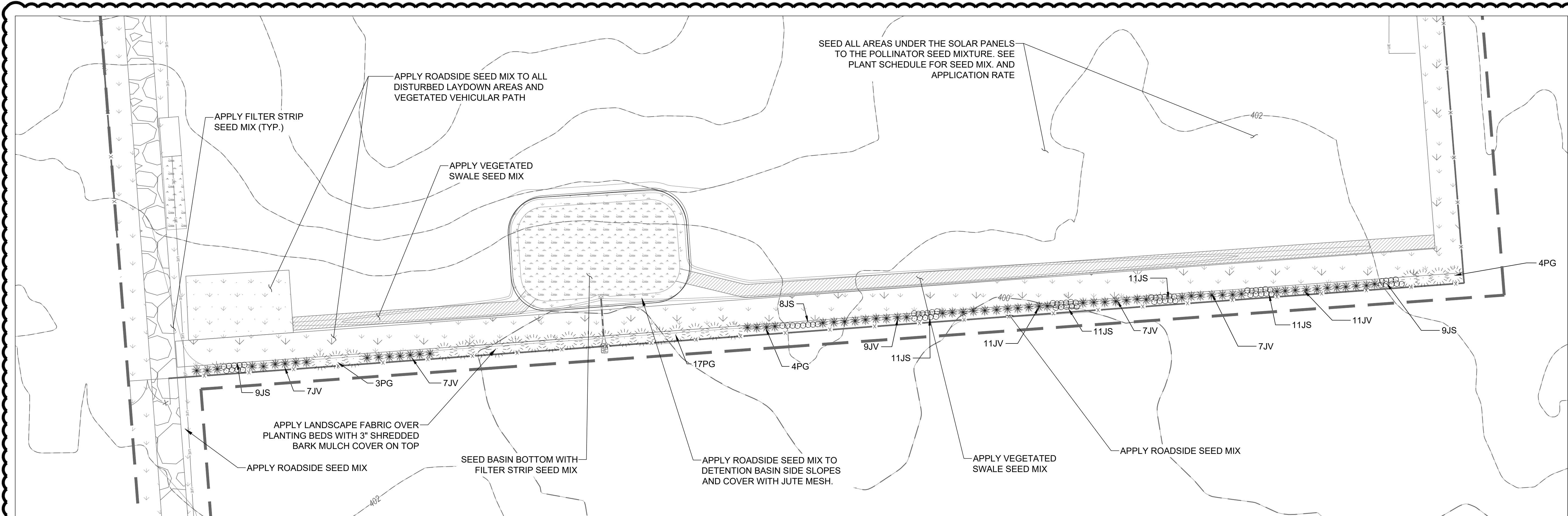
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B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	12/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
LANDSCAPING PLAN

SHEET NO.
C-105



LEGEND:

PROPERTY LINE	---
WETLANDS	---WET---
SETBACK LINE	---
PROPOSED UNDERGROUND ELECTRIC	---U/E---
PROPOSED CHAIN LINK FENCE	---X---
EXISTING MINOR CONTOUR	---401---
EXISTING MAJOR CONTOUR	---400---
FILTER STRIP SEED MIXTURE	[Symbol]
PERMEABLE ACCESS ROAD	[Symbol]
MAINTENANCE ACCESS PATH	[Symbol]
VEGETATED SWALE	[Symbol]

**ISSUED FOR PERMIT
NOT FOR CONSTRUCTION**

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CADD_Sheet Set\1C-105-106 LANDSCAPING PLAN DETAIL AND NOTES.dwg - 15/2023

LANDSCAPE/PLANTING NOTES:

1. CONTRACTOR SHALL PERFORM WORK IN COMPLIANCE WITH ALL ENVIRONMENTAL PERMITS.
2. CONTRACTOR SHALL REQUEST UTILITY MARK-OUTS BEFORE BEGINNING WORK. CONTRACTOR IS ADVISED THAT HAND DIGGING AND SHALLOW RAKING WILL BE REQUIRED IN PROXIMITY TO BURIED UTILITIES AND HEAVY MACHINERY MAY BE PROHIBITED ON SITE DURING PLANTING OPERATIONS.
3. ACCESS TO THE SITE SHALL BE THROUGH THE EXISTING DRIVEWAY AND VEHICULAR PATHS, AND LOCATION OF TEMPORARY STAGING AREAS WILL BE DIRECTED BY THE OWNER.
4. SITE PREPARATION SHALL INCLUDE REMOVAL OF ALL WEEDS AND INVASIVE SPECIES, SURFACE DEBRIS, RUBBLE, STONES, AND COBBLES GREATER THAN 1 INCH IN SIZE, AND ANY MATERIALS DELETERIOUS TO PLANT GROWTH. PLANTING BED SHALL BE GRADED TO EXISTING SURROUNDING GRADES.

PLANTINGS:

1. PLANT INSTALLATIONS SHALL TAKE PLACE DURING DRY AND UNFROZEN GROUND CONDITIONS DURING THE FOLLOWING SEASONAL WINDOWS: MARCH 1ST TO MAY 15TH, OR AUGUST 15TH TO NOVEMBER 1ST.
2. DELIVER PLANTS IMMEDIATELY PRIOR TO PLANTING ON SITE. TEMPORARY STORAGE OF ANY PLANT MATERIALS AFTER DELIVERY SHALL NOT EXCEED ONE WEEK. PLANTS MUST REMAIN OUT OF DIRECT EXPOSURE TO SUN AND WIND, AND MOISTURE OF PLANT CONTAINERS OR ROOT BALLS MUST BE MAINTAINED BY COVERING WITH WET STRAW OR CLOTH AND PERIODIC WATERING UNTIL TIME OF PLANTING.
3. HANDLE ALL PLANT MATERIALS IN A MANNER SO AS TO AVOID DAMAGES TO THE PLANTS, ROOT BALLS AND CONTAINERS. DO NOT STACK PLANTS DURING TRANSPORT OR TEMPORARY STORAGE TO AVOID CRUSHING. ALL PLANTS THAT ARE DAMAGED, NOT IN HEALTHY GROWING CONDITIONS, OR LACKING WELL DEVELOPED ROOTS SHALL BE REJECTED AND REPLACED AT CONTRACTOR'S EXPENSE.
4. IT IS THE DESIGN INTENT THAT ALL PLANTS BE INSTALLED AT THE ON-CENTER SPACING SHOWN IN THE PLANT SCHEDULE.
5. SET PLANTS STRAIGHT OR PLUMB IN LOCATIONS INDICATED ON PLAN, AND AT A LEVEL AFTER SETTLEMENT THAT MATCHES THE FINISHED GRADE IN THE FORMER GROWING MEDIUM.
6. ABSORBENT POLYMER AND TIME RELEASE ORGANIC FERTILIZER WITH MYCORRHIZAL INOCULANT SHOULD BE ADDED TO PLANT PITS DURING PLANTING.
7. CONTAINERS AND/OR WIRE FRAMES MUST BE REMOVED FROM THE ROOT BALLS BEFORE PLANTING. TWINE AT THE TOP OF THE ROOT BALL OF BALLED AND BURLAPPED TREES SHALL BE CUT, AND THE TOP OF THE BURLAP ROLLED BACK 1/3 TO EXPOSE THE SOIL BEFORE BACKFILLING PLANT PITS.
8. STAKE TREES IN PLACE AS SHOWN IN THE TYPICAL PLANTING DETAIL.
9. WATER PLANTS DURING PLANTING OPERATIONS. ALL PLANTINGS MUST BE WATERED ONCE PER WEEK FOR 3 MONTHS DURING THE GROWING SEASON TO AVOID TRANSPLANT SHOCK, UNLESS THE PLANTED AREAS RECEIVE A MINIMUM OF 1 INCH OF RAINFALL DURING THE WEEK.
10. CONTRACTOR SHALL PROVIDE A 1-YEAR GUARANTEE TO REPLACE DEAD OR STRESSED PLANT MATERIAL.
11. ALL REPLACEMENT PLANTINGS SHALL BE COMPLETED NO LATER THAN THE NEXT CONSECUTIVE PLANTING SEASON.
12. CONTRACTOR SHALL PROVIDE ROUTINE MAINTENANCE THROUGHOUT THE 1-YEAR GUARANTEE PERIOD, WHICH INCLUDES WATERING, REMOVAL OF WEEDS AND INVASIVE SPECIES, AND REINFORCEMENT OF PLANT STAKES.

SEEDING:

1. LIGHTLY RAKE THE SEEDBED TO REMOVE ALL WEEDS, SURFACE DEBRIS, STICKS, ROOTS, RUBBISH AND ROCKS GREATER THAN 1/2 INCH IN SIZE.
2. SEEDING SHALL TAKE PLACE DURING DRY AND UNFROZEN GROUND CONDITIONS DURING THE FOLLOWING SEASONAL WINDOWS: MARCH 1ST TO MAY 15TH, OR AUGUST 15TH TO SEPTEMBER 30TH.
3. SPECIFIED POLLINATOR SEED MIX, OR APPROVED EQUAL SHALL APPLIED UNDER SOLAR PANELS AS SHOWN ON THE LANDSCAPE PLAN AFTER SITE PREPARATION AND FINE GRADING.
4. DRILL SEED, BROADCAST, HYDROSEED OR UTILIZE A METHOD THAT WILL ENSURE UNIFORM DISTRIBUTION OF ALL SEEDS IN THE MIXTURE.
5. ROADSIDE SEED MIXTURE, OR APPROVED EQUAL SHALL BE APPLIED ON DISTURBED LAYDOWN AND ROADSIDE AREAS AS SHOWN ON THE LANDSCAPE PLAN AFTER SITE PREPARATION AND FINE GRADING.
6. FILTER STRIP SEED MIX SHALL BE APPLIED IMMEDIATELY DOWNSLOPE FROM THE CONCRETE PAD AT THE RETENTION BASIN AS SHOWN ON THE LANDSCAPE PLAN AFTER SITE PREPARATION AND FINE GRADING.
7. BROADCAST SEEDED AREAS SHALL BE LIGHTLY RAKED OR TAMPED AFTER APPLICATION TO MAXIMIZE SEED/SOIL CONTACT.
8. APPLY JUTE MESH OVER ALL SEEDED AREAS THAT EXCEED A 3 FT. HORIZONTAL:1 FT. VERTICAL SLOPE.
9. PROTECT SEEDED AREAS AGAINST TRAFFIC OR OTHER USE IMMEDIATELY AFTER SEEDING BY ERECTING BARRICADES AND PLACING WARNING SIGNS.
10. SEEDED AREAS THAT ARE DAMAGED BY RUNOFF GULLIES OR RILLS SHALL BE REPAIRED, RE-SEEDED, AND COVERED WITH STRAW MULCH DURING THE SAME GROWING SEASON.

POLLINATOR SEED MIXTURE
APPLICATION RATE ~25 LBS/ACRE

% BY WEIGHT	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
5.0	<i>Agrostis perennans</i>	Autumn Bentgrass	3.5
2.0	<i>Eragrostis spectabilis</i>	Purple Lovegrass	1.5
20.0	<i>Schizachyrium scoparium</i>	Little Bluestem	3.9
23.7	<i>Bouteloua curtipendula</i>	Sideoats Grama	3.2
0.5	<i>Pestimone hirsutus</i>	Hairy Beardtongue	2.9
2.6	<i>Chamaecrista fasciculata</i>	Partridge Pea	2.9
2.0	<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	3.3
15.0	<i>Gaillardia aristata</i>	Perennial Gaillardia (Blanket Flower)	2.3
0.2	<i>Oenothera speciosa</i>	Showy Evening Primrose	2.0
3.0	<i>Rudbeckia hirta</i>	Blackeyed Susan	3.3
2.5	<i>Aster prenanthoides</i>	Zig Zag Aster	3.3
5.0	<i>Monarda punctata</i>	Spotted Beebalm	3.3
3.0	<i>Anemone canadensis</i>	Canadian Anemone	2.3
2.0	<i>Aquilegia canadensis</i>	Eastern Columbine	2.6
3.0	<i>Asclepias tuberosa</i>	Butterfly Milkweed	2.9
3.0	<i>Aster laevis</i>	Smooth Blue Aster	3.3
3.0	<i>Aster oblongifolius</i>	Aromatic Aster	3.3
0.2	<i>Lupinus perennis</i>	Perennial Blue Lupine	2.0
2.0	<i>Coreopsis grandiflora</i>	Large Leaf Tickseed	2.6
0.3	<i>Pycnanthemum virginianum</i>	Virginia Mountainmint	3.3
2.0	<i>Conoclinium coelestinum</i>	Blue Mistflower	3.3
100 %			

ROADSIDE SEED MIXTURE
APPLICATION RATE ~33 LBS/ACRE

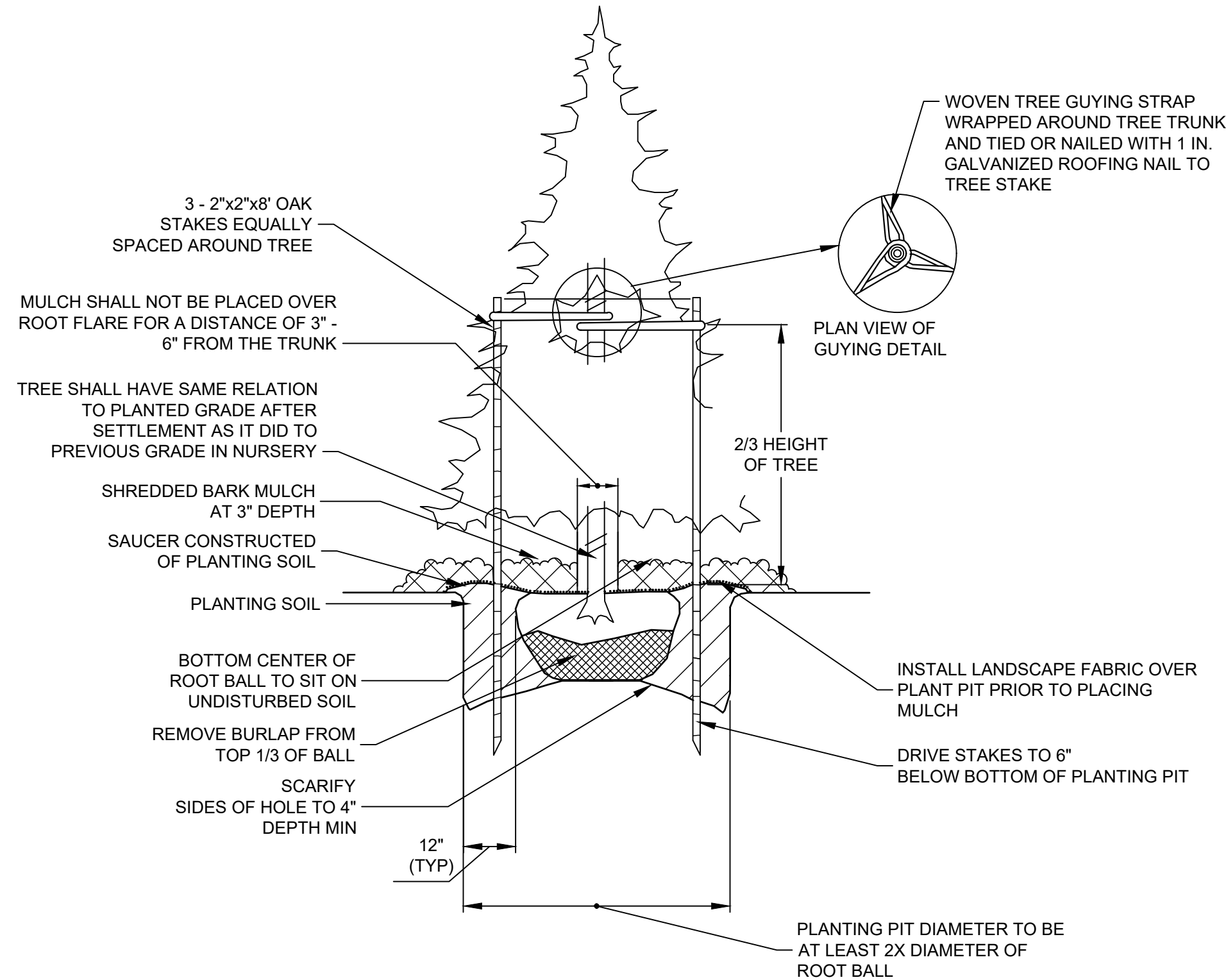
LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
20	<i>Festuca rubra</i>	Creeping Red Fescue	1 to 2
8	<i>Trifolium repens</i>	Common White Clover	0.5 to 1
5	<i>Lolium perenne</i>	Perennial Ryegrass	2.0
33	Total	MOWED HEIGHT - 3 FT	

VEGETATED FILTER STRIP SEED MIXTURE
APPLICATION RATE ~26 LBS/ACRE

LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
10	<i>Elymus riparius</i>	Riparian Wildrye	2 to 5
6	<i>Dichanthelium clandestinum</i>	Deertongue	1 to 3
6	<i>Panicum virgatum</i>	Switchgrass	3 to 5
2	<i>Sporobolus michauxianus</i>	Prairie Cordgrass	3 to 8
2	<i>Poa palustris</i>	Fowl Bluegrass	3 to 6
26	Total	NO MOWING	

VEGETATED SWALE SEED MIXTURE
APPLICATION RATE ~40 LBS/ACRE

LBS/ACRE	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT (FT)
15	<i>Festuca rubra</i>	Creeping Red Fescue	1 to 2
15	<i>Festuca arundinacea</i>	Tall Fescue	2 to 4
8	<i>Lotus corniculatus</i>	Birdsfoot Trefoil	1 to 2.5
2	<i>Agrostis gigantea</i>	Redtop	2 to 3
40	Total	MOWED HEIGHT - 3 FT	



TREE PLANTING AND SUPPORT
SCALE: NTS

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

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Attention:
0 1"
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Designed: L. SCHWANOF

Drawn: D. CHECHURIN

Checked: V. DICASTELNUOVO

Approved: P. SNYDER

P.E. No: 100361

GEI Project 223192

GEI Consultants
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300 W GOETH ST
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**NYSOLAR07 LLC
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KIRKVILLE, NY 13082

A	11/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

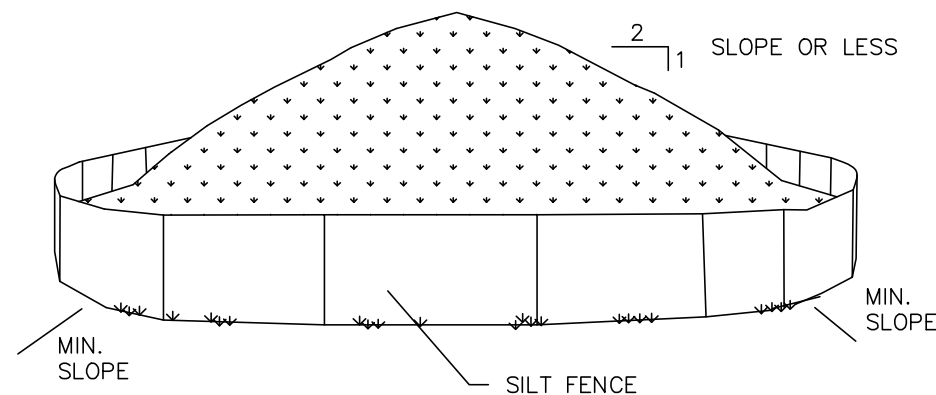
SHEET NAME

**LANDSCAPING NOTES
AND DETAILS**

SHEET NO.

C-106

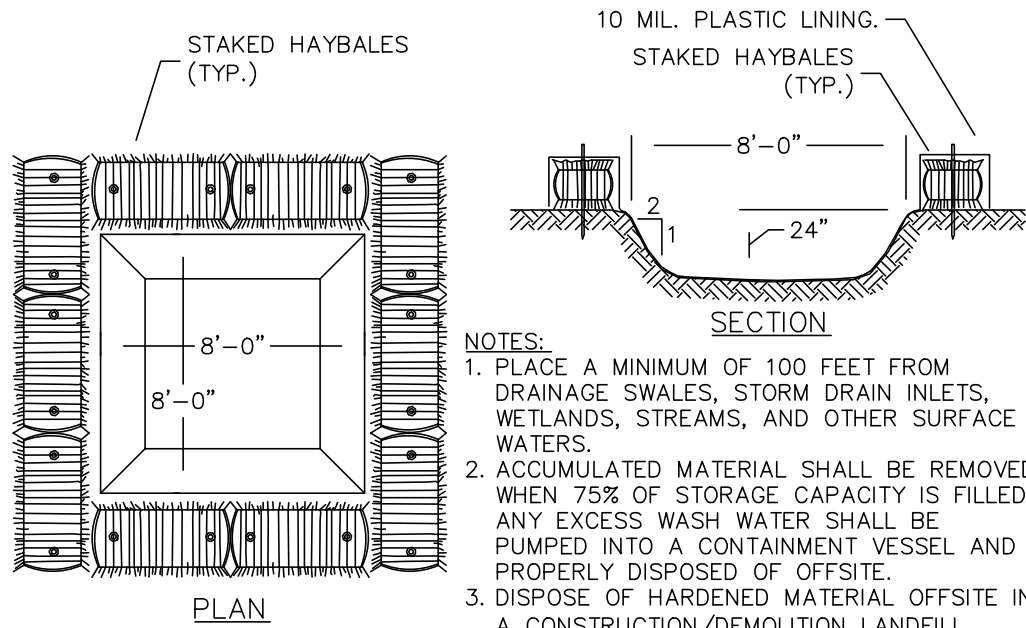
DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\003_CADD_Sheet Set\03-108-107 CONSTRUCTION DETAILS.dwg - 11/12/2023



- NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
 3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
 4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
 5. HAY BALES TO BE USED WHERE STOCKPILES ARE LOCATED ON PAVED AREAS.

TEMPORARY STOCKPILE

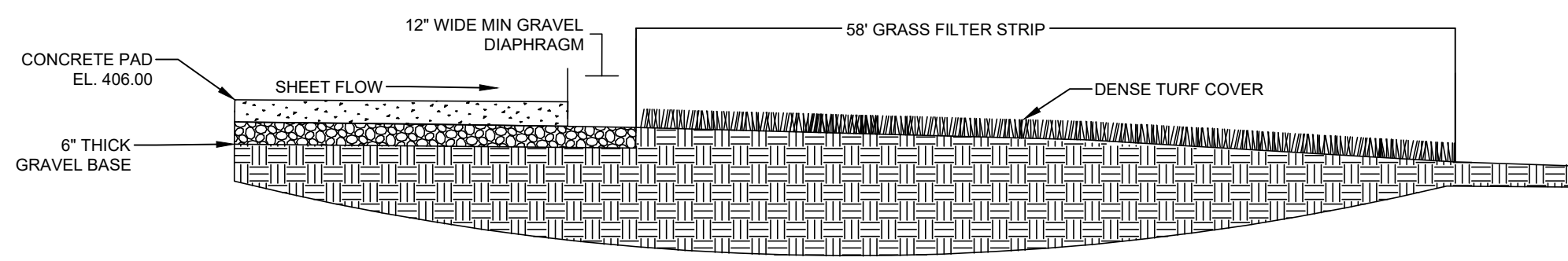
NO SCALE



- NOTES:
1. PLACE A MINIMUM OF 100 FEET FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS, AND OTHER SURFACE WATERS.
 2. ACCUMULATED MATERIAL SHALL BE REMOVED WHEN 75% OF STORAGE CAPACITY IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFFSITE.
 3. DISPOSE OF HARDENED MATERIAL OFFSITE IN A CONSTRUCTION/DEMOLITION LANDFILL.

TEMPORARY CONCRETE WASHOUT AREA

NO SCALE



1. VEGETATED FILTER STRIP SHALL BE PLANTED OR SEEDDED WITH A MIX OF GRASSES, WILDFLOWERS AND GROUND COVERS WELL-SUITED TO MOST-TO-DRY SOIL CONDITIONS.
2. ALL VEGETATION SHOULD BE SELF-SUSTAINING AND DROUGHT TOLERANT.
3. SEED MIX: ERNMX-113 "COMMERCIAL CONSERVATION MIX" OR EQUAL

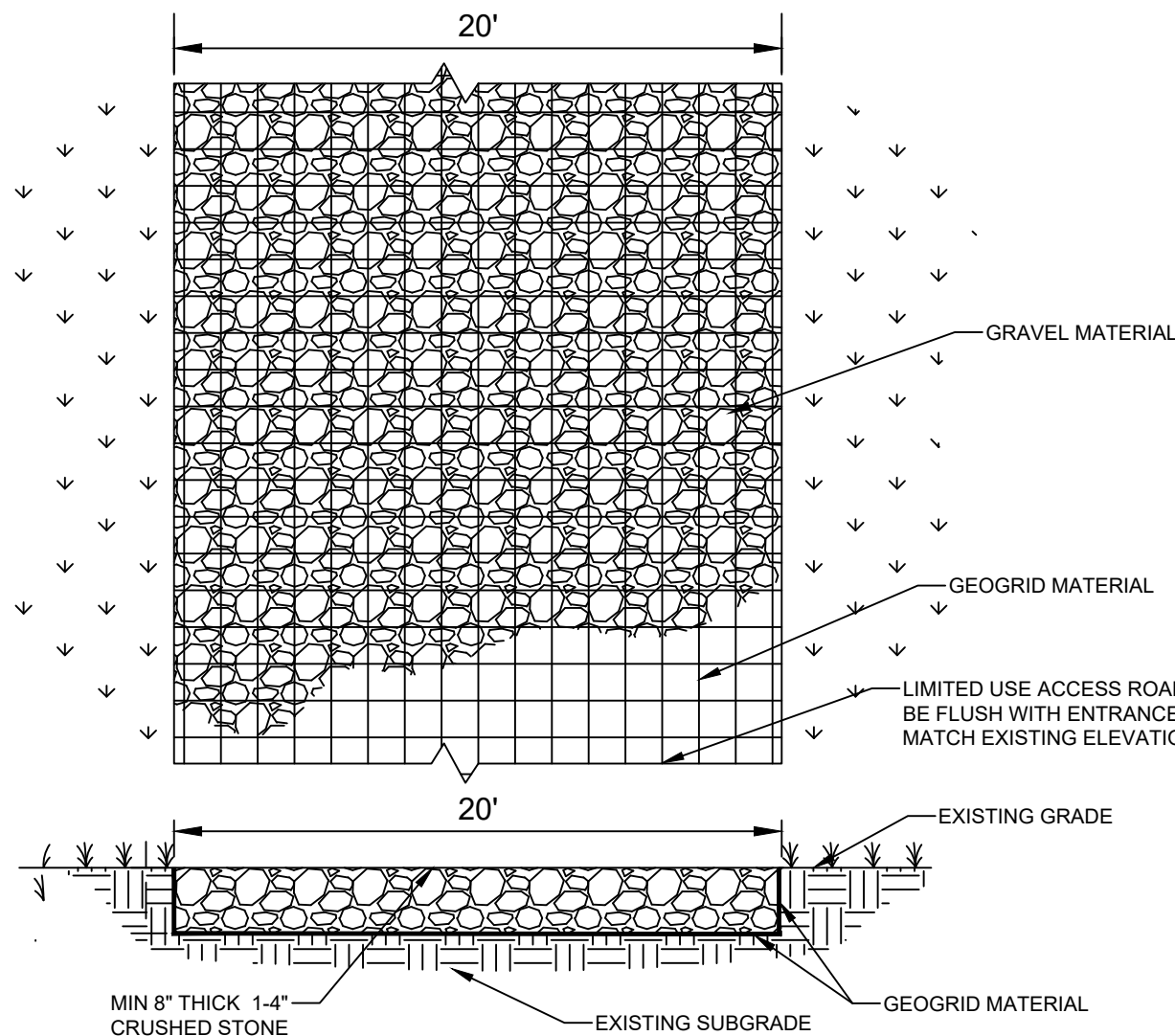
25% FESTUCA RUBRA
25% LOLIUM MULTIFORUM
25% LOLIUM PERENNE, "BLACKSTONE"
25% LOLIUM PERENNE, "BLACK PEARL"

CREeping RED FESCUE
ANNUAL RYEGRASS
PERENNIAL RYEGRASS, "BLACKSTONE"
PERENNIAL RYEGRASS, "BLACK PEARL"

- SEEDING RATE: 75-150 POUNDS
- THE FIRST TEN FEET OF THE GRASS FILTER STRIP SHALL BE 2.0% MAX.

VEGETATED FILTER STRIP

NO SCALE



GENERAL NOTES:

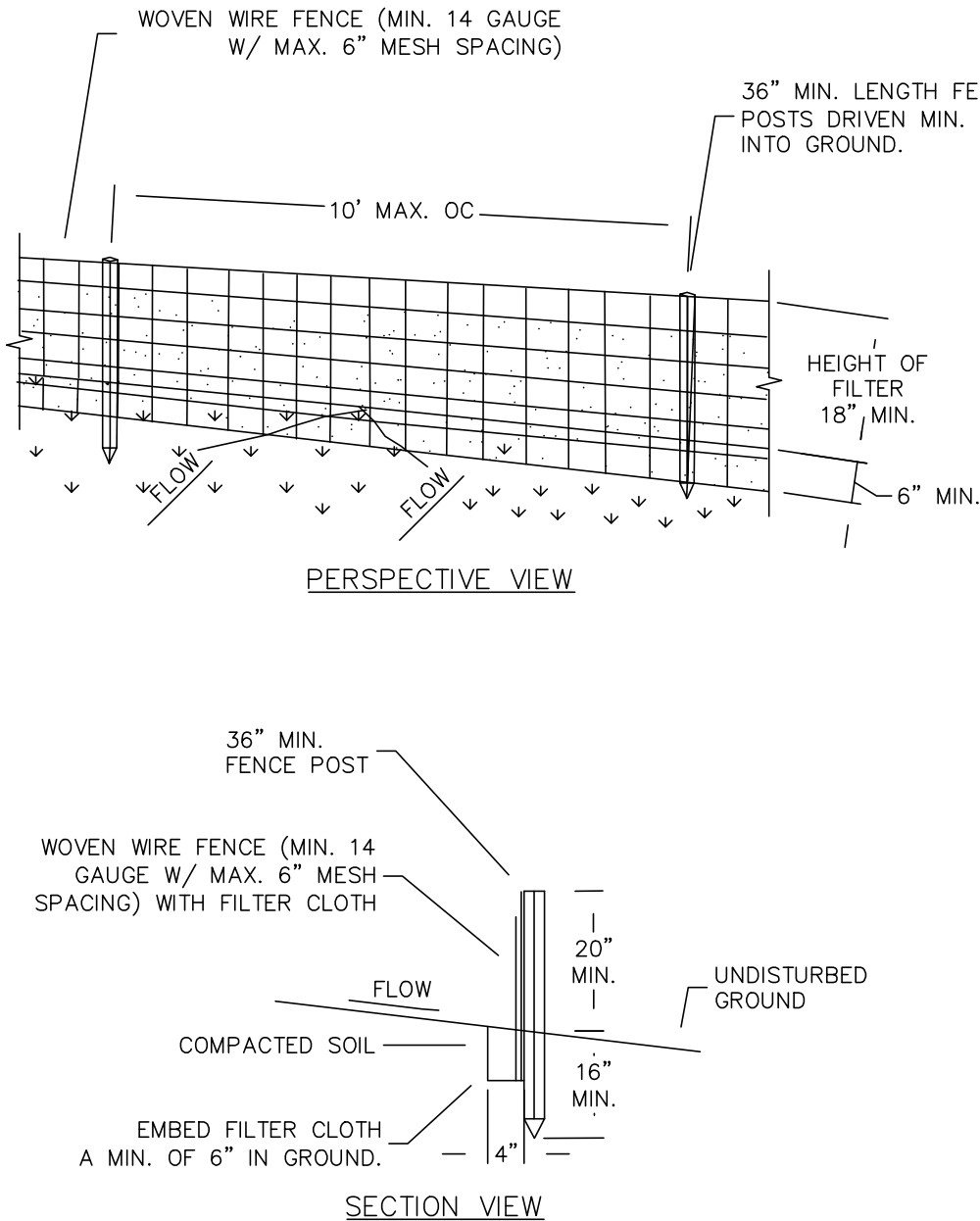
1. LIMITED TO MINIMAL USE ONLY SUCH AS MAINTENANCE AND EMERGENCY RESPONSE.
2. LIMITED TO LOW TRAFFIC LOW IMPACT MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
3. WHERE NECESSARY, GRADE ROADWAY TO DESIRED ELEVATION, MINOR GRADING FOR CROSS SLOPE MAY BE REQUIRED.
4. REMOVE REFUSE SOILS AS DIRECTED BY PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDE STORMWATER DRAINAGE.
5. CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS ROAD SHOULD NOT EXCEED 13%.
6. ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS ROAD TO SEDIMENT TRACKING. ROAD IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE ONLY. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. COMPARE PENETROMETER READINGS TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
7. DO NOT USE CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. ON ACCESS ROAD TO PREVENT SOIL FROM BEING TRACKED ONTO ACCESS ROAD. IF THE LIMITED USE PERVIOUS ACCESS ROAD IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, CONSTRUCT AND UTILIZE A STANDARD NEW YOUR STATE STABILIZED CONSTRUCTION ACCESS TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFF SITE. MAINTAIN ACCESS ROAD IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.

GEOGRID MATERIAL NOTES:

1. THE GEOGRID OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS. IN ORDER TO ASSIT IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, CURABLE SHARP-ANGLES CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 7804-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH A TRACKED VEHICLE. GRAVE SHALL NOT BE COMPACTED.
3. THE GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPE.
4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF 6".
5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

PERMEABLE HAUL ACCESS ROAD

NO SCALE



SILT FENCE

NO SCALE

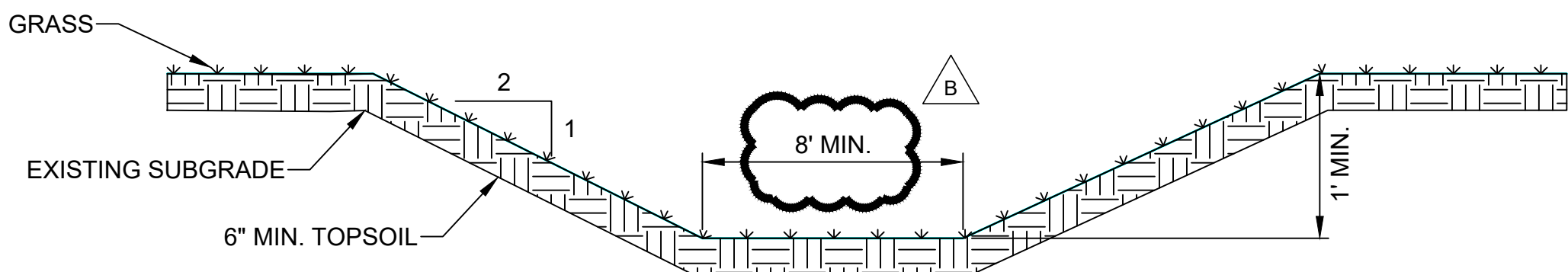
CONSTRUCTION SPECIFICATIONS:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL, EITHER "I" 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, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
5. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT THAT MEETS THE MINIMUM REQUIREMENTS SHOWN.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

DETAIL NOTES:

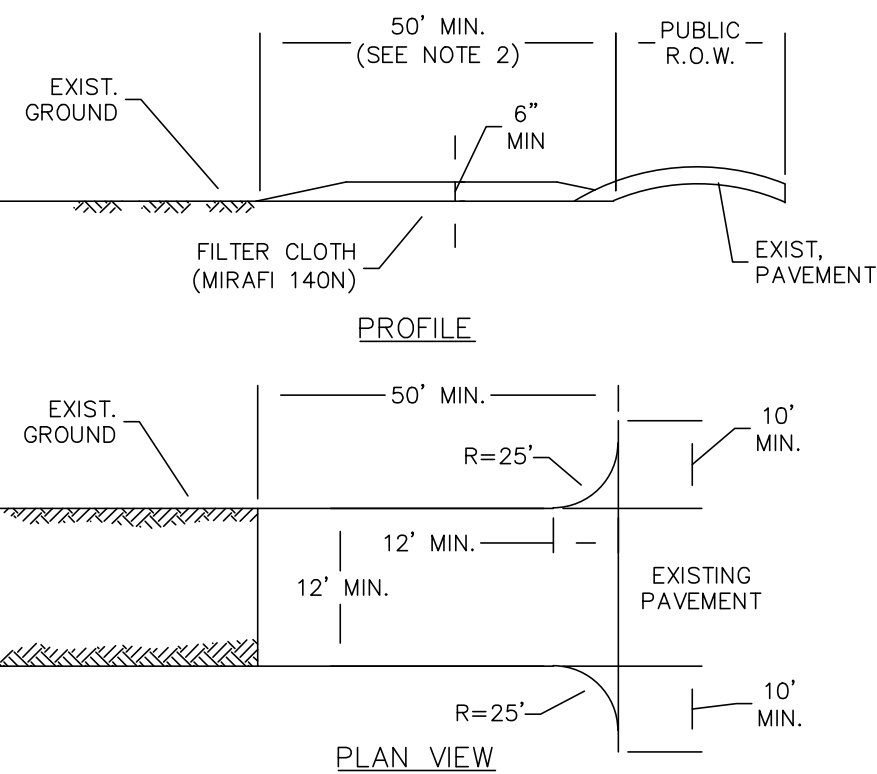
1. INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL ("THE BLUE BOOK").
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE, BUT AT LEAST 10 FEET FROM THE TOE OF A SLOPE STEEPER THAN 3H:1V, TO ALLOW 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 TABLE BELOW. IF A TYPE SILT FENCE IS NOT SPECIFIED ON THE PLANS, THE CRITERIA FOR STANDARD SILT FENCE CAN BE APPLIED.
4. SILT FENCE SHALL BE REMOVED AS SOON AS THE DISTURBED AREA HAS ACHIEVED FINAL STABILIZATION.

SLOPE	STEEPNESS	SLOPE LENGTH/FENCE LENGTH (FT.)		
		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



TYPICAL VEGETATED SWALE SECTION

NO SCALE



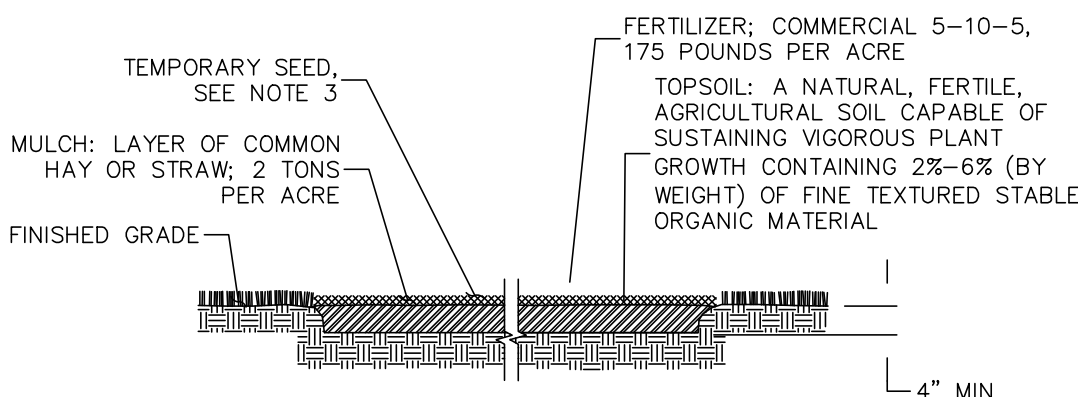
STABILIZED CONSTRUCTION ENTRANCE

NO SCALE

NOTE:
PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W.

CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE - USE 3" STONE (NYSDOT ITEM #623.11 SIZE DESIGNATION #2, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT).
2. LENGTH - NOT LESS THAN 50-FEET (EXCEPT ON SINGLE FAMILY LOT, 30-FEET 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 SIGHT.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING C STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING 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.



NOTES:

1. TO BE USED ON DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 7 DAYS OR MORE AND WILL BE RE-DISTURBED DURING CONSTRUCTION.
2. FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.
3. SEED MIX:
 - A. IF SPRING, SUMMER OR EARLY FALL: SEED WITH ANNUAL OR PERENNIAL RYEGRASS AT A RATE OF 1 LB PER 1000 SF.
 - B. IF LATE FALL OR WINTER: SEED WITH CERTIFIED "AROOSTOOK" WINTER (CEREAL RYE) AT A RATE OF 2.5 LBS PER 1000 SF.

TEMPORARY VEGETATIVE COVER

NO SCALE

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.



Designed: V. DICASTELNUOVO
Drawn: V. DICASTELNUOVO
Checked: B. MCDEVITT
Approved: P. SNYDER
P.E. No: 100361
GEI Project 223192



NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

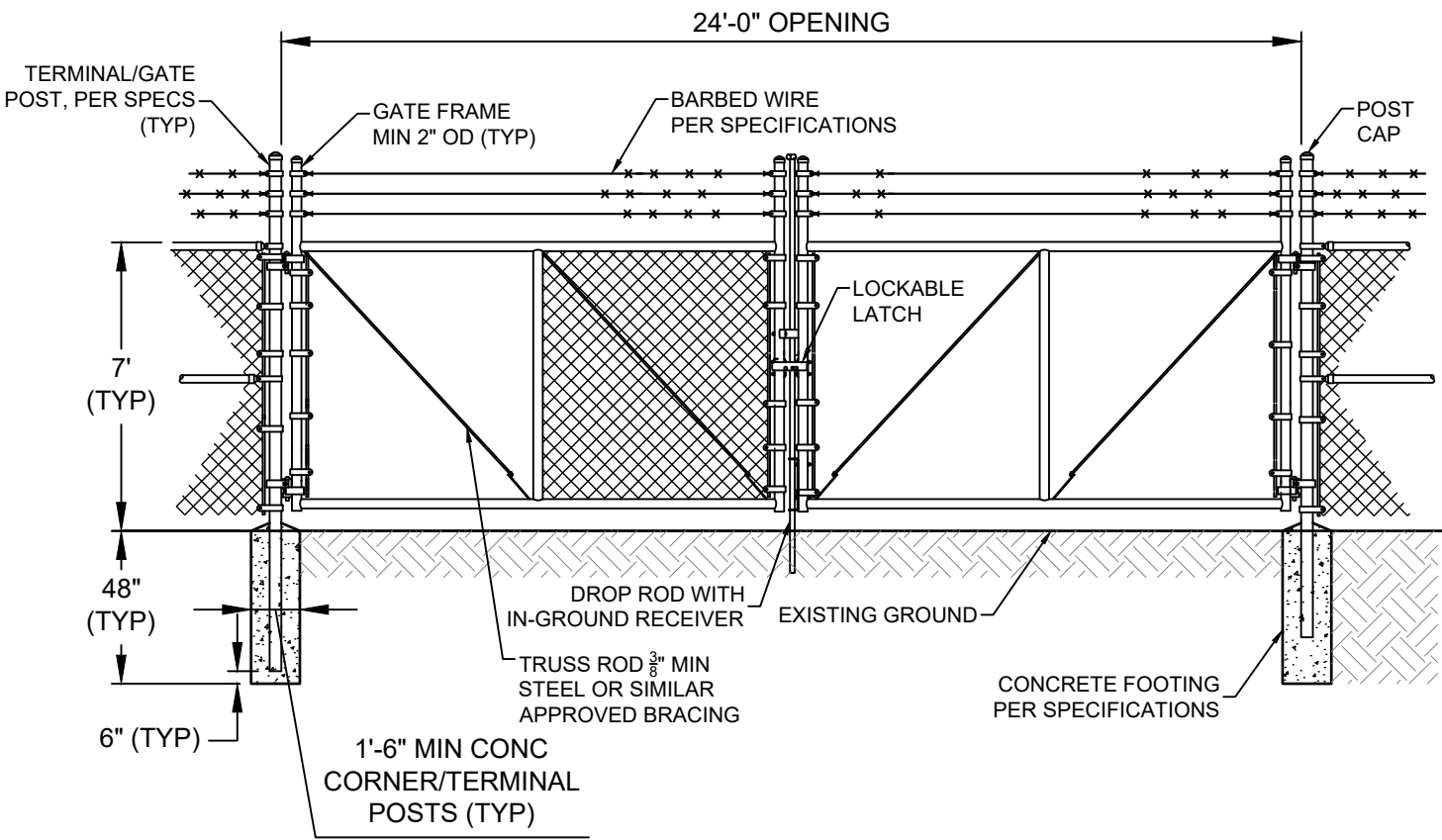
NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

B	1/10/2023	REVISIONS PER SUBDIVISION	PJS
A	12/2/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
TYPICAL DETAILS
DETAILS 1 OF 2

SHEET NO.
C-107

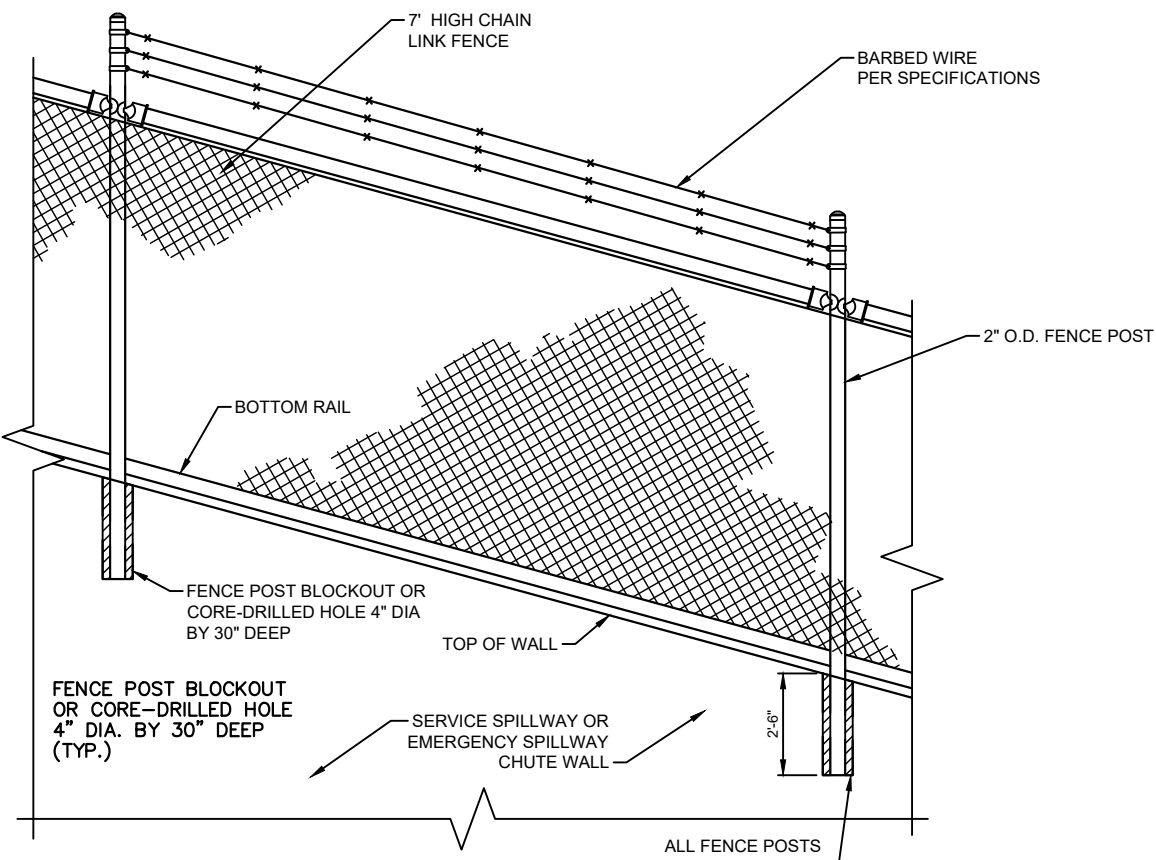
DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CADD_Sheet Set\1C-108-107 CONSTRUCTION DETAILS.dwg - 11/12/2023



- NOTE:
1. CHAIN LINK FENCE FABRIC FOR GATE: 9 GA. 2" MESH (TYP) TOP SELVAGE TWISTED, BOTTOM SELVAGE KNUCKLED
 2. SEE SPECIFICATION SECTION 02821 CHAIN LINK FENCES AND GATES FOR ADDITIONAL REQUIREMENTS

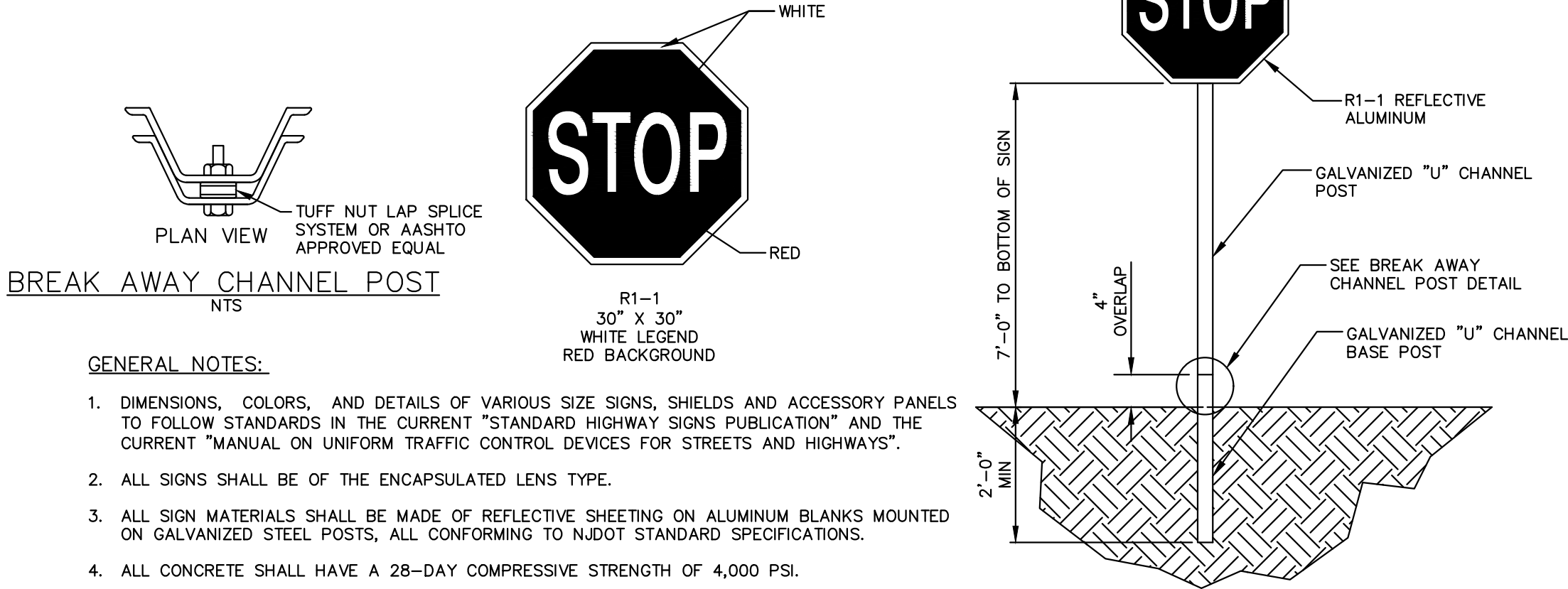
DOUBLE SWING GATE

SCALE: NTS



CHAIN LINK FENCE

SCALE: NTS

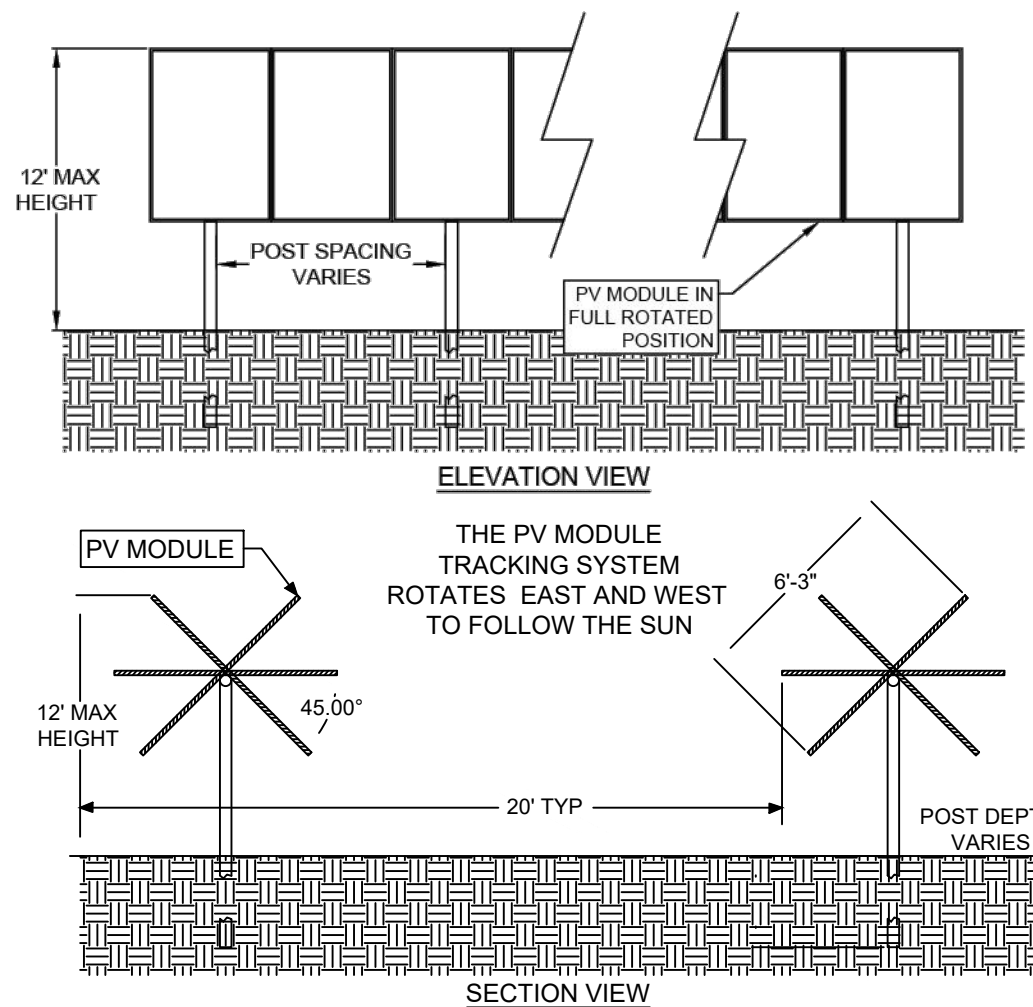


GENERAL NOTES:

1. DIMENSIONS, COLORS, AND DETAILS OF VARIOUS SIZE SIGNS, SHIELDS AND ACCESSORY PANELS TO FOLLOW STANDARDS IN THE CURRENT "STANDARD HIGHWAY SIGNS PUBLICATION" AND THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS".
2. ALL SIGNS SHALL BE OF THE ENCAPSULATED LENS TYPE.
3. ALL SIGN MATERIALS SHALL BE MADE OF REFLECTIVE SHEETING ON ALUMINUM BLANKS MOUNTED ON GALVANIZED STEEL POSTS, ALL CONFORMING TO NJDOT STANDARD SPECIFICATIONS.
4. ALL CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

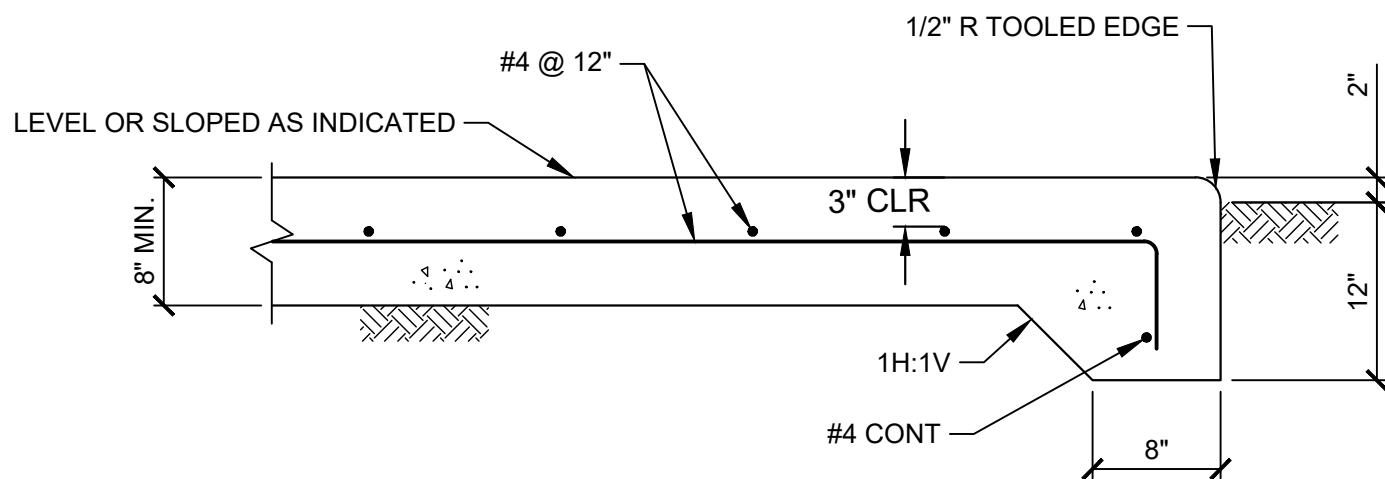
STOP SIGN DETAIL

NO SCALE



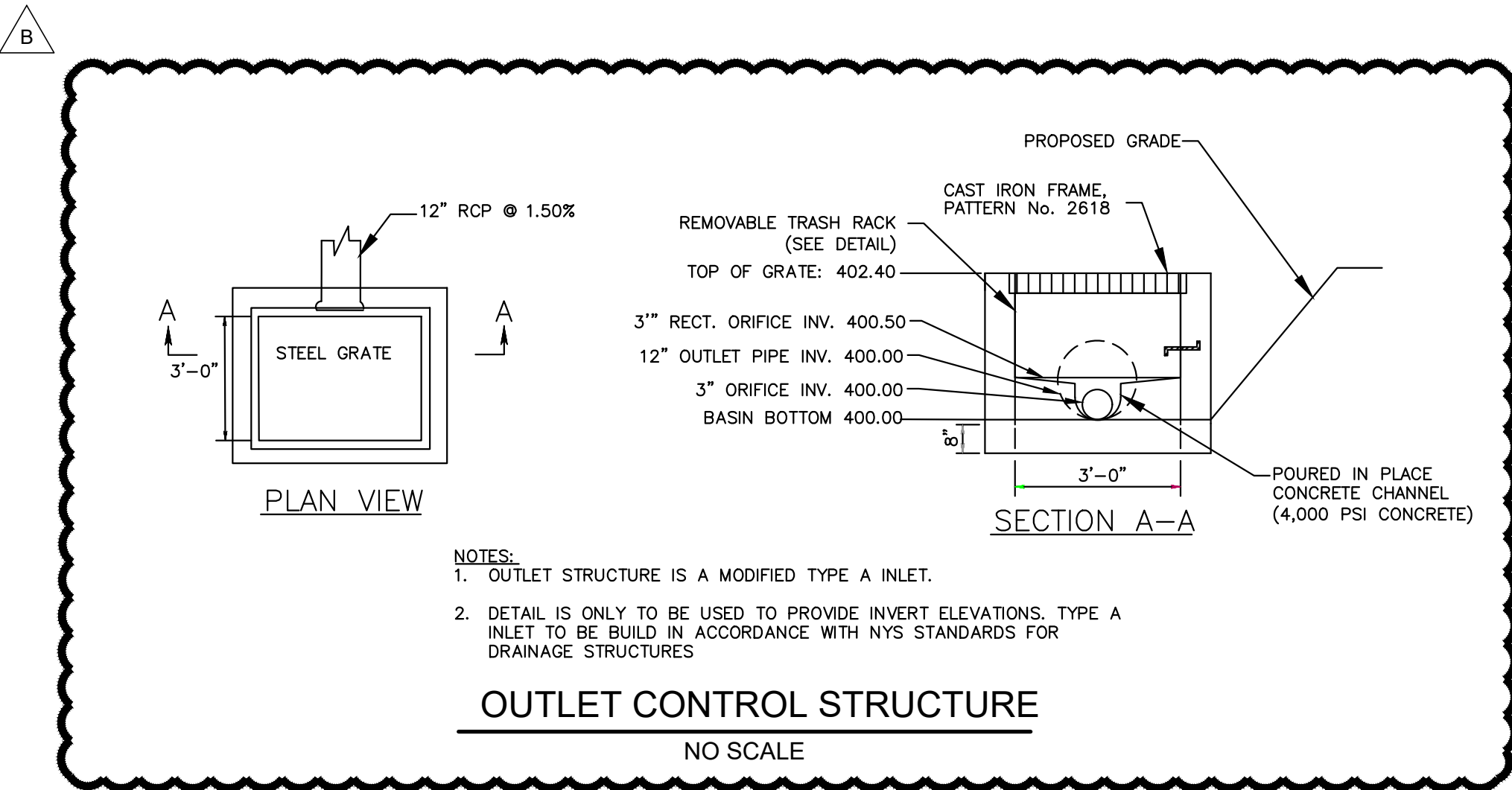
TRACKER RACK DETAIL

NO SCALE



SLAB ON GRADE EQUIPMENT PAD

NO SCALE

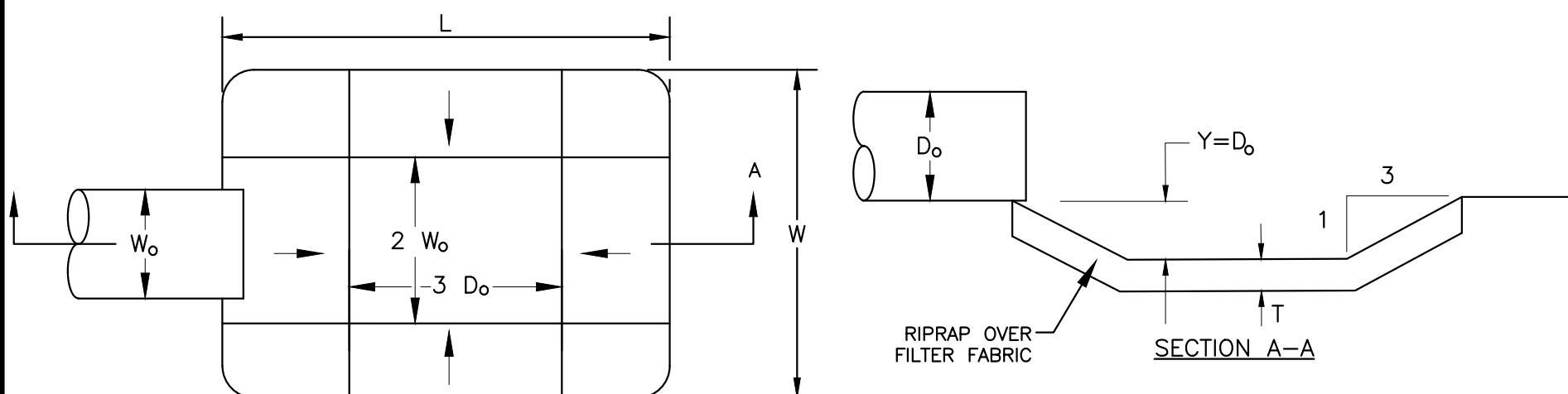


NOTES:

1. OUTLET STRUCTURE IS A MODIFIED TYPE A INLET.
2. DETAIL IS ONLY TO BE USED TO PROVIDE INVERT ELEVATIONS. TYPE A INLET TO BE BUILD IN ACCORDANCE WITH NYS STANDARDS FOR DRAINAGE STRUCTURES

OUTLET CONTROL STRUCTURE

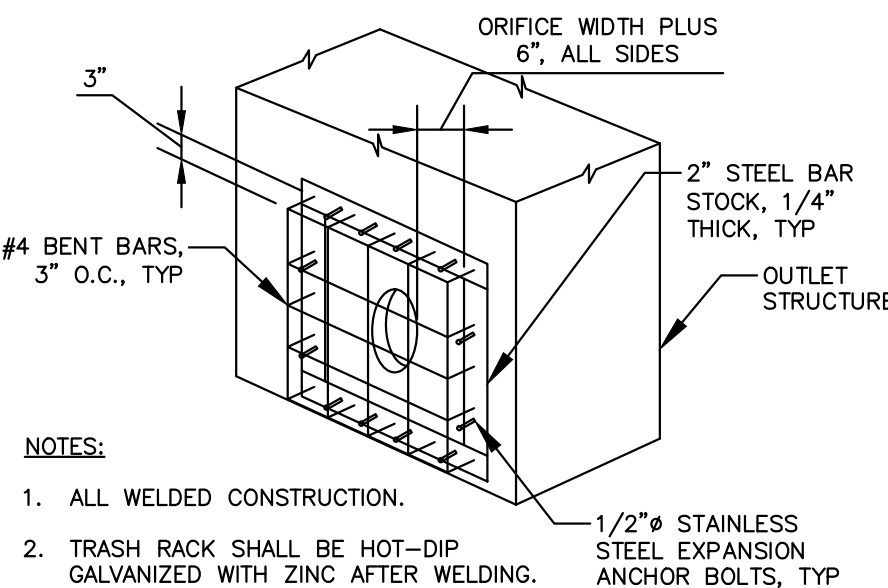
NO SCALE



STRUCTURE	L	W	DEPTH (Y)	D _o	W _o	d ₅₀	RIPRAP THICKNESS (T)
FES	6'	5'	6"	12"	12"	9"	18"

PREFORMED SCOUR HOLE DETAIL

NO SCALE



TRASH RACK DETAIL

NO SCALE

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION

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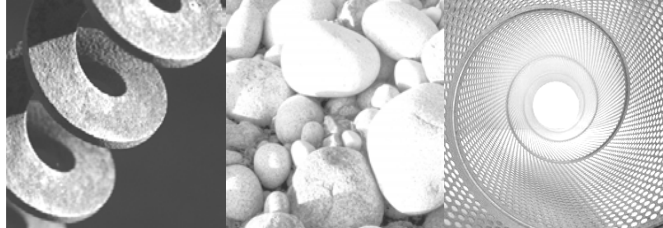
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SHEET NAME
TYPICAL DETAILS
DETAILS 1 OF 2

SHEET NO.
C-108



Estimated Project Dates:

Start of Construction: April 2023

Completion of Construction: October 2023



Consulting
Engineers and
Scientists

Stormwater Pollution Prevention Plan Warner Farm Solar Project

Kirkville, New York

Permittee:

Horizon Solar Power
Chicago, Illinois

SWPPP Contact:

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Prepared by:

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Ithaca, New York

October 2022
Project 2203192



Mallory Smith
Ecologist/ Project Manager

PJ Snyder, P.E.
Project Manager Civil

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9. Post Development Drainage Area Map

Appendices

- A. General Permit (GP-0-15-002)
- B. Completed Notice of Intent (NOI), Acknowledgement Letter from NYSDEC, and Blank Notice of Termination (NOT) Form
- C. Erosion & Sediment Control Plan & Specifications, Landscaping Plan
- D. Construction Site Inspection Forms, Modifications to SWPPP Form & Corrective Action Log
- E. Predevelopment Hydrology Report
- F. Post Development Hydrology Report, Design Calculations
- G. Regulatory Correspondence

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1. Executive Summary

This Stormwater Pollution Prevention Plan (SWPPP) addresses a proposed Horizon Solar Power Project. The Warner Farm Solar Project (the “Project”) is a planned 4.25 megawatt (MWac) photovoltaic solar project located in the Town of Manlius, New York. The Project will be built on approximately 30.5 acres of farmland, with a planned address of 7865 Peck Road, Kirkville, New York (the Site). The Project will utilize photovoltaic solar panels mounted on either fixed tilt or single-axis tracking mounting system. Minimal earthwork is expected. The electricity generated by the panels will be collected at post-mounted string inverters and then run to the existing National Grid distribution system along Peck Road. The project will be screened from Peck Road using evergreen trees and will be planted with native pollinator-friendly ground cover. Construction of the Project is expected to begin in the first half of 2023 and be operational by the end of 2023.

The pre- and post-development conditions were analyzed using the United States Department of Agriculture (USDA) Soil Conservation Service Publication Technical Release (TR-55) “Urban Hydrology for Small Watersheds”, which provides procedures for estimating runoff and peak discharges in small watersheds. The analysis is based upon the watershed areas, land coverage, soil group types, curve numbers (CN), times of concentration (TC), rainfall distribution type, and rainfall amount for the design storm events. The pre- and post-development peak discharge rates of runoff have been evaluated utilizing stormwater modeling software. An overall comparison of the pre- and post-development peak discharge rates for each of the design storms analyzed is provided in the table below.

Table 1-1: Overall Summary of Peak Discharge Rates			
Storm Event	Pre (cfs)	Post (cfs)	Difference (cfs)
1-year	0.52	0.52	-0.00
10-year	10.88	7.53	-3.35
100-year	48.96	34.10	-14.86

The overall comparison of the pre- and post-development stormwater runoff peak discharge rates demonstrates no significant adverse impacts to the analyzed design locations. In addition, the erosion control, sediment control, pollution-prevention, and stormwater management measures that will be implemented during construction (as outlined in this SWPPP and shown on the Drawings) will minimize soil erosion and control sediment transport off site and will control the water quality and quantity of stormwater runoff after construction is complete.

This SWPPP has been prepared in general accordance with the guidelines for State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0-20-001) provided in Appendix A and New York Standards and Specifications for Erosion and Sediment Control (January 2020). The proposed project is

characterized as Project Type ‘*All other construction activities that include the construction or reconstruction of impervious area or alter the hydrology from pre to post development conditions and are not listed in Table 1*’ as per Appendix B of the SPDES General Permit.

Coverage under the General Permit is obtained by submitting a Notice of Intent (NOI) to the New York State Department of Environmental Conservation (NYSDEC) provided in Appendix B. This SWPPP is a requirement of the NOI for obtaining coverage under the SPDES General Permit. The following sections of this SWPPP will provide general project information, a description of construction activities and an erosion prevention and sediment control plan is provided in Appendix C.

The General Contractor and their subcontractors performing activities that involve soil disturbance are responsible for complying with the terms and conditions of this SWPPP as a condition of authorization to discharge stormwater. The Contractor is required to sign the certification under Section 6.2 for itself and their subcontractors and provide a copy to the Engineer of Record prior to commencing site work. The SPDES General Permit and this SWPPP shall be kept on file at the Project Field Office and/or the Site. The SWPPP will be kept current and shall be amended according to the conditions described in the SPDES General Permit.

2. Project Information

2.1 Project Description

The proposed Warner Farm Solar Project (the “Project”) is a planned 4.25 MWac photovoltaic solar project located in the Town of Manlius, New York. The Project will be built on approximately 30.5 acres of farmland, with a planned address of 7859 Peck Road, Kirkville, New York (Figure 1). The Project will utilize photovoltaic solar panels mounted on either fixed tilt or single-axis tracking mounting system. Minimal earthwork is expected. The electricity generated by the panels will be collected at post-mounted string inverters and then run to the existing National Grid distribution system along Peck Road. The project will be screened from Peck Road using evergreen trees and all areas under the solar arrays will be seeded to a native pollinator-friendly ground cover.

Table 2-1 Project Summary

Project Name	Warner Farm Solar Project
Project Location	7859 Peck Road Kirkville NY
Property Acreage	39.2 acres
Municipality	Manlius. The project area is not part of an MS4
Project Description	Large scale solar energy system
Estimated Disturbed Area	30.5 acres
Existing Site Conditions	Fallow Farmland, Woods, Wetland Areas, Meadow 0 acres of existing impervious area
Proposed Site Conditions	Large scale solar energy system with associated stormwater management area and pervious gravel driveway 0.905 acres of proposed impervious area
Stormwater Management Practices	Dry Detention Basin, Vegetated Filter Strip
Construction Duration	6 months

A project staging area is proposed in southwest portion of the site. If alternate staging areas are designated, the SWPPP will be updated accordingly. Site specific best management practices (BMPs) will be selected to protect adjacent areas. It is anticipated that the staging area will contain a work trailer, and will be used to temporarily store construction materials and

equipment that are necessary for the underground electric installation, including, but not limited to vehicles, pipe, cable, soil stockpile(s), hand tools, etc. Construction vehicle parking and temporary material laydown areas adjacent to active construction will occur within designated access paths along the site.

Solar modules will be mounted Track Racks which will be founded on driven piles and therefore do not constitute a disturbance to the onsite Wetlands. Electric lines will be passed over the wetland areas on elevated cable trays in lieu of trenching. Limits of Disturbance (LOD) fencing and erosion and sediment control measures (e.g., silt fences, staked straw bale sediment barriers, storm drain inlet protection) will be installed prior to ground disturbing activities as needed. Tree protection measures will be utilized where necessary and feasible. Areas that are temporarily disturbed will be final graded to pre-construction condition and stabilized with seed and native plantings as per New York State Department of Transportation (NYSDOT) standard specifications and NYSDEC permit requirements.

2.2 Statement of Stormwater Management Objectives

Stormwater management objectives for this project include the planning and implementation of erosion and sediment control measures that will avoid or minimize any potentially adverse impacts to resources within the project vicinity. This will be achieved by implementing stormwater controls and BMPs during construction.

Selected erosion and sediment control measures will be installed prior to ground disturbance and maintained through the duration of construction to minimize the discharge of pollutants and to prevent a violation of the water quality standards in conformance with the *New York Standards and Specifications for Erosion and Sediment Control* (November 2016). Following construction completion, the work areas will be stabilized and restored to pre-construction conditions.

3. Site Conditions

3.1 Soils

The available data from the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey was reviewed. The surficial soil conditions are shown in Figure 2 and are summarized in the Table below. Hydrologic Soil Groups are shown in Figure 3.

Table 3-1 Surficial Geology

Map Symbol	Description	Depth to Groundwater (in)	Depth to Restrictive Feature (in)	Hydrologic Soil Group
AoA	Appleton loam, 0 to 3 percent slopes	6 to 18	More than 80	B/D
Cd	Canandaigua mucky silt loam 0-3 percent slopes	About 0 inches	More than 80	C/D
CIB	Colonie loamy fine sand 0-6 percent slopes	More than 80	More than 80	A
HIB	Hilton loam, 3 to 8 percent slopes	18 to 24	More than 80	B/D
ChA	Collamer silt loam, 0 to 2 percent slopes	18 to 24	More than 80	C/D
WwA	Williamson silt loam, 0 to 2 percent slopes	13 to 22	15 to 24 to fragipan	D

3.2 Water Resources

A wetland and waterbody delineation was completed. Three wetlands were identified on the property, Wetland A, Wetland B and Wetland C (Figure 4). No wetland disturbance is proposed.

3.3 Floodplains

The Flood Insurance Rate Map (FIRM) was reviewed (Figure 5). There are no flood zones mapped within the project area.

3.4 Cultural Resources

According to review of the New York State Office of Parks, Recreation and Historic Places (NYS OPRHP) Cultural Resource Information System (CRIS), there are no mapped cultural

resources in the project area (Figure 6). NYS OPRHP was consulted during the preliminary design, and it is the opinion of NYS OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by the project (Appendix G).

3.5 New York Natural Heritage Program

The New York State Natural Heritage Program (NYNHP) maps indicate that no impacts to Significant Natural Communities are anticipated as a result of this project.

4. Description of Future Site

4.1 Project Scope

This SWPPP has been developed to comply with requirements for use of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001), issued pursuant to Article 17, Titles 7, 8, and Article 70 of the Environmental Conservation Law. Permit expiration date is January 28, 2025.

The Construction Activity is a 4.25 MWac photovoltaic solar project located in the Town of Manlius, New York. The Project will be built on approximately 30.5 acres of farmland and will utilize photovoltaic solar panels mounted on either fixed tilt or single-axis tracking racking systems. Minimal earthwork and grading are proposed. This SWPPP contains the Erosion and Sediment Control Plan for this Construction Activity prepared by GEI Consultants, Inc., P. C.

The total site acreage is approximately 39.2 acres. The proposed activity will temporarily disturb approximately 30.5 acres. The project is anticipated to commence in the Spring of 2023 and take approximately 6 months to complete.

4.2 Stormwater Management Plan

The following sections describe the components of the stormwater management plan that were evaluated during the preliminary design phase.

4.2.1 Preservation of Natural Features

Preservation of natural features includes techniques to identify and preserve natural areas that can be used to protect water, habitat and vegetative resources. Conservation includes designing elements of the development in a way that the site design takes advantage of a site's natural features, preserves sensitive areas and identifies constraints and opportunities to prevent or reduce negative effects of a development. It is anticipated that one or two trees will need to be removed where the eastern forest edge juts into the array.

4.2.2 Reduction of Impervious Cover

Reduction of impervious cover includes methods to reduce the area of rooftops, parking lots, roadways, sidewalks, and other surfaces that do not allow rain to infiltrate into the soil. Future impervious area associated with the Construction Activity will be approximately 0.93 acres. Impervious cover has been minimized to the greatest extent practicable to allow for site maintenance and emergency service access.

4.2.3 Runoff Reduction Techniques and Standard Stormwater Management Practices

Green infrastructure techniques use the natural features of the site and promote runoff reduction through micromanaging runoff, promoting groundwater recharge, increasing losses through evapotranspiration and emulating the existing hydrology. Vegetated swales are being used to convey stormwater runoff to a dry detention basin. A permeable access road will be utilized for maintenance access and emergency access to promote better water quality by reducing runoff by impervious surfaces. Vegetated Filter Strips will be used for Runoff Reduction from the proposed impervious equipment pads. Standard stormwater management practices (SMPs) are structural practices that are designed to capture and treat the water quality volume. Some of the standard SMPs can also provide runoff reduction or water quantity controls.

4.3 Hydrologic Analysis

4.3.1 Drainage Patterns

The proposed project is part of the Lower Limestone Creek (Hydrologic Unit Code 041402020606) and Chittenango Creek (Hydrologic Unit Code 041402020705) watersheds (Figure 7).

The pre-development conditions of the site can be split into two drainage areas (Figure 7). The northern half of the site, Pre-Development DA-B is approximately 18.9 acres, is 100% pervious and drains via overland flow to the northeast to a downstream pond now known as Point of Analysis (POA) B (POA-B).

The southern half of the site, Pre-Development DA-A is approximately 19.7 acres and drains via overland flow to the roadside swale to the south of the site (POA-A) then west to a downstream creek.

In the proposed conditions, the northern half of the site, Post Development DA-B will remain the same as the pre-development conditions. There is no proposed grading and groundcover will be replaced in-kind resulting in no increase in the peak runoff to POA B.

The post development conditions for the southern portion of the site will result in two drainage areas both draining to POA A (Figure 8). Post Development DA-A Offsite will drain via overland flow to the roadside swale. This area will contain mostly pervious ground cover with the permeable access road being considered impervious in the runoff calculations. Post Development DA-A To Basin will drain to a swale along the access road then be conveyed to the proposed Dry Detention Basin. The runoff collected by the basin will slowly release to POA A.

In the proposed conditions, stormwater runoff outside the development will continue to flow overland in the same direction as in the existing conditions. Stormwater runoff within the development will follow the existing drainage patterns as much as possible.

4.3.2 Stormwater Modeling

The USDA Soil Conservation Service Publication Technical Release (TR-55) “Urban Hydrology for Small Watersheds” has been used to analyze the pre- and post-development rainfall runoff rates and volumes. Watershed areas, CN, and TC were calculated for each contributing watershed. The curve number is a land-sensitive coefficient that dictates the relationship between total rainfall depth and direct storm runoff. Based on the land coverage and soil group types, the average CN has been determined for each of the subcatchments for both the existing and proposed conditions.

The TC is defined as the time for runoff to travel from the hydraulically most distant point in the drainage area to a POA. Values of the TC were calculated for both the pervious and impervious area of each drainage area for both the existing and proposed conditions based on land cover and slope of the flow path using methods outlined in TR-55. As per TR-55, the minimum TC used is 0.1 hours (for 6 minutes).

An overall watershed boundary was developed for the pre- and post-development conditions (Figure 8 and Figure 9, respectively). The overall drainage area was broken down into smaller watersheds, or subcatchments to allow for analysis of runoff conditions at several locations. Each of these locations is defined as a Design Point (DP) to compare the proposed development to the existing conditions.

Rainfall data used in the modeling and analysis was obtained from the isohyet maps provided in the New York State Stormwater Management Design Manual and the Northeast Regional Climate Center (NRCC). A Type II rainfall distribution was used to evaluate the pre- and post-development stormwater runoff conditions for the 1-, 2-, 10-, and 100-year 24-hour storm events. The rainfall data used in the stormwater management design and analysis is provided in the table below.

Table 4-1: 24-Hour Rainfall	
Storm Event	Rainfall Depth
90th Percentile	1.00 inches
1-year	2.04 inches
2-year	2.41 inches
10-year	3.50 inches
100-year	6.00 inches

The rainfall data used in the stormwater management design and analysis is provided in Appendix E. The results of the stormwater modeling used to analyze the pre- and

post-development watershed conditions are provided in Appendix E and Appendix F, respectively.

4.3.3 Water Quality Control

The water quality volumes have been determined based on the methodology described in the Design Manual. The total water quality volume is provided in the table below.

Table 4-2: Total Water Quality Volume			
Subcatchment	Area (ac)	Impervious area	WQ _v (cf)
WQ	0.06	0.02	75

4.3.4 Runoff Reduction Volume

Runoff reduction is achieved by infiltration, groundwater recharge, reuse, recycling, evaporation and evapotranspiration of 100 percent of the post-development water quality volumes. This serves to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, and minimizing concentrated flow by using runoff-control techniques to provide treatment in a distributed manner before runoff reaches the collection system. The runoff-reduction-volume techniques that were used to reduce the total required water quality volume are in the table below.

Table 4-3: Implemented Runoff Reduction Volume Techniques		
Techniques/Practices	RRv Reduction Method	Reduction Amount
Filter Strips	Area Reduction	100% of the WQv

After applying the above runoff-reduction techniques, the total required water quality volume was reduced by 100 percent. Detailed design calculations have been provided in Appendix F.

4.3.5 Peak Discharge Rates

A comparison of the pre- and post-development peak discharge rates for each Point of Analysis is below. The water quality improvements result in a reduction of post-development peak discharge at POA A and no change in the post-development peak discharge at POA B:

Table 4-4: Peak Discharge Rates POA A			
Storm Event	Pre (cfs)	Post (cfs)	Difference (cfs)
1-year	0.31	0.31	-0.00
10-year	5.80	3.01	-2.79
100-year	25.41	12.92	-12.49

Table 4-5: Peak Discharge Rates POA B			
Storm Event	Pre (cfs)	Post (cfs)	Difference (cfs)
1-year	0.22	0.22	0
10-year	5.07	5.07	0
100-year	23.56	23.56	0

Comparison of the peak discharge rates for pre- and post-development watershed conditions demonstrates that the peak rate of runoff from the proposed development will not be increased. The pre- and post-development stormwater models have been provided in Appendix E and Appendix F, respectively.

5. Erosion and Sediment Control Plan

5.1 Construction Sequencing Schedule and Phasing

The following items will be implemented as part of the Erosion and Sediment Control Plan for the project.

- Prior to commencing any clearing, grubbing, earthwork activities, etc. at the site, flag the wetland areas and the limit of disturbance, and install temporary erosion and sediment control measures (i.e., silt fence, barrier fences, construction entrances, storm drain sediment filters, drainage ditch sediment filters etc.). Temporary erosion and sediment control measures must be constructed, stabilized and functional before disturbance begins.
- Prior to commencing clearing, grubbing or earthwork activities in any other area of the site, install inlet and outlet protection measures (riprap overflow weir(s), culvert inlet/outlet protection, etc.).
- Prior to construction, install temporary diversion measures and associated stabilization measures (i.e., vegetative cover, drainage ditch sediment filters, storm drain filters, etc.).
- Prior to construction, locate temporary diversion measures in a manner to prevent the tributary area for each diversion from exceeding five acres. Inspect these temporary diversion measures daily and repair/stabilize as necessary to minimize erosion.
- Commence site construction activities.
- Immediately following suspension of construction activities in any portion of the site, establish temporary vegetation on all exposed soils.
- Restore soils that have been disturbed and compacted due to construction activities in accordance with the project SWPPP (which includes de-compaction, compost addition and topsoil placement)
- Upon establishment of permanent vegetative cover on all disturbed areas of the site remove the construction fabric from the primary inlet of the outlet control structure. This should only be done when the primary outlet is no longer submerged.
- Remove all temporary erosion and sediment control measures and immediately establish permanent vegetation on the areas disturbed during removal.

5.2 Erosion and Sediment Control Measures

Temporary erosion and sediment control measures to be used during construction generally include the following:

- **Stabilized Construction Entrance:** Before construction, install the stabilized construction entrance to reduce the tracking of sediment onto adjacent roadways. Construction traffic must enter and exit the site at the stabilized construction entrance(s). Maintain the stabilized construction entrance(s) in good condition throughout the duration of the project. When necessary, place and grade additional aggregate to maintain the minimum thickness. Sediments and soils spilled, dropped, or washed onto the public rights-of-way shall be removed immediately.
- **Temporary Soil Stockpile:** Materials, such as topsoil, shall be temporarily stockpiled (if necessary) on site during construction. Minimize the amount of stockpiled material and locate stockpile areas away from storm drainage, water bodies or courses, and properly protect the stockpiles from erosion in accordance with the NYSDEC and NYSDOT standard details.
- **Silt Fence:** Before commencing construction activities, establish silt fencing along the perimeter of areas to be disturbed and up gradient of water courses or adjacent properties. These barriers may extend into non-impact areas to adequately protect adjacent lands. Only perform clearing and grubbing as necessary to facilitate the installation of the silt fence. To maximize effectiveness and check for distress or damage, daily inspections shall be performed by site personnel. Maintenance, repairs, or replacement of the silt fence shall be performed as needed and when directed by the Qualified Inspector.
- **Temporary Stabilization:** Within seven days after construction ceases on any particular area of the site, all disturbed areas where no construction is planned for longer than 14 days shall be temporarily stabilized (seeded and mulched) to minimize erosion and sediment loss. Other stabilization methods may be approved by the Qualified Inspector.

Permanent erosion and sediment control measures to be used after construction generally include the following:

- **Permanent Vegetation/Restoration:** Seed or restore disturbed areas not covered by impervious surfaces in accordance with the approved design. The type of seed, plantings, mulch, and other preparatory and maintenance measures as noted on the plans shall be followed. All areas at final grade shall be seeded and mulched within 14 days after completion of the major construction. All seeded areas shall be protected with erosion blankets or straw mulch. Final site stabilization is achieved when soil-disturbing activities have been completed and a uniform, perennial

vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on the disturbed unpaved areas and areas not covered by permanent structures.

- **Rock Outlet Protection:** Install rock outlet protection at the locations as shown on the erosion and sediment control plan. The use of rock outlet protection will reduce the depth, velocity, and energy of water, and prevent flow from eroding the receiving water course or water body.

5.3 Pollution Prevention Controls

Good housekeeping practices are designed to maintain a clean and orderly construction site. Good housekeeping measures shall be maintained throughout the construction process by those parties involved with the direct care and development of the site. The following measures shall be implemented to control the possible exposure of harmful substances and materials to stormwater runoff:

1. Stockpile material from the clearing and grubbing operations away from storm drainage, water bodies or watercourses and surrounded the debris stockpile with adequate erosion and sediment control measures. Soil stockpile locations exposed for longer than 14 days should be stabilized with temporary seeding.
2. Protect equipment maintenance areas from stormwater flows and provide appropriate waste absorbent materials and receptacles for spent chemicals, solvents, oils, greases, gasoline, and any pollutants that might contaminate the surrounding habitat or water supply. Locate equipment wash-down zones within areas draining to sediment control devices.
3. The use of detergents for large-scale (e.g., vehicles, buildings, pavement surfaces) washing is prohibited.
4. Material storage locations and facilities (e.g., covered storage areas, storage sheds) shall be located on-site and all materials shall be stored according to the manufacturer's standards in a dedicated staging area. Chemicals, paints, solvents, fertilizers, and other toxic material shall be stored in waterproof containers. Runoff containing such materials shall be collected, removed from the site, treated and disposed of at an approved waste or chemical disposal or recycling facility.
5. Spills shall be immediately contained to prevent pollutants from entering the surrounding habitat or water supply. Maintain Spill Kits on site at all times in a prominent location for ease of access and use. Report spills greater than 5 gallons to the NYSDEC Response Unit at 1-800-457-7362. In addition, record the incidents or notifications in the field logs and document and attach the appropriate logs to the SWPPP.

6. Provide and routinely maintain and clean portable sanitary waste facilities on site for all workers.
7. Provide dumpsters and other debris containers on site of adequate size to manage respective materials. Dumpsters and debris containers with fitted and self-closing lids to deter wildlife foraging shall be used wherever practical. Regular collection and disposal of wastes, rubbish, and debris must occur as required.
8. Located temporary concrete washout facilities a minimum of 50 feet from storm drain inlets, open drainage facilities, and watercourses. Each facility should be away from construction traffic or access areas to prevent disturbance or tracking. Install a sign adjacent to each washout facility to inform concrete equipment operators to use the proper facilities. When temporary concrete washout facilities are no longer required for the work, the hardened concrete shall be removed and disposed at an approved off-site disposal or recycling facility. Materials used to construct the temporary concrete washout facilities shall also be removed and properly disposed of. Backfill holes, depressions and other ground disturbance caused by the removal of the temporary concrete washout facilities and seeded and mulched for final stabilization. Wastewater discharges from washout of concrete is prohibited.
9. Non-stormwater components of site discharge shall be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or approved private well. Water used for construction that does not originate from an approved public supply must not be discharged from the site.
10. Discharges from dewatering activities, including discharges from dewatering trenches and excavations, shall be managed by appropriate control measures.
11. Wastewater discharges from washout and cleanout of stucco, paint, form-release oils, curing compounds, and other construction materials is prohibited.

5.4 Soil Stabilization and Restoration

In areas where soil disturbance has temporarily or permanently ceased, begin applying soil stabilization measures by the end of the next business day and complete stabilization within 14 days from the date the current soil disturbance ceased. The soil stabilization measures shall be in conformance with the New York State Standards and Specifications for Erosion and Sediment Control, latest edition.

Restoration shall be performed in all disturbed areas in accordance with the table below.

Table 5-1 Soil Restoration

Type of Soil Disturbance	Soil Restoration Requirement
No Soil Disturbance (e.g., preservation of natural features)	Restoration not required
Minimal Soil Disturbance (e.g., clearing and grubbing)	Restoration not required
Areas where topsoil is stripped only (e.g., no change in grade)	Aerate and apply 6 inches of topsoil
Areas of cut or fill	Apply full soil restoration
Heavy traffic areas on site (Especially in 5 to 25 feet around buildings, but not within a 5-foot perimeter around foundation walls)	Apply full soil restoration
Areas where runoff reduction or infiltration practices are applied	Restoration not required but can be applied to enhance soil infiltration.
Redevelopment projects	Soil restoration is required on redevelopment projects in areas where existing impervious areas will be converted to pervious area.

5.4.1 Full Soil Restoration

Before applying full soil restoration, all construction, including construction equipment and material storage, site cleanup and trafficking, should be finished and the site closed to further disturbance. Full soil restoration should be performed using adequate means and methods to achieve the necessary de-compaction. De-compact the affected subsoil and the restored topsoil

5.4.2 Low to Moderate Subsoil Moisture

The disturbed soils are returned to rough grade and the following is applied:

1. Apply 3 inches of compost over the subsoil.
2. Till compost a minimum of 12 inches into the subsoil using a cat-mounted ripper, tractor-mounted disc, or tiller mixing and circulating air and compost into subsoils.
3. Rock-pick until uplifted stone and rock of 4 inches or larger size are cleaned off the site. All construction material and foreign debris and existing root masses shall be removed from proposed planting areas.
4. Apply 6 inches of topsoil. Newly installed planting soils shall be mixed with existing soils where they meet in order to create a transitional gradient to allow for proper drainage.
5. Install plants and seeding in accordance with the Landscaping Plan.

6. SWPPP Implementation

6.1 Certification Statements

The Owner/Operator must sign a copy of the Owner's/Operator's certification before submitting the NOI. The Owner/Operator acknowledges that the SWPPP has been developed and will be implemented as the first element of construction and agrees to comply with the terms and conditions of the general permit for which the NOI is being submitted.

The Owner/Operator must identify the Contractors and subcontractors that will be responsible for installing, constructing, repairing, replacing, inspecting, and maintaining the erosion and sediment control practices; and constructing the post-construction stormwater management practices included in the SWPPP. The Contractors and subcontractors must identify at least one trained individual from their company who will be responsible for implementation of the SWPPP. This person will be known as the trained contractor. At least one trained contractor is required to be on site daily when soil disturbing activities are occurring. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has begun, they must also sign the certification statement and identify their responsibilities.

6.2 Pre-Construction Meeting

Before beginning construction, the Owner/Operator must set up a pre-construction meeting with the Town Representative(s), Qualified Professional, Qualified Inspector, Contractors, and subcontractors. The primary purpose of the pre-construction meeting is to discuss the responsibilities of each party as they relate to the implementation of the SWPPP and the execution of the work and to clarify any questions.

6.3 Construction Site Log

The Owner/Operator must maintain a copy of the following, including but not limited to: General Permit, signed NOI, NOI Acknowledgement Letter, SWPPP, signed certification statements, and inspections reports. The documents must be maintained onsite and in a secure location. The secure location must be accessible during normal business hours to an individual performing a compliance inspection. These records must be kept for a period of at least 5 years from the date that the site achieves final stabilization.

6.4 Construction Inspections and Maintenance

Routine inspections, repairs, and maintenance activities are required to keep the stormwater controls functioning effectively and to minimize the potential for a release.

6.4.1 Contractor Maintenance Inspection Requirement

The trained contractor must inspect the erosion and sediment control practices and pollution-prevention measures to verify that they are being maintained in effective operating condition. The inspections will be conducted as follows:

- For construction sites where soil disturbance is on-going, the trained contractor must perform daily inspections of the measures within the active work area. If deficiencies are identified, the contractor will begin implementing corrective actions within one business day and must complete the corrective actions by the end of the that day.
- For construction sites where soil disturbance activities have been temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the trained contractor can stop conducting the maintenance inspections. The trained contractor must restart the daily maintenance inspections immediately when soil disturbance resumes.
- For construction sites where soil disturbance has been shut down with partial project completion, the trained contractor may stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed part of the project have been constructed in conformance with the SWPPP and are operational.

6.4.2 Qualified Inspector Inspection Requirements

The Owner/Operator must have a Qualified Inspector conduct routine site inspections to verify the stability and effectiveness of protective measures and practices employed during construction. The site inspections will be conducted as follows:

- For construction sites where soil disturbance is ongoing, the Qualified Inspector must conduct a site inspection at least once every seven calendar days.
- For construction sites where soil disturbance activities have been temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the Qualified Inspector must conduct a site inspection at least once every 30 calendar days. The owner/operator must notify the NYSDEC or MS4 in writing before reducing the frequency of the inspections.
- For construction sites where soil disturbance activities have been shut down with partial project completion, the Qualified Inspector may stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices are operational. The owner/operator must notify the NYSDEC or the MS4 in writing before the shutdown.

All erosion and sediment control inspections shall be performed in accordance with this SWPPP, accompanying project plans, latest revision of New York State Standards and Specifications for Erosion and Sediment Control, and procedures outlined in Appendix H of the latest revision of the New York State Stormwater Management Design Manual. Inspection reports must identify and document the maintenance of the erosion and sediment control measures. An Example inspection report has been provided in Appendix D.

Specific maintenance components, schedule frequency, inspection parameters and remediation procedures are provided on the accompanying project plans. Any adjustments or modifications to the maintenance plan shall be noted in the inspection reports.

7. Termination of Coverage

The Owner/Operator may terminate coverage when:

- Total project completion has occurred.
- A planned shutdown with partial project completion has occurred.
- Property ownership changes or when there is a change in operational control over the construction plans and specifications; and the new owner/operator has obtained coverage under the SPDES General Permit.
- Coverage under an alternative SPDES general permit or an individual SPDES permit has been obtained.

The completed Notice of Termination (NOT) must be submitted to the NYSDEC to cancel coverage. A blank copy of the NOT has been provided in Appendix B.

8. Post Construction Requirements

8.1 Record Retention

Following construction, the Owner/Operator must retain a copy of the signed NOI, signed MS4 SWPPP Acceptance, NOI Acknowledgement Letter, SWPPP, project plans, and any inspection documents.

8.2 Inspection and Maintenance

Post Construction Inspections and maintenance for the various site components and stormwater management facilities shall be performed in accordance with the accompanying project plans and this SWPPP. Detailed post-construction inspections and maintenance procedures are provided in Appendix D

9. Certification and Notification

9.1 SWPPP Preparer 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Name: _____

Title: _____

Signature: _____

Date: _____

9.2 Contractor & Subcontractor Certifications

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspectors during a site inspection. I also understand that the owner or operator must comply with the term and conditions of the most current version of the NY SPDES general permit for stormwater discharges from construction activities and that is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for known violations.

Name: _____

Title: _____

Signature: _____

Date: _____

Company: _____

Phone: _____

Business Address: _____

Trained Individuals:

Name: _____

Title: _____

Name: _____

Title: _____

Name: _____

Title: _____

I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspectors during a site inspection. I also understand that the owner or operator must comply with the term and conditions of the most current version of the NY SPDES general permit for stormwater discharges from construction activities and that is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for known violations.

Name: _____ Title: _____
Signature: _____ Date: _____
Company: _____ Phone: _____
Business Address: _____

Trained Individuals:

Name: _____ Title: _____
Name: _____ Title: _____
Name: _____ Title: _____

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Name: _____ Title: _____
Signature: _____ Date: _____
Company: _____ Phone: _____
Business Address: _____

Trained Individuals:

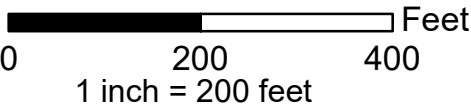
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Name: _____ Title: _____
Name: _____ Title: _____

Figures

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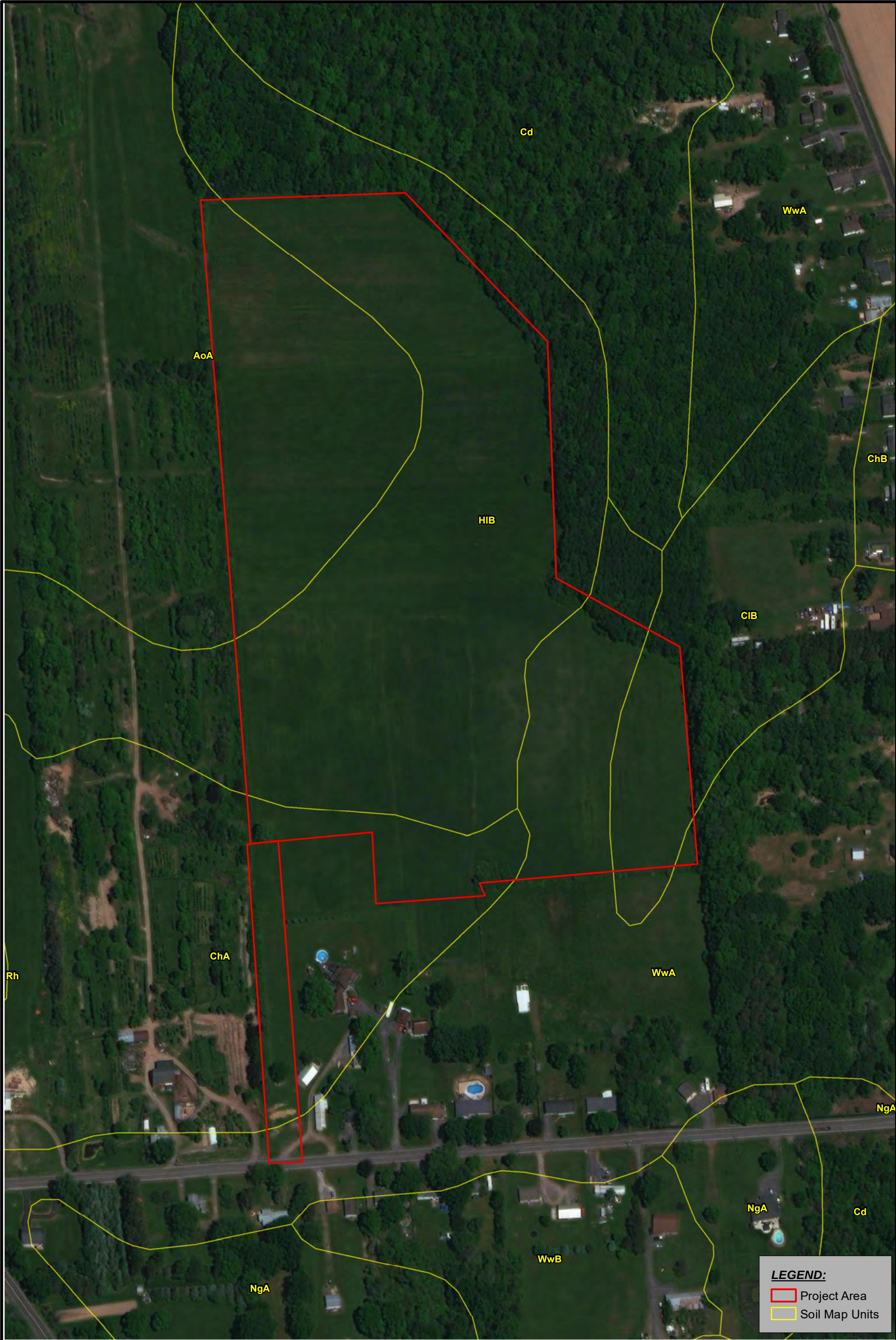
SOURCE:
1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI
WORLD IMAGERY.



Warner Solar Proposed Solar Energy Generation Site Manlius, NY
Horizon Solar

GEI Consultants
Project: 2203192

Site Location Map
October 2022
Fig. 1



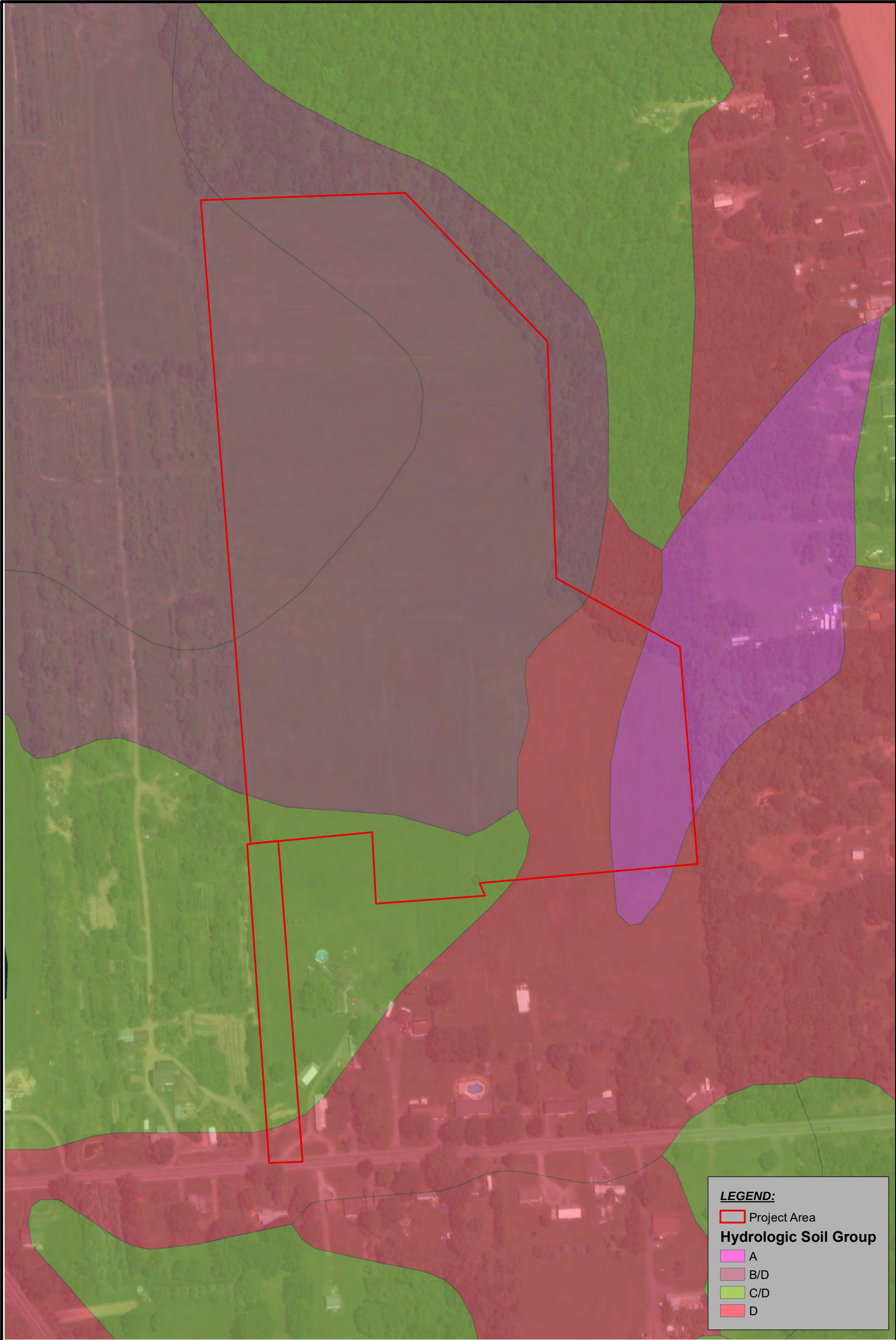
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1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI
WORLD IMAGERY.



Warner Solar Proposed Solar Energy Generation Site Manlius, NY
Horizon Solar

GEI Consultants
Project: 2203192

Soil Map Units
October 2022
Fig. 2



SOURCE:
1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI
WORLD IMAGERY.

0 200 400 Feet
1 inch = 200 feet



Warner Solar
Proposed Solar Energy Generation Site
Manlius, NY

Horizon Solar



Project: 2203192

Hydrologic Soil Groups

October 2022

Fig. 3



LEGEND:

- Project Area
- Delineated Wetlands
- NWI Wetlands
- NYSDEC Freshwater Wetlands
- NYSDEC Streams

SOURCE:
1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI WORLD IMAGERY.

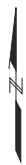
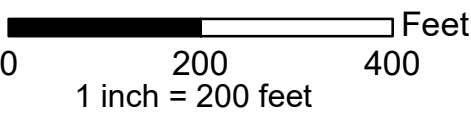
0 200 400 Feet
1 inch = 200 feet

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Warner Solar Proposed Solar Energy Generation Site Manlius, NY		Wetlands
Horizon Solar	Project: 2203192	October 2022
		Fig. 4



SOURCE:
1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI
WORLD IMAGERY.



Warner Solar
Proposed Solar Energy Generation Site
Manlius, NY

Horizon Solar



Project: 2203192

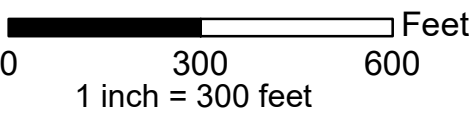
FEMA Flood Zones

October 2022

Fig. 5



SOURCE:
1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI
WORLD IMAGERY.

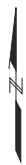


Warner Solar Proposed Solar Energy Generation Site Manlius, NY	 GEI Consultants	Cultural Resources
Horizon Solar	Project: 2203192	October 2022



SOURCE:
1. 2016 NYS GIS ORTHOPHOTO ACCESSED VIA ESRI
WORLD IMAGERY.

0 200 400 Feet
1 inch = 200 feet



Warner Solar
Proposed Solar Energy Generation Site
Manlius, NY

Horizon Solar



Project: 2203192

LEGEND:

- HUC12 Watersheds
- Project Area

HUC12 Watersheds

October 2022

Fig. 7

Appendix A

General Permit (GP-0-20-001)

DRAFT



Department of
Environmental
Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

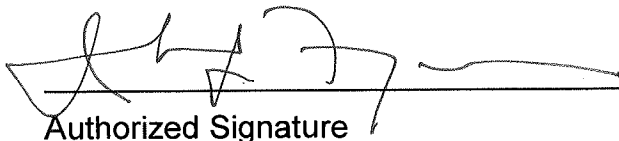
Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator


Authorized Signature

1-23-20
Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

PREFACE

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System (“NPDES”)* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of “*construction activity*”, as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
CONSTRUCTION ACTIVITIES**

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Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;
2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State*.
3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge of pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* (“SWPPP”) the reason(s) for the

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

- a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:
- (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;
 - (ii) Control stormwater *discharges*, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;
 - (iii) *Minimize* the amount of soil exposed during *construction activity*;
 - (iv) *Minimize* the disturbance of *steep slopes*;
 - (v) *Minimize* sediment *discharges* from the site;
 - (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;
 - (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;
 - (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and
 - (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.
- b. **Soil Stabilization.** 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. For construction sites that *directly discharge* to one of the 303(d) segments

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

- c. **Dewatering.** *Discharges* from *dewatering* activities, including *discharges* from *dewatering* of trenches and excavations, must be managed by appropriate control measures.
- d. **Pollution Prevention Measures.** Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:
 - (i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;
 - (ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and
 - (iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.
- e. **Prohibited Discharges.** The following *discharges* are prohibited:
 - (i) Wastewater from washout of concrete;
 - (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

- (iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;
 - (iv) Soaps or solvents used in vehicle and equipment washing; and
 - (v) Toxic or hazardous substances from a spill or other release.
- f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual (“Design Manual”), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices (“SMPs”) are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

- (i) Runoff Reduction Volume (“RRv”): Reduce the total Water Quality Volume (“WQv”) by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.
- (ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual.

The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (“Cpv”): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site discharges directly to tidal waters, or fifth order or larger streams.
- (iv) *Overbank* Flood Control Criteria (“Qp”): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.
- (v) Extreme Flood Control Criteria (“Qf”): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site discharges directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

b. Sizing Criteria for New Development in Enhanced Phosphorus Removal Watershed

- (i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

- (ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible*.

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

- (iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
 - (1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
 - (2) The site *discharges* directly to tidal waters, or fifth order or larger streams.
- (iv) Overbank Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.
- (v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
 - (1) the site *discharges* directly to tidal waters or fifth order or larger streams, or
 - (2) A downstream analysis reveals that *overbank* control is not required.

c. Sizing Criteria for Redevelopment Activity

- (i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.
 - (1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or
 - (2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or
 - (3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or
 - (4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

- (ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.
- (iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and
3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.
2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.
3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.
4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;
2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;
3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;
4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
6. *Construction activities* for residential, commercial and institutional projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.
7. *Construction activities* for linear transportation projects and linear utility projects:
 - a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and
 - b. Which are undertaken on land with no existing *impervious cover*; and
 - c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:
- a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.
 - 1-5 acres of disturbance - 20 feet
 - 5-20 acres of disturbance - 50 feet
 - 20+ acres of disturbance - 100 feet, or
 - b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
 - (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
 - (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
 - (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
 - (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or
 - c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

- (i) No Affect
- (ii) No Adverse Affect
- (iii) Executed Memorandum of Agreement, or

d. Documentation that:

- (i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharges from construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.
2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.
3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of Owner or Operator) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4*. This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (<http://www.dec.ny.gov/>). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

**NOTICE OF INTENT
NYS DEC, Bureau of Water Permits
625 Broadway, 4th Floor
Albany, New York 12233-3505**

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.
3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.
4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.
2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:
 - a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (<http://www.dec.ny.gov/>) for more information,
 - b. where required, all necessary Department permits subject to the *Uniform Procedures Act* ("UPA") (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators of construction activities* that are required to obtain UPA permits

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

- c. the final SWPPP has been prepared, and
 - d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.
3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:
- a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or
 - (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;
 - (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

- b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:
 - (i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed “MS4 SWPPP Acceptance” form, or
 - (ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed “MS4 SWPPP Acceptance” form.
- 4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

- 1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination (“NOT”) has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.
- 2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor’s or subcontractor’s certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.
- 3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

use control MS4, the regulated, traditional land use control MS4 (provided the regulated, traditional land use control MS4 is not the owner or operator of the construction activity). At a minimum, the owner or operator must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

- a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - b. 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 seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.
 - d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.
 - e. The *owner or operator* shall include the requirements above in their SWPPP.
4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..
 5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.
 6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of a *construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4*, the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.
2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.
3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.
2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.
3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.
4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:
 - a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

- b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;
 - c. to address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department or other regulatory authority; and
 - d. to document the final construction conditions.
5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.
6. Prior to the *commencement of construction activity*, the *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 included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor*. The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

"I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:
 - a. Background information about the scope of the project, including the location, type and size of project

- b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge(s)*;
- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;
- g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;
 - k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and
 - l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.
2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

The post-construction stormwater management practice component of the SWPPP shall include the following:

- a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

- b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
- c. A Stormwater Modeling and Analysis Report that includes:
 - (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;
 - (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;
 - (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;
 - (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;
 - (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and
 - (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;
- d. Soil testing results and locations (test pits, borings);
- e. Infiltration test results, when required; and
- f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria*, Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators of construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators of the construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.
2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.
3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:
 - a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

- b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;
 - c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and
 - d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:
- a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
 - b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

- d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4*, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “*Final Stabilization*” and “*Post-Construction Stormwater Management Practice*” certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.
 - e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.
 4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
- f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;
- g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);
- k. Identification and status of all corrective actions that were required by previous inspection; and

- I. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.
2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:
 - a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

- b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;
 - c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.
 - d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.
3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the “*Final Stabilization*” and “Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.
4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the “MS4 Acceptance” statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector’s* final site inspection certification(s) required in Part V.A.3. of this permit.
5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:
- a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

- b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),
- c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,
- d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit, or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:
 - a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - (ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (i) the chief executive officer of the agency, or
 - (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

- c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.
3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.
4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4*, or by a duly authorized representative of that person.

It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge(s)*, the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner's or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.
4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.
2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property – means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both “sewage” and “stormwater”.

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for “*Construction Activity(ies)*” also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for “*Commence (Commencement of) Construction Activities*” and “*Larger Common Plan of Development or Sale*” also.

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment – means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department’s rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term “plan” in “larger common plan of development or sale” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same “common plan” is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a *combined sewer*; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer – means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the “Required Elements” sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

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

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

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

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank Flood* (Qp), and *Extreme Flood* (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Steep Slope – means land area designated on the current United States Department of Agriculture (“USDA”) Soil Survey as Soil Slope Phase “D”, (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint sources*. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint sources*, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres: • Single family home <u>not</u> located in one of the watersheds listed in Appendix C or <u>not directly discharging</u> to one of the 303(d) segments listed in Appendix E • Single family residential subdivisions with 25% or less impervious cover at total site build-out and <u>not</u> located in one of the watersheds listed in Appendix C and <u>not</u> directly discharging to one of the 303(d) segments listed in Appendix E • Construction of a barn or other <i>agricultural building</i>, silo, stock yard or pen.
The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land: All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.
The following construction activities that involve soil disturbances of one (1) or more acres of land: • Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains • Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects • Pond construction • Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover • Cross-country ski trails and walking/hiking trails • Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development; • Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path. • Slope stabilization projects • Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

**Table 1 (Continued) CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP
THAT ONLY INCLUDES EROSION AND SEDIMENT CONTROLS**

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES
POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover*, and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual (“Design Manual”).

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

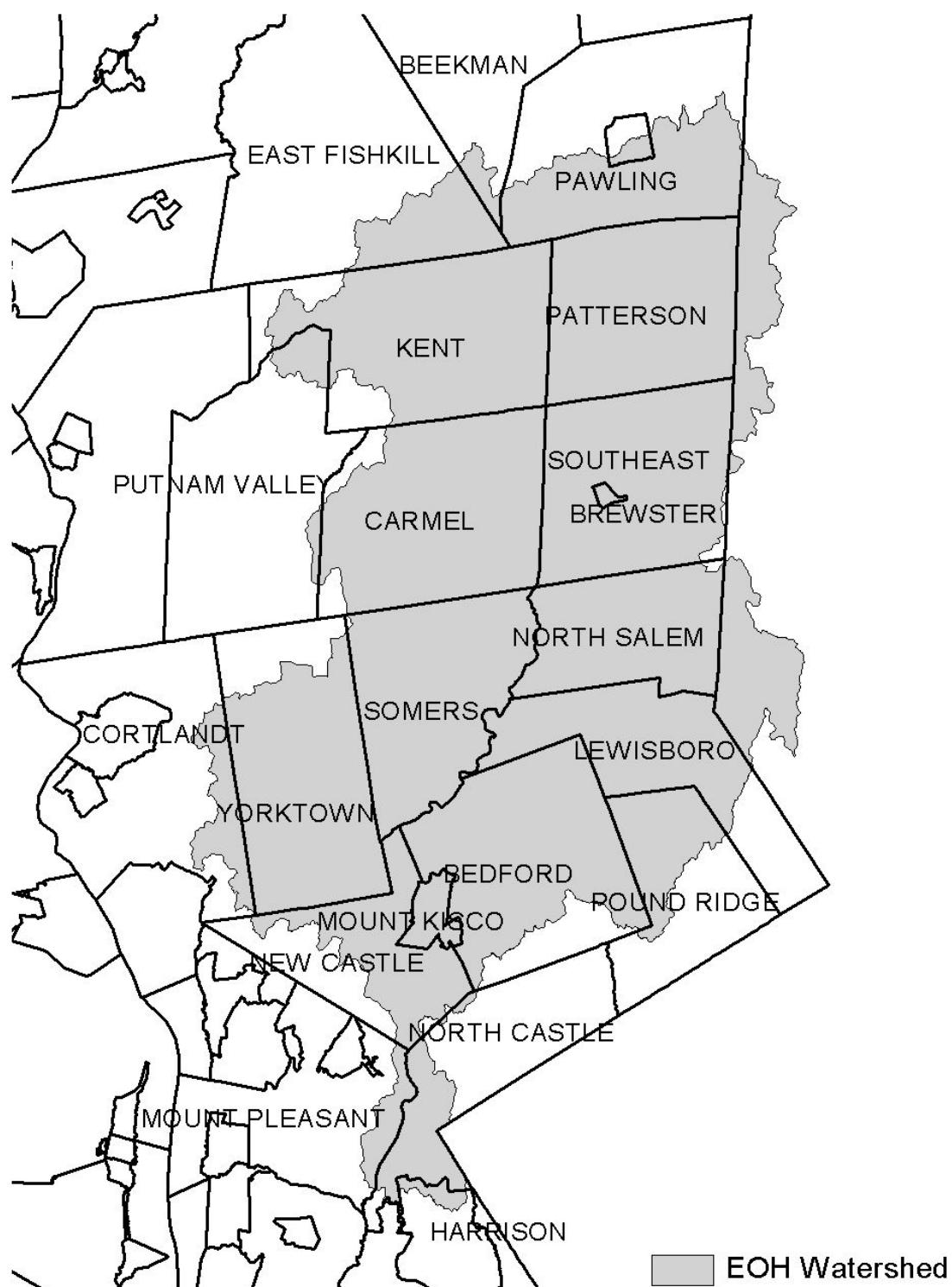
Figure 1 - New York City Watershed East of the Hudson

Figure 2 - Onondaga Lake Watershed

Figure 3 - Greenwood Lake Watershed

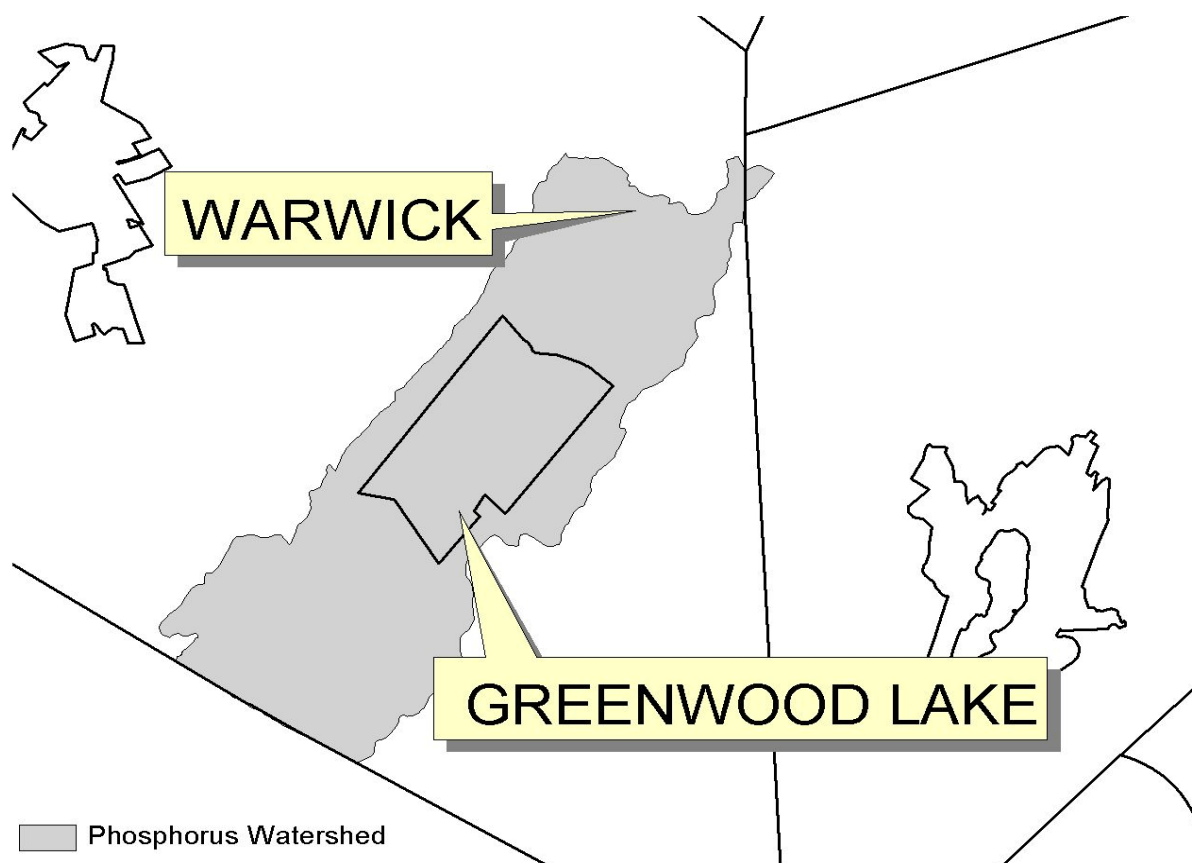


Figure 4 - Oscawana Lake Watershed

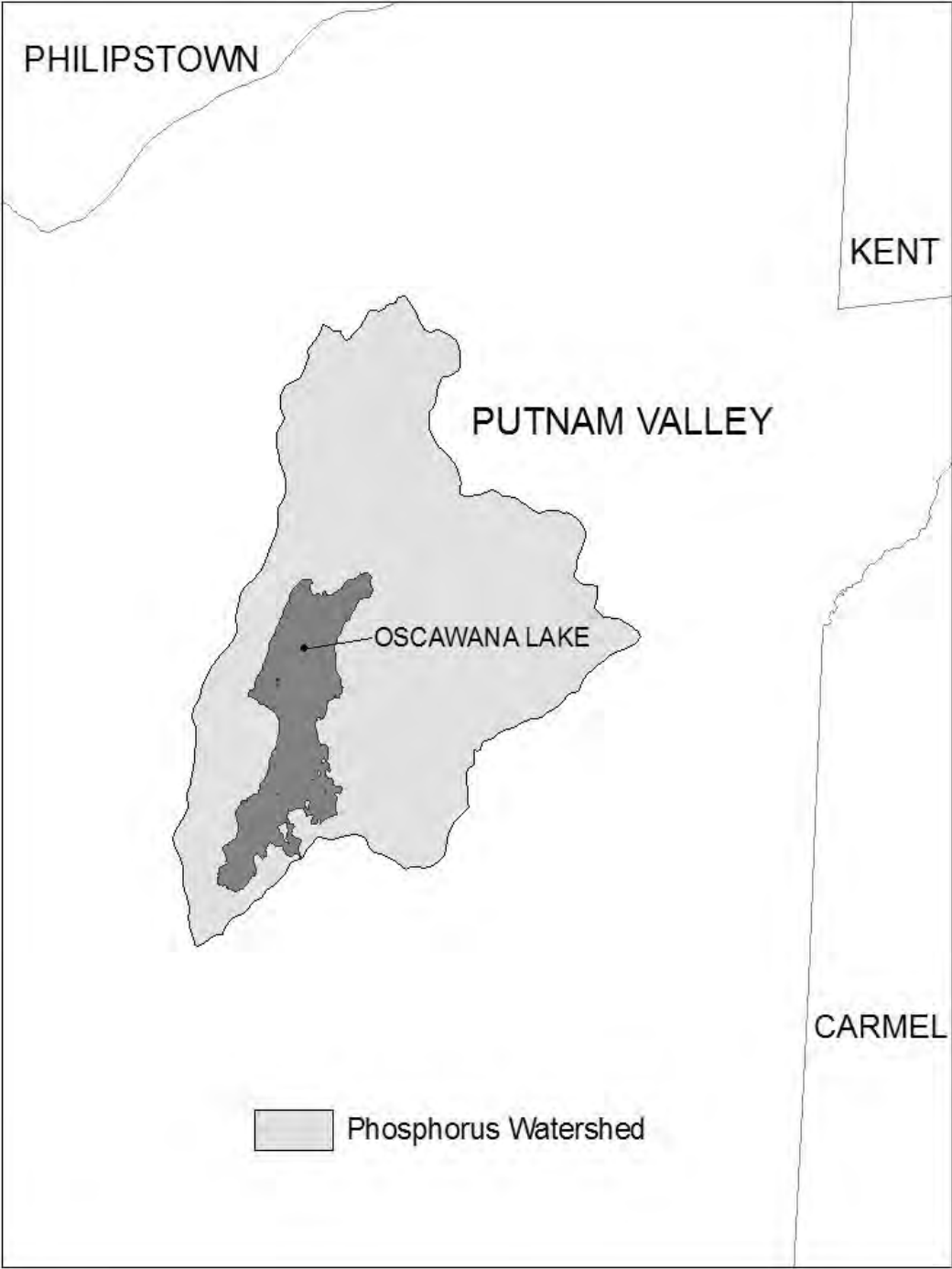
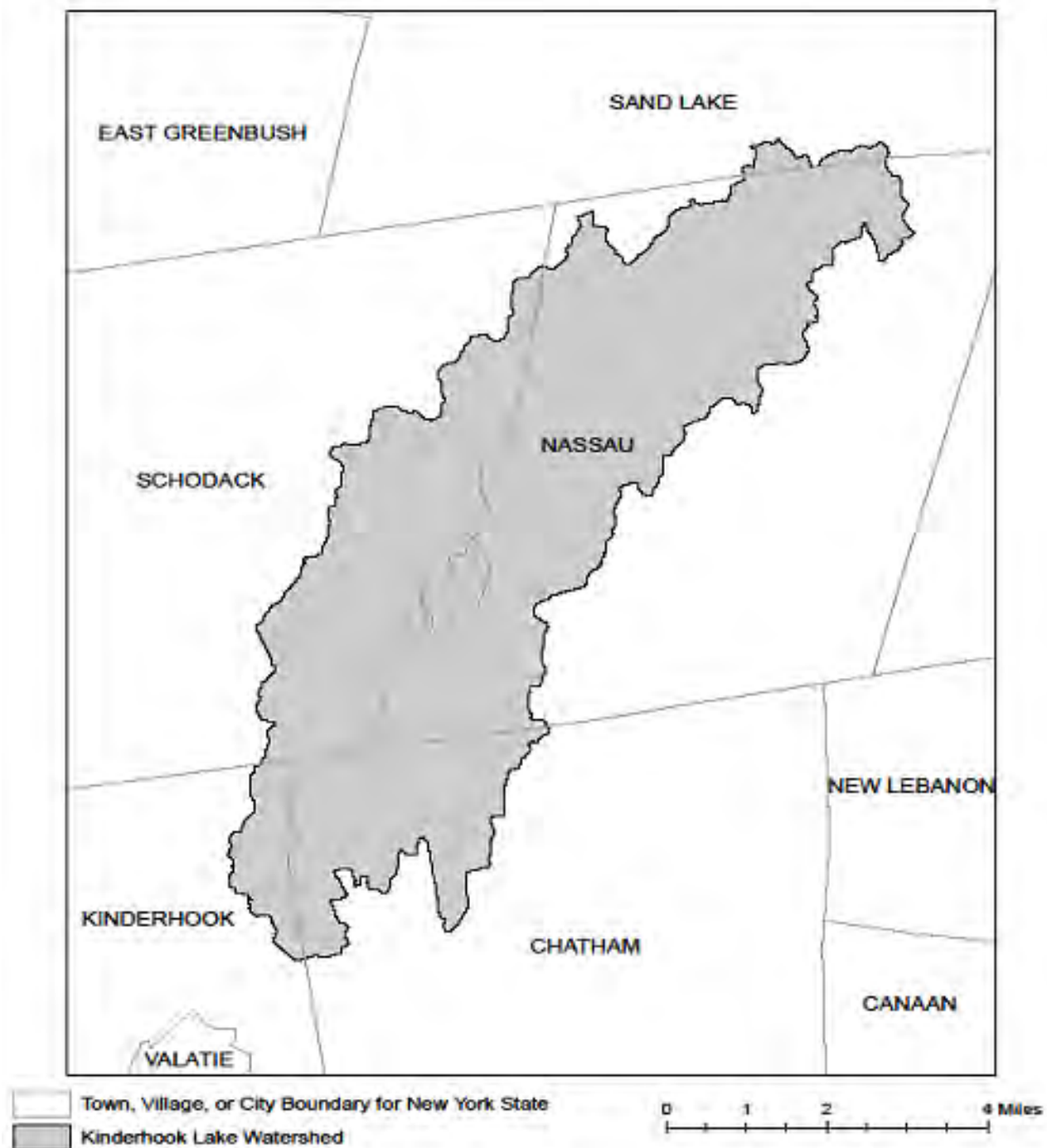


Figure 5 - Kinderhook Lake Watershed

APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C
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APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribes to Lake Lonely	Nutrients

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

APPENDIX F – List of NYS DEC Regional Offices

<u>Region</u>	<u>COVERING THE FOLLOWING COUNTIES:</u>	<u>DIVISION OF ENVIRONMENTAL PERMITS (DEP) PERMIT ADMINISTRATORS</u>	<u>DIVISION OF WATER (DOW) WATER (SPDES) PROGRAM</u>
1	NASSAU AND SUFFOLK	50 CIRCLE ROAD STONY BROOK, NY 11790 TEL. (631) 444-0365	50 CIRCLE ROAD STONY BROOK, NY 11790-3409 TEL. (631) 444-0405
2	BRONX, KINGS, NEW YORK, QUEENS AND RICHMOND	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4997	1 HUNTERS POINT PLAZA, 47-40 21ST ST. LONG ISLAND CITY, NY 11101-5407 TEL. (718) 482-4933
3	DUTCHESS, ORANGE, PUTNAM, ROCKLAND, SULLIVAN, ULSTER AND WESTCHESTER	21 SOUTH PUTT CORNERS ROAD NEW PALTZ, NY 12561-1696 TEL. (845) 256-3059	100 HILLSIDE AVENUE, SUITE 1W WHITE PLAINS, NY 10603 TEL. (914) 428 - 2505
4	ALBANY, COLUMBIA, DELAWARE, GREENE, MONTGOMERY, OTSEGO, RENSSELAER, SCHENECTADY AND SCHOHARIE	1150 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2069	1130 NORTH WESTCOTT ROAD SCHENECTADY, NY 12306-2014 TEL. (518) 357-2045
5	CLINTON, ESSEX, FRANKLIN, FULTON, HAMILTON, SARATOGA, WARREN AND WASHINGTON	1115 STATE ROUTE 86, Po Box 296 RAY BROOK, NY 12977-0296 TEL. (518) 897-1234	232 GOLF COURSE ROAD WARRENSBURG, NY 12885-1172 TEL. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Appendix B

Completed Notice of Intent (NOI)
Acknowledgement Letter from NYSDEC
Blank Notice of Termination (NOT)

DRAFT

NOTICE OF INTENT



New York State Department of Environmental Conservation

Division of Water

625 Broadway, 4th Floor

Albany, New York 12233-3505

NYR
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

**-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE**

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

N Y S O L A R 0 7 L L C

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

M E L K A

Owner/Operator Contact Person First Name

A N D Y

Owner/Operator Mailing Address

3 3 0 W G O E T H S T R E E T

City

C H I C A G O

State

I L

Zip

6 0 6 1 0 -

Phone (Owner/Operator)

3 1 2 - 9 7 2 - 5 0 5 5

Fax (Owner/Operator)

- -

Email (Owner/Operator)

A N D Y @ H O R I Z O N P O W . C O M

FED TAX ID

- (not required for individuals)

Project Site Information

Project/Site Name

W A R N E R F A R M S O L A R P R O J E C T

Street Address (NOT P.O. BOX)

7 8 5 9 P E C K R D K I R K V I L L E N Y

Side of Street

☐ North ☐ South ☒ East ☐ West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

M A N L I U S

State Zip

N Y

-

County

O N O N D A G A

DEC Region

7

Name of Nearest Cross Street

F E R S T L E R R O A D

Distance to Nearest Cross Street (Feet)

6 0 0

Project In Relation to Cross Street

☐ North ☐ South ☐ East ☒ WestTax Map Numbers
Section-Block-Parcel

0 4 2 - 0 1 - 3 2 - 1

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you must go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

4 2 0 1 9 6

Y Coordinates (Northing)

4 7 7 3 9 2 9

2. What is the nature of this construction project?

☒ New Construction☐ Redevelopment with increase in impervious area☐ Redevelopment with no increase in impervious area

SELECT ONLY ONE CHOICE FOR EACH

Post-Development Future Land Use

- | | Number of Lots | | |
|--|----------------|--|--|
| ☐ SINGLE FAMILY HOME | | | |
| ☐ SINGLE FAMILY SUBDIVISION | | | |
| ☐ TOWN HOME RESIDENTIAL | | | |
| ☐ MULTIFAMILY RESIDENTIAL | | | |
| ☐ INSTITUTIONAL/SCHOOL | | | |
| ☐ INDUSTRIAL | | | |
| ☐ COMMERCIAL | | | |
| ☐ MUNICIPAL | | | |
| ☐ ROAD/HIGHWAY | | | |
| ☐ RECREATIONAL/SPORTS FIELD | | | |
| ☐ BIKE PATH/TRAIL | | | |
| ☐ LINEAR UTILITY (water, sewer, gas, etc.) | | | |
| ☐ PARKING LOT | | | |
| ☐ CLEARING/GRADING ONLY | | | |
| ☐ DEMOLITION, NO REDEVELOPMENT | | | |
| ☐ WELL DRILLING ACTIVITY *(Oil, Gas, etc.) | | | |

[illegible][illegible]

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

**Future Impervious
Area Within
Disturbed Area**

		3	9	.	2
--	--	---	---	---	---

		3	0	.	5
--	--	---	---	---	---

			0	.	
--	--	--	---	---	--

			0	.	9
--	--	--	---	---	---

5. Do you plan to disturb more than 5 acres of soil at any one time? ☐ Yes ☒ No

A		
		9 %

B		
	5	7 %

	c	
	1	7 %

	D	
	17	%

7. Is this a phased project? ☐ Yes ☒ No

Start Date

0	4	/	0	1	/	2	0	2	3
---	---	---	---	---	---	---	---	---	---

End Date

1	0	/	3	0	/	2	0	2	3
---	---	---	---	---	---	---	---	---	---

[illegible][illegible]

☐ Wetland / State Jurisdiction On Site (Answer 9b)
☐ Wetland / State Jurisdiction Off Site
☒ Wetland / Federal Jurisdiction On Site (Answer 9b)
☐ Wetland / Federal Jurisdiction Off Site
☐ Stream / Creek On Site
☒ Stream / Creek Off Site
☐ River On Site
☐ River Off Site
☐ Lake On Site
☐ Lake Off Site
☐ Other Type On Site
☐ Other Type Off Site

- ☐ Regulatory Map
- ☒ Delineated by Consultant
- ☐ Delineated by Army Corps of Engineers
- ☐ Other (identify)

[illegible][illegible]

☐ Yes ☒ No

☒ Yes ☐ No

☐ Yes ☒ No

☐ Yes ☒ No

--	--	--	--	--	--

☐ Yes ☒ No

☐ Yes ☒ No ☐ Unknown

[illegible]

☐ Yes ☒ No ☐ Unknown

☐ Yes ☒ No

☐ Yes ☒ No

☐ Yes ☒ No

☒ Yes ☐ No

☒ Yes ☐ No

☒ Yes ☐ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ☒ Professional Engineer (P.E.)
- ☐ Soil and Water Conservation District (SWCD)
- ☐ Registered Landscape Architect (R.L.A)
- ☐ Certified Professional in Erosion and Sediment Control (CPESC)
- ☐ Owner/Operator
- ☐ Other

P J S n y d e r , P . E .

SWPPP Preparer

G E I C o n s u l t a n t s I n c . , P . C .

Contact Name (Last, Space, First)

S m i t h , M a l l o r y G E I C o n s u l t a n t s I n c . , P . C

Mailing Address

1 3 0 1 T r u m a n s b u r g R o a d S u i t e N

City

I t h a c a

State Zip

N Y 1 4 8 5 0 -

Phone

6 0 7 - 2 1 6 - 8 9 7 0

Fax

- -

Email

m s m i t h @ g e i c o n s u l t a n t s . c o m

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

P H I L L I P

MI

J

Last Name

S N Y D E R

Signature

Date

/ /

☒ Yes ☐ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ☐ Check Dams
- ☒ Construction Road Stabilization
- ☒ Dust Control
- ☐ Earth Dike
- ☐ Level Spreader
- ☐ Perimeter Dike/Swale
- ☐ Pipe Slope Drain
- ☐ Portable Sediment Tank
- ☐ Rock Dam
- ☒ Sediment Basin
- ☒ Sediment Traps
- ☒ Silt Fence
- ☒ Stabilized Construction Entrance
- ☐ Storm Drain Inlet Protection
- ☐ Straw/Hay Bale Dike
- ☒ Temporary Access Waterway Crossing
- ☐ Temporary Stormdrain Diversion
- ☐ Temporary Swale
- ☐ Turbidity Curtain
- ☐ Water bars

Biotechnical

- **Brush Matting**
- **Wattling**

Other

Vegetative Measures

- ☐ Brush Matting
- ☐ Dune Stabilization
- ☒ Grassed Waterway
- ☒ Mulching
- ☐ Protecting Vegetation
- ☐ Recreation Area Improvement
- ☒ Seeding
- ☐ Sodding
- ☐ Straw/Hay Bale Dike
- ☐ Streambank Protection
- ☐ Temporary Swale
- ☒ Topsoiling
- ☐ Vegetating Waterways

Permanent Structural

- ☐ Debris Basin
- ☐ Diversion
- ☐ Grade Stabilization Structure
- ☒ Land Grading
- ☐ Lined Waterway (Rock)
- ☐ Paved Channel (Concrete)
- ☐ Paved Flume
- ☐ Retaining Wall
- ☐ Riprap Slope Protection
- ☒ Rock Outlet Protection
- ☐ Streambank Protection

[illegible]

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ☒ Preservation of Undisturbed Areas
- ☐ Preservation of Buffers
- ☒ Reduction of Clearing and Grading
- ☒ Locating Development in Less Sensitive Areas
- ☐ Roadway Reduction
- ☐ Sidewalk Reduction
- ☐ Driveway Reduction
- ☐ Cul-de-sac Reduction
- ☐ Building Footprint Reduction
- ☐ Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ☒ All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ☐ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

. acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRV Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required (#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques
and Standard Stormwater Management
Practices (SMPs)

RR Techniques (Area Reduction)	Total Contributing Area (acres)	Total Contributing Impervious Area(acres)
☐ Conservation of Natural Areas (RR-1) ...	.	and/or .
☒ Sheetflow to Riparian Buffers/Filters Strips (RR-2)	0 . 0 6	and/or 0 . 0 2
☐ Tree Planting/Tree Pit (RR-3)	.	and/or .
☐ Disconnection of Rooftop Runoff (RR-4) ..	.	and/or .
RR Techniques (Volume Reduction)		
☒ Vegetated Swale (RR-5)		
☐ Rain Garden (RR-6)		
☐ Stormwater Planter (RR-7)		
☐ Rain Barrel/Cistern (RR-8)		
☐ Porous Pavement (RR-9)		
☐ Green Roof (RR-10)		
Standard SMPs with RRv Capacity		
☐ Infiltration Trench (I-1)		
☐ Infiltration Basin (I-2)		
☐ Dry Well (I-3)		
☐ Underground Infiltration System (I-4)		
☐ Bioretention (F-5)		
☐ Dry Swale (O-1)		
Standard SMPs		
☐ Micropool Extended Detention (P-1)		
☐ Wet Pond (P-2)		
☐ Wet Extended Detention (P-3)		
☐ Multiple Pond System (P-4)		
☐ Pocket Pond (P-5)		
☐ Surface Sand Filter (F-1)		
☐ Underground Sand Filter (F-2)		
☐ Perimeter Sand Filter (F-3)		
☐ Organic Filter (F-4)		
☐ Shallow Wetland (W-1)		
☐ Extended Detention Wetland (W-2)		
☐ Pond/Wetland System (W-3)		
☐ Pocket Wetland (W-4)		
☐ Wet Swale (O-2)		

[illegible]

Total Contributing
Impervious Area(acres)

- [illegible]

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

[illegible][illegible]

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

		0	.	0	2
--	--	---	---	---	---

acre-feet

31. Is the Total RRV provided (#30) greater than or equal to the total WQV required (#28).

☒ Yes ☐ No

If Yes, go to question 36.

If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

--	--	--

 ·

--	--	--

acre-feet

- 32a. Is the Total RRV provided (#30) greater than or equal to the Minimum RRV Required (#32)?

☒ Yes ☐ No

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQV required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQV required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRV Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

- 33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRV Capacity identified in question 29.

WQv Provided

. acre-feet

Note: For the standard SMPs with RRV capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRV provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRV provided (#30) and the WQv provided (#33a).

.

35. Is the sum of the RRV provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ☐ Yes ☐ No

If Yes, go to question 36.

If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

. acre-feet

CPv Provided

. acre-feet

- 36a. The need to provide channel protection has been waived because:

- ☐ Site discharges directly to tidal waters or a fifth order or larger stream.
- ☒ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

8 . CFS

Post-development

5 . CFS

Total Extreme Flood Control Criteria (Qf)

Pre-Development

3 6 . CFS

Post-development

2 4 . CFS

37a. The need to meet the Qp and Qf criteria has been waived because:

- ☐ Site discharges directly to tidal waters or a fifth order or larger stream.
- ☐ Downstream analysis reveals that the Qp and Qf controls are not required

- Site discharges directly to tidal waters or a fifth order or larger stream.
- Downstream analysis reveals that the Qp and Qf controls are not required

☒ Yes ☐ No

If Yes, Identify the entity responsible for the long term
Operation and Maintenance

[illegible]

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a)
This space can also be used for other pertinent project information.

The solar panels will be constructed on a rack system and there is adequate space between the panels so that rain water can flow off the panel and continue as sheet flow over the surface; however, the project does include construction inverters that will be installed on top of a concrete pad and the addition of the permeable haul access road. A Stormwater Pollution Prevention Plan addressing post-construction stormwater practices has been designed in accordance with the "NYS Stormwater Management Design Manual".

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- Air Pollution Control

- Coastal Erosion

☐ Hazardous Waste

○ Long Island Wells

○ Mined Land Reclamation

○ Solid Waste

○ Navigable Waters Protection / Article 15

○ Water Quality Certificate

- Dam Safety

○ Water Supply

○ Freshwater Wetlands/Article 24

- Tidal Wetlands

○ Wild, Scenic and Recreational Rivers

○ Stream Bed or Bank Protection / Article 15

○ Endangered or Threatened Species(Incidental Take Permit)

- Individual SPDES

☐ SPDES Multi-Sector GP

--	--	--	--	--	--	--	--

☐ Other

☐ None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ☐ ☐ ☐ ☐ ☐ ☐

☐ Yes ☒ No

Wetland Permit:					
If Yes, Indicate Size of Impact.					.
1. Wetland Delineation					
2. Wetland Use					
3. Wetland Restoration					
4. Wetland Mitigation					
5. Wetland Monitoring					
6. Wetland Management					
7. Wetland Research					
8. Wetland Education					
9. Wetland Conservation					
10. Wetland Stewardship					
11. Wetland Advocacy					
12. Wetland Policy					
13. Wetland Legislation					
14. Wetland Enforcement					
15. Wetland Compliance					
16. Wetland Reporting					
17. Wetland Assessment					
18. Wetland Evaluation					
19. Wetland Review					
20. Wetland Audit					
21. Wetland Inspection					
22. Wetland Investigation					
23. Wetland Inquiry					
24. Wetland Consultation					
25. Wetland Collaboration					
26. Wetland Partnership					
27. Wetland Alliance					
28. Wetland Coalition					
29. Wetland Network					
30. Wetland Forum					
31. Wetland Conference					
32. Wetland Symposium					
33. Wetland Seminar					
34. Wetland Workshop					
35. Wetland Roundtable					
36. Wetland Dialogue					
37. Wetland Discussion					
38. Wetland Debate					
39. Wetland Presentation					
40. Wetland Demonstration					
41. Wetland Exhibition					
42. Wetland Showcase					
43. Wetland Display					
44. Wetland Installation					
45. Wetland Project					
46. Wetland Initiative					
47. Wetland Program					
48. Wetland Scheme					
49. Wetland Plan					
50. Wetland Strategy					
51. Wetland Policy					
52. Wetland Legislation					
53. Wetland Enforcement					
54. Wetland Compliance					
55. Wetland Reporting					
56. Wetland Assessment					
57. Wetland Evaluation					
58. Wetland Review					
59. Wetland Audit					
60. Wetland Inspection					
61. Wetland Investigation					
62. Wetland Inquiry					
63. Wetland Consultation					
64. Wetland Collaboration					
65. Wetland Partnership					
66. Wetland Alliance					
67. Wetland Coalition					
68. Wetland Network					
69. Wetland Forum					
70. Wetland Conference					
71. Wetland Symposium					
72. Wetland Seminar					
73. Wetland Workshop					
74. Wetland Roundtable					
75. Wetland Dialogue					
76. Wetland Discussion					
77. Wetland Debate					
78. Wetland Presentation					
79. Wetland Demonstration					
80. Wetland Exhibition					
81. Wetland Showcase					
82. Wetland Display					
83. Wetland Installation					
84. Wetland Project					
85. Wetland Initiative					
86. Wetland Program					
87. Wetland Scheme					
88. Wetland Plan					
89. Wetland Strategy					
90. Wetland Policy					
91. Wetland Legislation					

42. Is this project subject to the requirements of a regulated, traditional land use control MS4?
(If No, skip question 43)

☐ Yes ☒ No

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?

☐ Yes ☐ No

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

Owner/Operator Certification	
I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.	
Print First Name 	MI
Print Last Name 	
Owner/Operator Signature 	
Date / /	

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**New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505**

(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized
under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR _____

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:

4a. Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. ☐ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. ☐ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR _____

(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. ☐ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? ☐ yes ☐ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? ☐ yes ☐ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

**NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued**

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? ☐ yes ☐ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

- ☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.
- ☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).
- ☐ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.
- ☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____
(acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes
☐ no
(If Yes, complete section VI - "MS4 Acceptance" statement)

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:

Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the
SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:

Date:

(NYS DEC Notice of Termination - January 2015)

Appendix C

Project Erosion & Sediment Control Plan & Specifications Landscaping Plan

DRAFT

DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CAD\Sheet Set\G-102 EROSION AND SEDIMENT CONTROL PLAN.dwg - 10/26/2022

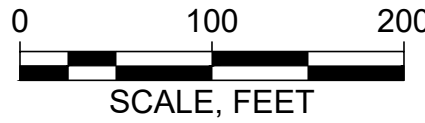


- SEDIMENT & EROSION CONTROL NOTES:**
1. CONDUCT SOIL DISTURBANCE IN SUCH A MANNER AS TO MINIMIZE EROSION. CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE TEMPORARY OR PERMANENT MEASURES FOR SOIL STABILIZATION.
 2. CONSTRUCT SOIL EROSION AND SEDIMENT CONTROL FEATURES PRIOR TO DISTURBING SOIL OR PERFORMING INTRUSIVE ACTIVITIES.
 3. STABILIZE DISTURBED AREAS WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS AFTER END OF ACTIVE OR REDISTURBANCE.
 4. STABILIZE SLOPES GREATER THAN OR EQUAL TO 3 HORIZONTAL : 1 VERTICAL WITH EROSION CONTROL BLANKETS IN COMBINATION WITH SEEDING.
 5. STABILIZE CONSTRUCTION DITCHES AND SWALES WITH EROSION CONTROL BLANKETS IN COMBINATION WITH SEEDING.
 6. ERECT SILT FENCE AROUND SOIL STOCKPILES THAT ARE TO REMAIN EXPOSED FOR PERIODS MORE THAN 3 DAYS.
 7. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECT BY THE QUALIFIED SWPPP INSPECTOR, ENGINEER OR GOVERNING AGENCY.
 8. INSPECT AND MAINTAIN ALL TEMPORARY AND PERMANENT SEDIMENT AND EROSION CONTROL MEASURES AS NEEDED AND IN ACCORDANCE WITH THE NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY, PERMIT NO. GP-020-001 OR LATEST VERSION AVAILABLE, AND AS SPECIFIED IN THE SWPPP.

LEGEND:

PARCEL BOUNDARY LINE	
PROPOSED UNDERGROUND ELECTRIC	
PROPOSED CHAIN LINK FENCE	
EXISTING MINOR CONTOUR	
EXISTING MAJOR CONTOUR	
PROPOSED MINOR CONTOUR	
PROPOSED MAJOR CONTOUR	
PROPOSED VEGETATED FILTER STRIP	
PROPOSED SILT FENCE	
LIMIT OF DISTURBANCE	

**ISSUED FOR PERMIT
NOT FOR CONSTRUCTION**



Attention:

If this scale bar does not measure 1" then drawing is not original scale.



Designed:	V. DICASTELNUOVO
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P.E. No:	100361
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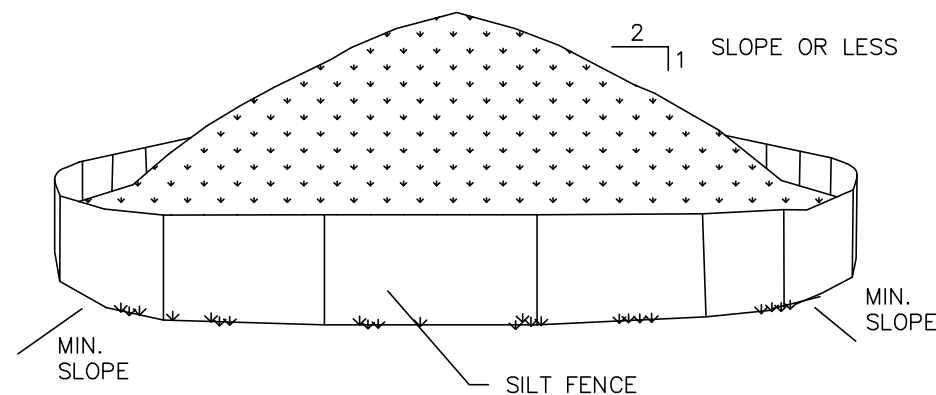
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KIRKVILLE, NY 13082

A	10/26/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
**EROSION AND SEDIMENT
CONTROL PLAN**

SHEET NO.
C-102

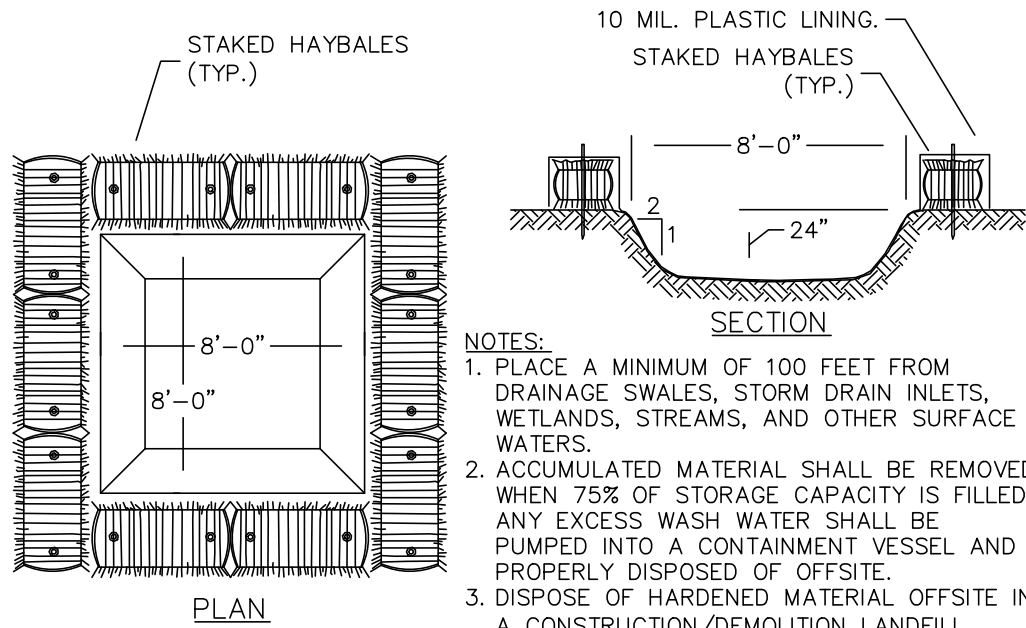
DICASTELNUOVO, VINNIE B\Working\NYSOLAR07 LLC\2023\102 Warner Solar Development\03_CADD_Sheet Set\03-108-107 CONSTRUCTION DETAILS.dwg - 10/26/2022



- NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
 3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
 4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
 5. HAY BALES TO BE USED WHERE STOCKPILES ARE LOCATED ON PAVED AREAS.

TEMPORARY STOCKPILE

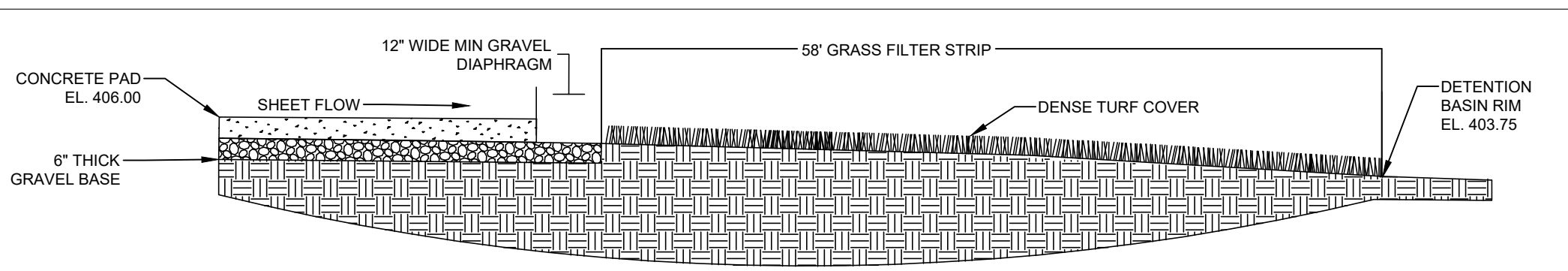
NO SCALE



- NOTES:
1. PLACE A MINIMUM OF 100 FEET FROM DRAINAGE SWALES, STORM DRAIN INLETS, WETLANDS, STREAMS, AND OTHER SURFACE WATERS.
 2. ACCUMULATED MATERIAL SHALL BE REMOVED WHEN 75% OF STORAGE CAPACITY IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFFSITE.
 3. DISPOSE OF HARDENED MATERIAL OFFSITE IN A CONSTRUCTION/DEMOLITION LANDFILL.

TEMPORARY CONCRETE WASHOUT AREA

NO SCALE



1. VEGETATED FILTER STRIP SHALL BE PLANTED OR SEEDDED WITH A MIX OF GRASSES, WILDFLOWERS AND GROUND COVERS WELL-SUITED TO MOST-TO-DRY SOIL CONDITIONS.
2. ALL VEGETATION SHOULD BE SELF-SUSTAINING AND DROUGHT TOLERANT.
3. SEED MIX: ERNMX-113 "COMMERCIAL CONSERVATION MIX" OR EQUAL

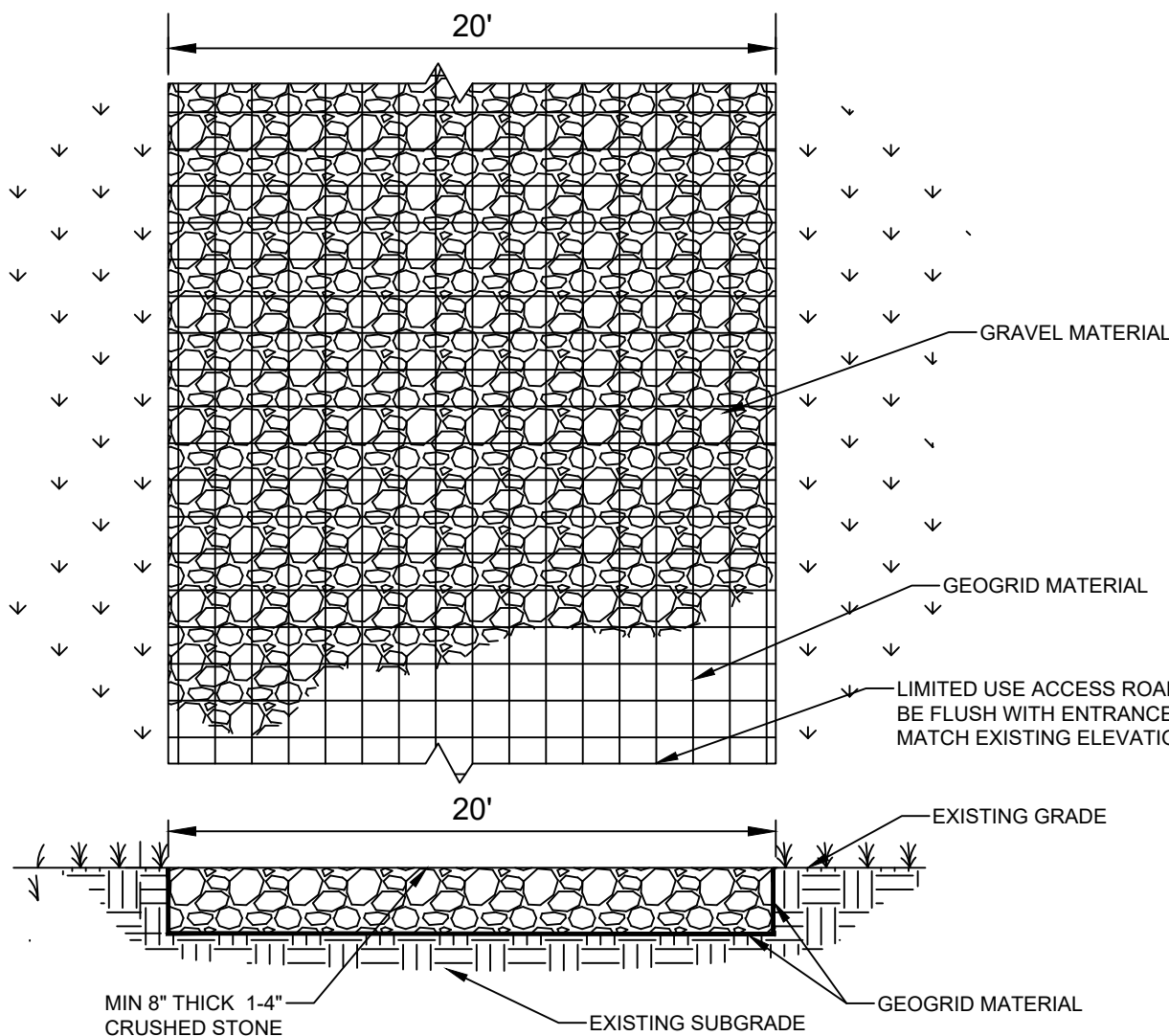
25% FESTUCA RUBRA
25% LOLIUM MULTIFORUM
25% LOLIUM PERENNE, "BLACKSTONE"
25% LOLIUM PERENNE, "BLACK PEARL"

CREeping RED FESCUE
ANNUAL RYEGRASS
PERENNIAL RYEGRASS, "BLACKSTONE"
PERENNIAL RYEGRASS, "BLACK PEARL"

- SEEDING RATE: 75-150 POUNDS
- THE FIRST TEN FEET OF THE GRASS FILTER STRIP SHALL BE 2.0% MAX.

VEGETATED FILTER STRIP

NO SCALE

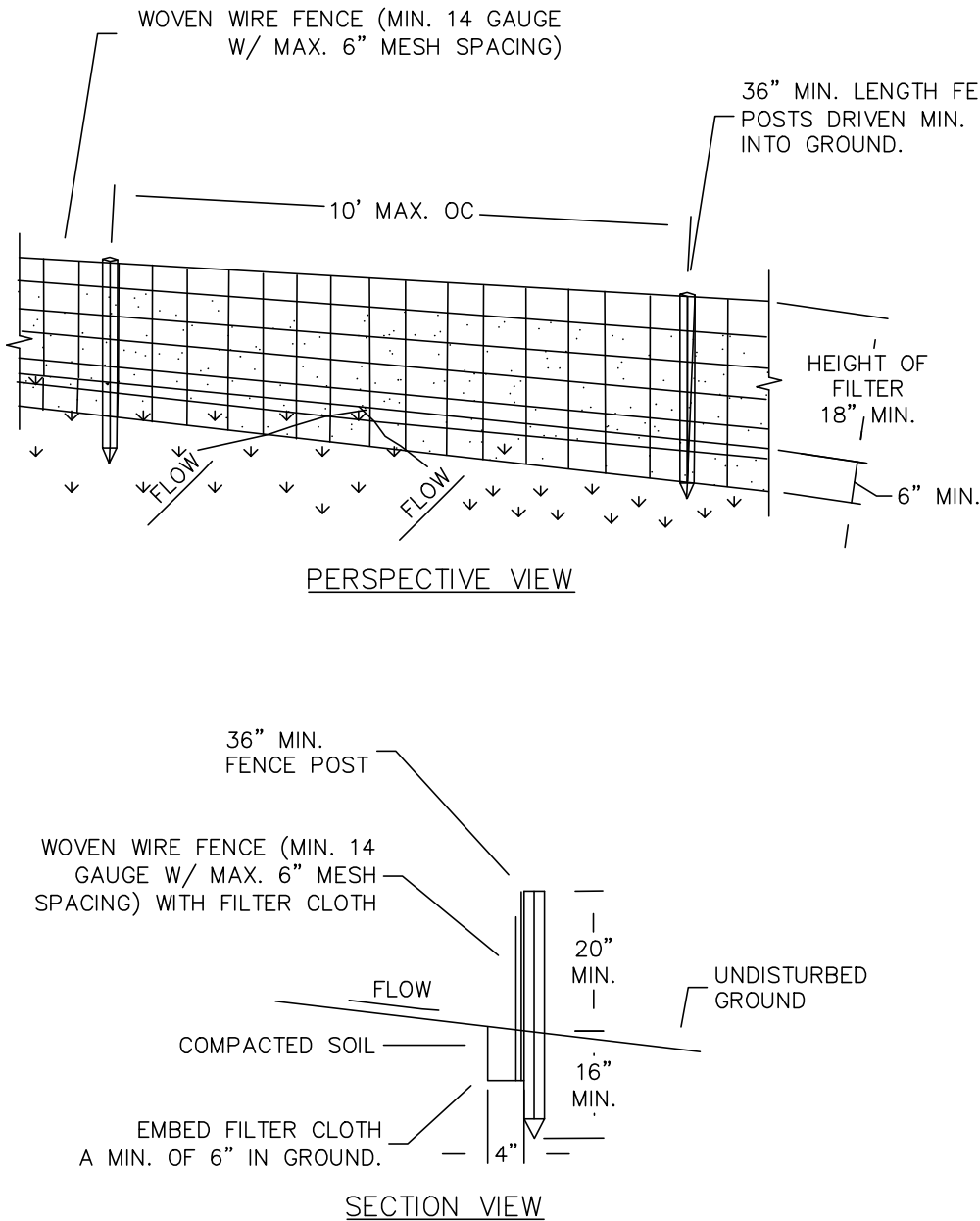


- GENERAL NOTES:**
1. LIMITED TO MINIMAL USE ONLY SUCH AS MAINTENANCE AND EMERGENCY RESPONSE.
 2. LIMITED TO LOW TRAFFIC LOW IMPACT MAINTENANCE ACCESS ASSOCIATED WITH RENEWABLE ENERGY PROJECTS IN NEW YORK STATE.
 3. WHERE NECESSARY, GRADE ROADWAY TO DESIRED ELEVATION, MINOR GRADING FOR CROSS SLOPE MAY BE REQUIRED.
 4. REMOVE REFUSE SOILS AS DIRECTED BY PROJECT ENGINEER. DO NOT PLACE IN AN AREA THAT IMPEDE STORMWATER DRAINAGE.
 5. CROSS SLOPE SHALL BE 2% IN MOST CASES AND SHOULD NOT EXCEED 6%. THE LONGITUDINAL SLOPE OF THE ACCESS ROAD SHOULD NOT EXCEED 13%.
 6. ROAD IS NOT INTENDED TO BE UTILIZED FOR CONSTRUCTION WHICH MAY SUBJECT THE ACCESS ROAD TO SEDIMENT TRACKING. ROAD IS TO BE DEVELOPED FOR POST-CONSTRUCTION USE ONLY. SOIL RESTORATION PRACTICES MAY BE APPLICABLE TO RESTORE CONSTRUCTION RELATED COMPACTION TO PRE-EXISTING CONDITIONS AND SHOULD BE VERIFIED BY SOIL PENETROMETER READINGS. COMPARE PENETROMETER READINGS TO THE RESPECTIVE RECORDED READINGS TAKEN PRIOR TO CONSTRUCTION, EVERY 100 LINEAR FEET ALONG THE PROPOSED ROADWAY.
 7. DO NOT USE CONSTRUCTION VEHICLES TRANSPORTING SOIL, FILL MATERIAL, ETC. ON ACCESS ROAD TO PREVENT SOIL FROM BEING TRACKED ONTO ACCESS ROAD. IF THE LIMITED USE PERVIOUS ACCESS ROAD IS COMPLETED DURING THE INITIAL PHASES OF CONSTRUCTION, CONSTRUCT AND UTILIZE A STANDARD NEW YOUR STATE STABILIZED CONSTRUCTION ACCESS TO REMOVE SEDIMENT FROM CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO ENTERING THE LIMITED USE PERVIOUS ACCESS ROAD FROM ANY LOCATION ON OR OFF SITE. MAINTAIN ACCESS ROAD IF SEDIMENT IS OBSERVED WITHIN THE CLEAN STONE.

- GEOGRID MATERIAL NOTES:**
1. THE GEOGRID OR COMPARABLE PRODUCT, IS INTENDED FOR USE IN ALL CONDITIONS. IN ORDER TO ASSIT IN MATERIAL SEPARATION FROM NATIVE SOILS AND PRESERVE ACCESS LOADS.
 2. GRAVEL FILL MATERIAL SHALL CONSIST OF 1-4" CLEAN, CURABLE SHARP-ANGLES CRUSHED STONE OF UNIFORM QUALITY, MEETING THE SPECIFICATIONS OF NYSDOT ITEM 703-02, SIZE DESIGNATION 3-5 OF TABLE 7804-4. STONE MAY BE PLACED IN FRONT OF, AND SPREAD WITH A TRACKED VEHICLE. GRAVE SHALL NOT BE COMPACTED.
 3. THE GEOGRID SHALL BE MIRAFI BXG110 OR APPROVED EQUAL. GEOGRID SHALL BE DESIGNED BASED ON EXISTING SOIL CONDITIONS AND PROPOSED HAUL ROAD SLOPE.
 4. IF MORE THAN ONE ROLL WIDTH IS REQUIRED, ROLLS SHOULD OVERLAP A MINIMUM OF 6".
 5. REFER TO MANUFACTURER'S SPECIFICATION FOR PROPER TYING AND CONNECTIONS.
 6. LIMITED USE PERVIOUS ACCESS ROAD SHALL BE TOP DRESSED AS REQUIRED WITH ONLY 1-4" CRUSHED STONE MEETING NYSDOT ITEM 703-02 SPECIFICATIONS.

PERMEABLE HAUL ACCESS ROAD

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 "I" 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, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
5. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT THAT MEETS THE MINIMUM REQUIREMENTS SHOWN.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

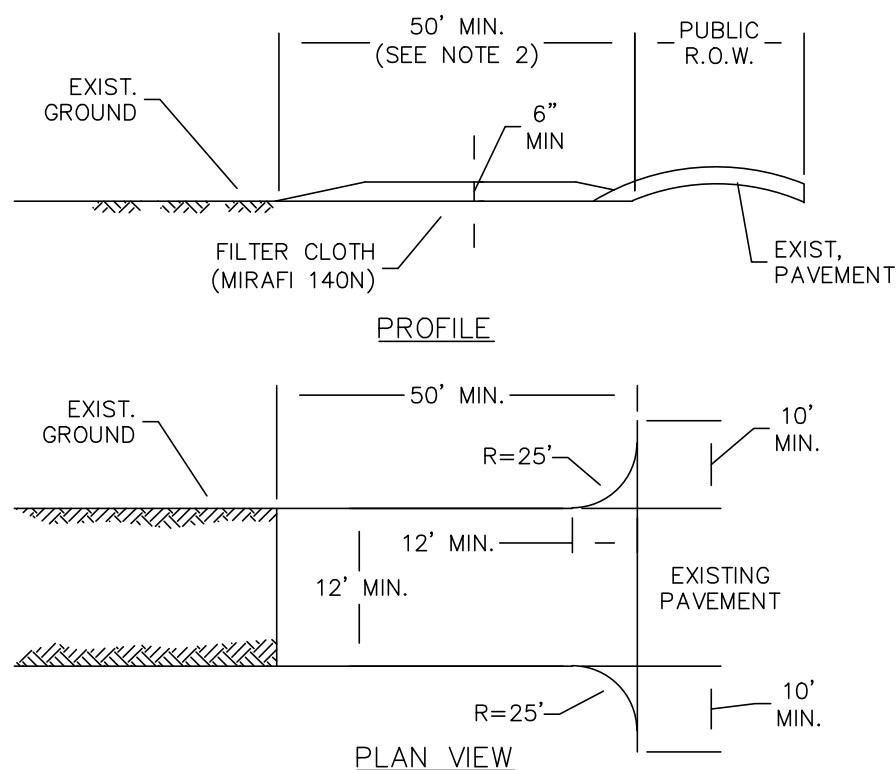
DETAIL NOTES:

1. INSTALLATION SHALL BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL ("THE BLUE BOOK").
2. ALL SILT FENCE 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 TABLE BELOW. IF A TYPE SILT FENCE IS NOT SPECIFIED ON THE PLANS, THE CRITERIA FOR STANDARD SILT FENCE CAN BE APPLIED.
4. SILT FENCE SHALL BE REMOVED AS SOON AS THE DISTURBED AREA HAS ACHIEVED FINAL STABILIZATION.

SLOPE	STEEPNESS	SLOPE LENGTH/FENCE LENGTH (FT.)		
		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

SILT FENCE

NO SCALE



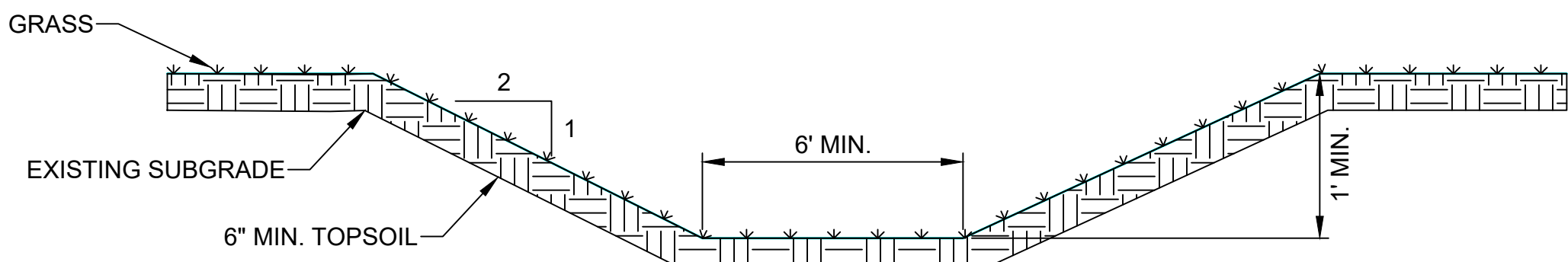
NOTE:
PROVIDE APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W.

CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE - USE 3" STONE (NYSDOT ITEM #623.11 SIZE DESIGNATION #2, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT).
2. LENGTH - NOT LESS THAN 50-FEET (EXCEPT ON SINGLE FAMILY LOT, 30-FEET 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 SIGHT.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING C STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING 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.

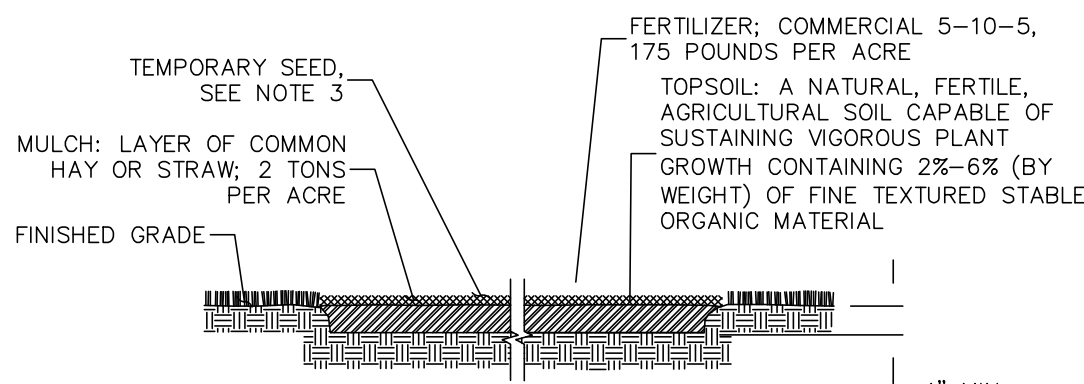
STABILIZED CONSTRUCTION ENTRANCE

NO SCALE



TYPICAL VEGETATED SWALE SECTION

NO SCALE



- NOTES:
1. TO BE USED ON DISTURBED SOIL AREAS THAT WILL BE LEFT EXPOSED FOR 7 DAYS OR MORE AND WILL BE RE-DISTURBED DURING CONSTRUCTION.
 2. FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.
 3. SEED MIX:
 - A. IF SPRING, SUMMER OR EARLY FALL: SEED WITH ANNUAL OR PERENNIAL RYEGRASS AT A RATE OF 1 LB PER 1000 SF.
 - B. IF LATE FALL OR WINTER: SEED WITH CERTIFIED "AROOSTOOK" WINTER (CEREAL RYE) AT A RATE OF 2.5 LBS PER 1000 SF.

TEMPORARY VEGETATIVE COVER

NO SCALE

**ISSUED FOR PERMIT
NOT FOR CONSTRUCTION**

Warning:
It is a violation of Section 7209.2 of the New York State Education Law for any person, unless acting under the direction of a licensed professional engineer, to alter in any way plans, specifications, plats or reports to which the seal of a professional engineer has been applied. If an item bearing the seal of a professional engineer is altered, the altering engineer shall affix to the item his seal and the notation "Altered By" followed by his signature, the date, and a specific description of the alteration.

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.



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Drawn: V. DICASTELNUOVO
Checked: B. MCDEVITT
Approved: P. SNYDER
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SHEET NAME
**TYPICAL DETAILS
DETAILS 1 OF 2**

SHEET NO.
C-107

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.

Super Silt Fence



Reinforced Silt Fence



STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.

- The flat dimension of the sock shall be at least 1.5 times the nominal diameter.
- The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

* Length in feet

Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

- Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.
- Diameters designed for use shall be 12" – 32" except
- The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**
- The compost filter sock fabric material shall meet the



7. Compost filter socks shall be anchored in earth with 2" x 2" wooden stakes driven 12" into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.
8. All specific construction details and material specifications shall appear on the erosion and sediment control constructions drawings when compost filter socks are included in the plan.
3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.
4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.
5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

Maintenance

1. Traffic shall not be permitted to cross filter socks.
2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE



quarter of an acre per 100 feet of dike and the length of slope above the dike shall be less than 100 feet.

Design Criteria

The above table is adequate, in general, for a one-inch rain-fall event. Larger storms could cause failure of this practice. Use of this practice in sensitive areas for longer than one month should be specifically designed to store expected runoff. All bales shall be placed on the contour with cut edge of bale adhering to the ground. See Figure 5.34 on page 5.64 for details.

Definition & Scope

A **temporary** barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

Condition Where Practice Applies

The straw bale dike is used where:

1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainageway above the barrier.
3. Erosion would occur in the form of sheet erosion.
4. Length of slope above the straw bale dike does not exceed the following limits with the bale placed 10 feet from the toe of the slope:

Constructed Slope	Percent Slope	Slope Length (ft.)
2:1	50	25
3:1	33	50
4:1	25	75

Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage areas in this instance shall be less than one

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION



Definition & Scope

A **temporary** barrier with low permeability, installed around inlets in the form of a fence, berm or excavation around an opening, detaining water and thereby reducing the sediment content of sediment laden water by settling thus preventing heavily sediment laden water from entering a storm drain system.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a trapping device, and watertight blocking of inlets is not advisable. **It is not to be used in place of sediment trapping devices.** This practice shall be used with an upstream buffer strip if placed at a storm drain inlet on a paved surface. It may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with low slope angle.

Types of Storm Drain Inlet Practices

There are five (5) specific types of storm drain inlet protection practices that vary according to their function, location, drainage area, and availability of materials:

- I. Excavated Drop Inlet Protection
- II. Fabric Drop Inlet Protection
- III. Stone & Block Drop Inlet Protection
- IV. Paved Surface Inlet Protection
- V. Manufactured Insert Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. Erosion control/temporary stabilization measures must be implemented on the disturbed

drainage area tributary to the inlet. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

This practice is generally used during initial overlot grading after the storm drain trunk line is installed.

Limit the drainage area to the inlet device to 1 acre. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. The capacity of the excavated basin should be established to contain 900 cubic feet per acre of disturbed area. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved. This material should be incorporated into the site in a stabilized manner.

Type II – Fabric Drop Inlet Protection



This practice is generally used during final elevation grading phases after the storm drain system is completed.

Limit the drainage area to 1 acre per inlet device. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced.

The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to

unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

Type III – Stone and Block Drop Inlet Protection

This practice is generally used during the initial and intermediate overlot grading of a construction site.

Limit the drainage area to 1 acre at the drop inlet. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

As an optional design, the concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet (“doughnut”). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all

materials and any unstable soil and dispose of properly.

Bring the disturbed area to proper grade, smooth, compact and stabilize in a manner appropriate to the site.

Type IV – Paved Surface Inlet Protection



This practice is generally used after pavement construction has been done while final grading and soil stabilization is occurring. These practices should be used with upstream buffer strips in linear construction applications, and with temporary surface stabilization for overlot areas, to reduce the sediment load at the practice. This practice includes sand bags, compost filter socks, geo-tubes filled with ballast, and manufactured surface barriers. Pea gravel can also be used in conjunction with these practices to improve performance. When the inlet is not at a low point, and is offset from the pavement or gutter line, protection should be selected and installed so that flows are not diverted around the inlet.



The drainage area should be limited to 1 acre at the drain inlet. All practices will be placed at the inlet perimeter or beyond to maximize the flow capacity of the inlet. Practices shall be weighted, braced, tied, or otherwise anchored to prevent movement or shifting of location on paved surfaces. Traffic safety shall be integrated with the use of this practice. All practices should be marked with traffic safety cones as appropriate. Structure height shall not cause flooding or by-pass flow that would cause additional erosion.

The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any broken or damaged components should be replaced. Check all materials for proper anchorage and secure as necessary.

Type V - Manufactured Insert Inlet Protection



The drainage area shall be limited to 1 acre at the drain inlet. All inserts will be installed and anchored in accordance with the manufacturers recommendations and design details. The fabric portion of the structure will equal or exceed the performance standard for the silt fence fabric. The inserts will be installed to preserve a minimum of 50 percent of the open, unobstructed design flow area of the storm drain inlet opening to maintain capacity for storm events.

DANDY CURB®
GRATELESS CURB INLET AND MEDIAN BARRIER INLET
PROTECTION SYSTEM GUIDE SPECIFICATION

PRODUCT:

DANDY CURB®

MANUFACTURER:

Dandy Products Inc.
P.O. Box 1980
Westerville, Ohio 43086
Phone: 800-591-2284
Fax: 740-881-2791
E mail dlc@dandyproducts.com
Web www.dandyproducts.com

1.0 Description:

1.1 Work covered under this item consists of installing a Dandy Curb® inlet protection system for inlets and median barrier inlets without grates. The purpose is to keep silt, sediment and construction debris out of the storm system.

2.0 Material:

2.1 The Dandy Curb® inlet protection system shall be a **sewn in the U.S.A.** fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front of and extending beyond the inlet opening on both sides.

2.2 The Dandy Curb® inlet protection system shall have a pouch on the street side of the sewn unit for aggregate or other material to hold the unit in place.

2.3 The Dandy Curb® unit shall utilize an orange monofilament fabric that is manufactured in the U.S.A. with the following characteristics:

PROPERTY	TEST METHOD	UNITS	TEST RESULTS
Grab Tensile Strength	ASTM D 4632	lbs	450 x 300
Grab Tensile Elongation	ASTM D 4632	%	40 x 25
Puncture Strength	ASTM D 4833	lbs	130
Mullen Burst Strength	ASTM D 3786	psi	600
Trapezoid Tear Strength	ASTM D 4533	lbs	165 x 150
% Open Area (POA)	COE - 22125-86	%	28
Apparent Opening Size	ASTM D 4751	US Std Sieve	30
Permittivity	ASTM D 4491	sec ¹	3.5
Permeability	ASTM 4491	cm/sec	0.25
Water Flow Rate	ASTM 4491	gal/min/ft ²	250
Ultraviolet Resistance	ASTM D 4355	%	70

Color			Orange ¹
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¹The color orange is a trademark of Dandy Products, Inc.

The property values listed above are effective October 2010 and are subject to change without notice.

3.0 Installation:

3.1 Place Dandy Curb® inlet protection unit on ground with aggregate pouch on street side near inlet it will be installed on.

3.2 *For oil and sediment model, to install or replace absorbent, place absorbent sock in pouch.*

3.3 Fill pouch with aggregate such as #5-7, 8's or similar to a level (at least ½ full) that will keep unit in place during a rain event and create a seal between the Dandy Curb® and the surface of the street. Reseal Velcro access.

3.4 Center the unit against curb or median inlet opening so that the curb side of the unit creates a seal with the curb or median barrier and inlet structure. There will be approximately twelve (12) inches of the inlet protection unit overhanging on each side of the opening. If the unit is not installed in this manner, it will not function properly.

4.0 Maintenance:

4.1 The contractor shall remove all accumulated sediment and debris from surface and vicinity of unit after each rain event or as directed by engineer/inspector. Dispose of unit no longer in use at an appropriate recycling or solid waste facility.

4.2 *For oil and sediment model; remove and replace absorbent when near saturation.*

5.0 Method of Measurement:

5.1 The quantity to be paid is for the actual number of Dandy Curb® inlet protection units installed.

6.0 Basis of payment:

6.1 The unit price shall include labor, equipment, and materials necessary to complete the work and maintain the True Dam® inlet protection units.

6.2 Payment for the completed work will be made at the contract prices for:

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
Dandy Curb®	EA	Inlet Protection Unit (#_____Inlet)

DANDY CURB SACK®
CURB AND GUTTER INLET PROTECTION SYSTEM GUIDE
SPECIFICATION

PRODUCT:

DANDY CURB SACK®

MANUFACTURER:

Dandy Products Inc.
P.O. Box 1980
Westerville, Ohio 43086
Phone: 800-591-2284
Fax: 740-881-2791
E mail dlc@dandyproducts.com
Web www.dandyproducts.com

1.0 Description:

1.1 Work covered under this item consists of installing a Dandy Curb Sack® curb and gutter inlet protection system. The purpose is to keep silt, sediment and construction debris out of the storm water system.

2.0 Material:

2.1 The Dandy Curb Sack® curb and gutter inlet protection unit shall be a sewn geotextile fabric unit **made in the U.S.A.** enclosing a porous structure in the form of a cylindrical tub placed in front and extending beyond the inlet opening on both sides and have a geotextile fabric sack attached designed to fit the opening of the catch basin or drop inlet and to hang underneath the grate and into the catch basin.

2.2 The Dandy Curb Sack® shall have lifting straps to allow removal of the unit and manual inspection of the storm water system.

2.3 The Dandy Curb Sack® unit shall utilize an orange monofilament fabric that is manufactured in the U.S.A with the following characteristics:

PROPERTY	TEST METHOD	UNITS	TEST RESULTS
Grab Tensile Strength	ASTM D 4632	lbs	450 x 300
Grab Tensile Elongation	ASTM D 4632	%	40 x 25
Puncture Strength	ASTM D 4833	lbs	130
Mullen Burst Strength	ASTM D 3786	psi	600
Trapezoid Tear Strength	ASTM D 4533	lbs	165 x 150
% Open Area (POA)	COE - 22125-86	%	28
Apparent Opening Size	ASTM D 4751	US Std Sieve	30
Permittivity	ASTM D 4491	sec ¹	3.5
Permeability	ASTM 4491	cm/sec	0.25

Water Flow Rate	ASTM 4491	gal/min/ft ²	250
Ultraviolet Resistance	ASTM D 4355	%	70
Color			Orange ¹

¹The color orange is a trademark of Dandy Products, Inc.

The property values listed above are effective October 2010 and are subject to change without notice.

3.0 **Installation:**

3.1 Remove the grate from the catch basin.

3.2 *For Oil and Sediment Model; to install or replace absorbent, place absorbent pillow in unit, on the bottom (below-grade side) of the unit.*

3.3 Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Curb Sack® unit so that the grate is below the top straps and above the lower straps. The grate should be cradled between the upper and lower straps.

3.4 Holding the lifting devices, insert the grate into the inlet, then lower back edge with cylindrical tube into place, being careful that the grate remains in place and being careful not to damage the Dandy Curb Sack® unit. The cylindrical tube should partially block the curb hood opening when installed properly.

4.0 **Maintenance:**

4.1 Remove all accumulated sediment and debris from vicinity of unit after each storm event.

4.2 After each storm event and at regular intervals, look into the Dandy Curb Sack® unit. If the unit is more than 1/3 full of accumulated sediment, the unit must be emptied.

4.3 To empty the unit, using the lifting straps lift the unit out of the inlet and remove the grate. Transport the unit to an appropriate location for removal of the contents. Holding the dumping straps on the outside at the bottom of the unit, turn the unit upside down, emptying the contents. Reinstall unit as above.

4.4 *For Oil and Sediment Model; remove and replace absorbent when near saturation.*

4.5 Dispose of unit and/or absorbent in accord with applicable Federal, state and local environmental laws and regulations.

5.0 **Method of Measurement:**

5.1 The quantity to be paid is for the actual number of Dandy Curb Sack® inlet protection units installed

6.0 Basis of payment:

6.1 The unit price shall include labor, equipment, and materials necessary to complete the work and maintain the Dandy Curb Sack® inlet protection units.

6.2 Payment for the completed work will be made at the contract prices for:

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
Dandy Curb Sack®	EA	Inlet Protection Unit (#_____Inlet)

DANDY CURB BAG®
CURB AND GUTTER INLET/GRATE PROTECTION SYSTEM
GUIDE SPECIFICATION

PRODUCT:

DANDY CURB BAG®

MANUFACTURER:

Dandy Products, Inc.
P.O. Box 1980
Westerville, Ohio 43086
Phone: 800-591-2284
Fax: 740-881-2791
E-mail dlc@dandyproducts.com
Web www.dandyproducts.com

1.0 Description:

- 1.1 Work covered under this item consists of installing a Dandy Curb Bag® curb and gutter inlet protection system. The purpose is to keep silt, sediment and construction debris out of the storm water system.

2.0 Material:

- 2.1 The Dandy Curb Bag® curb and gutter inlet protection unit shall be a **sewn in the U.S.A.** geotextile fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front of and extending beyond the inlet opening on both sides and have a geotextile fabric envelope fitted to the individual grate(s) on the street side of the sewn unit for grate(s) to be inserted and to completely enclose the grate(s).
- 2.2 The Dandy Curb Bag® shall have lifting devices to allow manual inspection of the storm water system.
- 2.3 The Dandy Curb Bag® unit shall utilize an orange monofilament fabric that is manufactured in the U.S.A. with the following characteristics:

PROPERTY	TEST METHOD	UNITS	TEST RESULTS
Grab Tensile Strength	ASTM D 4632	lbs	450 x 300
Grab Tensile Elongation	ASTM D 4632	%	40 x 25
Puncture Strength	ASTM D 4833	lbs	130
Mullen Burst Strength	ASTM D 3786	psi	600
Trapezoid Tear Strength	ASTM D 4533	lbs	165 x 150
% Open Area (POA)	COE - 22125-86	%	28
Apparent Opening Size	ASTM D 4751	US Std Sieve	30
Permittivity	ASTM D 4491	sec ¹	3.5

Permeability	ASTM 4491	cm/sec	0.25
Water Flow Rate	ASTM 4491	gal/min/ft ²	250
Ultraviolet Resistance	ASTM D 4355	%	70
Color			Orange ¹

¹The color orange is a trademark of Dandy Products, Inc.

The property values listed above are effective October 2010 and are subject to change without notice.

3.0 Installation:

3.1 Place the empty Dandy Curb Bag® unit over the grate as the grate stands on end.

3.2 *For oil and sediment model; to install or replace absorbent, place absorbent pillow in pouch, on the bottom (below-grade side) of the unit.*

3.3 Tuck the enclosure flap inside to completely enclose the grate.

3.4 Holding the lifting devices, being careful not to damage the sewn fabric unit, insert the grate into its frame, street side edge first, then lower back edge with cylindrical tube into place. The cylindrical tube should be partially blocking the curb hood opening when installed properly.

4.0 Maintenance:

4.1 The contractor shall remove all accumulated sediment and debris from surface and vicinity of unit after each rain event or as directed by engineer/inspector. Dispose of unit no longer in use at an appropriate recycling or solid waste facility.

4.2 *For oil and sediment model; remove and replace absorbent when near saturation.*

5.0 Method of Measurement:

5.1 The quantity to be paid is for the actual number of Dandy Curb Bag® inlet protection units installed

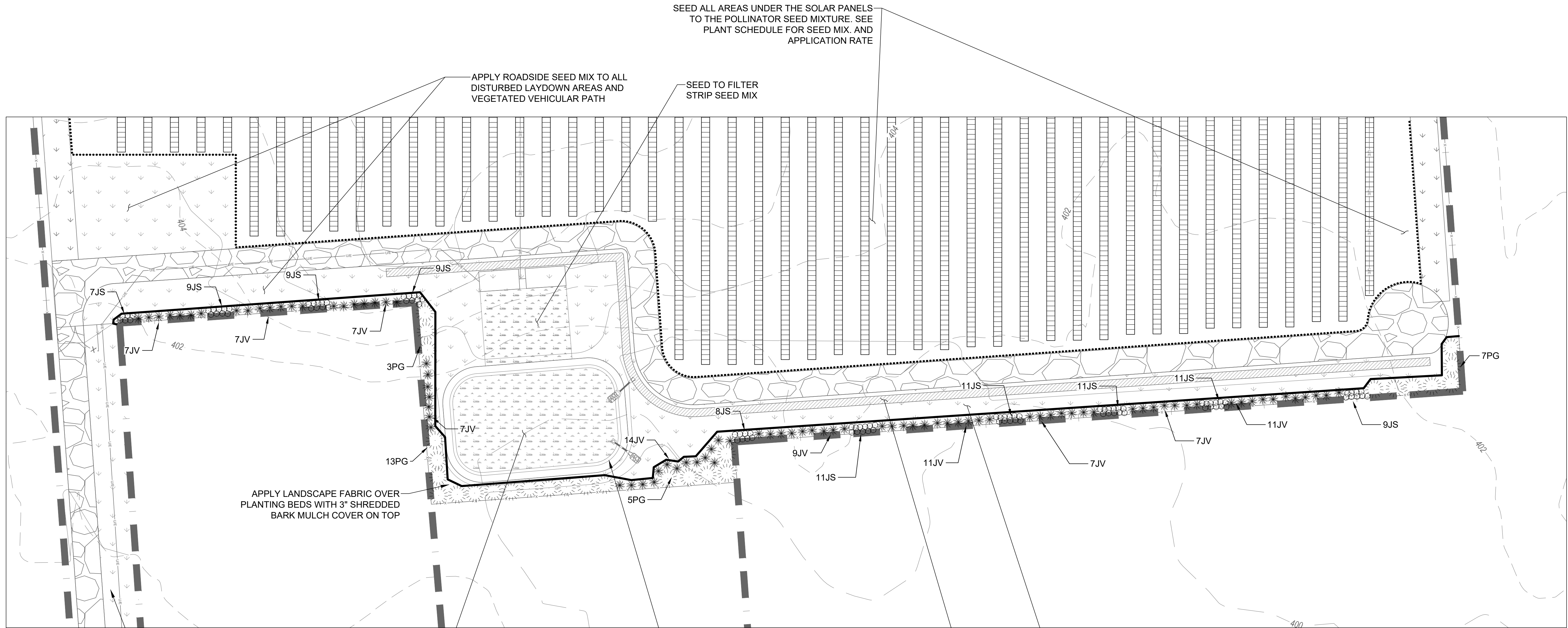
6.0 Basis of payment:

6.1 The unit price shall include labor, equipment, and materials necessary to complete the work and maintain the Dandy Curb Bag® inlet protection units.

6.2 Payment for the completed work will be made at the contract prices for:

<u>ITEM</u>	<u>UNIT</u>	<u>DESCRIPTION</u>
Dandy Curb Bag®	EA	Curb Inlet Protection Unit (# _____ Inlet)

CHECHURIN, DMITRY 2\\Working\\NYSOLAR07.LLC\\223192\\Warner Solar Development\\00_CADD\\Sheet Set\\C-105-108 LANDSCAPING PLAN DETAIL AND NOTES.dwg - 10/26/2022



LEGEND:

- PROPERTY LINE ———
- WETLANDS ——— WET ———
- SETBACK LINE ———
- PROPOSED UNDERGROUND ELECTRIC ——— U/E ———
- PROPOSED CHAIN LINK FENCE ——— X ———
- EXISTING MINOR CONTOUR ——— -401 ———
- EXISTING MAJOR CONTOUR ——— -400 ———
- FILTER STRIP SEED MIXTURE [Symbol]
- PERMEABLE ACCESS ROAD [Symbol]
- MAINTENANCE ACCESS PATH [Symbol]
- VEGETATED SWALE [Symbol]

PLANTING LIST									
SYMBOL	QUANTIT Y	ABV	BOTANICAL NAME	COMMON NAME	SIZE	CONT	SPACING	MATURE HEIGHT	MATURE RADIUS
✱	87	JV	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	4'-5' HT.	#7 CONT.	8' O.C.	50'	20'
○	95	JS	JUNIPERUS SXOPLURRUM 'SKYROCKET'	SKYROCKET JUNIPER	4'-5' HT.	#7 CONT.	4' O.C.	20'	3'
⊙	28	PG	PICEA GLAUCA	WHITE SPRUCE	4'-5' HT.	#7 CONT.	12' O.C.	60'	20'

ISSUED FOR PERMIT
NOT FOR CONSTRUCTION



Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed: L. SCHWANOF
Drawn: D. CHECHURIN
Checked: V. DICASTELNU
Approved: P. SNYDER
P.E. No: 100361
GEI Project 223192



NYSOLAR 07, LLC
300 W GOETHE ST
CHICAGO, ILLINOIS 60610

NYSOLAR07 LLC
WARNER SOLAR FACILITY
7859 PECK ROAD
KIRKVILLE, NY 13082

A	10/26/2022	SPECIAL USE PERMIT REVIEW	PJS
NO	DATE	ISSUE/REVISION	APP

SHEET NAME
LANDSCAPING PLAN

SHEET NO.
C-105

Appendix D

Construction Site Inspection Forms

Modifications to SWPPP Form

**Post Construction Inspection and Maintenance Checklist Dry
Detention Basin**

Corrective Action Log

DRAFT

**EXAMPLE EROSION CONTROL
REPORT**

PROJECT NO: _____ PROJECT NAME: _____ DATE: _____

MUNICIPALITY: _____ LOCATION: _____

CONTRACTOR: _____ OWNER: _____

DATE OF PREVIOUS INSPECTION: _____ INSPECTOR'S NAME: _____

DATE OF MOST RECENT STORM
0.5" OR GREATER: _____ DATE OF INSPECTION: _____

LAST RAIN EVENT: _____ DEPTH: _____

WEATHER: _____ TEMPERATURE: _____ °F

SPECIAL NOTES: _____

EROSION CONTROL CHECKLISTADDITIONAL ACTION REQUIRED BY PROJECT MANAGER OR PROJECT ENGINEER ☐ YES ☐ NOPHOTOS OR SKETCHES ATTACHED ☐ ADDITIONAL REMARKS ATTACHED ☐_____
Inspector (print name)_____
Inspection Date_____
Qualified Professional (print name)_____
Qualified Professional Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

- ☐ ☐ ☐ Is there an increase in turbidity causing a substantial visible contrast to natural conditions?
- ☐ ☐ ☐ Is there residue from oil and floating substances, visible oil film, or globules of grease?
- ☐ ☐ ☐ All disturbance is within the limits of the approved plans.
- ☐ ☐ ☐ Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

- ☐ ☐ ☐ Is construction site litter and debris appropriately managed?
- ☐ ☐ ☐ Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
- ☐ ☐ ☐ Is construction impacting the adjacent properties?
- ☐ ☐ ☐ Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

- ☐ ☐ ☐ Maximum diameter pipes necessary to span creek without dredging are installed.
- ☐ ☐ ☐ Installed non-woven geotextile fabric beneath approaches
- ☐ ☐ ☐ Is fill composed of aggregate (no earth or soil)?
- ☐ ☐ ☐ Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

- ☐ ☐ ☐ Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
- ☐ ☐ ☐ Clean water from upstream pool is being pumped to the downstream pool.
- ☐ ☐ ☐ Sediment laden water from work area is being discharged to a silt-trapping device.
- ☐ ☐ ☐ Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader

Yes No NA

- ☐ ☐ ☐ Installed per plan.
- ☐ ☐ ☐ Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
- ☐ ☐ ☐ Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

- ☐ ☐ ☐ Installed per plan with minimum side slopes 2H:1V or flatter.
- ☐ ☐ ☐ Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
- ☐ ☐ ☐ Sediment-laden runoff directed to sediment trapping structure.

4. Stone Check Dam**Yes No NA**

- ☐ ☐ ☐ Is channel stable? (flow is not eroding soil underneath or around the structure).
- ☐ ☐ ☐ Check is in good condition (rocks in place and no permanent pools behind the structure).
- ☐ ☐ ☐ Has accumulated sediment been removed?

5. Rock Outlet Protection**Yes No NA**

- ☐ ☐ ☐ Installed per plan.
- ☐ ☐ ☐ Installed concurrently with pipe installation.

Soil Stabilization**1. Topsoil and Spoil Stockpiles****Yes No NA**

- ☐ ☐ ☐ Stockpiles are stabilized with vegetation and/or mulch.
- ☐ ☐ ☐ Sediment control is installed at the toe of the slope.

2. Revegetation**Yes No NA**

- ☐ ☐ ☐ Temporary seedings and mulch have been applied to idle areas.
- ☐ ☐ ☐ 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices**1. Stabilized Construction Entrance****Yes No NA**

- ☐ ☐ ☐ Stone is clean enough to effectively remove mud from vehicles.
- ☐ ☐ ☐ Installed per standards and specifications?
- ☐ ☐ ☐ Does all traffic use the stabilized entrance to enter and leave the site?
- ☐ ☐ ☐ Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence**Yes No NA**

- ☐ ☐ ☐ Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
- ☐ ☐ ☐ Joints constructed by wrapping the two ends together for continuous support.
- ☐ ☐ ☐ Fabric buried 6 inches minimum.
- ☐ ☐ ☐ Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation is ____% of design capacity.

3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)**Yes No NA**

- ☐ ☐ ☐ Installed concrete blocks lengthwise so open ends face outward, not upward.
- ☐ ☐ ☐ Place wire screen between No. 3 crushed stone and concrete blocks.
- ☐ ☐ ☐ Drainage area is 1 acre or less.
- ☐ ☐ ☐ Excavated area is 900 cubic feet.
- ☐ ☐ ☐ Excavated side slopes should be 2:1.
- ☐ ☐ ☐ 2" x 4" frame is constructed and structurally sound.
- ☐ ☐ ☐ Posts 3-foot maximum spacing between posts.
- ☐ ☐ ☐ Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
- ☐ ☐ ☐ Posts are stable, fabric is tight and without rips or frayed areas.

Sediment accumulation is ____% of design capacity.

4. Temporary Sediment Trap**Yes No NA**

- ☐ ☐ ☐ Outlet structure is constructed per the approved plan or drawing.
- ☐ ☐ ☐ Geotextile fabric has been placed beneath rock fill.

Sediment accumulation is ____% of design capacity.

5. Temporary Sediment Basin**Yes No NA**

- ☐ ☐ ☐ Basin and outlet structure constructed per the approved plan.
- ☐ ☐ ☐ Basin side slopes are stablized with seed/mulch.
- ☐ ☐ ☐ Drainage structure is flushed and basin surface restored upon removal of sediment basin facility.

Sediment accumulation is ____% of design capacity.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
 - a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
 - b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:[illegible]

Post Construction Inspection and Maintenance Site Checklist

1. Steep Slopes (any slope 3:1 or steeper)

(Frequency: Annual)

	Yes	No	NA
a. Vegetation and ground cover adequate.	☐	☐	☐
i. Minimum 80% ground cover. <i>Maintenance: Topsoil, rake and seed bare areas. Remove any dead or dying plants and decaying plant material. Replace dead and dying plants.</i>	☐	☐	☐
ii. Excessively tall grass (greater than 6" in height) <i>Maintenance: Mow slopes 3:1 or flatter to have a grass height of 4" to 6". Increase mowing frequency as necessary. Steep slopes planted with meadow mix as shown on the approved plans do not have to be mowed.</i>	☐	☐	☐
iii. Unauthorized plants. <i>Maintenance: Remove any unauthorized plants, including roots. Do not use herbicides. Topsoil, rake and seed the area disturbed by their removal.</i>	☐	☐	☐
b. Slope erosion.	☐	☐	☐
i. Small bare areas (min. 50 square feet). <i>Maintenance: Topsoil, rake and seed bare areas.</i>	☐	☐	☐
ii. Ruts less than 12" wide. <i>Maintenance: Prior to making any repairs, identify the source of erosion and correct. Protect the slopes prior to any work occurring. Backfill ruts and compact soil. Topsoil, rake and seed bare areas. Alternatively, hydroseeding can be used to seed the slope.</i>	☐	☐	☐
iii. Ruts greater than 12" wide. <i>Maintenance: Prior to making any repairs, identify the source of erosion and correct. Protect the slopes prior to any work occurring. Re-grade, backfill ruts and compact soil. Install erosion control mats on slopes 3:1 or steeper to protect the re-graded slope. Topsoil, rake and seed bare areas. Inspect on a weekly basis until 80% ground cover is achieved. Alternatively, hydroseeding can be used to seed the slope.</i>	☐	☐	☐
c. Uneven settling <i>Maintenance: Visually inspect for uneven settling. Classify the settling based upon the categories below.</i>	☐	☐	☐
i. Greater than 0" but less than 2" of settling. <i>Maintenance: No immediate action required. Re-inspect in 6 months.</i>	☐	☐	☐
ii. Greater than 2" but less than 4" of settling. <i>Maintenance: Immediately repair. Re-grade and compact the soil. Topsoil, rake and seed the area. Re-inspect in 6 months.</i>	☐	☐	☐

- | | Yes | No | NA |
|--|--------------------------|--------------------------|--------------------------|
| iii. Greater than 4" of settling. | ☐ | ☐ | ☐ |
| <i>Maintenance: Immediately stabilize the area and consult a NYS Licensed Professional Engineer within 2 weeks before making any additional repairs.</i> | | | |

2. Swales

(Frequency: Annual)

- | | Yes | No | NA |
|---|--------------------------|--------------------------|--------------------------|
| a. Inflow Points | ☐ | ☐ | ☐ |
| i. Vegetation and ground cover adequate. | ☐ | ☐ | ☐ |
| <i>Maintenance: Reseed bare areas. Remove any unauthorized plants or any nuisance weeds and vegetation, including their roots. Do not use any herbicides. Topsoil, rake and seed the disturbed area by their removal.</i> | | | |
| ii. Free from erosion/undercutting. | ☐ | ☐ | ☐ |
| <i>Maintenance: Immediately stabilize and repair any areas where erosion around has occurred. Rake and seed the area. Seed mixture shall meet the seed mixture requirements specified on the approved plans.</i> | | | |
| iii. Rip rap in good condition. | ☐ | ☐ | ☐ |
| <i>Maintenance: Replace stone, as necessary.</i> | | | |
| iv. No evidence of sediment buildup. | ☐ | ☐ | ☐ |
| <i>Maintenance: Remove and properly dispose of any accumulated sediment when the depth is 20% of swale design depth.</i> | | | |
| b. Check Dams | ☐ | ☐ | ☐ |
| i. No evidence of sediment buildup. | ☐ | ☐ | ☐ |
| <i>Maintenance: Remove accumulated sediment behind dams when sediment depth is one-third the dam height.</i> | | | |
| ii. Stone in good condition. | ☐ | ☐ | ☐ |
| <i>Maintenance: Replace stone, as necessary.</i> | | | |
| iii. No evidence of erosion | ☐ | ☐ | ☐ |
| <i>Maintenance: Immediately stabilize and repair any areas where erosion has occurred. Replace stone, as necessary. Topsoil, rake and reseed area.</i> | | | |
| c. Energy Dissipaters | ☐ | ☐ | ☐ |
| i. No evidence of sediment buildup. | ☐ | ☐ | ☐ |
| <i>Maintenance: Remove and properly dispose of any accumulated sediment when half of the void space is filled.</i> | | | |
| ii. Rip rap in good condition. | ☐ | ☐ | ☐ |
| <i>Maintenance: Replace stone, as necessary.</i> | | | |
| iii. No evidence of erosion. | ☐ | ☐ | ☐ |
| <i>Maintenance: Immediately stabilize and repair any areas where erosion has occurred. Replace stone, as necessary. Topsoil, rake and reseed.</i> | | | |

3. Culverts

(Frequency: Annual)

	Yes	No	NA
a. Headwalls or End sections	☐	☐	☐
i. In good condition, no need for repairs.	☐	☐	☐
a. Cracks or displacement.	☐	☐	☐
<i>Maintenance: Repair any minor cracks. If minor displacement is observed, re-inspect in 6 months. Replace structure if major cracks or significant displacement is observed.</i>			
b. Minor spalling (<1").	☐	☐	☐
<i>Maintenance: Repair any minor spalling.</i>			
c. Major spalling (rebars exposed).	☐	☐	☐
<i>Maintenance: Replace structure.</i>			
ii. Clear of sediment.	☐	☐	☐
<i>Maintenance: Remove and properly dispose of any accumulated sediment.</i>			
iii. Clear of debris and trash.	☐	☐	☐
<i>Maintenance: Remove and properly dispose of any debris and trash.</i>			
b. Rip rap in good condition.	☐	☐	☐
<i>Maintenance: Replace stone, as necessary.</i>			
c. Pipes free from damage, corrosion, and sediment.	☐	☐	☐
<i>Maintenance: Immediately repair any damaged pipes. If pipes are severely damaged and cannot be repaired, replace the pipes. Remove and properly dispose of any sediment.</i>			

Notes:

1. The site must be returned to the approved conditions when any repairs are made.
2. Unauthorized plants are any plants that are growing or have been installed that are not any of the plants shown on the approved plans.
3. All seed mixtures shall meet the seed mixture requirements specified on the approved plans.
4. Replace any dead or dying plants with plants specified in the planting schedule shown on the approved plans.

Comments:

Actions to be taken:

Post Construction Inspection and Maintenance Checklist Dry Detention Basin

1. Embankment

(Frequency: Annual)

	Yes	No	NA
a. Vegetation and ground cover adequate.	☐	☐	☐
i. Minimum 80% ground cover. <i>Maintenance: Topsoil, rake and seed bare areas. Replace dead and dying plants.</i>	☐	☐	☐
ii. Excessively tall grass (greater than 6" in height) <i>Maintenance: Mow grass to have a height of 4" to 6". Increase mowing frequency as necessary.</i>	☐	☐	☐
iii. Unauthorized plants. <i>Maintenance: Remove any unauthorized plants, including roots. Do not use herbicides. Topsoil, rake and seed the area disturbed by their removal.</i>	☐	☐	☐
b. Slope erosion.	☐	☐	☐
i. Small bare areas (min. 50 square feet). <i>Maintenance: Topsoil, rake and seed bare areas.</i>	☐	☐	☐
ii. Ruts less than 12" wide. <i>Maintenance: Prior to making any repairs, identify the source of erosion and correct. Protect the slopes prior to any work occurring. Backfill ruts and compact soil. Topsoil, rake and seed bare areas. Alternatively, hydroseeding can be used to seed the slope.</i>	☐	☐	☐
iii. Ruts greater than 12" wide. <i>Maintenance: Prior to making any repairs, identify the source of erosion and correct. Protect the slopes prior to any work occurring. Re-grade, backfill ruts and compact soil. Install erosion control mats on slopes 3:1 or steeper to protect the re-graded slope. Topsoil, rake and seed bare areas. Inspect on a weekly basis until 80% ground cover is achieved. Alternatively, hydroseeding can be used to seed the slope.</i>	☐	☐	☐
c. Uneven settling <i>Maintenance: Install permanent benchmarks or other permanent reference point in each practice to be used with as-built elevations to measure uneven settling.</i>	☐	☐	☐
i. Greater than 0" but less than 2" of settling. <i>Maintenance: No immediate action required. Re-inspect in 6 months.</i>	☐	☐	☐
ii. Greater than 2" but less than 4" of settling. <i>Maintenance: Immediately repair. Re-grade and compact the soil. Topsoil, rake and seed the area. Re-inspect in 6 months.</i>	☐	☐	☐

	Yes	No	NA
iii. Greater than 4" of settling. <i>Maintenance: Immediately stabilize the area and consult a NYS Licensed Professional Engineer within 2 weeks before making any additional repairs.</i>	☐	☐	☐
d. Animal burrows. <i>Maintenance: Fill animal burrows with similar material to the existing material and compact. Topsoil, rake and seed the area.</i>	☐	☐	☐
e. Cracking, bulging, or sliding of slope.	☐	☐	☐
i. Upstream face.	☐	☐	☐
ii. Downstream face.	☐	☐	☐
iii. At or beyond downstream toe.	☐	☐	☐
iv. At or beyond upstream toe.	☐	☐	☐
v. Emergency spillway. <i>Maintenance: Immediately stabilize the slope and consult an NYS Licensed Professional Engineer within 2 weeks before making any additional repairs.</i>	☐	☐	☐
f. Seeps/leaks at downstream face. <i>Maintenance: Look for changes in the color of the vegetation, plant species and their density to help locate the leak source.</i>	☐	☐	☐
g. Rip rap slope protection failure. <i>Maintenance: Stabilize slope, re-grade and compact the soil. Replace stone, as necessary.</i>	☐	☐	☐
i. Emergency spillway clear of any obstructions or debris. <i>Maintenance: Remove and properly dispose of any trash and debris. Remove any unauthorized plants, or any nuisance weeds and vegetation, including their roots. Do not use any herbicides. Topsoil, rake and seed the area disturbed by their removal.</i>	☐	☐	☐

2. Inflow Points

(Frequency: Annual)

	Yes	No	NA
a. Vegetation and ground cover adequate. <i>Maintenance: Reseed bare areas. Remove any unauthorized plants or any nuisance weeds and vegetation, including their roots. Do not use any herbicides. Topsoil, rake and seed the area disturbed by their removal.</i>	☐	☐	☐
b. Free from erosion/undercutting. <i>Maintenance: Immediately stabilize and repair any areas where erosion around has occurred. Topsoil, rake and seed the area.</i>	☐	☐	☐
c. Rip rap in good condition. <i>Maintenance: Replace stone, as necessary.</i>	☐	☐	☐
d. Pipes free from damage, corrosion, and sediment. <i>Maintenance: Immediately repair any damaged pipes. If pipes are severely damaged and cannot be repaired, replace the pipes. Remove and properly dispose of any sediment.</i>	☐	☐	☐

3. Outlet Structure/Overflow Spillway

(Frequency: Annual)

	Yes	No	NA
a. Riser pipe	☐	☐	☐
i. In good condition, no need for repairs. <i>Maintenance: Repair any minor damages. Replace structure if significant damages are observed.</i>	☐	☐	☐
ii. Clear of sediment. <i>Maintenance: Remove and properly dispose of any accumulated sediment when at 50% of sump height.</i>	☐	☐	☐
iii. Clear of debris and trash. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
b. Concrete outlet structure	☐	☐	☐
i. In good condition, no need for repairs.	☐	☐	☐
a. Cracks or displacement. <i>Maintenance: Repair any minor cracks. If minor displacement is observed, re-inspect in 6 months. Replace structure if major cracks or significant displacement is observed.</i>	☐	☐	☐
b. Minor spalling (<1"). <i>Maintenance: Repair any minor spalling.</i>	☐	☐	☐
c. Major spalling (rebars exposed). <i>Maintenance: Replace structure.</i>	☐	☐	☐
d. Joint failures. <i>Maintenance: Replace structure.</i>	☐	☐	☐
e. Water tightness. <i>Maintenance: Reseal structure for water tightness if minor leaks are observed. Replace structure if significant leaks are observed.</i>	☐	☐	☐
ii. Clear of sediment. <i>Maintenance: Remove and properly dispose of any accumulated sediment when at 50% of sump height.</i>	☐	☐	☐
iii. Clear of debris and trash. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
iv. Pipes free from damage, corrosion, and sediment. <i>Maintenance: Immediately repair any damaged pipes. If pipes are severely damaged and cannot be repaired, replace the pipes. Remove and properly dispose of any sediment.</i>	☐	☐	☐
c. Low flow orifice is unobstructed. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐

	Yes	No	NA
d. Low flow trash rack.	☐	☐	☐
i. Clear of debris and trash. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
ii. Clear of any corrosion. <i>Maintenance: If significant corrosion is observed, replace trash rack.</i>	☐	☐	☐
e. Weir trash rack.	☐	☐	☐
i. Clear of debris and trash. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
ii. Clear of any corrosion. <i>Maintenance: If significant corrosion is observed, replace trash rack.</i>	☐	☐	☐
f. Control valve operational. <i>Maintenance: Replace if not functioning or operational.</i>	☐	☐	☐
g. Pond valve operational, chained and locked. <i>Maintenance: Replace valve if not functioning or operational.</i>	☐	☐	☐
h. Overflow spillway	☐	☐	☐
i. In good condition, no need for repairs. <i>Maintenance: Replace any dislodged stone with the same stone type.</i>	☐	☐	☐
ii. Clear of sediment. <i>Maintenance: Remove and properly dispose of any accumulated sediment when half of the void space is filled.</i>	☐	☐	☐
iii. Clear of debris and trash. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
iv. No evidence of erosion. <i>Maintenance: Immediately stabilize and repair any areas where erosion occurred around or below the overflow spillway. Replace stone, as necessary. Topsoil, rake and seed the area.</i>	☐	☐	☐
v. No evidence of erosion at downstream toe of drop structure or weir spillway. <i>Maintenance: Immediately stabilize and repair any areas where erosion has occurred. Replace stone, as necessary. Topsoil, rake and seed the area.</i>	☐	☐	☐

**4. Sediment Forebay
(Frequency: Monthly)**

	Yes	No	NA
a. Free of sediment. <i>Maintenance: Remove and properly dispose of any accumulated sediment when at 50% of the design capacity.</i>	☐	☐	☐

	Yes	No	NA
b. No evidence of erosion. <i>Maintenance: Immediately stabilize and repair any areas where erosion has occurred. Topsoil, rake and seed the area.</i>	☐	☐	☐
c. Overflow Spillway.	☐	☐	☐
i. In good working condition, no need for repairs. <i>Maintenance: Replace stone, as necessary.</i>	☐	☐	☐
ii. Clear of sediment. <i>Maintenance: Remove and properly dispose of any accumulated sediment when half of the void space is filled.</i>	☐	☐	☐
iii. Clear of trash and debris. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
iv. No evidence of erosion. <i>Maintenance: Immediately stabilize and repair any areas where erosion occurred around or below the overflow spillway. Replace stone, as necessary. Topsoil, rake and seed the area.</i>	☐	☐	☐
v. No evidence of erosion at downstream toe of drop structure or weir spillway. <i>Maintenance: Immediately stabilize and repair any areas where erosion has occurred. Replace stone, as necessary. Topsoil, rake and seed the area.</i>	☐	☐	☐

5. Dry Pond Areas

(Frequency: Monthly)

	Yes	No	NA
a. Vegetation adequate. <i>Maintenance: Topsoil, rake and seed the area.</i>	☐	☐	☐
b. Undesirable vegetative growth. <i>Maintenance: Mow grass to have a height of 4" to 6". Remove any unauthorized plants or any nuisance weeds and vegetation, including their roots. Do not use herbicides. Topsoil, rake and seed the area disturbed by their removal.</i>	☐	☐	☐
c. Undesirable woody vegetation. <i>Maintenance: Remove any undesirable woody vegetation, including their roots. Do not use herbicides. Topsoil, rake and seed the area disturbed by their removal.</i>	☐	☐	☐
d. Low flow channels clear of obstructions. <i>Maintenance: Remove and properly dispose of any debris and trash.</i>	☐	☐	☐
e. Standing water or wet spots. <i>Maintenance: Re-grade areas to ensure positive drainage. Topsoil, rake and seed the area.</i>	☐	☐	☐
f. Sediment and trash accumulation. <i>Maintenance: Remove and properly dispose of any accumulated sediment and trash.</i>	☐	☐	☐

6. Vegetation

(Frequency: Annual)

	Yes	No	NA
a. Vegetation health and growing. <i>Maintenance: Remove any dead or dying plants and decaying plant material. Replace dead and dying plants.</i>	☐	☐	☐
b. Evidence of invasive species. <i>Maintenance: Remove invasive species, including roots. Do not use herbicides. Install additional wetland plants as necessary.</i>	☐	☐	☐
c. Accumulated sediment reducing volume significantly. <i>Maintenance: Remove and properly dispose of any accumulated sediment when at 50% of the design capacity.</i>	☐	☐	☐

7. Miscellaneous

(Frequency: Monthly)

	Yes	No	NA
a. Encroachment on pond or easement area. <i>Maintenance: Remove any encroachments into the pond or easement area.</i>	☐	☐	☐
b. Maintenance access routes in good condition. <i>Maintenance: Repair any minor damage or erosion to the maintenance access routes. If significant damage or erosion is noted, stabilize, re-grade and re-establish the maintenance access routes in accordance with the plans.</i>	☐	☐	☐
c. Signs of hydrocarbon build-up. <i>Maintenance: Coordinate removal/cleanup of any oil, gas, or contaminants with the appropriate clean-up personnel.</i>	☐	☐	☐
d. Fence in good condition. <i>Maintenance: Replace any damaged sections of fence.</i>	☐	☐	☐
e. Safety signs are installed. <i>Maintenance: Replace any missing signs.</i>	☐	☐	☐

Notes:

1. The site must be returned to the approved conditions when any repairs are made.
2. Unauthorized plants are any plants that are growing or have been installed that are not any of the plants shown on the approved plans.
3. All seed mixtures shall meet the seed mixture requirements specified on the approved plans.
4. Replace any dead or dying plants with plants specified in the planting schedule shown on the approved plans.
5. Replaced stone shall meet the stone requirements specified on the approved plans.

Comments:

Actions to be taken:

SWPPP CORRECTIVE ACTION LOG

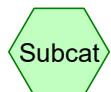
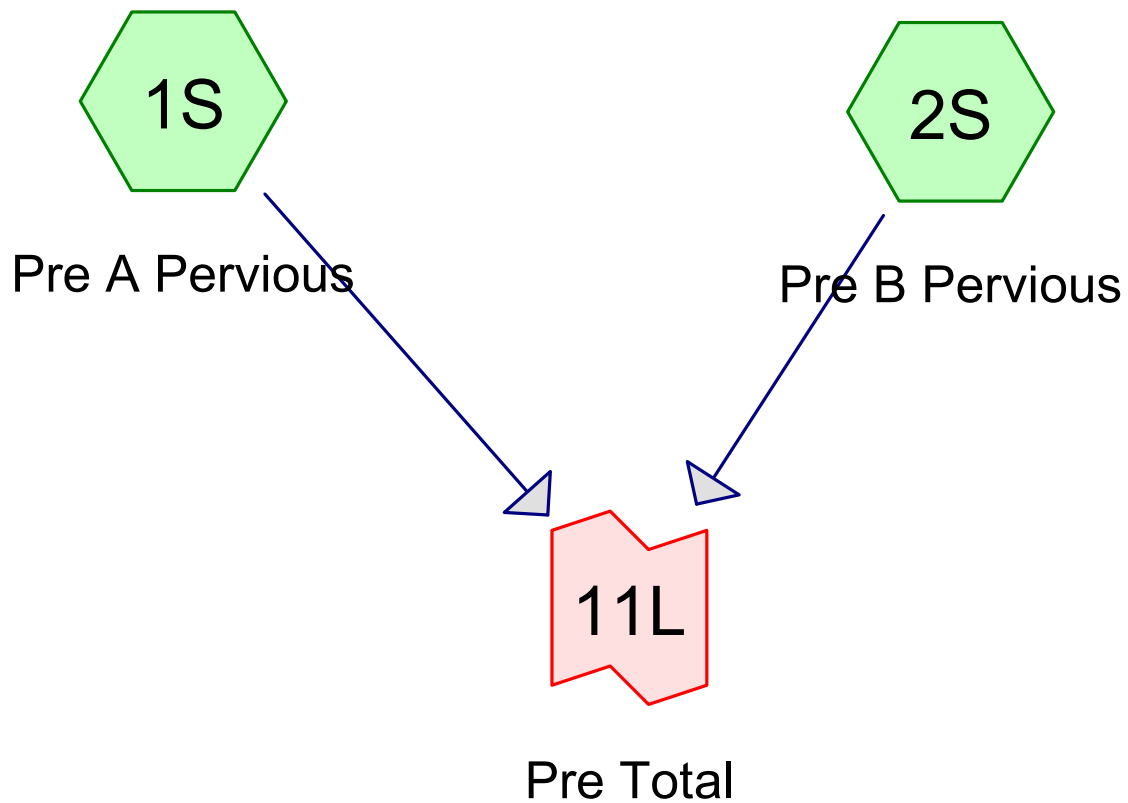
NATIONAL GRID – WANTAGH PARKWAY GAS MAIN REPLACEMENT PROJECT

Inspection Date	Description of Corrective Action Needed	Date Action Taken/ Responsible Person

Appendix E

Predevelopment Hydrology Report

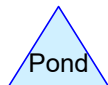
DRAFT



Subcat



Reach



Pond



Link

Routing Diagram for Warner Hydology Model 10-11-2022
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Warner Hydology Model 10-11-2022

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type II 24-hr		Default	24.00	1	2.41	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.50	2
3	100-Year	Type II 24-hr		Default	24.00	1	6.00	2
4	1-Year	Type II 24-hr		Default	24.00	1	2.04	2
5	WQ	Type II 24-hr		Default	24.00	1	1.00	2

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
7.956	58	AoA (1S, 2S)
3.594	30	CIB (1S, 2S)
3.355	71	Cd (2S)
3.100	71	ChA (1S)
13.619	58	HIB (1S, 2S)
7.036	78	WwA (1S, 2S)
38.660	61	TOTAL AREA

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Prepared by GEI Consultants

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
38.660	Other	1S, 2S
38.660		TOTAL AREA

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Ground Covers (selected 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	0.000	0.000	7.956	7.956	AoA	1S, 2S
0.000	0.000	0.000	0.000	3.594	3.594	CIB	1S, 2S
0.000	0.000	0.000	0.000	3.355	3.355	Cd	2S
0.000	0.000	0.000	0.000	3.100	3.100	ChA	1S
0.000	0.000	0.000	0.000	13.619	13.619	HIB	1S, 2S
0.000	0.000	0.000	0.000	7.036	7.036	WwA	1S, 2S
0.000	0.000	0.000	0.000	38.660	38.660	TOTAL AREA	

Warner Hydrology Model 10-11-2022*Type II 24-hr 2-Year Rainfall=2.41"*

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 1S: Pre A PerviousRunoff Area=19.730 ac 0.00% Impervious Runoff Depth=0.19"
Flow Length=962' Tc=44.8 min CN=62 Runoff=1.04 cfs 0.315 af**Subcatchment 2S: Pre B Pervious**Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.17"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=0.80 cfs 0.268 af**Link 11L: Pre Total**Inflow=1.83 cfs 0.584 af
Primary=1.83 cfs 0.584 af**Total Runoff Area = 38.660 ac Runoff Volume = 0.584 af Average Runoff Depth = 0.18"**
100.00% Pervious = 38.660 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre A Pervious

Preconstruction Conditions for DA South Pond.

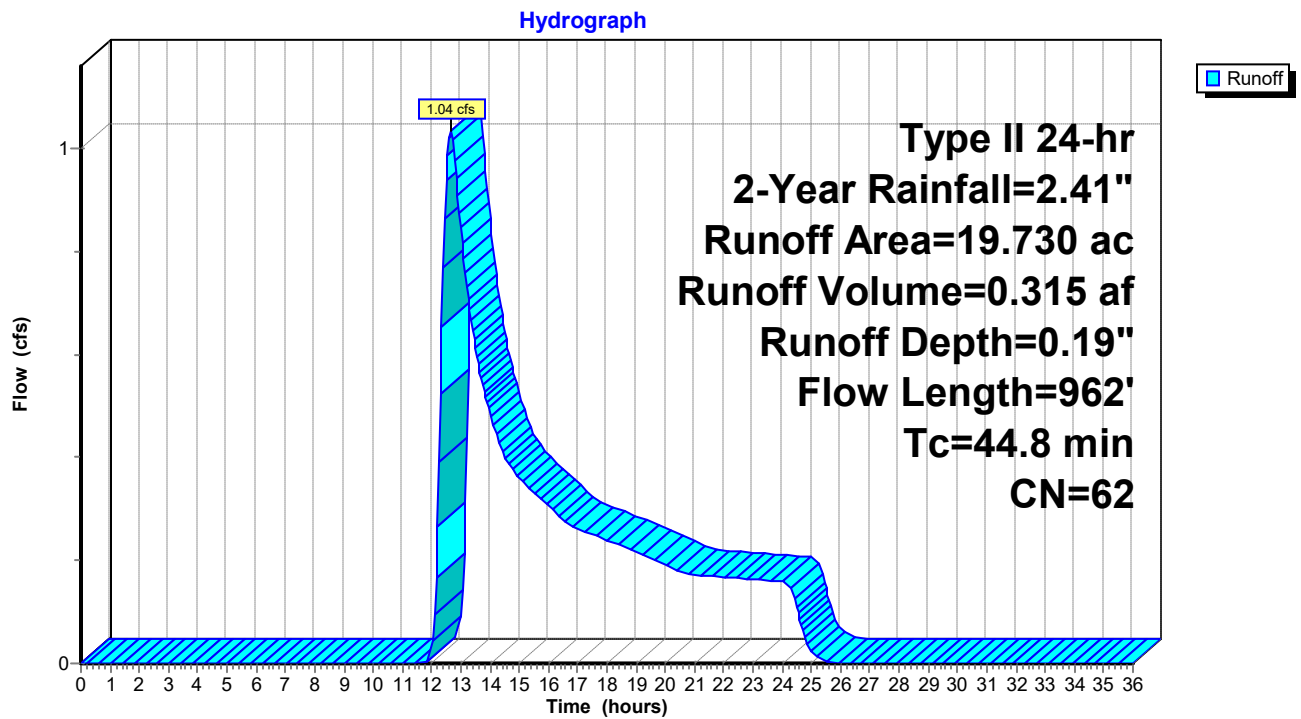
Runoff = 1.04 cfs @ 12.66 hrs, Volume= 0.315 af, Depth= 0.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 6.410	58	HIB
* 6.240	78	WwA
* 3.100	71	ChA
* 3.250	30	CIB
* 0.730	58	AoA
19.730	62	Weighted Average
19.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0056	0.09		Sheet Flow, Sheet Flow
					Grass: Short n= 0.150 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow
					Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow
					Short Grass Pasture Kv= 7.0 fps
12.8	245	0.0041	0.32		Shallow Concentrated Flow, Shallow
					Woodland Kv= 5.0 fps
44.8	962	Total			

Subcatchment 1S: Pre A Pervious



Summary for Subcatchment 2S: Pre B Pervious

Runoff = 0.80 cfs @ 12.68 hrs, Volume= 0.268 af, Depth= 0.17"

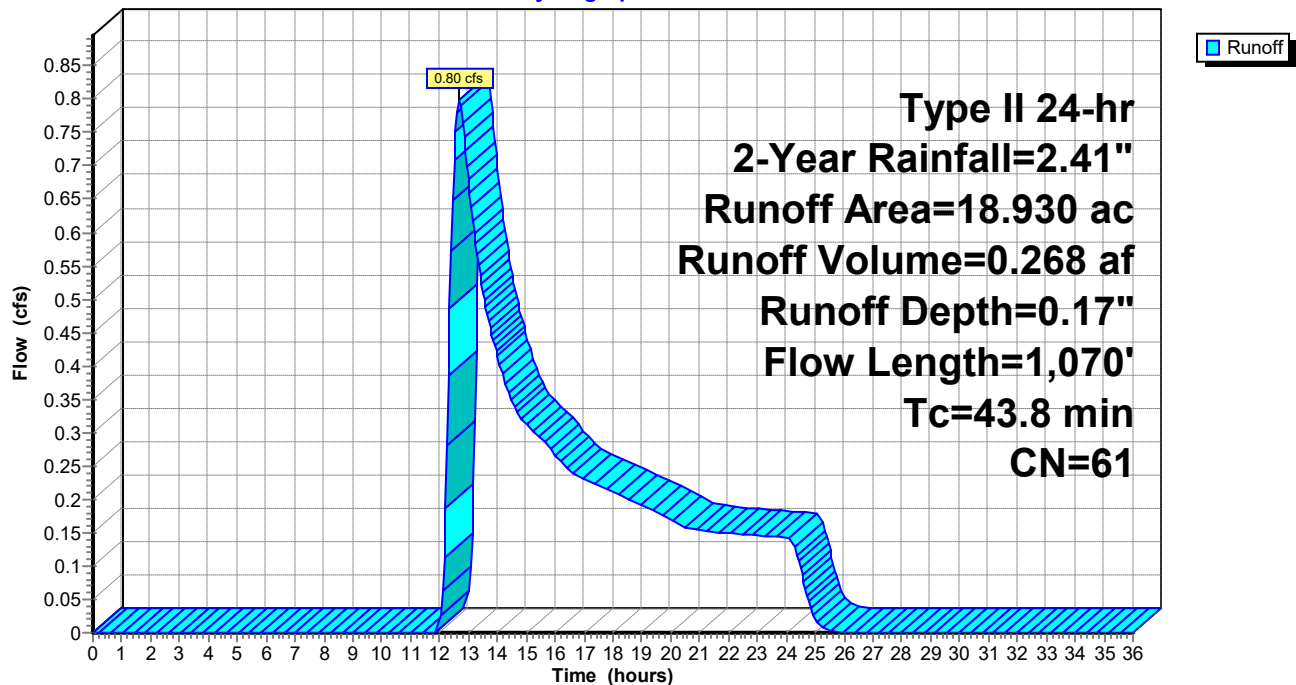
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 2S: Pre B Pervious

Hydrograph



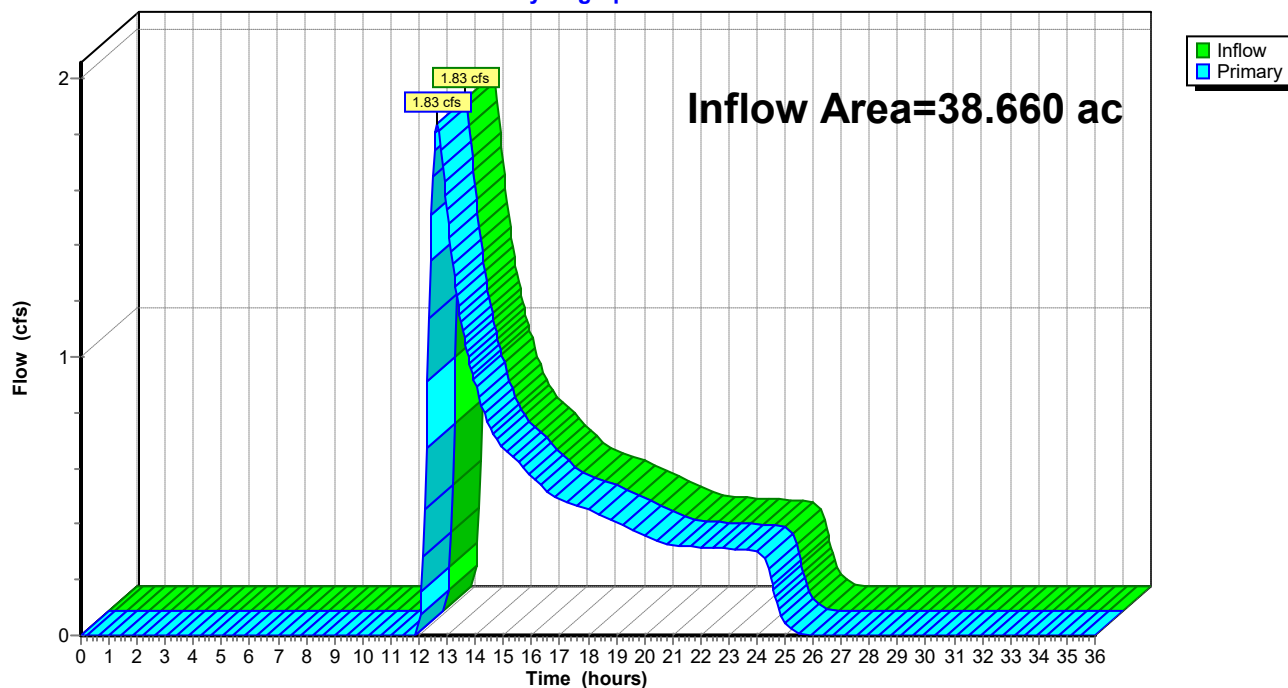
Summary for Link 11L: Pre Total

Inflow Area = 38.660 ac, 0.00% Impervious, Inflow Depth = 0.18" for 2-Year event
 Inflow = 1.83 cfs @ 12.67 hrs, Volume= 0.584 af
 Primary = 1.83 cfs @ 12.67 hrs, Volume= 0.584 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 11L: Pre Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr 10-Year Rainfall=3.50"*

Prepared by GEI Consultants

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 1S: Pre A Pervious

Runoff Area=19.730 ac 0.00% Impervious Runoff Depth=0.62"
Flow Length=962' Tc=44.8 min CN=62 Runoff=5.80 cfs 1.012 af

Subcatchment 2S: Pre B Pervious

Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.57"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=5.07 cfs 0.904 af

Link 11L: Pre Total

Inflow=10.88 cfs 1.915 af
Primary=10.88 cfs 1.915 af

Total Runoff Area = 38.660 ac Runoff Volume = 1.915 af Average Runoff Depth = 0.59"
100.00% Pervious = 38.660 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre A Pervious

Preconstruction Conditions for DA South Pond.

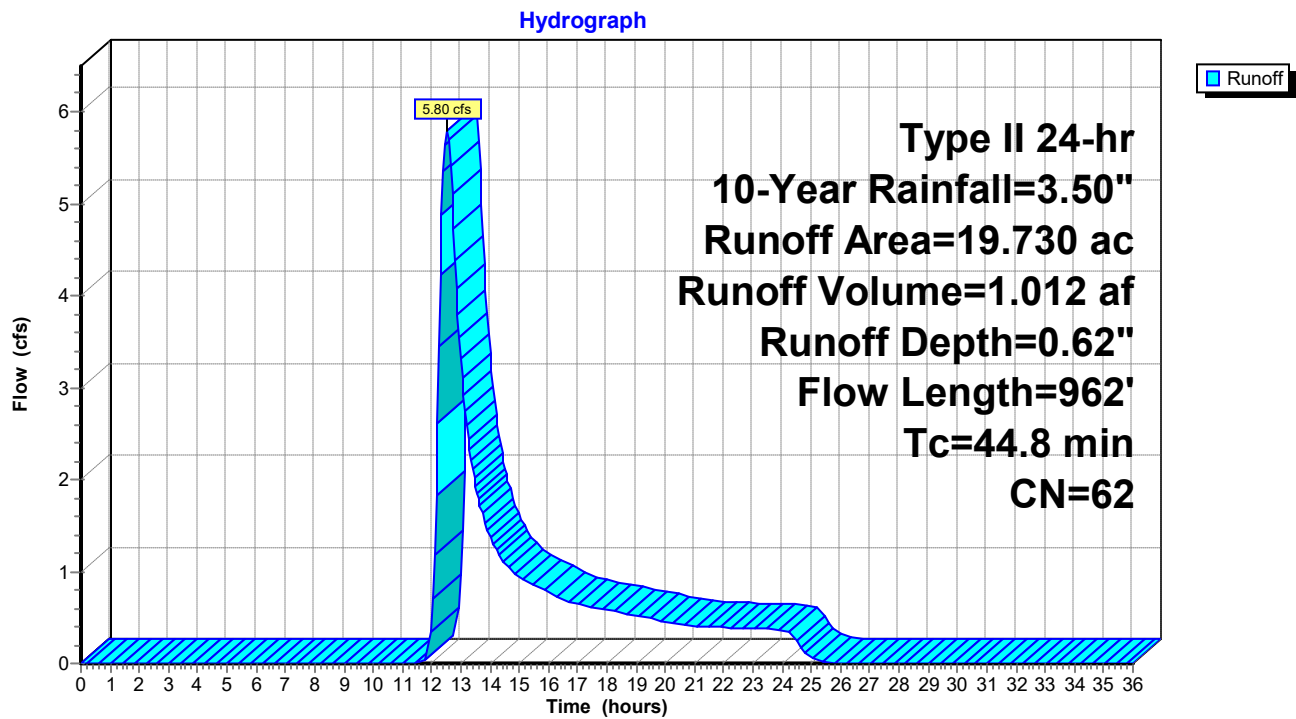
Runoff = 5.80 cfs @ 12.52 hrs, Volume= 1.012 af, Depth= 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 6.410	58	HIB
* 6.240	78	WwA
* 3.100	71	ChA
* 3.250	30	CIB
* 0.730	58	AoA
19.730	62	Weighted Average
19.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0056	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
12.8	245	0.0041	0.32		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
44.8	962	Total			

Subcatchment 1S: Pre A Pervious



Summary for Subcatchment 2S: Pre B Pervious

Runoff = 5.07 cfs @ 12.51 hrs, Volume= 0.904 af, Depth= 0.57"

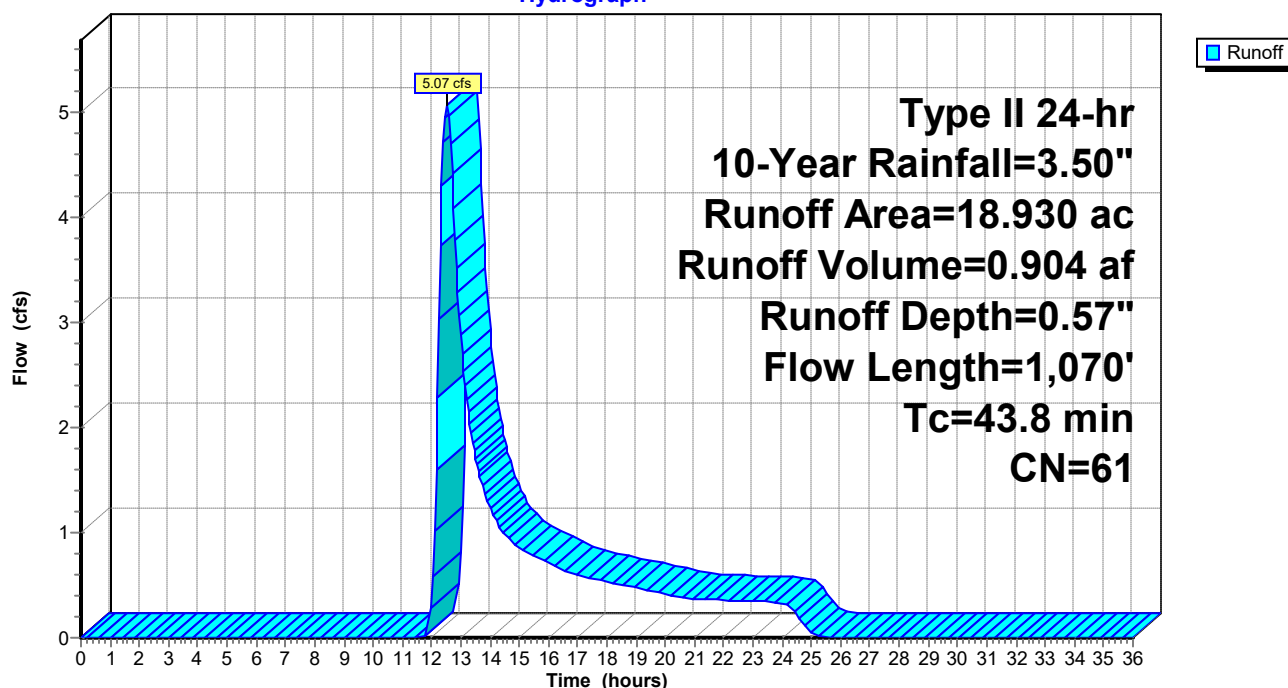
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 2S: Pre B Pervious

Hydrograph



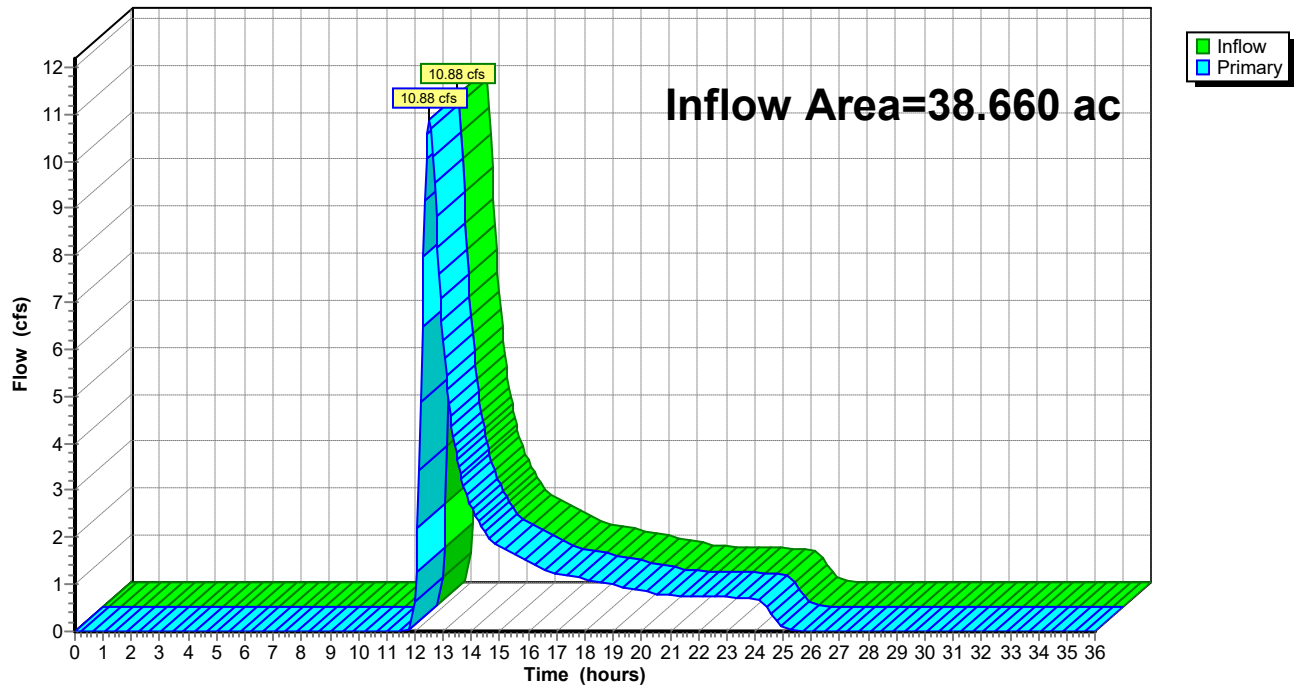
Summary for Link 11L: Pre Total

Inflow Area = 38.660 ac, 0.00% Impervious, Inflow Depth = 0.59" for 10-Year event
 Inflow = 10.88 cfs @ 12.52 hrs, Volume= 1.915 af
 Primary = 10.88 cfs @ 12.52 hrs, Volume= 1.915 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 11L: Pre Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr 100-Year Rainfall=6.00"*

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 1S: Pre A Pervious

Runoff Area=19.730 ac 0.00% Impervious Runoff Depth=2.09"
Flow Length=962' Tc=44.8 min CN=62 Runoff=25.41 cfs 3.437 af

Subcatchment 2S: Pre B Pervious

Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=2.01"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=23.56 cfs 3.164 af

Link 11L: Pre Total

Inflow=48.96 cfs 6.601 af
Primary=48.96 cfs 6.601 af

Total Runoff Area = 38.660 ac Runoff Volume = 6.601 af Average Runoff Depth = 2.05"
100.00% Pervious = 38.660 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre A Pervious

Preconstruction Conditions for DA South Pond.

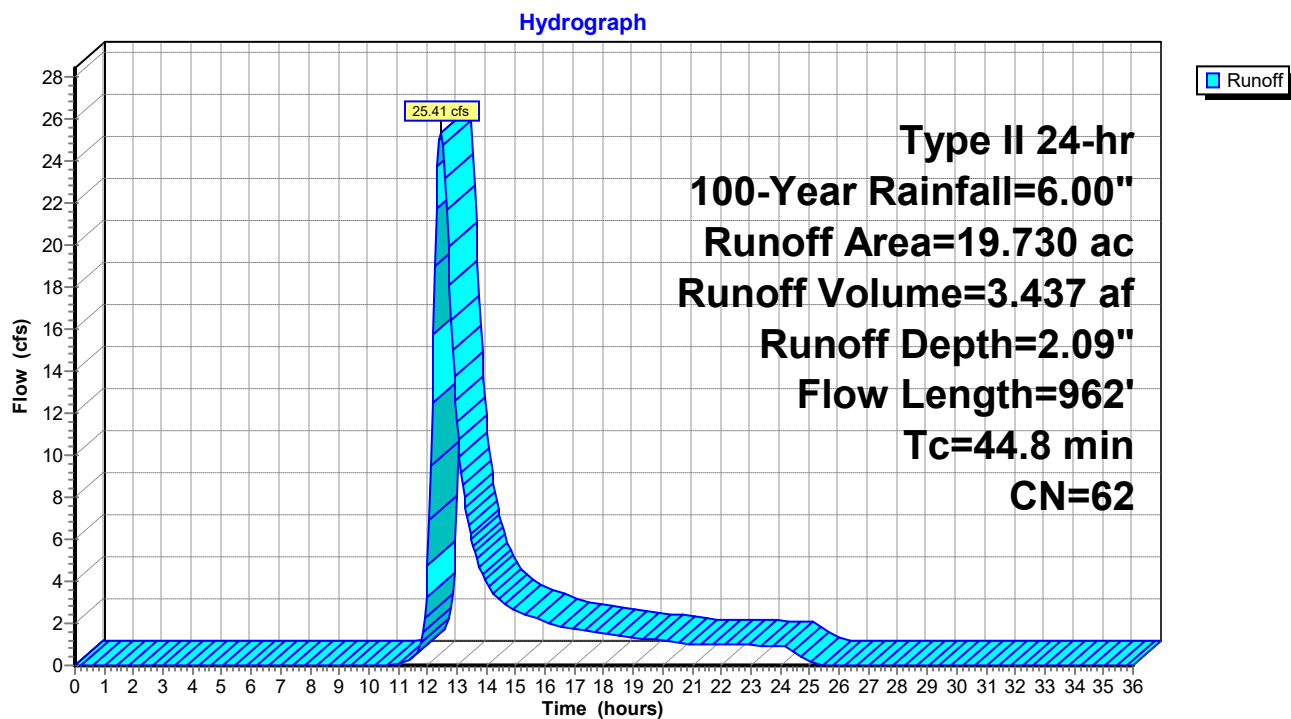
Runoff = 25.41 cfs @ 12.46 hrs, Volume= 3.437 af, Depth= 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 6.410	58	HIB
* 6.240	78	WwA
* 3.100	71	ChA
* 3.250	30	CIB
* 0.730	58	AoA
19.730	62	Weighted Average
19.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0056	0.09		Sheet Flow, Sheet Flow
					Grass: Short n= 0.150 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow
					Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow
					Short Grass Pasture Kv= 7.0 fps
12.8	245	0.0041	0.32		Shallow Concentrated Flow, Shallow
					Woodland Kv= 5.0 fps
44.8	962	Total			

Subcatchment 1S: Pre A Pervious



Summary for Subcatchment 2S: Pre B Pervious

Runoff = 23.56 cfs @ 12.45 hrs, Volume= 3.164 af, Depth= 2.01"

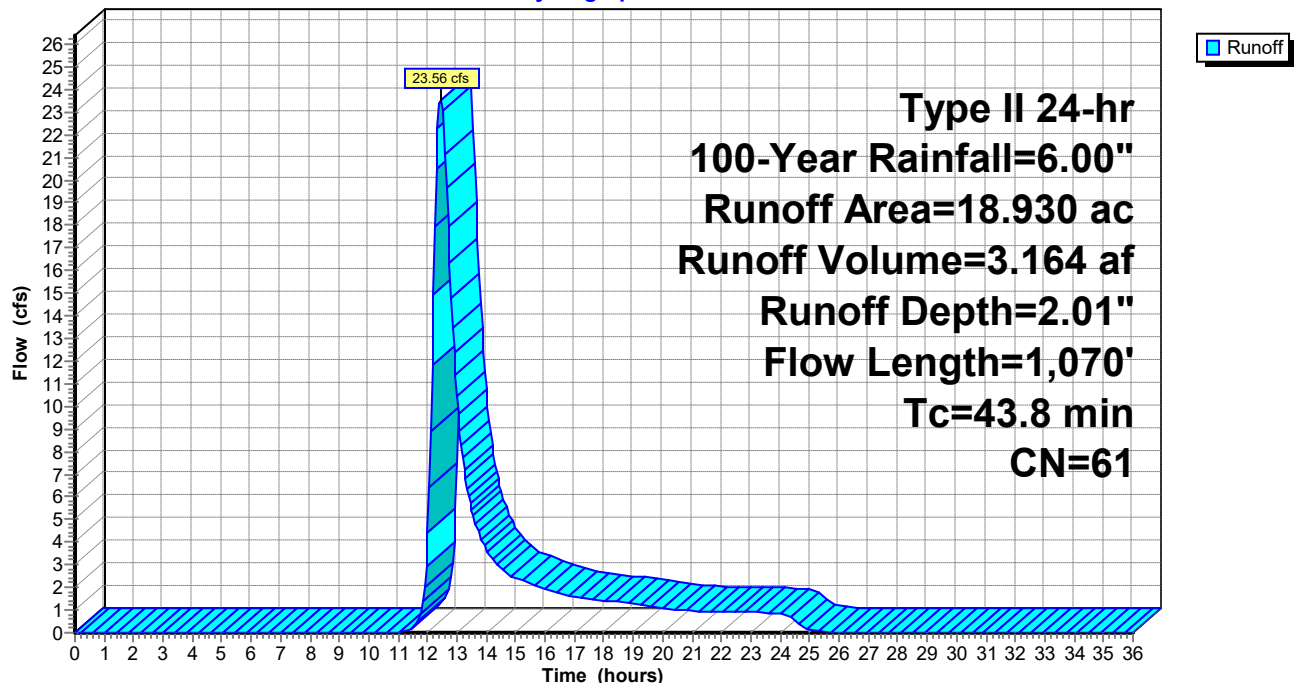
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 2S: Pre B Pervious

Hydrograph



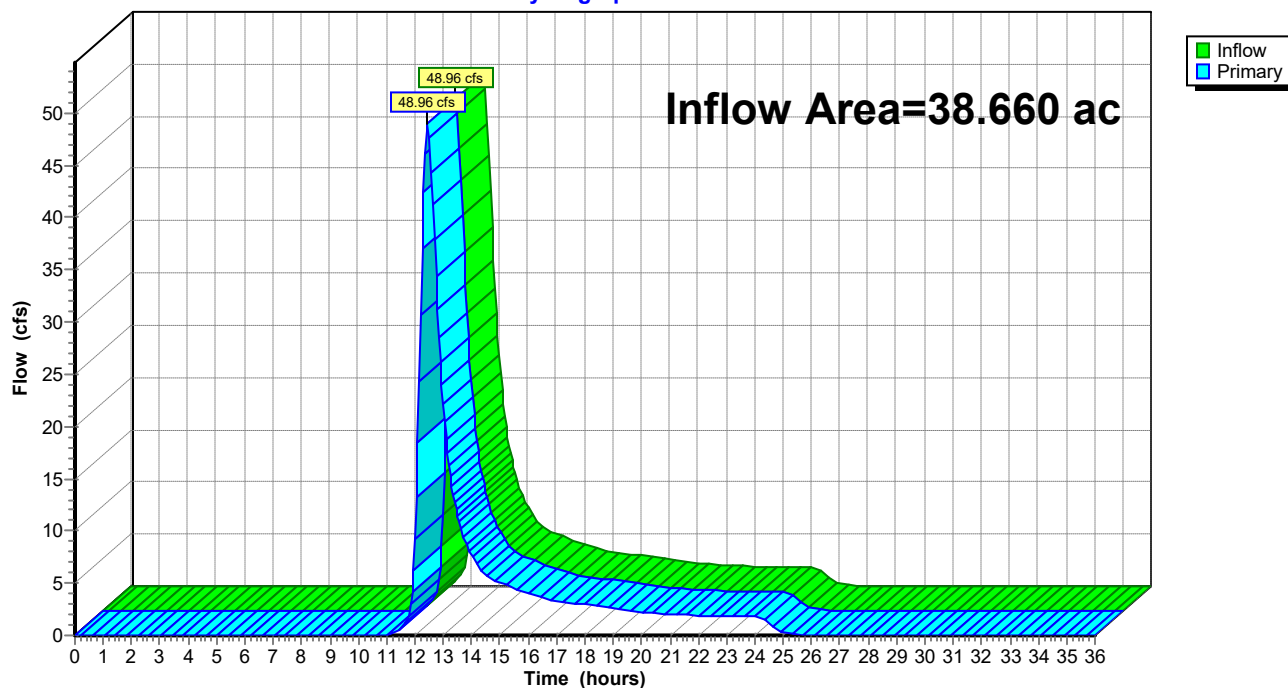
Summary for Link 11L: Pre Total

Inflow Area = 38.660 ac, 0.00% Impervious, Inflow Depth = 2.05" for 100-Year event
 Inflow = 48.96 cfs @ 12.45 hrs, Volume= 6.601 af
 Primary = 48.96 cfs @ 12.45 hrs, Volume= 6.601 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 11L: Pre Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr 1-Year Rainfall=2.04"*

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 1S: Pre A Pervious

Runoff Area=19.730 ac 0.00% Impervious Runoff Depth=0.10"
Flow Length=962' Tc=44.8 min CN=62 Runoff=0.31 cfs 0.157 af

Subcatchment 2S: Pre B Pervious

Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.08"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=0.22 cfs 0.128 af

Link 11L: Pre Total

Inflow=0.52 cfs 0.285 af
Primary=0.52 cfs 0.285 af

Total Runoff Area = 38.660 ac Runoff Volume = 0.285 af Average Runoff Depth = 0.09"
100.00% Pervious = 38.660 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre A Pervious

Preconstruction Conditions for DA South Pond.

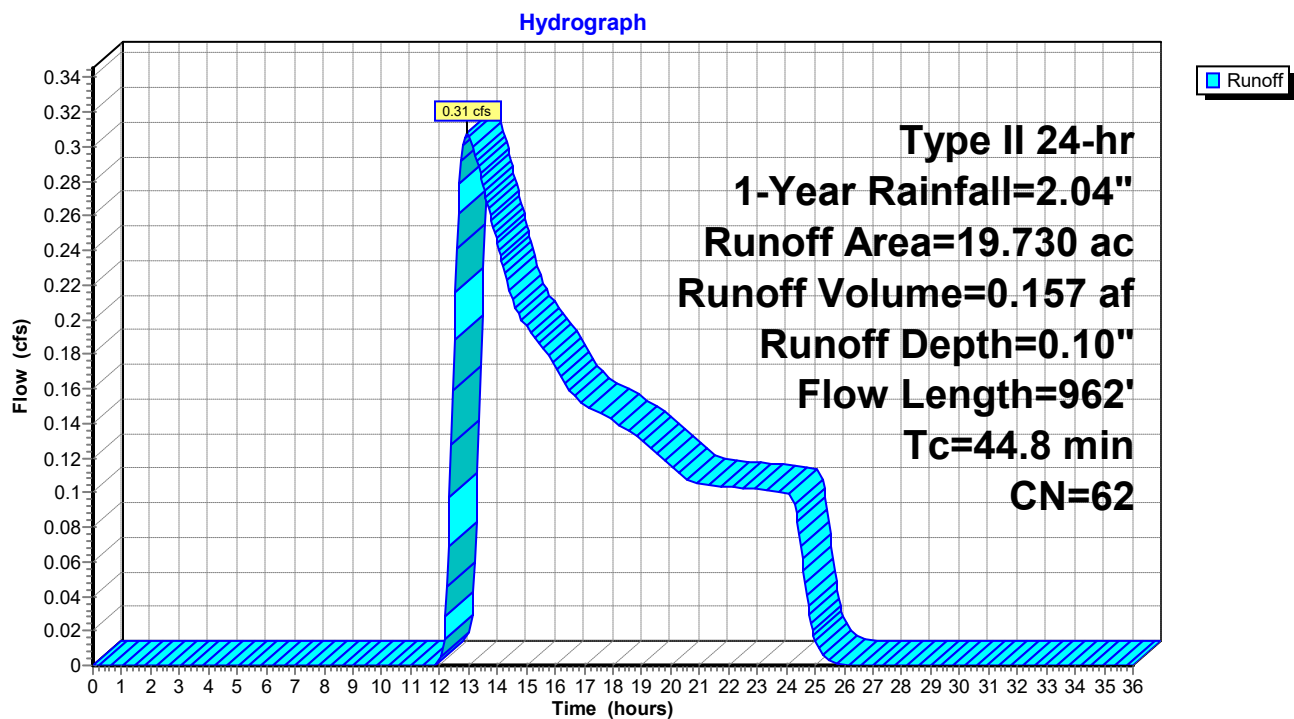
Runoff = 0.31 cfs @ 12.96 hrs, Volume= 0.157 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 6.410	58	HIB
* 6.240	78	WwA
* 3.100	71	ChA
* 3.250	30	CIB
* 0.730	58	AoA
19.730	62	Weighted Average
19.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0056	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
12.8	245	0.0041	0.32		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
44.8	962	Total			

Subcatchment 1S: Pre A Pervious



Summary for Subcatchment 2S: Pre B Pervious

Runoff = 0.22 cfs @ 13.18 hrs, Volume= 0.128 af, Depth= 0.08"

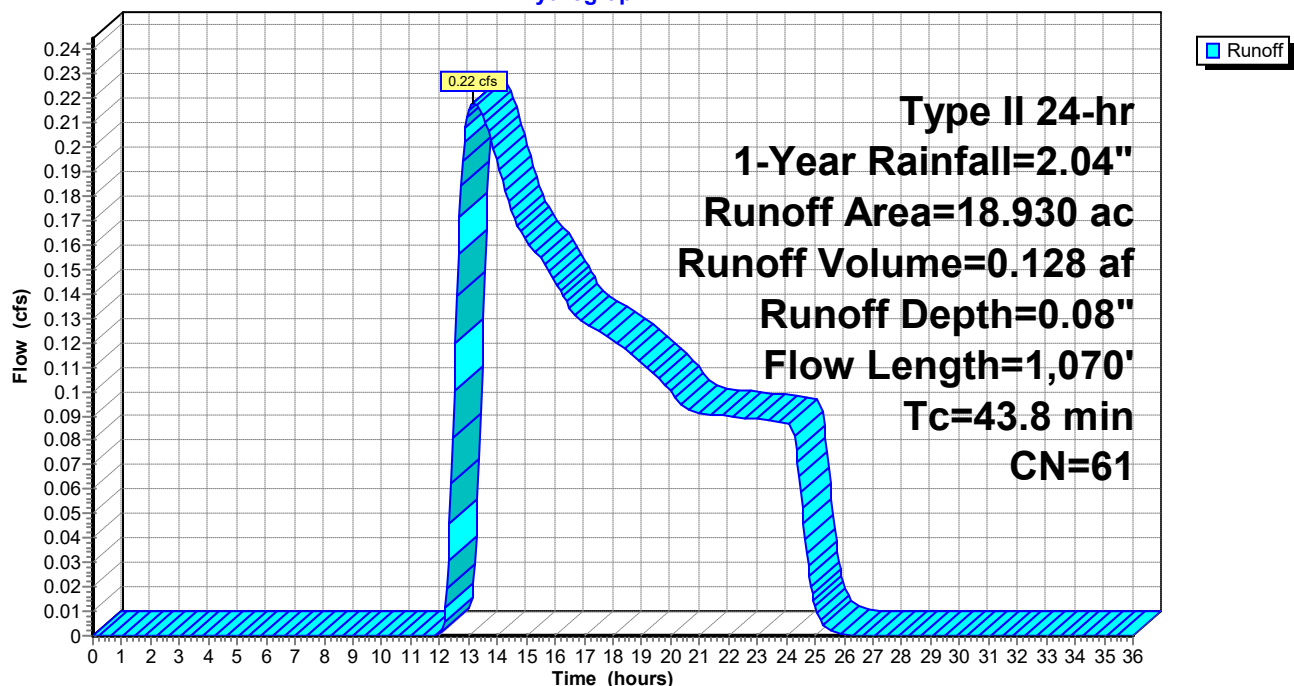
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 2S: Pre B Pervious

Hydrograph



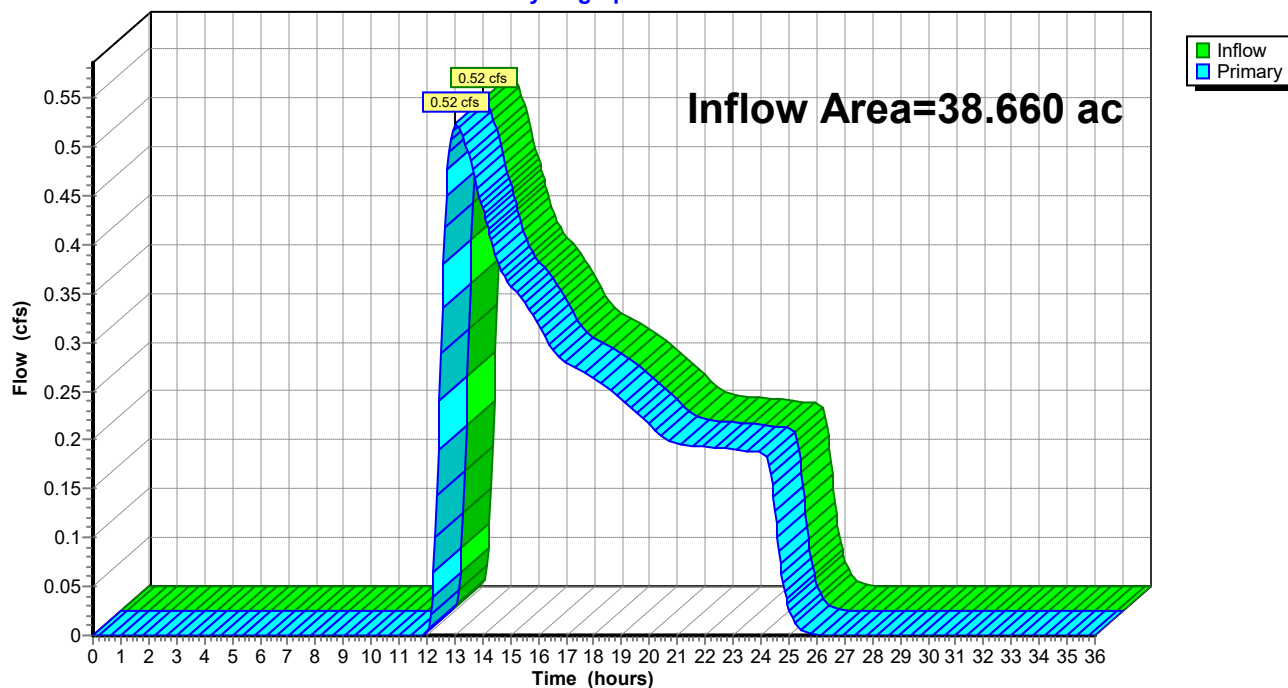
Summary for Link 11L: Pre Total

Inflow Area = 38.660 ac, 0.00% Impervious, Inflow Depth = 0.09" for 1-Year event
 Inflow = 0.52 cfs @ 13.03 hrs, Volume= 0.285 af
 Primary = 0.52 cfs @ 13.03 hrs, Volume= 0.285 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 11L: Pre Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr WQ Rainfall=1.00"*

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 1S: Pre A Pervious

Runoff Area=19.730 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=962' Tc=44.8 min CN=62 Runoff=0.00 cfs 0.000 af

Subcatchment 2S: Pre B Pervious

Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=0.00 cfs 0.000 af

Link 11L: Pre Total

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 38.660 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
100.00% Pervious = 38.660 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: Pre A Pervious

Preconstruction Conditions for DA South Pond.

[45] Hint: Runoff=Zero

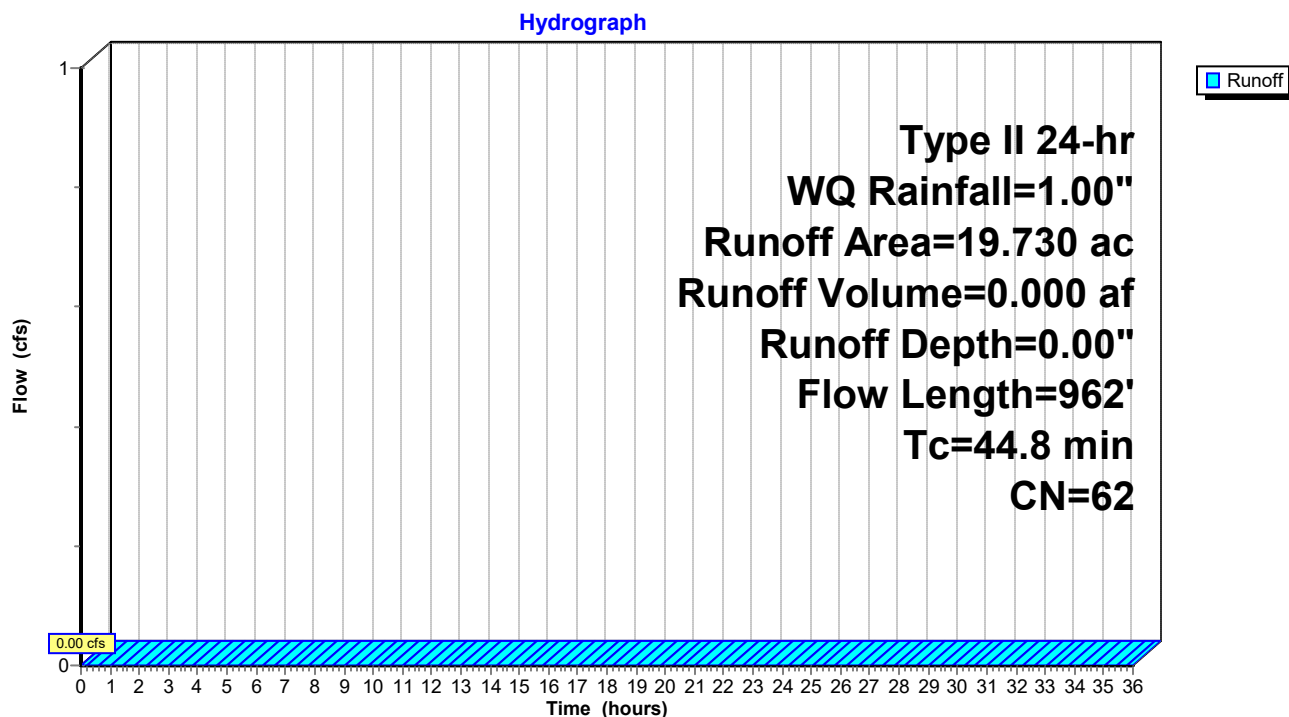
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 6.410	58	HIB
* 6.240	78	WwA
* 3.100	71	ChA
* 3.250	30	CIB
* 0.730	58	AoA
19.730	62	Weighted Average
19.730		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0056	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
12.8	245	0.0041	0.32		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
44.8	962	Total			

Subcatchment 1S: Pre A Pervious



Summary for Subcatchment 2S: Pre B Pervious

[45] Hint: Runoff=Zero

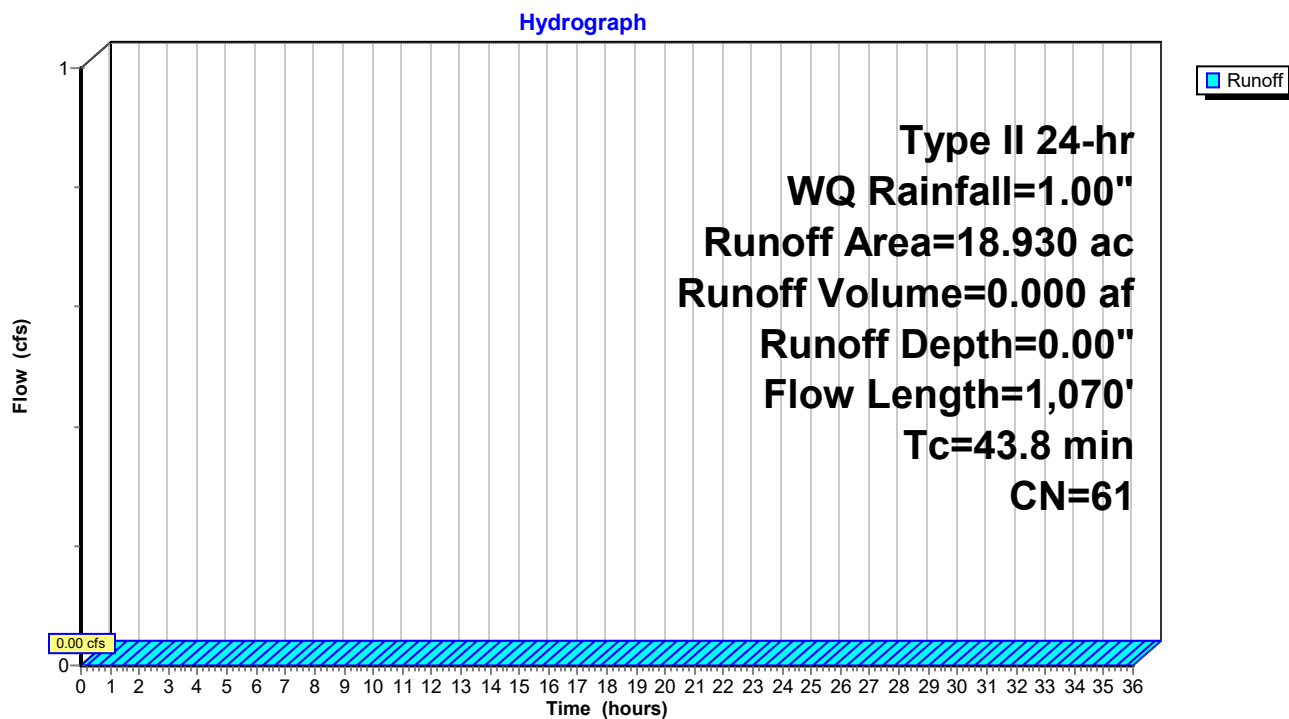
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 2S: Pre B Pervious



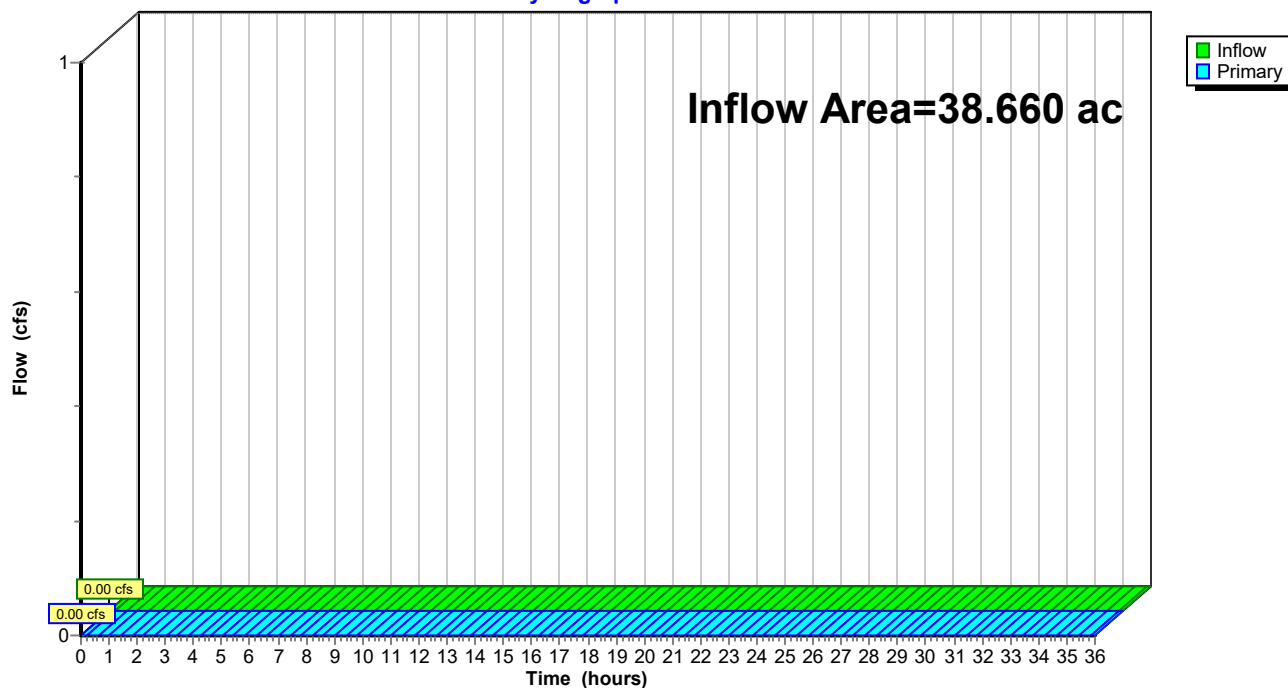
Summary for Link 11L: Pre Total

Inflow Area = 38.660 ac, 0.00% Impervious, Inflow Depth = 0.00" for WQ event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 11L: Pre Total

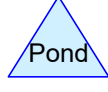
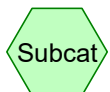
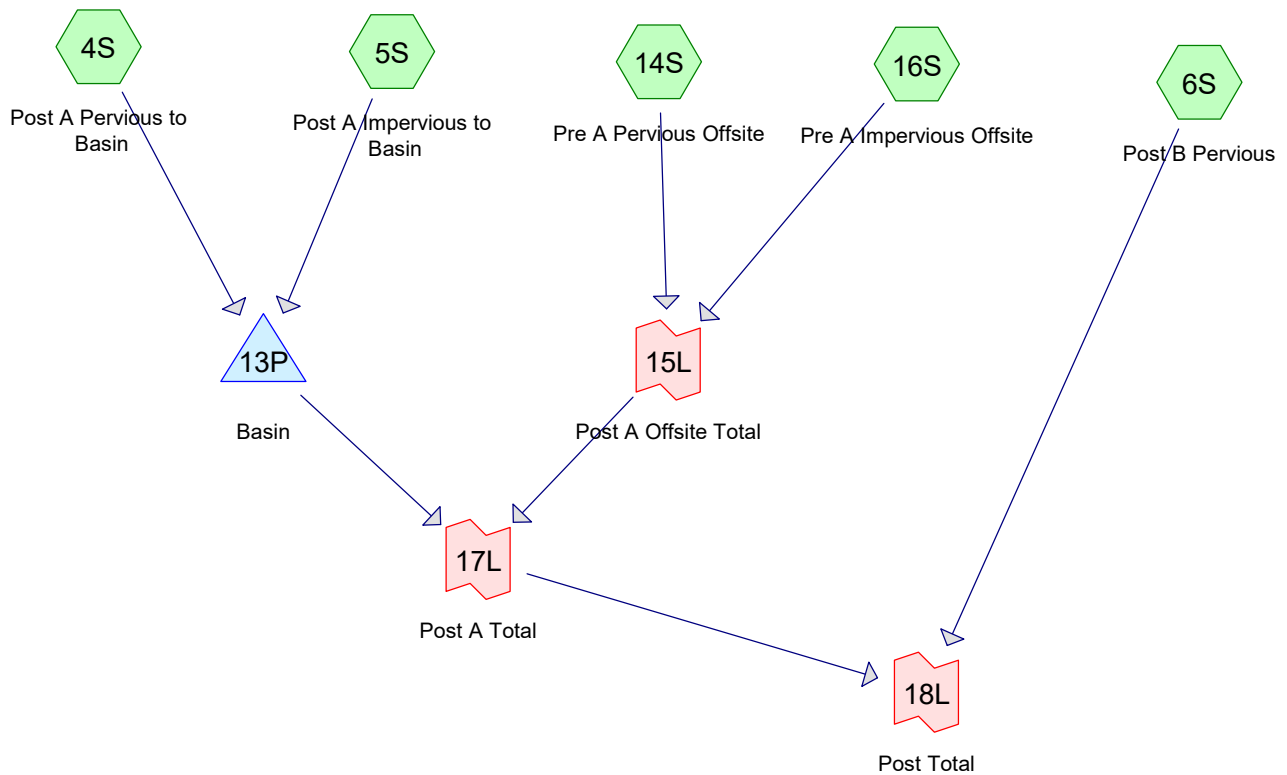
Hydrograph



Appendix F

Post Development Hydrology Report Design Calculations

DRAFT



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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type II 24-hr		Default	24.00	1	2.41	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.50	2
3	100-Year	Type II 24-hr		Default	24.00	1	6.00	2
4	1-Year	Type II 24-hr		Default	24.00	1	2.04	2
5	WQ	Type II 24-hr		Default	24.00	1	1.00	2

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
7.956	58	AoA (6S, 14S)
5.222	30	CIB (4S, 6S, 14S)
3.355	71	Cd (6S)
3.100	71	ChA (4S, 14S)
0.905	91	Gravel Driveway (5S, 16S)
12.478	58	HIB (4S, 6S, 14S)
5.129	78	WwA (4S, 6S, 14S)
38.145	60	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
38.145	Other	4S, 5S, 6S, 14S, 16S
38.145		TOTAL AREA

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Ground Covers (selected 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	0.000	0.000	7.956	7.956	AoA	6S, 14S
0.000	0.000	0.000	0.000	5.222	5.222	CIB	4S, 6S, 14S
0.000	0.000	0.000	0.000	3.355	3.355	Cd	6S
0.000	0.000	0.000	0.000	3.100	3.100	ChA	4S, 14S
0.000	0.000	0.000	0.000	0.905	0.905	Gravel Driveway	5S, 16S
0.000	0.000	0.000	0.000	12.478	12.478	HIB	4S, 6S, 14S
0.000	0.000	0.000	0.000	5.129	5.129	WwA	4S, 6S, 14S
0.000	0.000	0.000	0.000	38.145	38.145	TOTAL AREA	

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Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	13P	401.25	401.20	10.0	0.0050	0.120	12.0	0.0	0.0

Warner Hydrology Model 10-11-2022

Type II 24-hr 2-Year Rainfall=2.41"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 4S: Post A Pervious to Basin Runoff Area=6.150 ac 0.00% Impervious Runoff Depth=0.02"
Flow Length=707' Tc=37.2 min CN=51 Runoff=0.02 cfs 0.012 af

Subcatchment 5S: Post A Impervious to Runoff Area=0.600 ac 0.00% Impervious Runoff Depth=1.53"
Tc=5.0 min CN=91 Runoff=1.61 cfs 0.076 af

Subcatchment 6S: Post B Pervious Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.17"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=0.80 cfs 0.268 af

Subcatchment 14S: Pre A Pervious Offsite Runoff Area=12.160 ac 0.00% Impervious Runoff Depth=0.17"
Flow Length=962' Tc=66.1 min CN=61 Runoff=0.43 cfs 0.172 af

Subcatchment 16S: Pre A Impervious Offsite Runoff Area=0.305 ac 0.00% Impervious Runoff Depth=1.53"
Flow Length=962' Tc=66.1 min CN=91 Runoff=0.23 cfs 0.039 af

Pond 13P: Basin Peak Elev=401.47' Storage=1,934 cf Inflow=1.61 cfs 0.089 af
Outflow=0.08 cfs 0.078 af

Link 15L: Post A Offsite Total Inflow=0.62 cfs 0.211 af
Primary=0.62 cfs 0.211 af

Link 17L: Post A Total Inflow=0.70 cfs 0.289 af
Primary=0.70 cfs 0.289 af

Link 18L: Post Total Inflow=1.44 cfs 0.557 af
Primary=1.44 cfs 0.557 af

Total Runoff Area = 38.145 ac Runoff Volume = 0.568 af Average Runoff Depth = 0.18"
100.00% Pervious = 38.145 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 4S: Post A Pervious to Basin

Preconstruction Conditions for DA South Pond.

Runoff = 0.02 cfs @ 18.55 hrs, Volume= 0.012 af, Depth= 0.02"

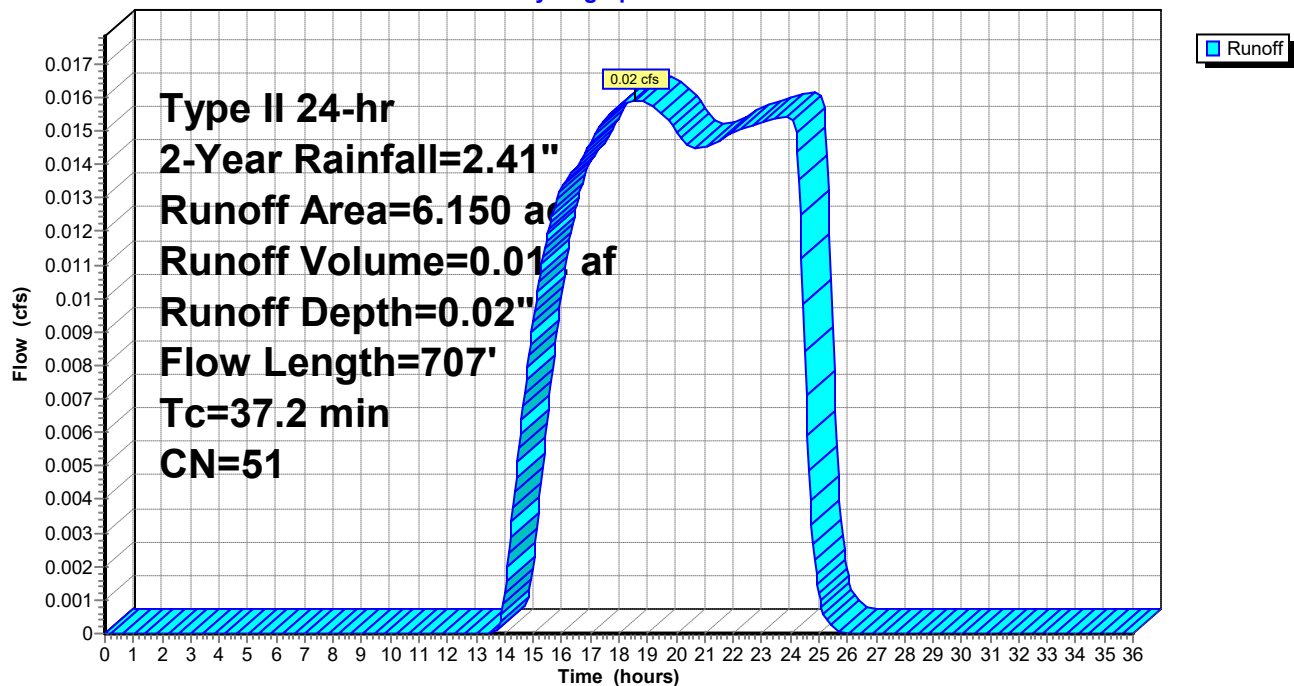
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 2.027	58	HIB
* 1.219	78	WwA
* 0.329	71	ChA
* 2.575	30	CIB
6.150	51	Weighted Average
6.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	100	0.0063	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
5.7	324	0.0185	0.95		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
13.6	283	0.0018	0.35	2.08	Channel Flow, Swale Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.150
37.2	707	Total			

Subcatchment 4S: Post A Pervious to Basin

Hydrograph



Summary for Subcatchment 5S: Post A Impervious to Basin

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 1.61 cfs @ 11.95 hrs, Volume= 0.076 af, Depth= 1.53"

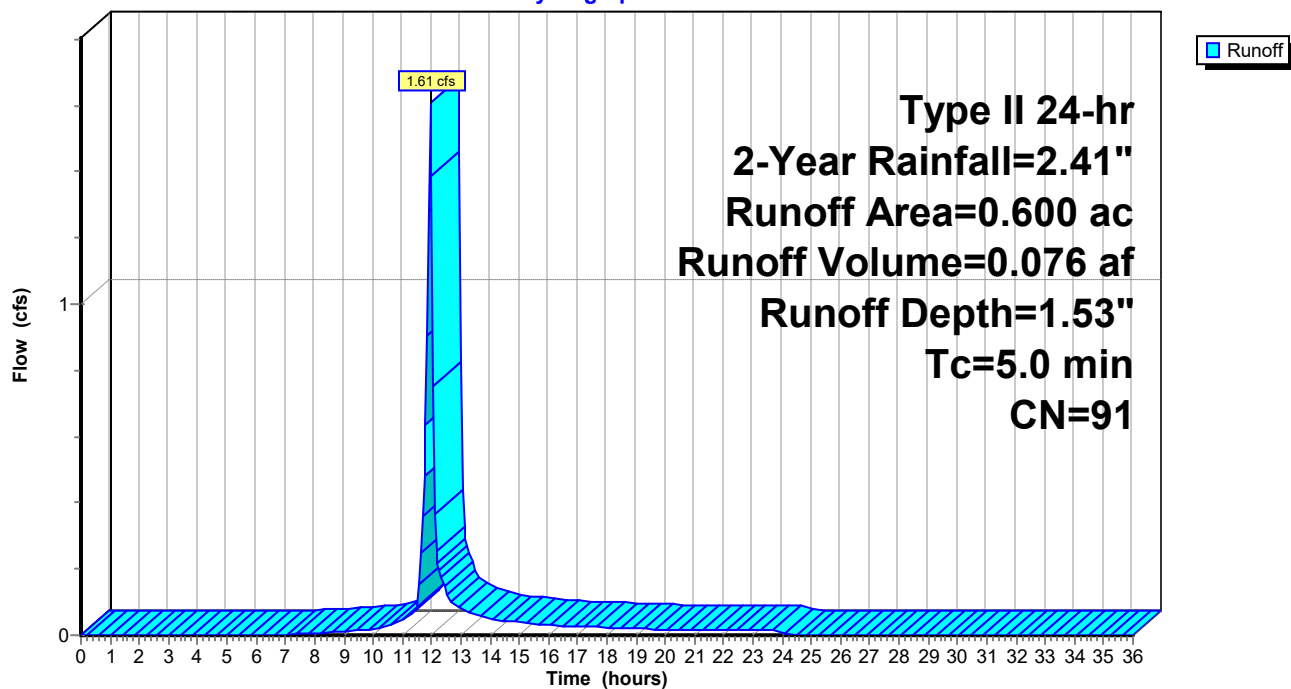
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, $dt=0.05$ hrs
Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 0.600	91	Gravel Driveway
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Driveway

Subcatchment 5S: Post A Impervious to Basin

Hydrograph



Summary for Subcatchment 6S: Post B Pervious

Runoff = 0.80 cfs @ 12.68 hrs, Volume= 0.268 af, Depth= 0.17"

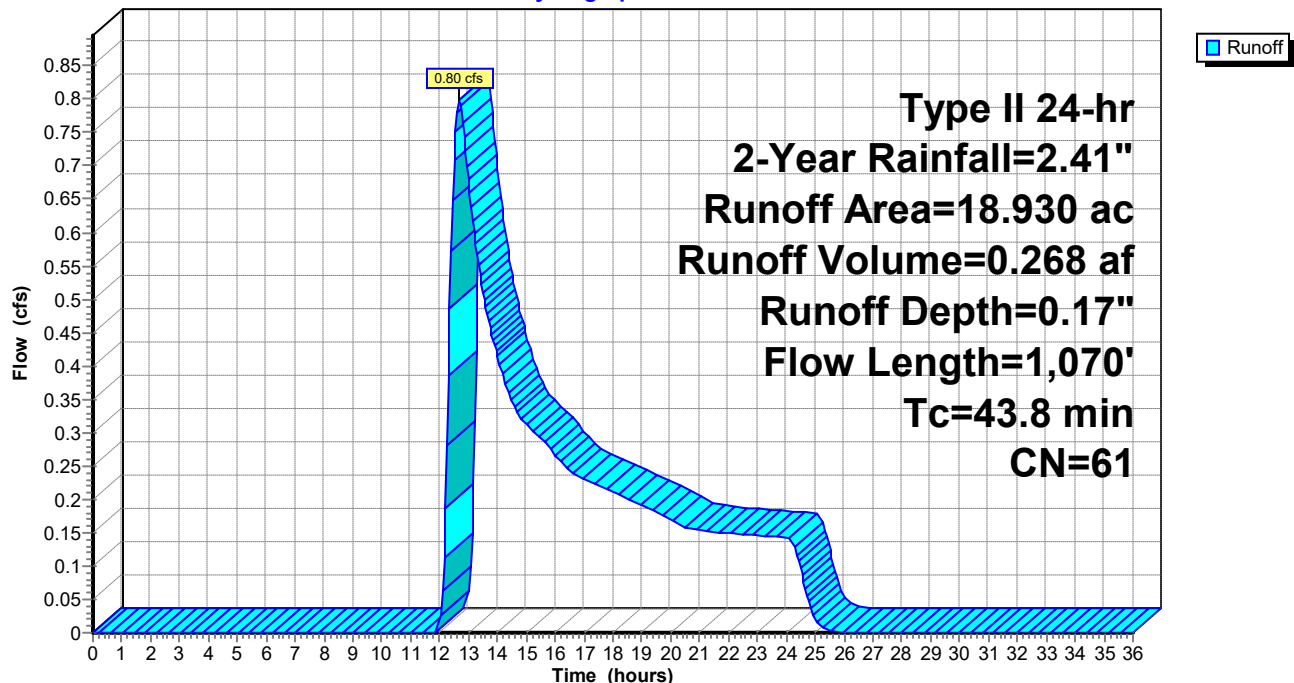
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 6S: Post B Pervious

Hydrograph



Summary for Subcatchment 14S: Pre A Pervious Offsite

Preconstruction Conditions for DA South Pond.

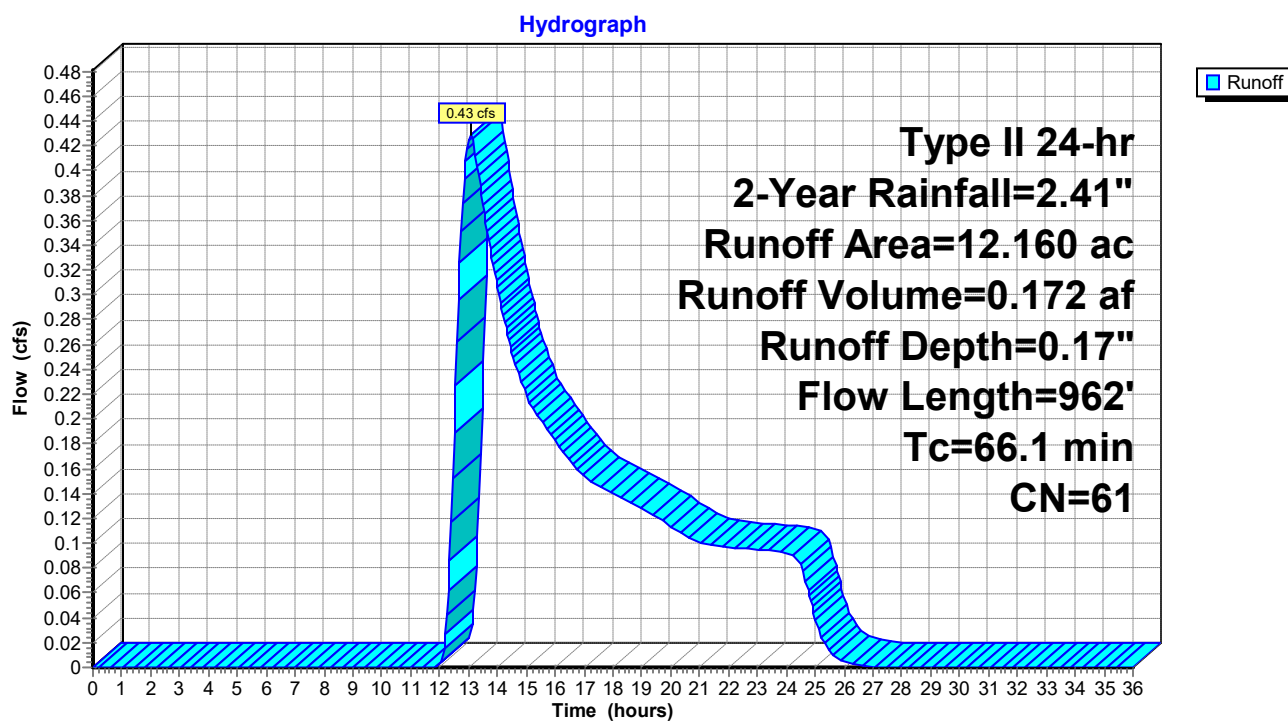
Runoff = 0.43 cfs @ 13.08 hrs, Volume= 0.172 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 3.242	58	HIB
* 3.114	78	WwA
* 2.771	71	ChA
* 2.303	30	CIB
* 0.730	58	AoA
12.160	61	Weighted Average
12.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 14S: Pre A Pervious Offsite



Summary for Subcatchment 16S: Pre A Impervious Offsite

Preconstruction Conditions for DA South Pond.

Runoff = 0.23 cfs @ 12.70 hrs, Volume= 0.039 af, Depth= 1.53"

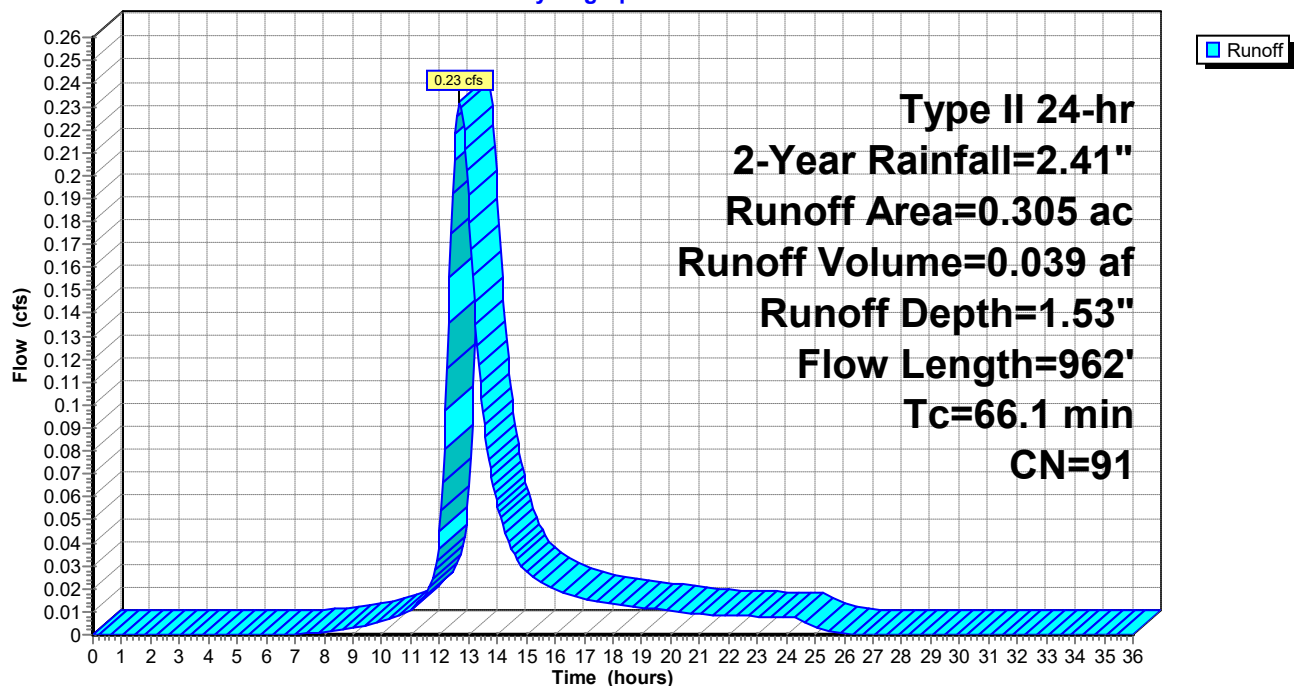
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.41"

Area (ac)	CN	Description
* 0.305	91	Gravel Driveway
0.305		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 16S: Pre A Impervious Offsite

Hydrograph



Summary for Pond 13P: Basin

Inflow Area = 6.750 ac, 0.00% Impervious, Inflow Depth = 0.16" for 2-Year event
 Inflow = 1.61 cfs @ 11.95 hrs, Volume= 0.089 af
 Outflow = 0.08 cfs @ 13.00 hrs, Volume= 0.078 af, Atten= 95%, Lag= 63.0 min
 Primary = 0.08 cfs @ 13.00 hrs, Volume= 0.078 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 401.47' @ 13.00 hrs Surf.Area= 8,725 sf Storage= 1,934 cf

Plug-Flow detention time= 385.2 min calculated for 0.078 af (88% of inflow)
 Center-of-Mass det. time= 319.1 min (1,179.7 - 860.6)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	24,650 cf	Custom Stage Data (Conic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	8,494	0	0	8,494
402.00	9,278	6,663	6,663	9,317
403.00	10,411	9,839	16,502	10,503
403.75	11,326	8,149	24,650	11,459

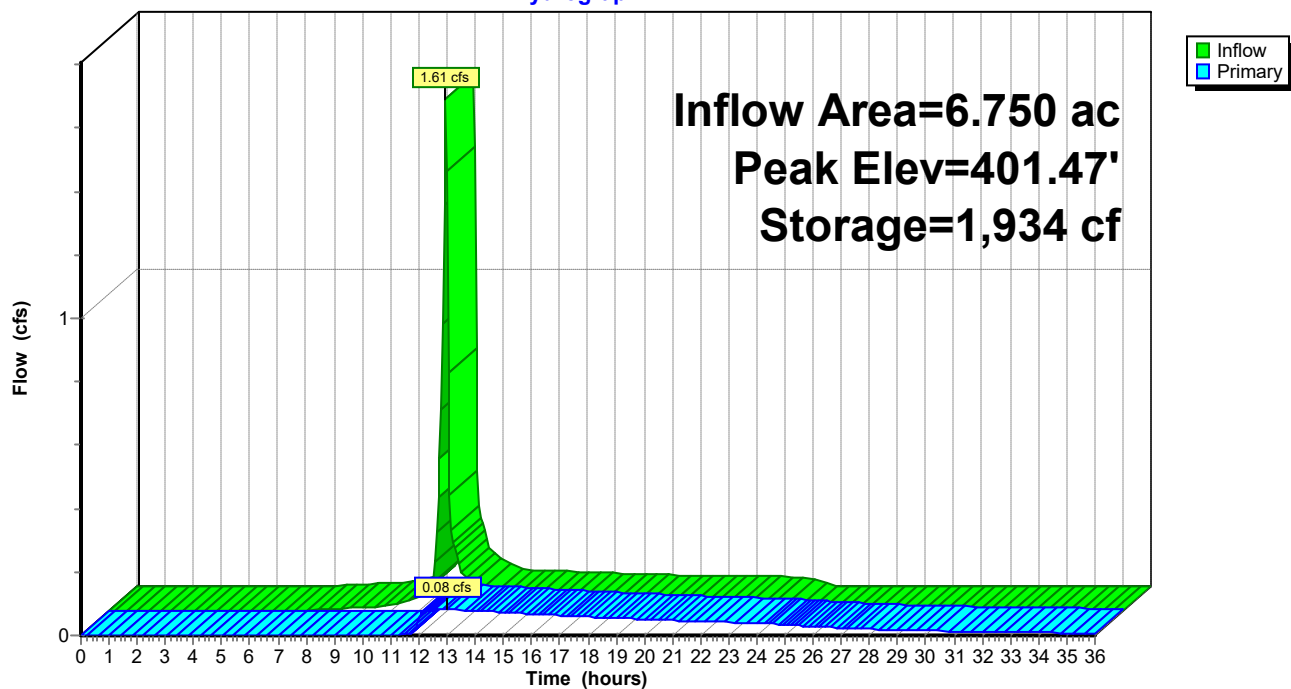
Device	Routing	Invert	Outlet Devices
#1	Primary	401.25'	2.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	401.25'	12.0" Round RCP_Round 12" L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 401.25' / 401.20' S= 0.0050 ' / Cc= 0.900 n= 0.120, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 13.00 hrs HW=401.47' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.06 cfs @ 1.67 fps)
 ↓ **2=RCP_Round 12"** (Barrel Controls 0.02 cfs @ 0.28 fps)

Pond 13P: Basin

Hydrograph



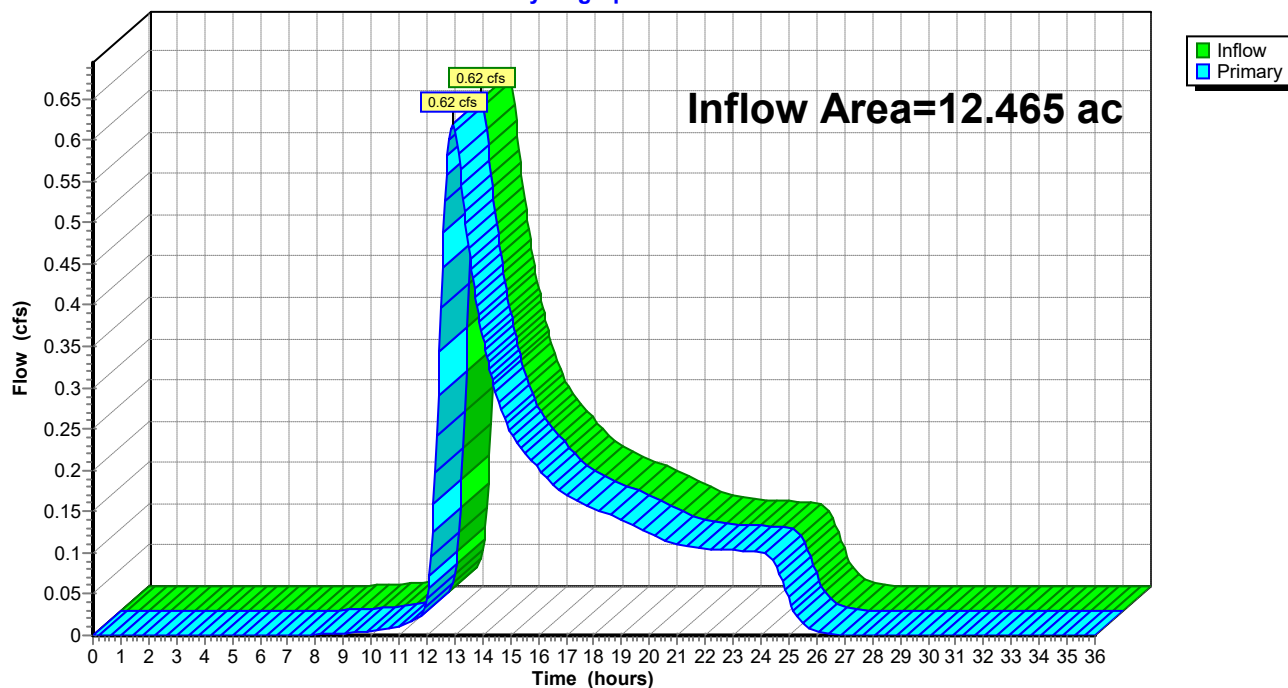
Summary for Link 15L: Post A Offsite Total

Inflow Area = 12.465 ac, 0.00% Impervious, Inflow Depth = 0.20" for 2-Year event
 Inflow = 0.62 cfs @ 12.94 hrs, Volume= 0.211 af
 Primary = 0.62 cfs @ 12.94 hrs, Volume= 0.211 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 15L: Post A Offsite Total

Hydrograph



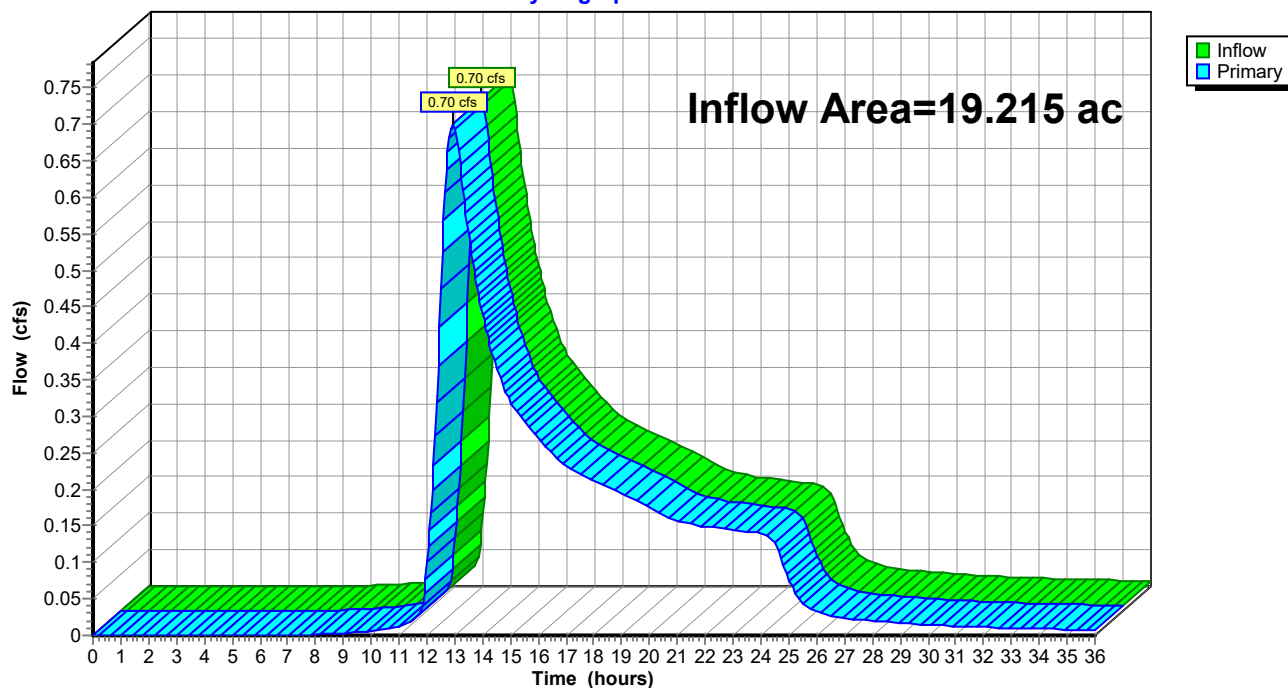
Summary for Link 17L: Post A Total

Inflow Area = 19.215 ac, 0.00% Impervious, Inflow Depth > 0.18" for 2-Year event
 Inflow = 0.70 cfs @ 12.94 hrs, Volume= 0.289 af
 Primary = 0.70 cfs @ 12.94 hrs, Volume= 0.289 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 17L: Post A Total

Hydrograph



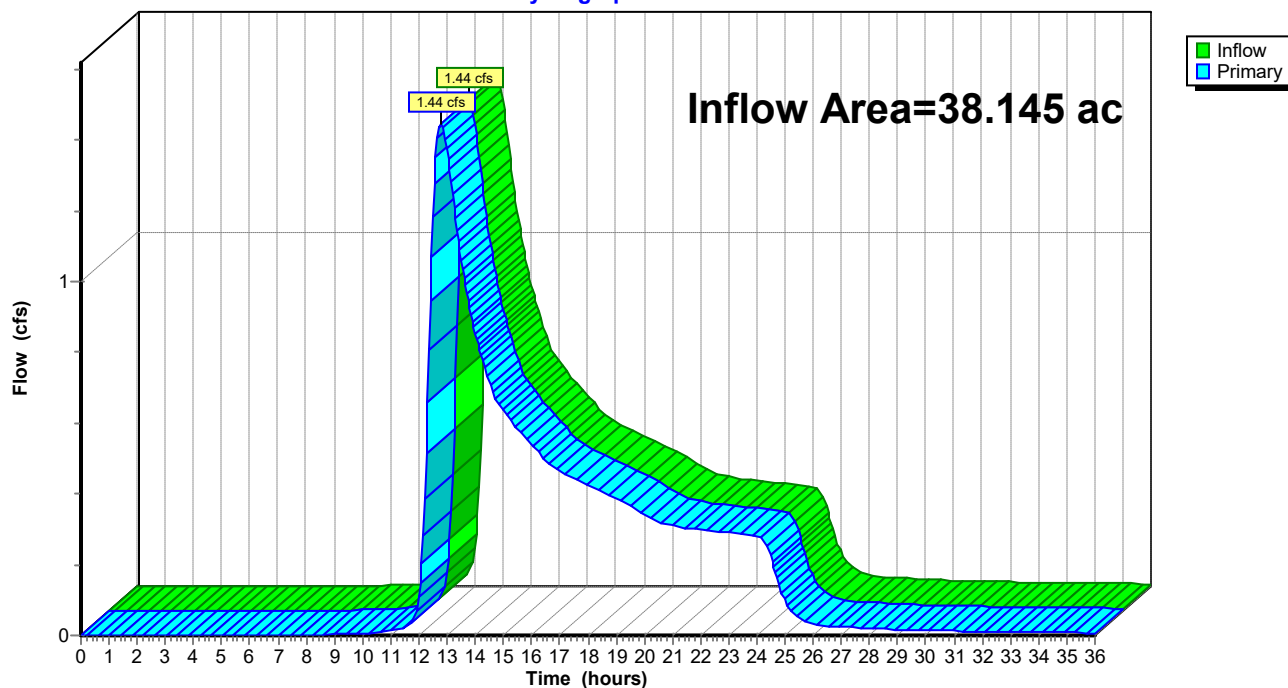
Summary for Link 18L: Post Total

Inflow Area = 38.145 ac, 0.00% Impervious, Inflow Depth > 0.18" for 2-Year event
 Inflow = 1.44 cfs @ 12.77 hrs, Volume= 0.557 af
 Primary = 1.44 cfs @ 12.77 hrs, Volume= 0.557 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 18L: Post Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr 10-Year Rainfall=3.50"*

Prepared by GEI Consultants

Printed 10/26/2022

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 4S: Post A Pervious to Basin Runoff Area=6.150 ac 0.00% Impervious Runoff Depth=0.22"
Flow Length=707' Tc=37.2 min CN=51 Runoff=0.33 cfs 0.114 af

Subcatchment 5S: Post A Impervious to Runoff Area=0.600 ac 0.00% Impervious Runoff Depth=2.54"
Tc=5.0 min CN=91 Runoff=2.61 cfs 0.127 af

Subcatchment 6S: Post B Pervious Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.57"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=5.07 cfs 0.904 af

Subcatchment 14S: Pre A Pervious Offsite Runoff Area=12.160 ac 0.00% Impervious Runoff Depth=0.57"
Flow Length=962' Tc=66.1 min CN=61 Runoff=2.44 cfs 0.580 af

Subcatchment 16S: Pre A Impervious Offsite Runoff Area=0.305 ac 0.00% Impervious Runoff Depth=2.54"
Flow Length=962' Tc=66.1 min CN=91 Runoff=0.38 cfs 0.065 af

Pond 13P: Basin Peak Elev=401.73' Storage=4,215 cf Inflow=2.61 cfs 0.241 af
Outflow=0.24 cfs 0.226 af

Link 15L: Post A Offsite Total Inflow=2.80 cfs 0.645 af
Primary=2.80 cfs 0.645 af

Link 17L: Post A Total Inflow=3.01 cfs 0.871 af
Primary=3.01 cfs 0.871 af

Link 18L: Post Total Inflow=7.53 cfs 1.775 af
Primary=7.53 cfs 1.775 af

Total Runoff Area = 38.145 ac Runoff Volume = 1.790 af Average Runoff Depth = 0.56"
100.00% Pervious = 38.145 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 4S: Post A Pervious to Basin

Preconstruction Conditions for DA South Pond.

Runoff = 0.33 cfs @ 12.59 hrs, Volume= 0.114 af, Depth= 0.22"

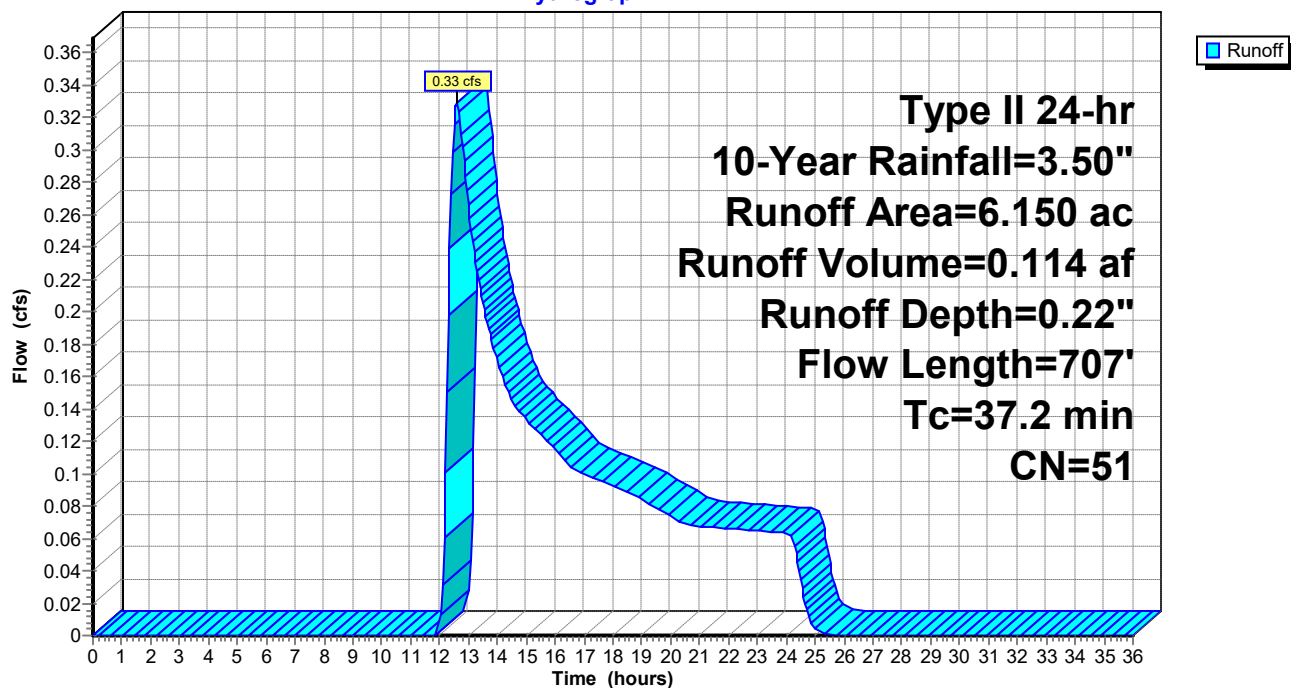
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 2.027	58	HIB
* 1.219	78	WwA
* 0.329	71	ChA
* 2.575	30	CIB
6.150	51	Weighted Average
6.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	100	0.0063	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
5.7	324	0.0185	0.95		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
13.6	283	0.0018	0.35	2.08	Channel Flow, Swale Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.150
37.2	707	Total			

Subcatchment 4S: Post A Pervious to Basin

Hydrograph



Summary for Subcatchment 5S: Post A Impervious to Basin

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 2.61 cfs @ 11.95 hrs, Volume= 0.127 af, Depth= 2.54"

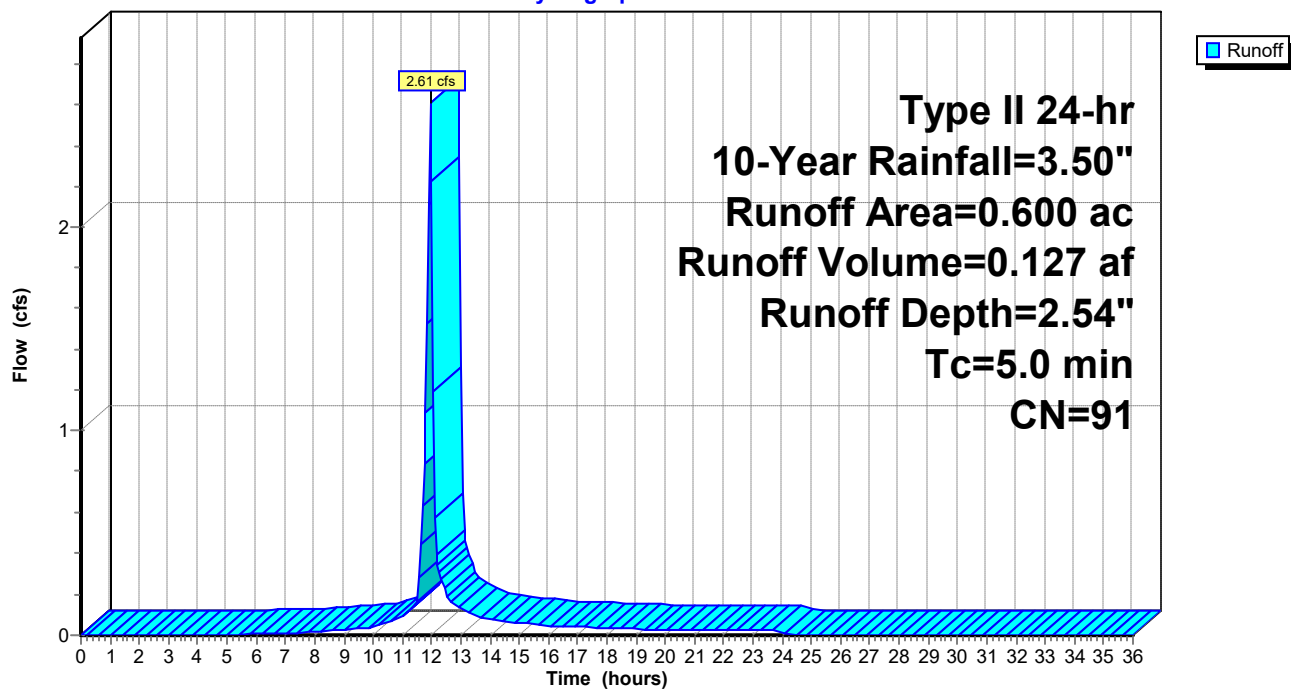
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, $dt=0.05$ hrs
Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 0.600	91	Gravel Driveway
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Driveway

Subcatchment 5S: Post A Impervious to Basin

Hydrograph



Summary for Subcatchment 6S: Post B Pervious

Runoff = 5.07 cfs @ 12.51 hrs, Volume= 0.904 af, Depth= 0.57"

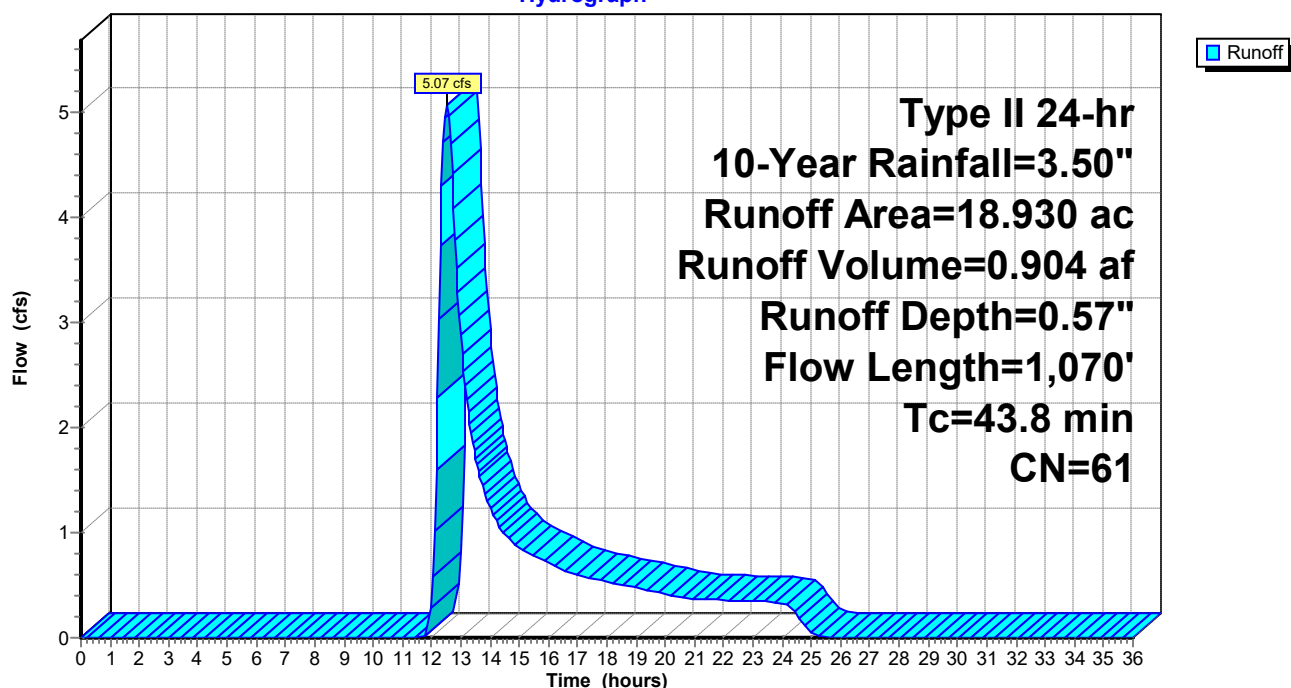
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 6S: Post B Pervious

Hydrograph



Summary for Subcatchment 14S: Pre A Pervious Offsite

Preconstruction Conditions for DA South Pond.

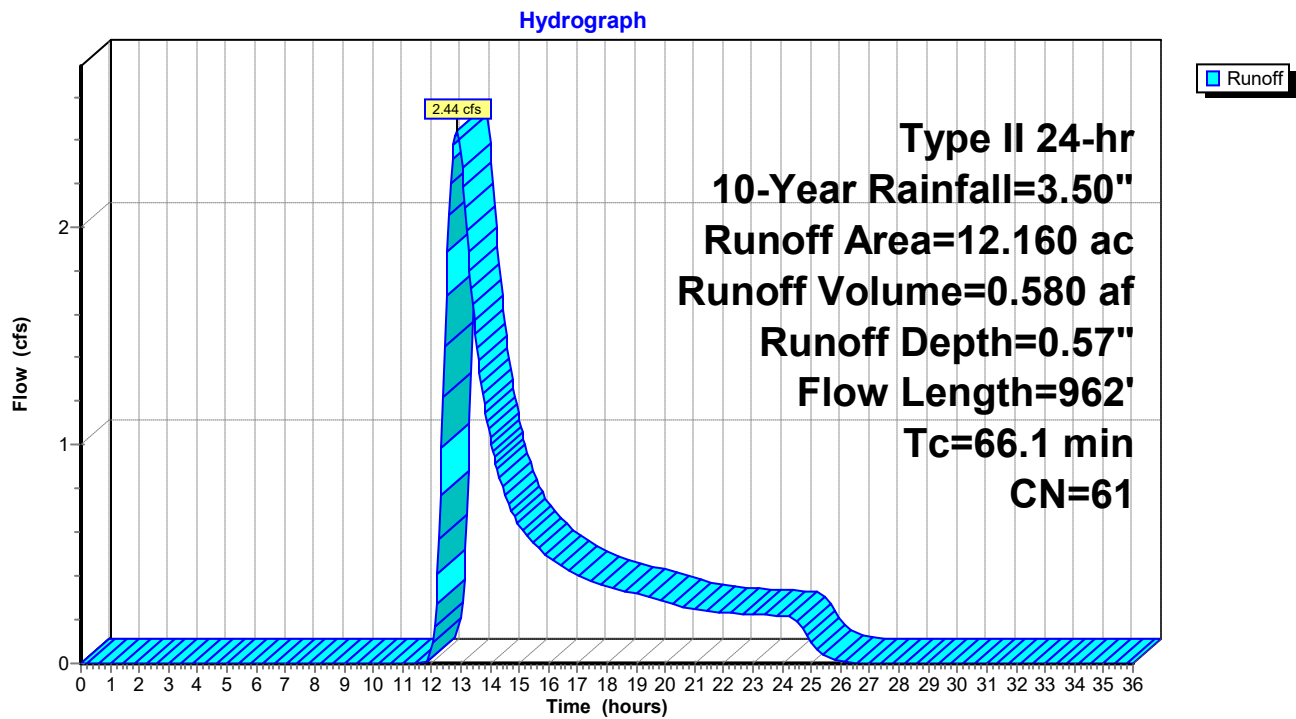
Runoff = 2.44 cfs @ 12.86 hrs, Volume= 0.580 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 3.242	58	HIB
* 3.114	78	WwA
* 2.771	71	ChA
* 2.303	30	CIB
* 0.730	58	AoA
12.160	61	Weighted Average
12.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 14S: Pre A Pervious Offsite



Summary for Subcatchment 16S: Pre A Impervious Offsite

Preconstruction Conditions for DA South Pond.

Runoff = 0.38 cfs @ 12.69 hrs, Volume= 0.065 af, Depth= 2.54"

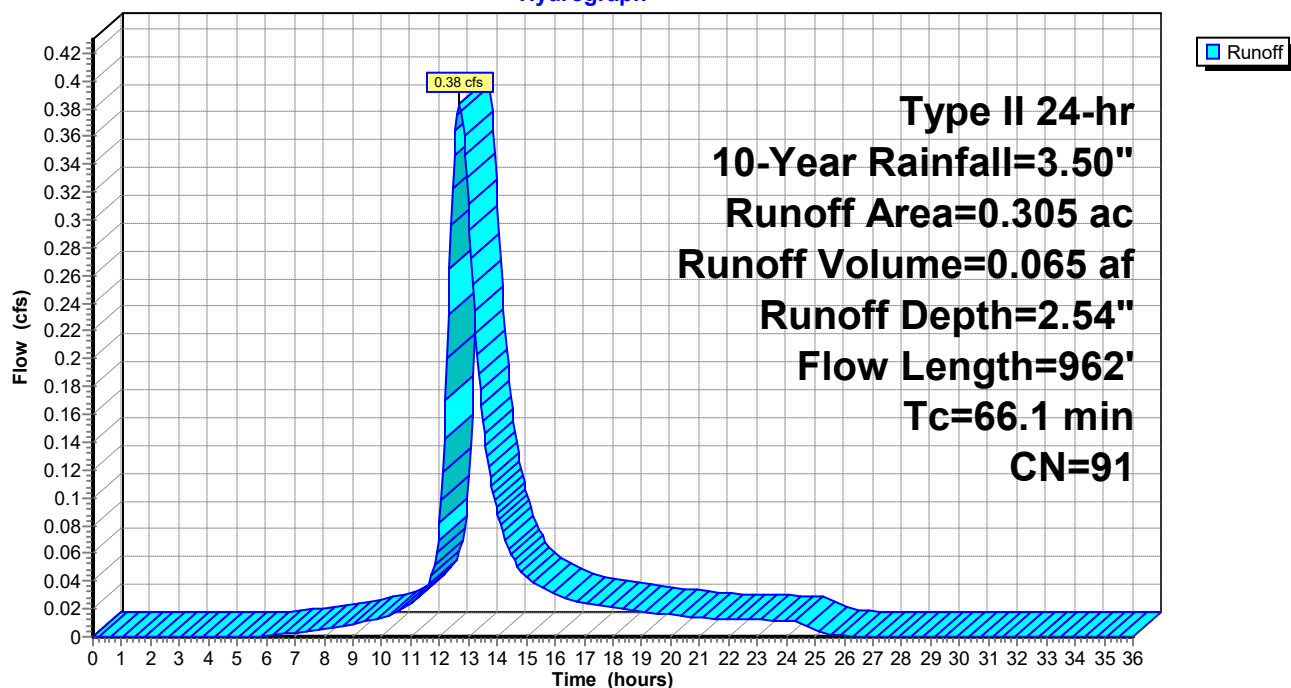
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=3.50"

Area (ac)	CN	Description
* 0.305	91	Gravel Driveway
0.305		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 16S: Pre A Impervious Offsite

Hydrograph



Summary for Pond 13P: Basin

Inflow Area = 6.750 ac, 0.00% Impervious, Inflow Depth = 0.43" for 10-Year event
 Inflow = 2.61 cfs @ 11.95 hrs, Volume= 0.241 af
 Outflow = 0.24 cfs @ 14.08 hrs, Volume= 0.226 af, Atten= 91%, Lag= 127.7 min
 Primary = 0.24 cfs @ 14.08 hrs, Volume= 0.226 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 401.73' @ 14.08 hrs Surf.Area= 8,994 sf Storage= 4,215 cf

Plug-Flow detention time= 305.9 min calculated for 0.226 af (94% of inflow)
 Center-of-Mass det. time= 271.7 min (1,165.1 - 893.5)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	24,650 cf	Custom Stage Data (Conic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	8,494	0	0	8,494
402.00	9,278	6,663	6,663	9,317
403.00	10,411	9,839	16,502	10,503
403.75	11,326	8,149	24,650	11,459

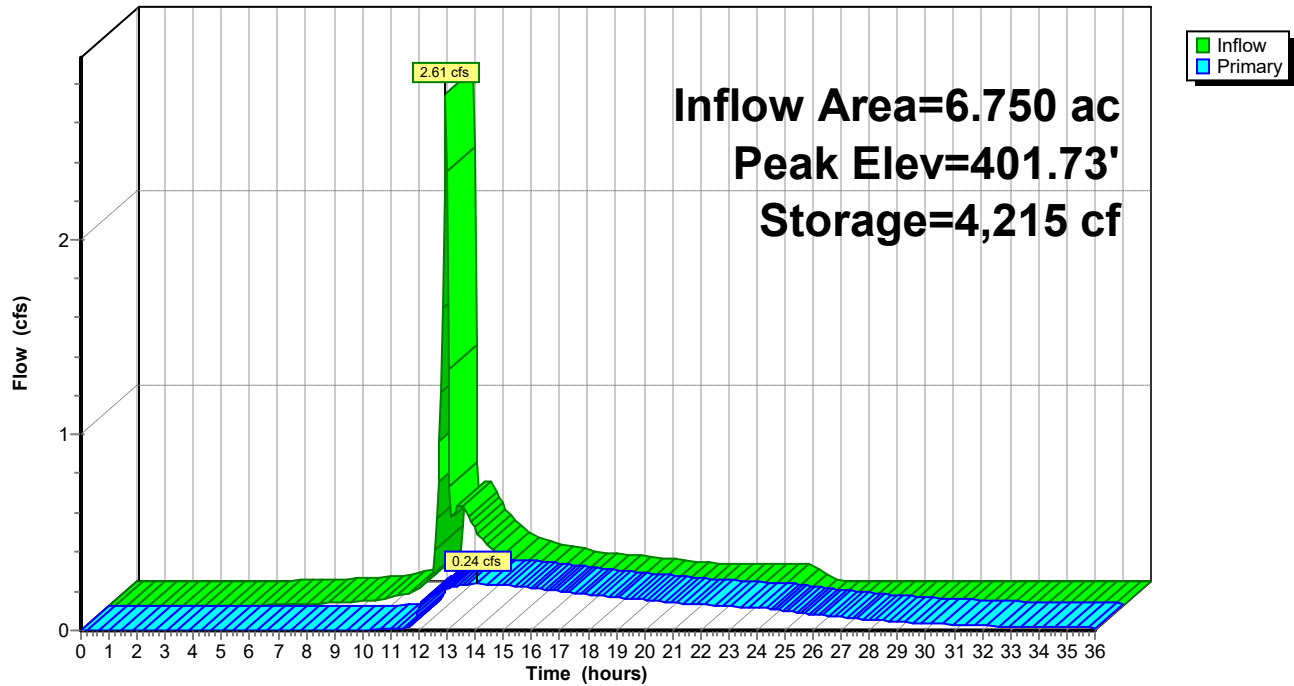
Device	Routing	Invert	Outlet Devices
#1	Primary	401.25'	2.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	401.25'	12.0" Round RCP_Round 12" L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 401.25' / 401.20' S= 0.0050 '/' Cc= 0.900 n= 0.120, Flow Area= 0.79 sf

Primary OutFlow Max=0.24 cfs @ 14.08 hrs HW=401.73' (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.10 cfs @ 2.96 fps)
 2=RCP_Round 12" (Barrel Controls 0.14 cfs @ 0.54 fps)

Pond 13P: Basin

Hydrograph

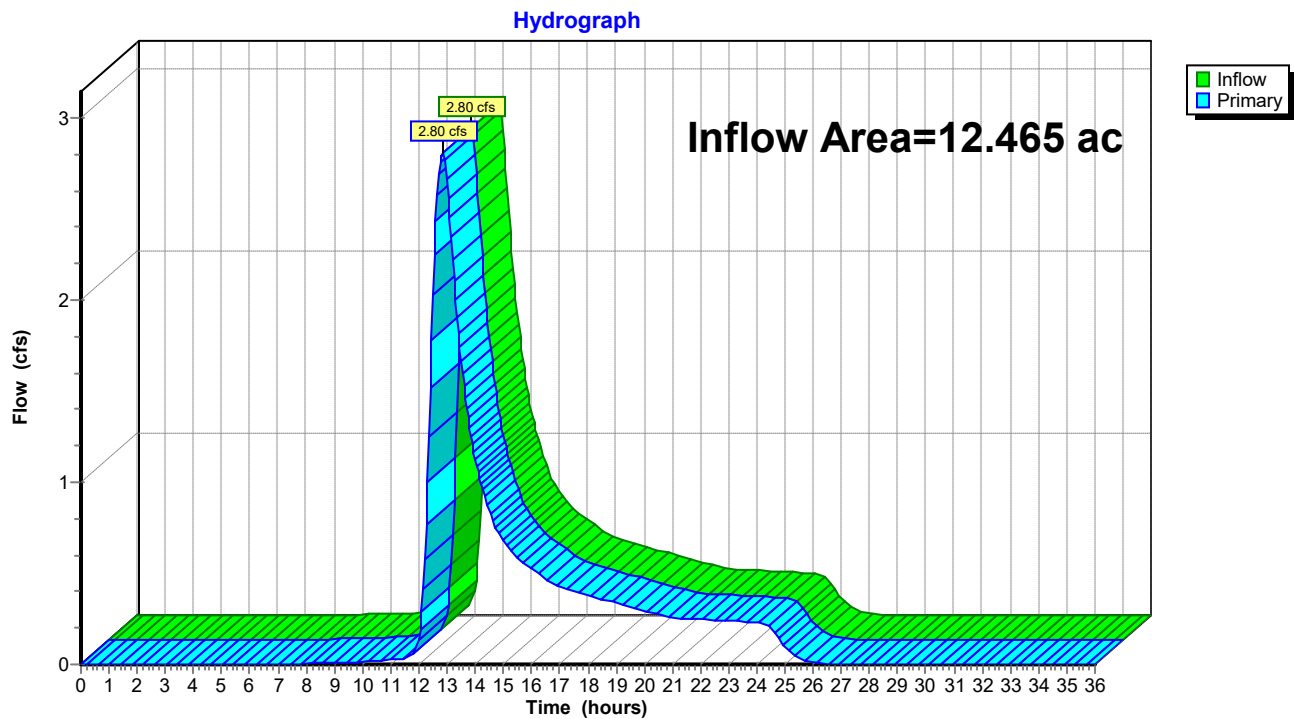


Summary for Link 15L: Post A Offsite Total

Inflow Area = 12.465 ac, 0.00% Impervious, Inflow Depth = 0.62" for 10-Year event
 Inflow = 2.80 cfs @ 12.84 hrs, Volume= 0.645 af
 Primary = 2.80 cfs @ 12.84 hrs, Volume= 0.645 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 15L: Post A Offsite Total

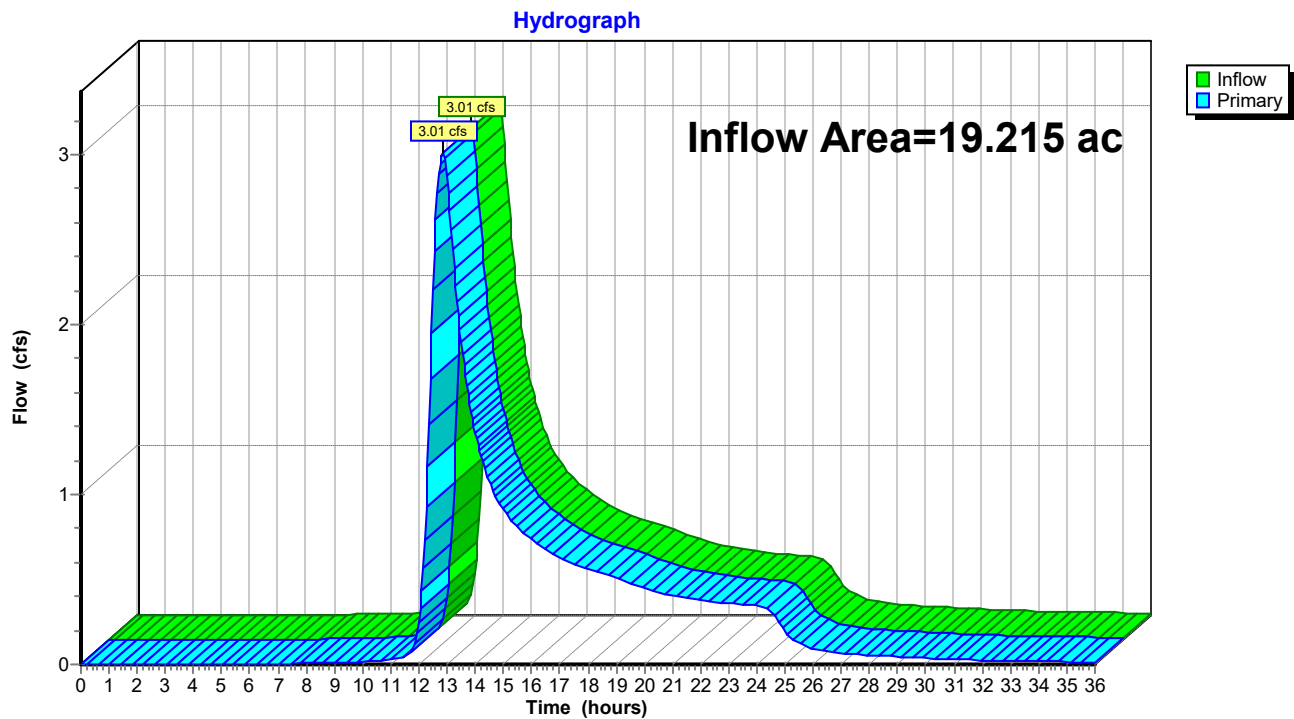


Summary for Link 17L: Post A Total

Inflow Area = 19.215 ac, 0.00% Impervious, Inflow Depth > 0.54" for 10-Year event
 Inflow = 3.01 cfs @ 12.85 hrs, Volume= 0.871 af
 Primary = 3.01 cfs @ 12.85 hrs, Volume= 0.871 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 17L: Post A Total



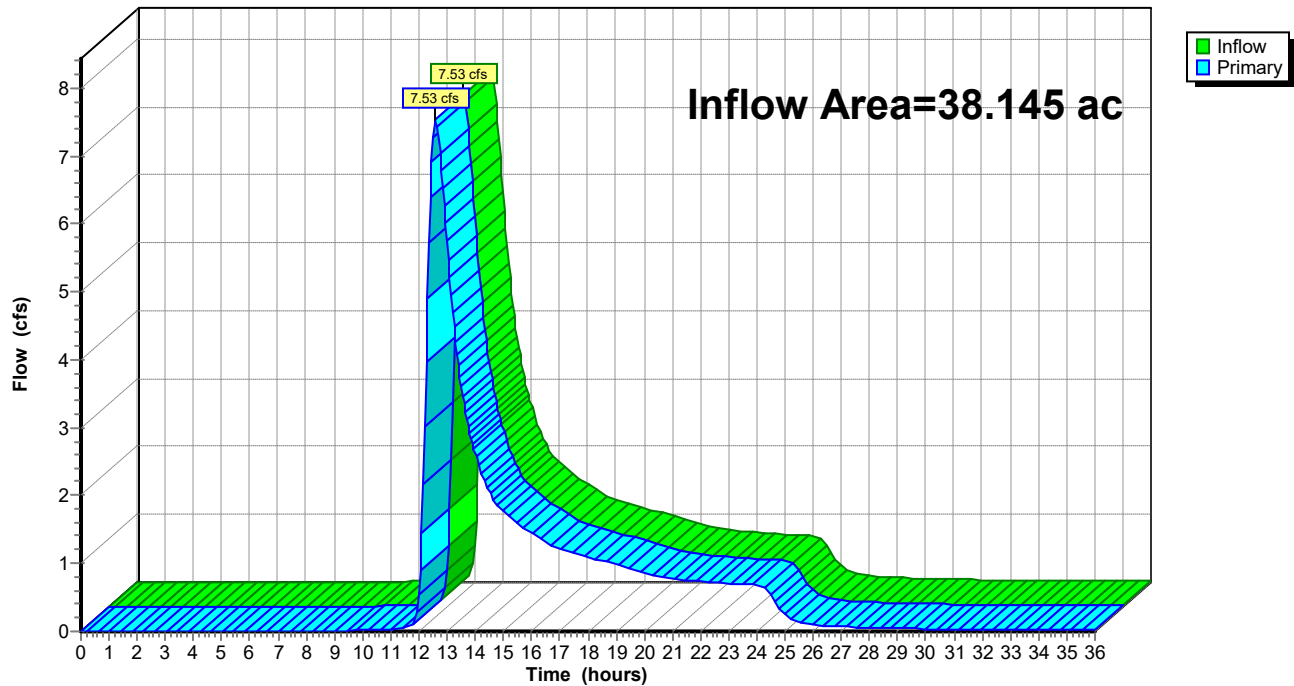
Summary for Link 18L: Post Total

Inflow Area = 38.145 ac, 0.00% Impervious, Inflow Depth > 0.56" for 10-Year event
 Inflow = 7.53 cfs @ 12.60 hrs, Volume= 1.775 af
 Primary = 7.53 cfs @ 12.60 hrs, Volume= 1.775 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 18L: Post Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr 100-Year Rainfall=6.00"*

Prepared by GEI Consultants

Printed 10/26/2022

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 4S: Post A Pervious to Basin Runoff Area=6.150 ac 0.00% Impervious Runoff Depth=1.22"
Flow Length=707' Tc=37.2 min CN=51 Runoff=4.37 cfs 0.623 af

Subcatchment 5S: Post A Impervious to Runoff Area=0.600 ac 0.00% Impervious Runoff Depth=4.96"
Tc=5.0 min CN=91 Runoff=4.88 cfs 0.248 af

Subcatchment 6S: Post B Pervious Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=2.01"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=23.56 cfs 3.164 af

Subcatchment 14S: Pre A Pervious Offsite Runoff Area=12.160 ac 0.00% Impervious Runoff Depth=2.01"
Flow Length=962' Tc=66.1 min CN=61 Runoff=11.15 cfs 2.032 af

Subcatchment 16S: Pre A Impervious Offsite Runoff Area=0.305 ac 0.00% Impervious Runoff Depth=4.96"
Flow Length=962' Tc=66.1 min CN=91 Runoff=0.73 cfs 0.126 af

Pond 13P: Basin Peak Elev=402.90' Storage=15,484 cf Inflow=5.16 cfs 0.871 af
Outflow=1.19 cfs 0.850 af

Link 15L: Post A Offsite Total Inflow=11.87 cfs 2.158 af
Primary=11.87 cfs 2.158 af

Link 17L: Post A Total Inflow=12.92 cfs 3.008 af
Primary=12.92 cfs 3.008 af

Link 18L: Post Total Inflow=34.10 cfs 6.172 af
Primary=34.10 cfs 6.172 af

Total Runoff Area = 38.145 ac Runoff Volume = 6.193 af Average Runoff Depth = 1.95"
100.00% Pervious = 38.145 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 4S: Post A Pervious to Basin

Preconstruction Conditions for DA South Pond.

[47] Hint: Peak is 210% of capacity of segment #3

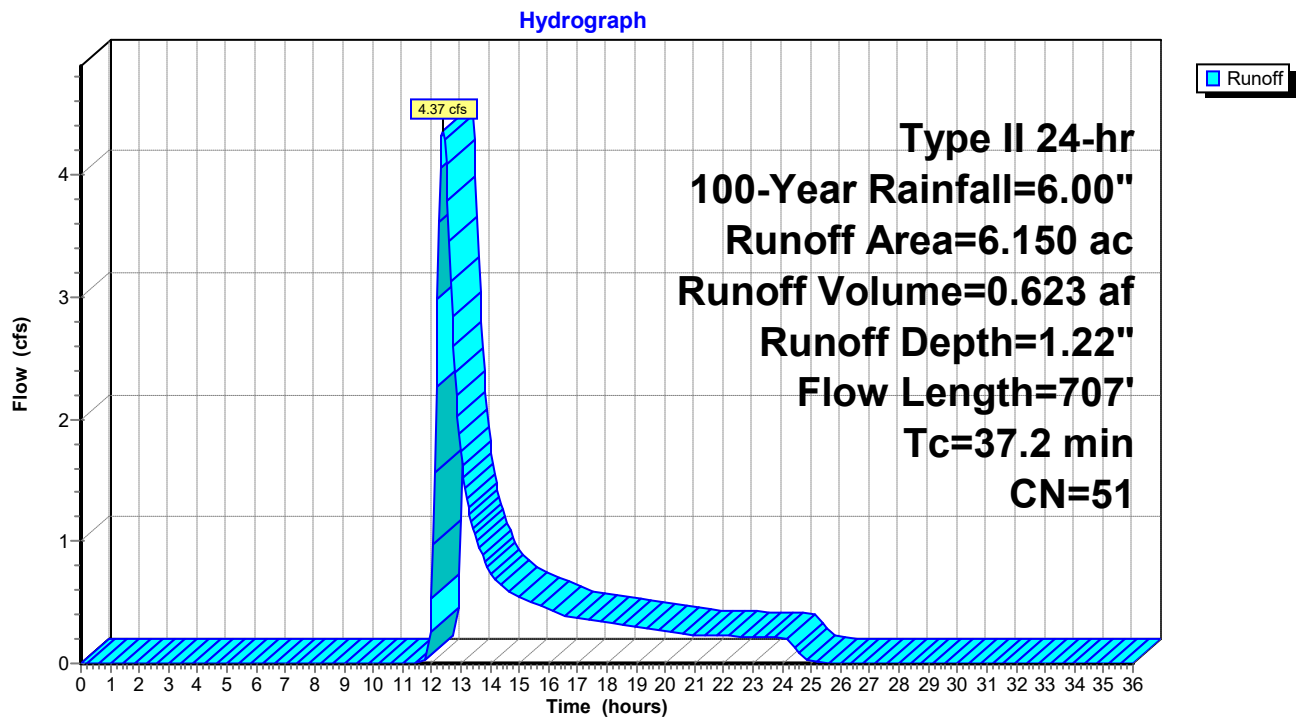
Runoff = 4.37 cfs @ 12.40 hrs, Volume= 0.623 af, Depth= 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 2.027	58	HIB
* 1.219	78	WwA
* 0.329	71	ChA
* 2.575	30	CIB
6.150	51	Weighted Average
6.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	100	0.0063	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
5.7	324	0.0185	0.95		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
13.6	283	0.0018	0.35	2.08	Channel Flow, Swale Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.150
37.2	707	Total			

Subcatchment 4S: Post A Pervious to Basin



Summary for Subcatchment 5S: Post A Impervious to Basin

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 4.88 cfs @ 11.95 hrs, Volume= 0.248 af, Depth= 4.96"

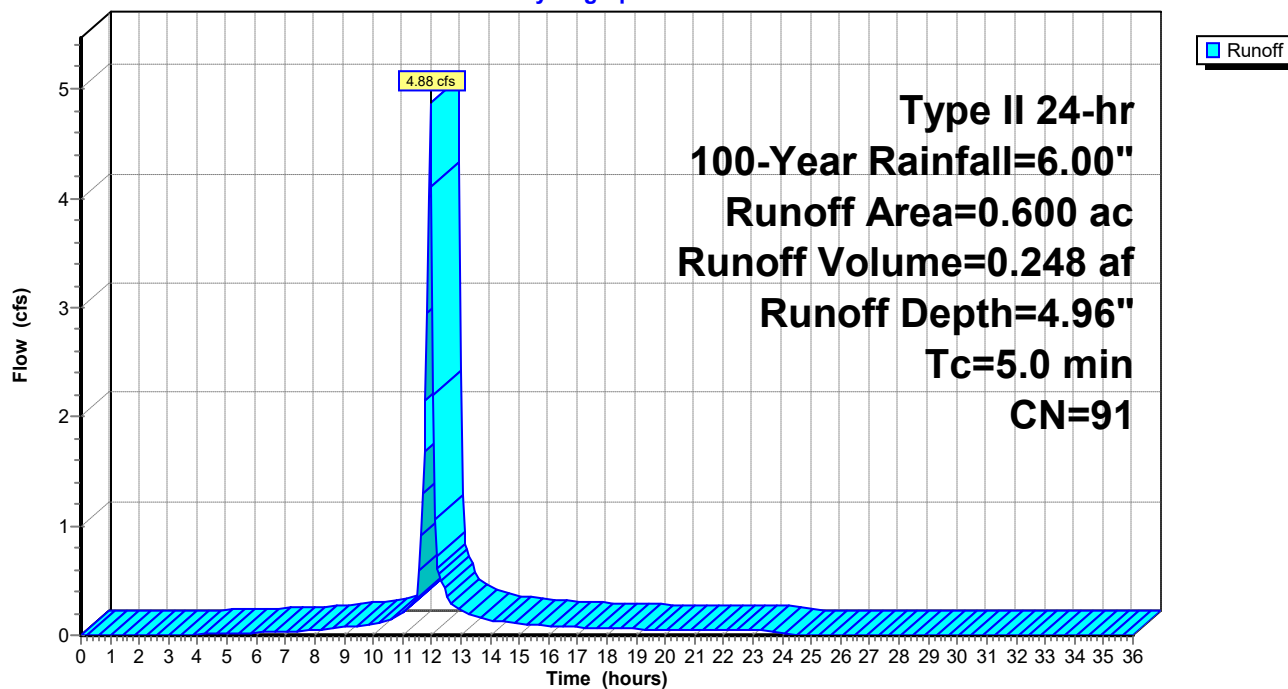
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, $dt=0.05$ hrs
Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 0.600	91	Gravel Driveway
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Driveway

Subcatchment 5S: Post A Impervious to Basin

Hydrograph



Summary for Subcatchment 6S: Post B Pervious

Runoff = 23.56 cfs @ 12.45 hrs, Volume= 3.164 af, Depth= 2.01"

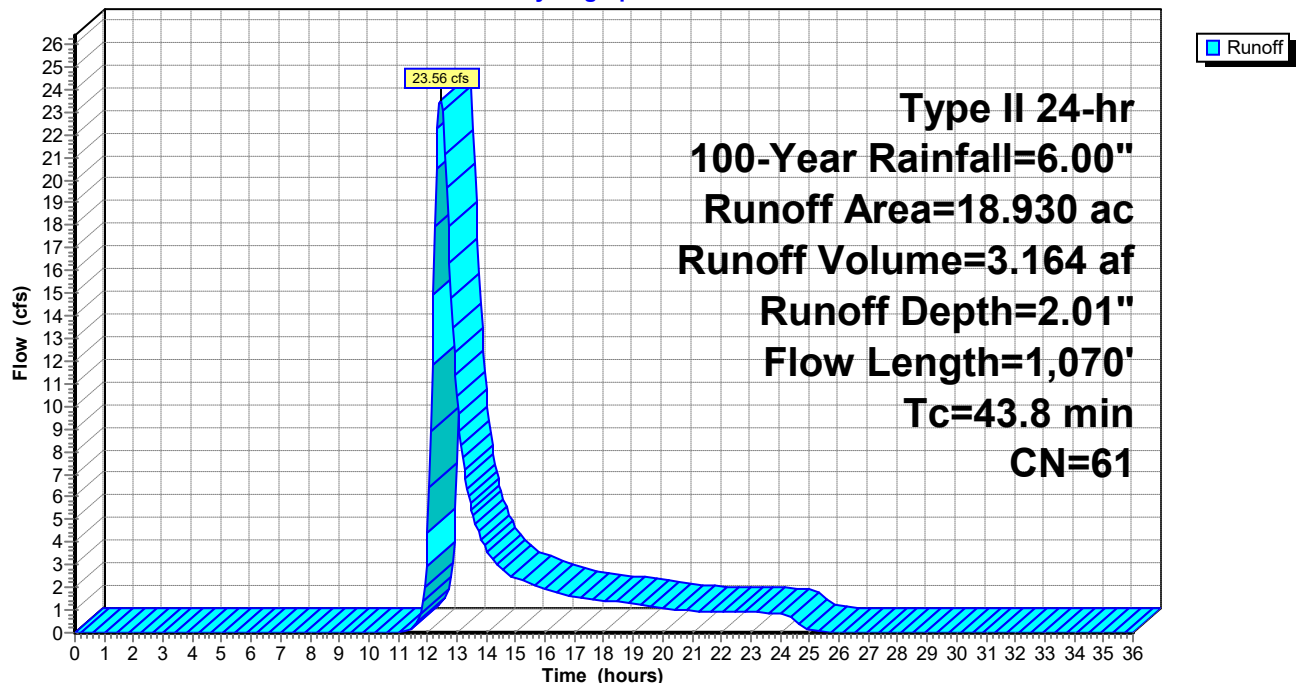
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 6S: Post B Pervious

Hydrograph



Summary for Subcatchment 14S: Pre A Pervious Offsite

Preconstruction Conditions for DA South Pond.

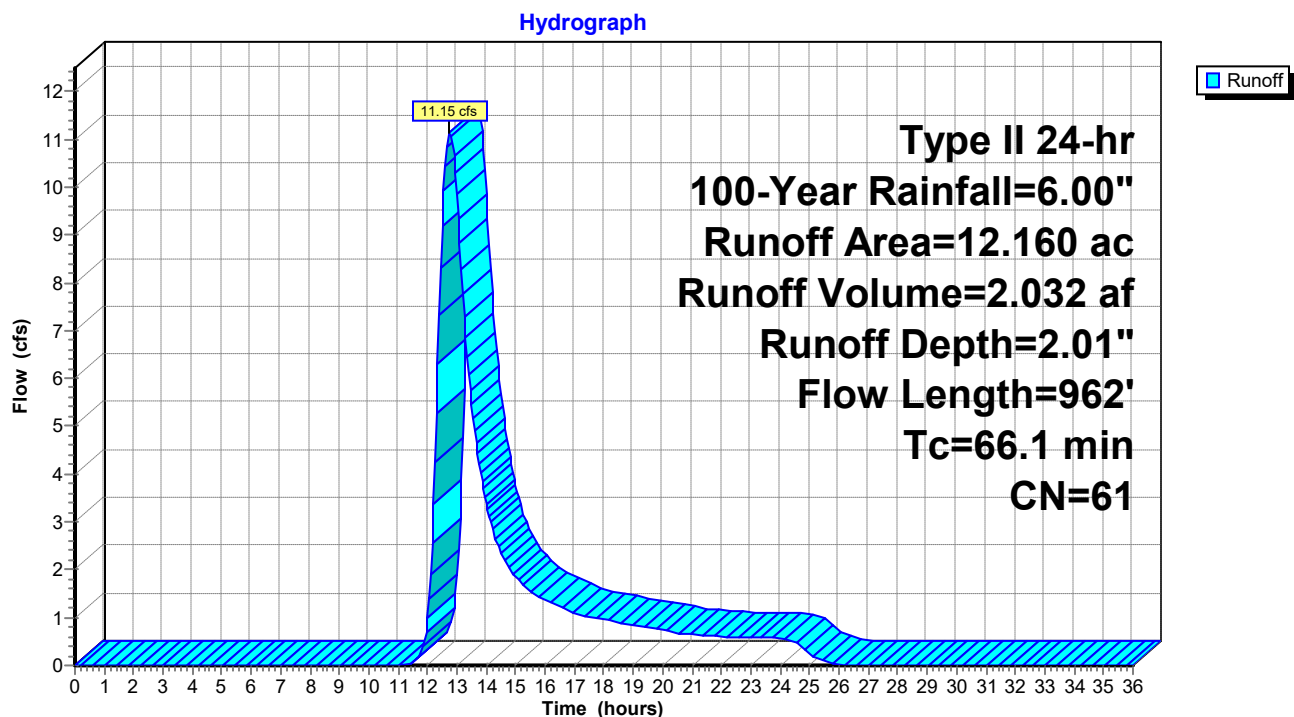
Runoff = 11.15 cfs @ 12.75 hrs, Volume= 2.032 af, Depth= 2.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 3.242	58	HIB
* 3.114	78	WwA
* 2.771	71	ChA
* 2.303	30	CIB
* 0.730	58	AoA
12.160	61	Weighted Average
12.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow
					Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow
					Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow
					Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow
					Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 14S: Pre A Pervious Offsite



Summary for Subcatchment 16S: Pre A Impervious Offsite

Preconstruction Conditions for DA South Pond.

Runoff = 0.73 cfs @ 12.68 hrs, Volume= 0.126 af, Depth= 4.96"

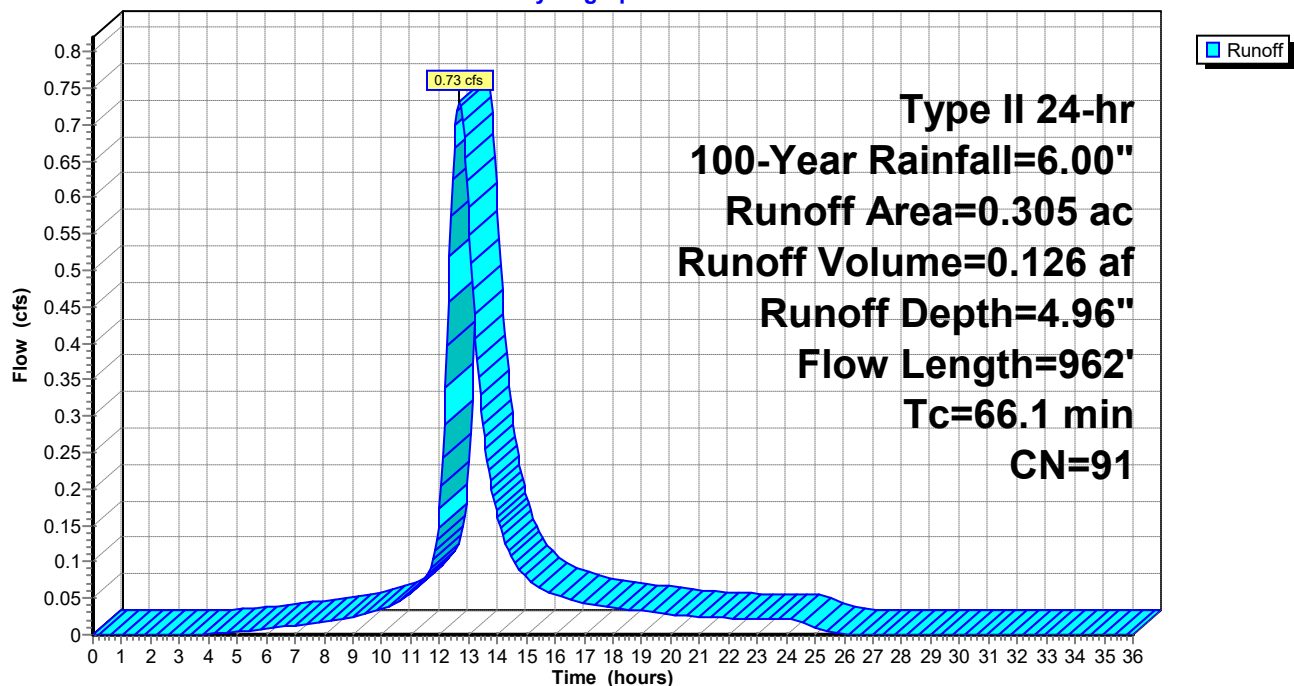
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.00"

Area (ac)	CN	Description
* 0.305	91	Gravel Driveway
0.305		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 16S: Pre A Impervious Offsite

Hydrograph



Summary for Pond 13P: Basin

Inflow Area = 6.750 ac, 0.00% Impervious, Inflow Depth = 1.55" for 100-Year event
 Inflow = 5.16 cfs @ 11.96 hrs, Volume= 0.871 af
 Outflow = 1.19 cfs @ 13.51 hrs, Volume= 0.850 af, Atten= 77%, Lag= 93.2 min
 Primary = 1.19 cfs @ 13.51 hrs, Volume= 0.850 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 402.90' @ 13.51 hrs Surf.Area= 10,297 sf Storage= 15,484 cf

Plug-Flow detention time= 221.7 min calculated for 0.849 af (97% of inflow)
 Center-of-Mass det. time= 208.7 min (1,085.7 - 877.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	401.25'	24,650 cf	Custom Stage Data (Conic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	8,494	0	0	8,494
402.00	9,278	6,663	6,663	9,317
403.00	10,411	9,839	16,502	10,503
403.75	11,326	8,149	24,650	11,459

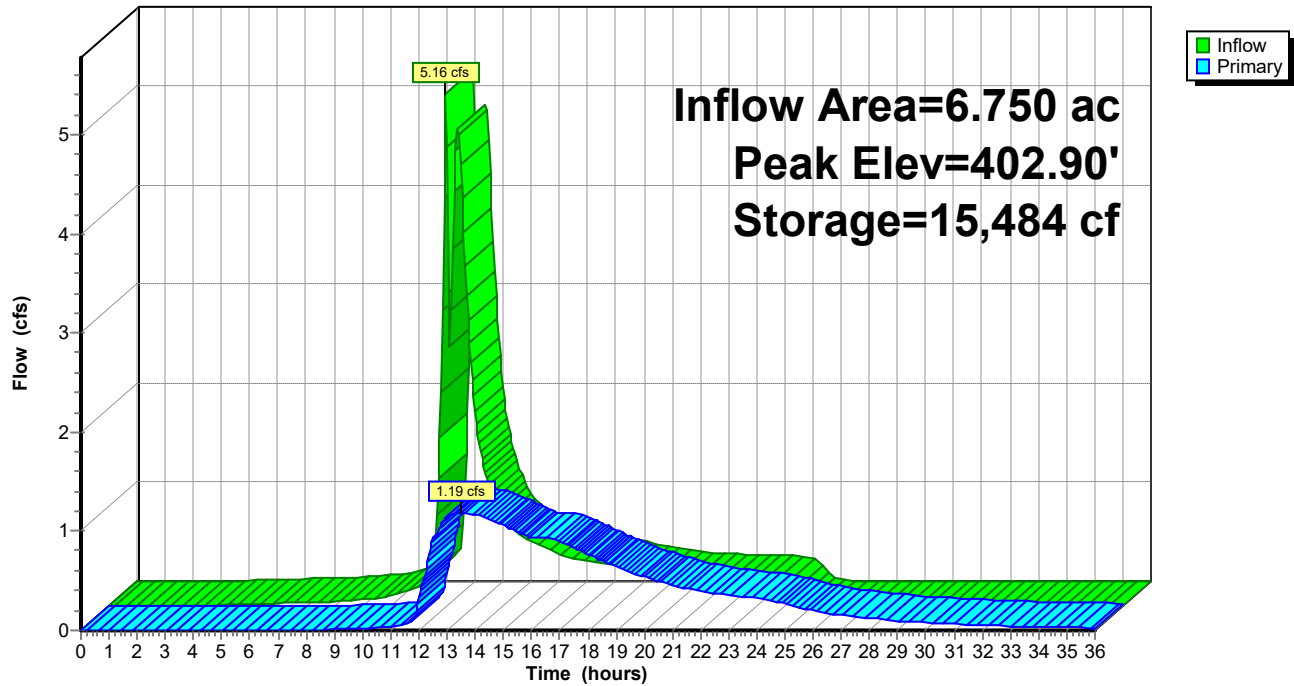
Device	Routing	Invert	Outlet Devices	
#1	Primary	401.25'	2.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#2	Primary	401.25'	12.0" Round RCP_Round 12" L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 401.25' / 401.20' S= 0.0050 '/' Cc= 0.900 n= 0.120, Flow Area= 0.79 sf	

Primary OutFlow Max=1.19 cfs @ 13.51 hrs HW=402.90' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.20 cfs @ 5.99 fps)
 ↓ **2=RCP_Round 12"** (Barrel Controls 0.99 cfs @ 1.26 fps)

Pond 13P: Basin

Hydrograph



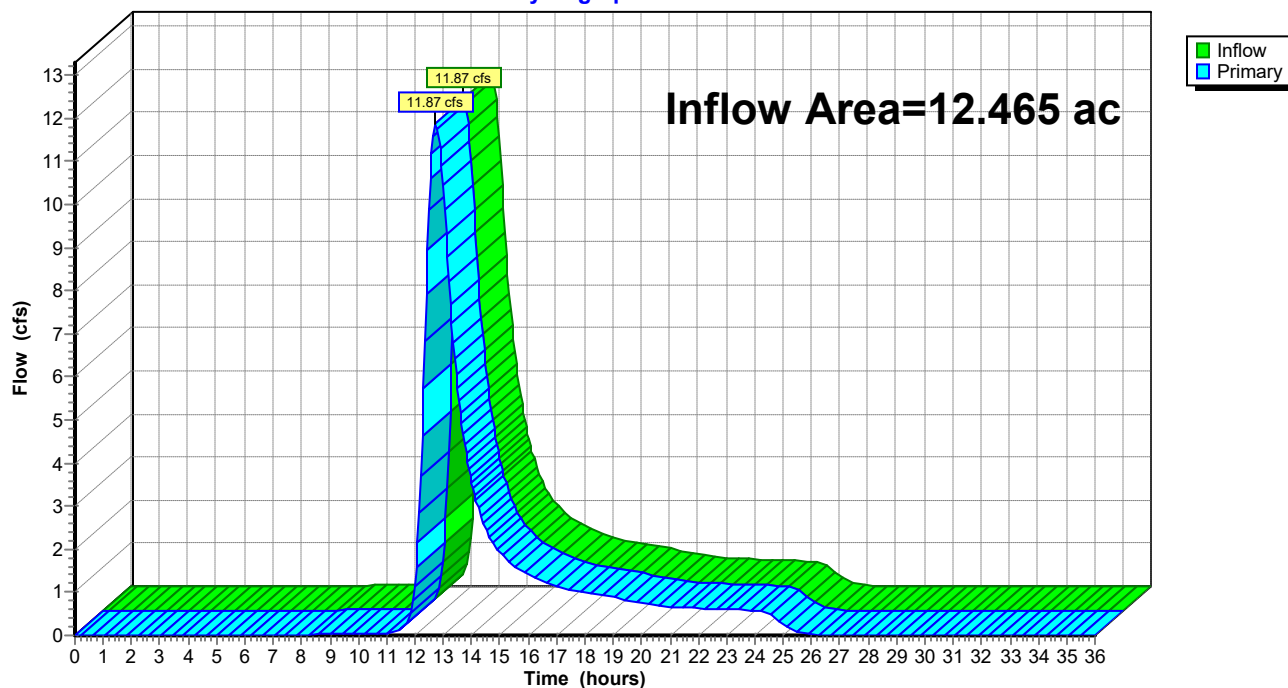
Summary for Link 15L: Post A Offsite Total

Inflow Area = 12.465 ac, 0.00% Impervious, Inflow Depth = 2.08" for 100-Year event
 Inflow = 11.87 cfs @ 12.74 hrs, Volume= 2.158 af
 Primary = 11.87 cfs @ 12.74 hrs, Volume= 2.158 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 15L: Post A Offsite Total

Hydrograph

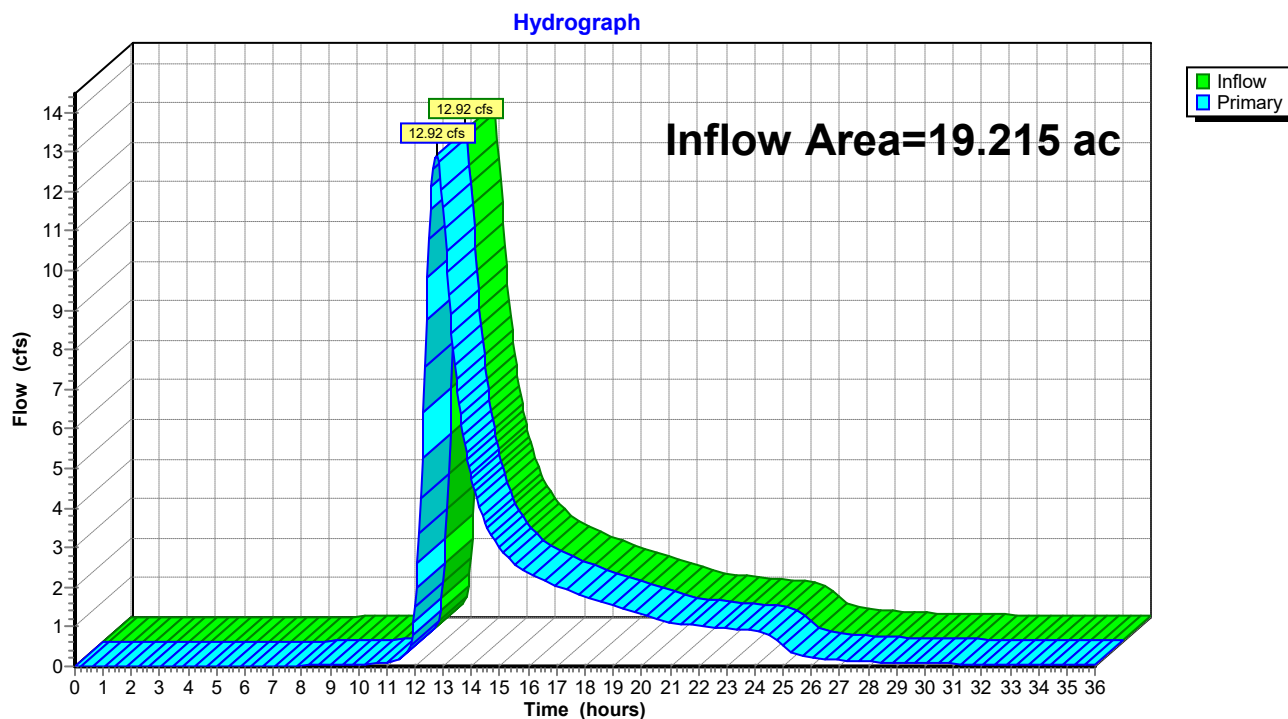


Summary for Link 17L: Post A Total

Inflow Area = 19.215 ac, 0.00% Impervious, Inflow Depth > 1.88" for 100-Year event
 Inflow = 12.92 cfs @ 12.75 hrs, Volume= 3.008 af
 Primary = 12.92 cfs @ 12.75 hrs, Volume= 3.008 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 17L: Post A Total



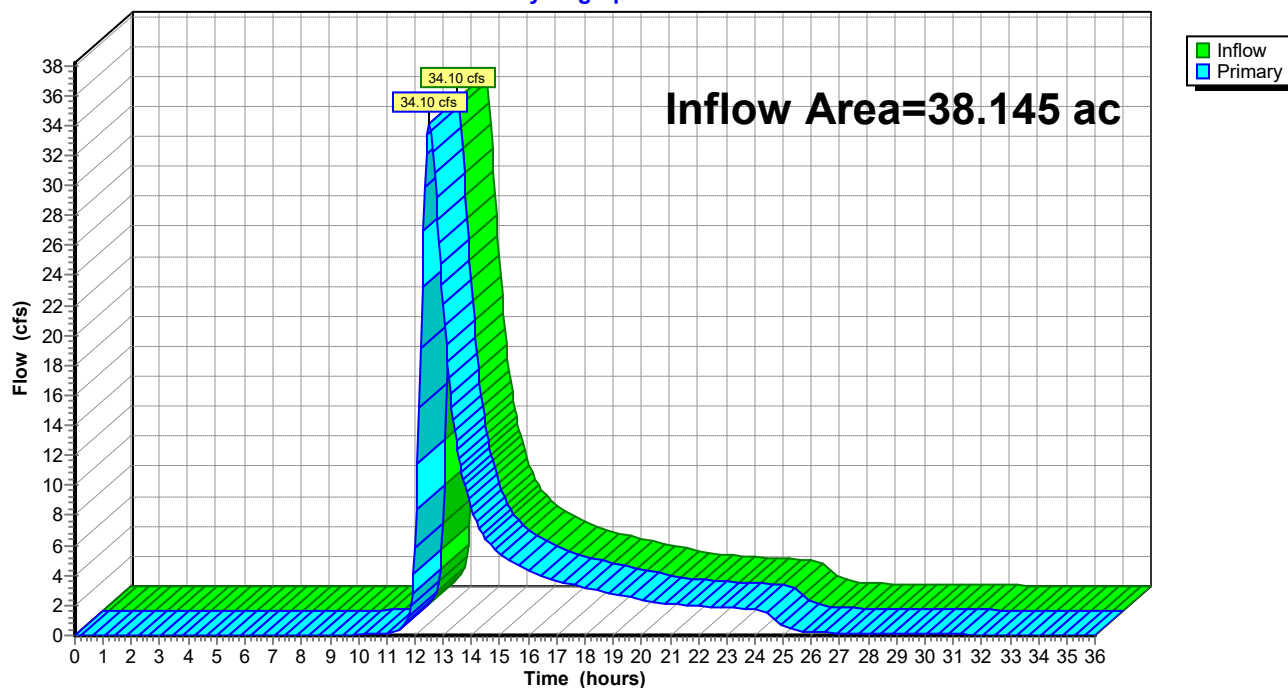
Summary for Link 18L: Post Total

Inflow Area = 38.145 ac, 0.00% Impervious, Inflow Depth > 1.94" for 100-Year event
 Inflow = 34.10 cfs @ 12.52 hrs, Volume= 6.172 af
 Primary = 34.10 cfs @ 12.52 hrs, Volume= 6.172 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 18L: Post Total

Hydrograph



Warner Hydrology Model 10-11-2022*Type II 24-hr 1-Year Rainfall=2.04"*

Prepared by GEI Consultants

Printed 10/26/2022

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 4S: Post A Pervious to Basin Runoff Area=6.150 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=707' Tc=37.2 min CN=51 Runoff=0.00 cfs 0.001 af

Subcatchment 5S: Post A Impervious to Runoff Area=0.600 ac 0.00% Impervious Runoff Depth=1.20"
Tc=5.0 min CN=91 Runoff=1.28 cfs 0.060 af

Subcatchment 6S: Post B Pervious Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.08"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=0.22 cfs 0.128 af

Subcatchment 14S: Pre A Pervious Offsite Runoff Area=12.160 ac 0.00% Impervious Runoff Depth=0.08"
Flow Length=962' Tc=66.1 min CN=61 Runoff=0.13 cfs 0.082 af

Subcatchment 16S: Pre A Impervious Offsite Runoff Area=0.305 ac 0.00% Impervious Runoff Depth=1.20"
Flow Length=962' Tc=66.1 min CN=91 Runoff=0.18 cfs 0.030 af

Pond 13P: Basin Peak Elev=401.43' Storage=1,518 cf Inflow=1.28 cfs 0.061 af
Outflow=0.06 cfs 0.051 af

Link 15L: Post A Offsite Total Inflow=0.25 cfs 0.113 af
Primary=0.25 cfs 0.113 af

Link 17L: Post A Total Inflow=0.31 cfs 0.164 af
Primary=0.31 cfs 0.164 af

Link 18L: Post Total Inflow=0.52 cfs 0.292 af
Primary=0.52 cfs 0.292 af

Total Runoff Area = 38.145 ac Runoff Volume = 0.301 af Average Runoff Depth = 0.09"
100.00% Pervious = 38.145 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 4S: Post A Pervious to Basin

Preconstruction Conditions for DA South Pond.

Runoff = 0.00 cfs @ 24.10 hrs, Volume= 0.001 af, Depth= 0.00"

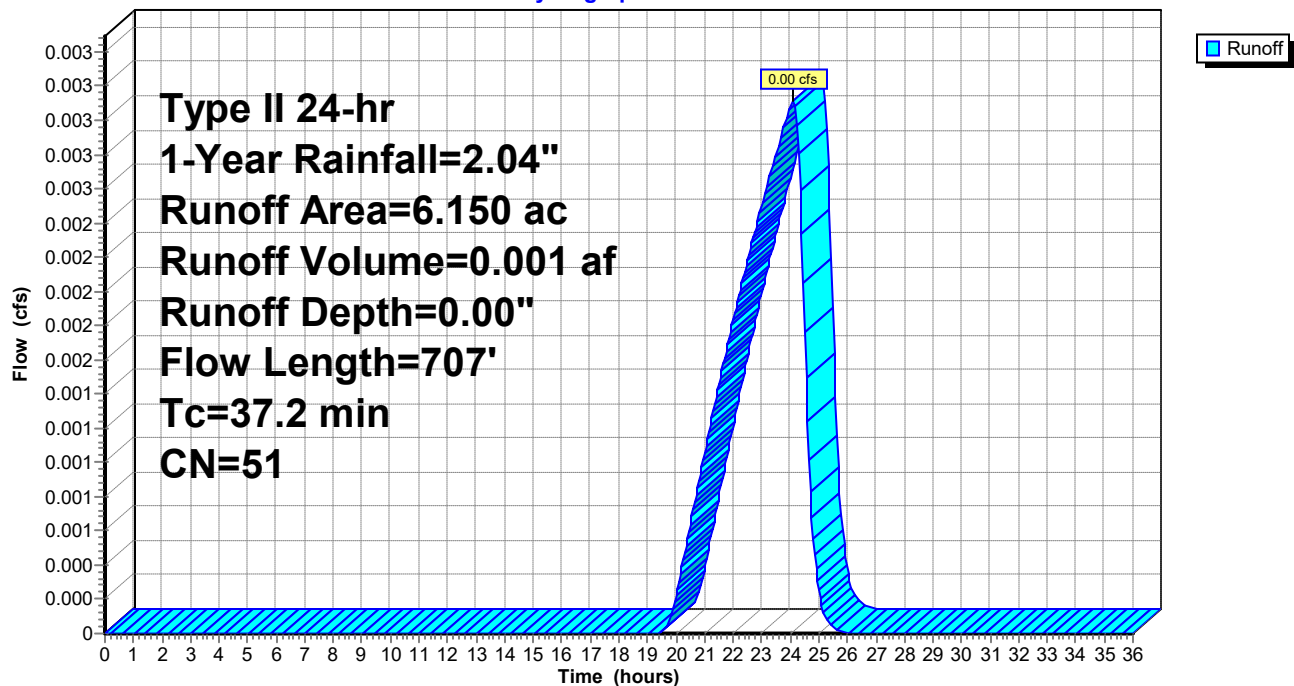
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 2.027	58	HIB
* 1.219	78	WwA
* 0.329	71	ChA
* 2.575	30	CIB
6.150	51	Weighted Average
6.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	100	0.0063	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
5.7	324	0.0185	0.95		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
13.6	283	0.0018	0.35	2.08	Channel Flow, Swale Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.150
37.2	707	Total			

Subcatchment 4S: Post A Pervious to Basin

Hydrograph



Summary for Subcatchment 5S: Post A Impervious to Basin

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 1.28 cfs @ 11.96 hrs, Volume= 0.060 af, Depth= 1.20"

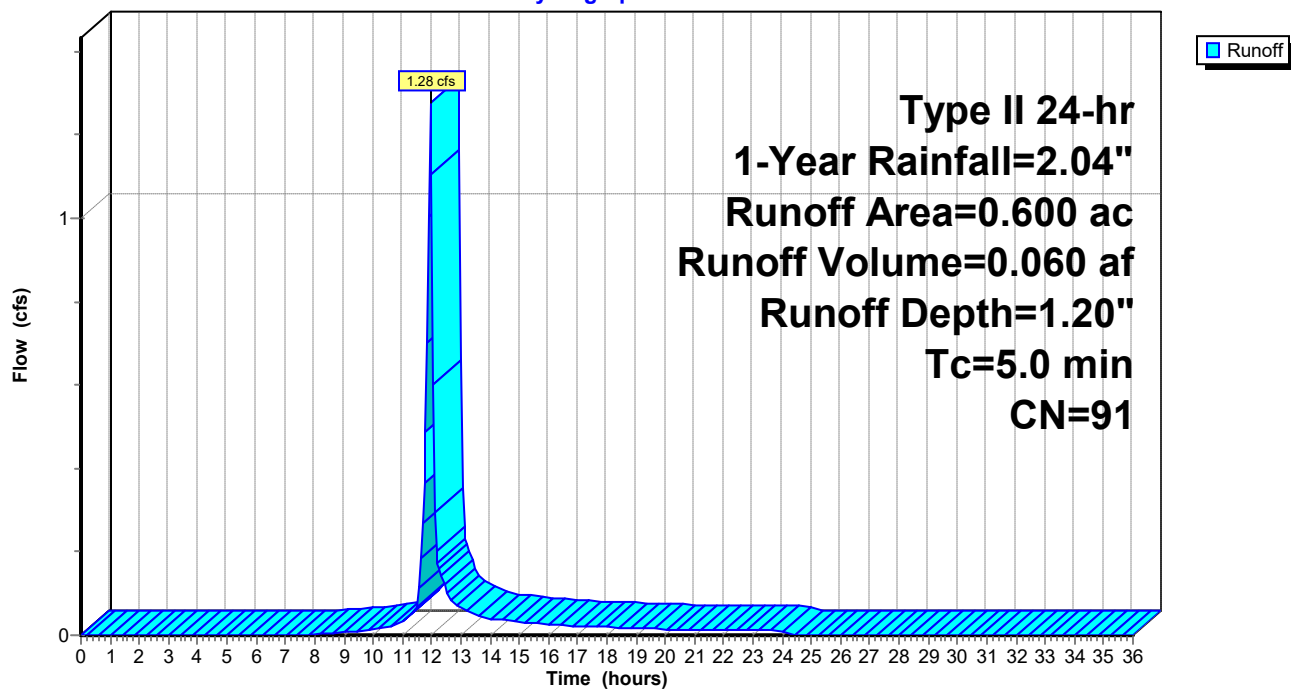
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, $dt= 0.05$ hrs
Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 0.600	91	Gravel Driveway
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Driveway

Subcatchment 5S: Post A Impervious to Basin

Hydrograph



Summary for Subcatchment 6S: Post B Pervious

Runoff = 0.22 cfs @ 13.18 hrs, Volume= 0.128 af, Depth= 0.08"

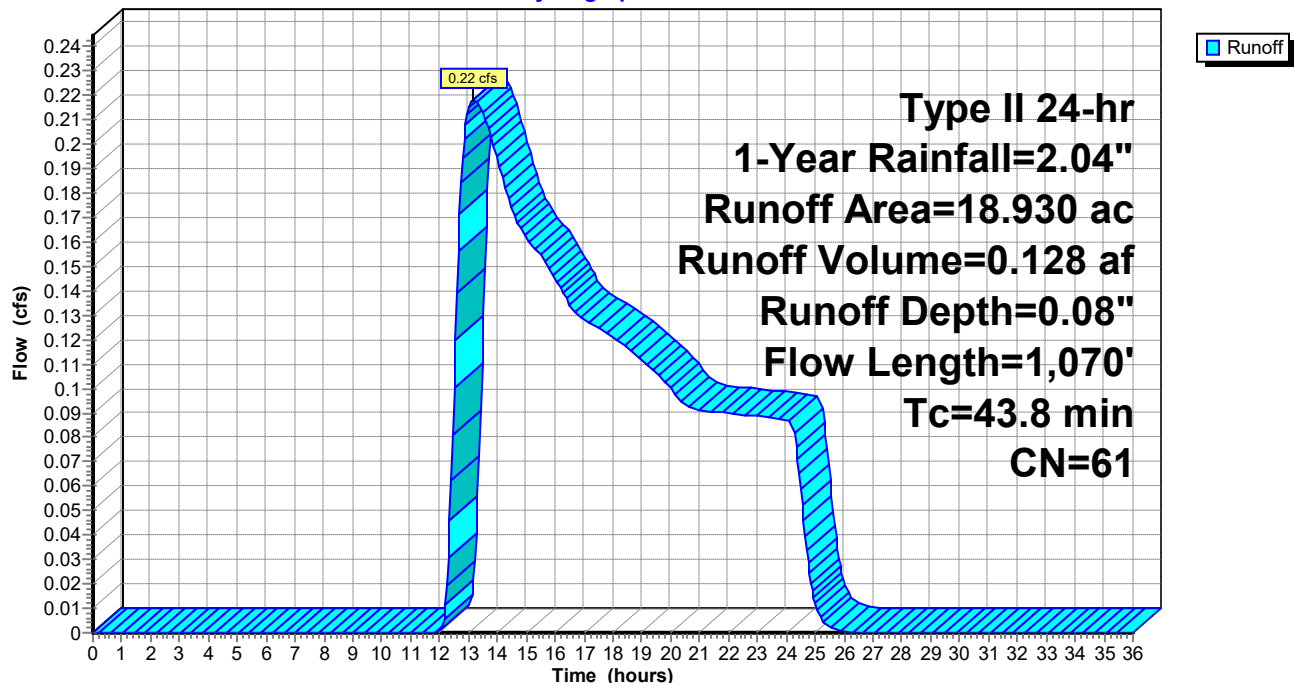
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 6S: Post B Pervious

Hydrograph



Summary for Subcatchment 14S: Pre A Pervious Offsite

Preconstruction Conditions for DA South Pond.

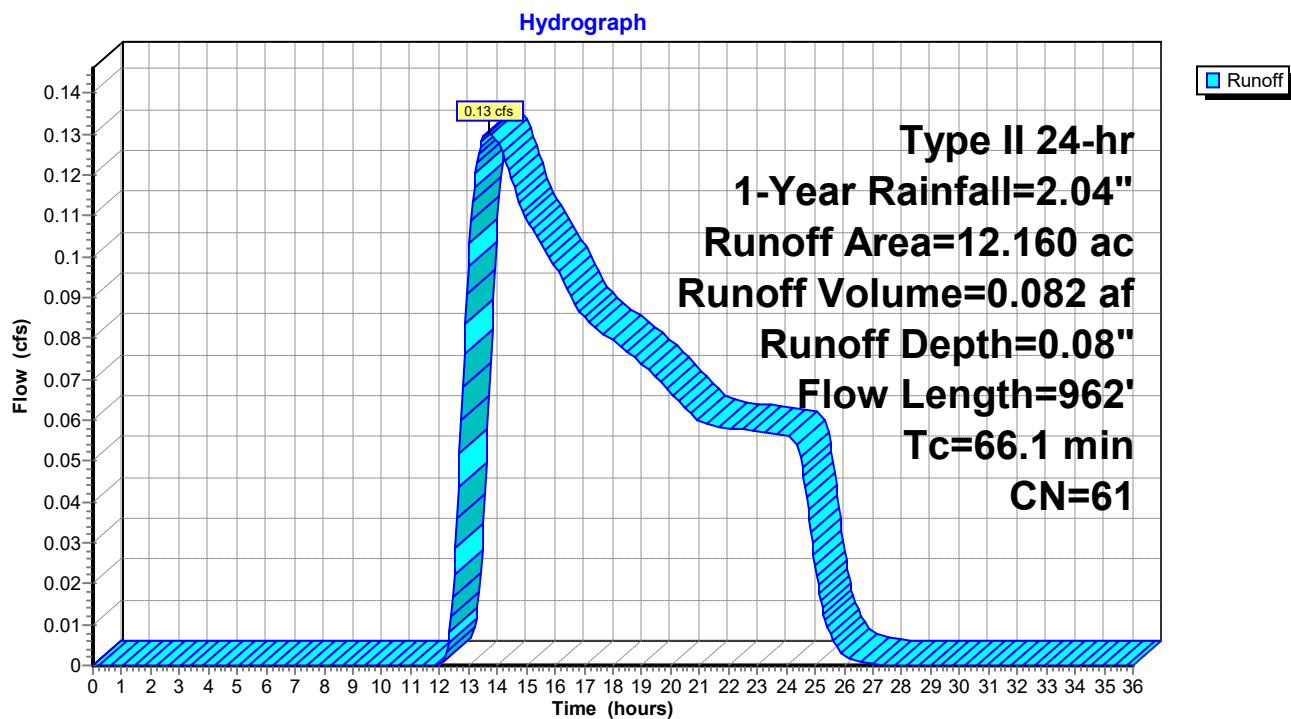
Runoff = 0.13 cfs @ 13.72 hrs, Volume= 0.082 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 3.242	58	HIB
* 3.114	78	WwA
* 2.771	71	ChA
* 2.303	30	CIB
* 0.730	58	AoA
12.160	61	Weighted Average
12.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 14S: Pre A Pervious Offsite



Summary for Subcatchment 16S: Pre A Impervious Offsite

Preconstruction Conditions for DA South Pond.

Runoff = 0.18 cfs @ 12.70 hrs, Volume= 0.030 af, Depth= 1.20"

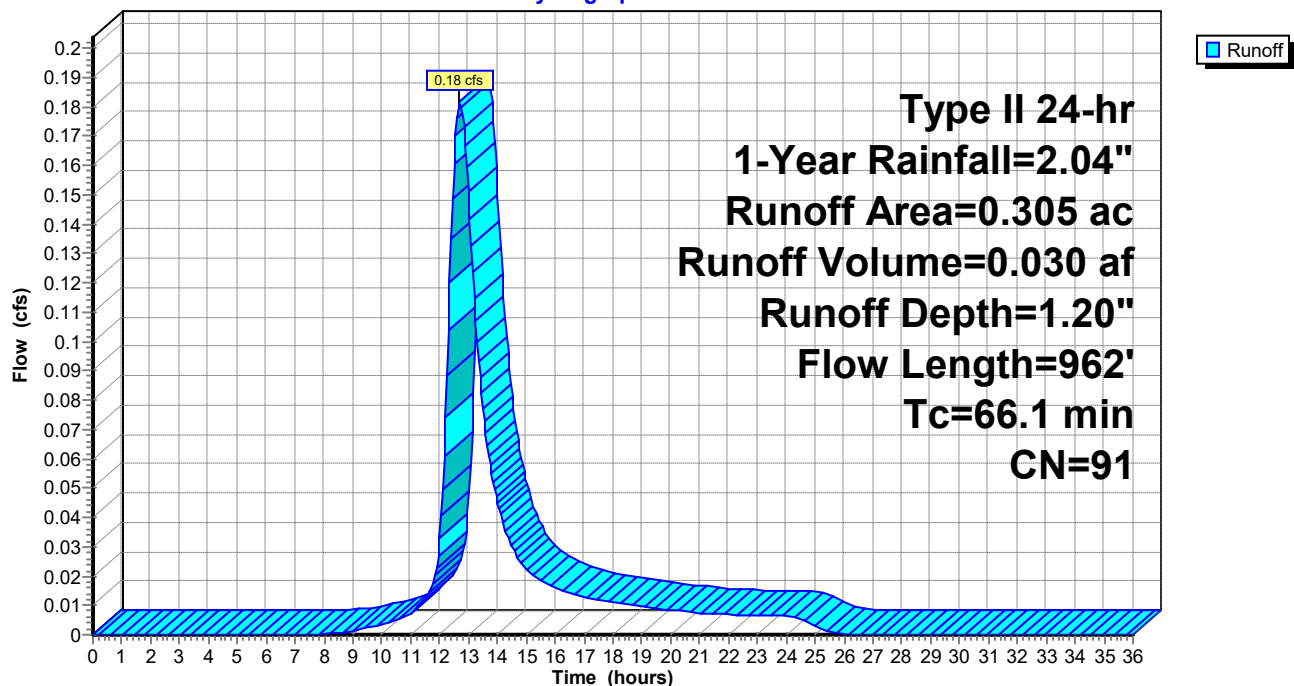
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-Year Rainfall=2.04"

Area (ac)	CN	Description
* 0.305	91	Gravel Driveway
0.305		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 16S: Pre A Impervious Offsite

Hydrograph



Summary for Pond 13P: Basin

Inflow Area = 6.750 ac, 0.00% Impervious, Inflow Depth = 0.11" for 1-Year event
 Inflow = 1.28 cfs @ 11.96 hrs, Volume= 0.061 af
 Outflow = 0.06 cfs @ 13.22 hrs, Volume= 0.051 af, Atten= 95%, Lag= 76.1 min
 Primary = 0.06 cfs @ 13.22 hrs, Volume= 0.051 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 401.43' @ 13.22 hrs Surf.Area= 8,676 sf Storage= 1,518 cf

Plug-Flow detention time= 418.8 min calculated for 0.051 af (84% of inflow)
 Center-of-Mass det. time= 345.8 min (1,169.1 - 823.2)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	24,650 cf	Custom Stage Data (Conic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	8,494	0	0	8,494
402.00	9,278	6,663	6,663	9,317
403.00	10,411	9,839	16,502	10,503
403.75	11,326	8,149	24,650	11,459

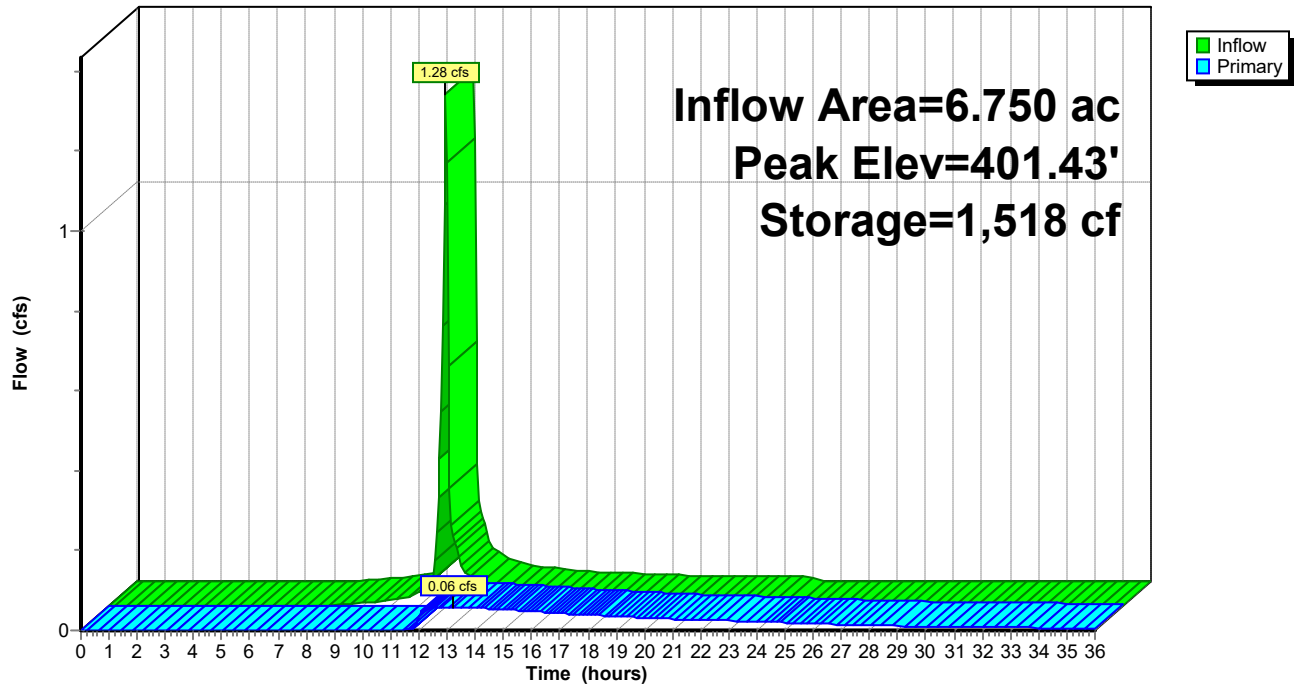
Device	Routing	Invert	Outlet Devices
#1	Primary	401.25'	2.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	401.25'	12.0" Round RCP_Round 12" L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 401.25' / 401.20' S= 0.0050 '/' Cc= 0.900 n= 0.120, Flow Area= 0.79 sf

Primary OutFlow Max=0.06 cfs @ 13.22 hrs HW=401.43' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.04 cfs @ 1.43 fps)
 ↓ **2=RCP_Round 12"** (Barrel Controls 0.01 cfs @ 0.23 fps)

Pond 13P: Basin

Hydrograph



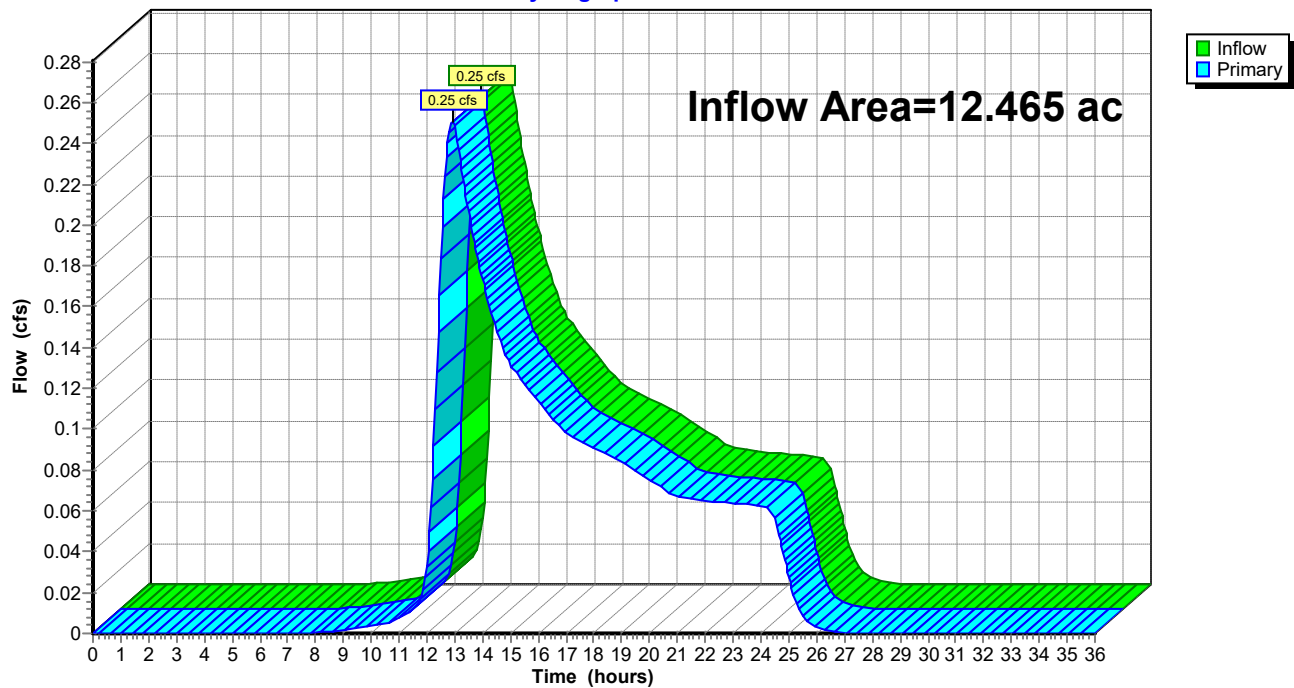
Summary for Link 15L: Post A Offsite Total

Inflow Area = 12.465 ac, 0.00% Impervious, Inflow Depth = 0.11" for 1-Year event
 Inflow = 0.25 cfs @ 12.92 hrs, Volume= 0.113 af
 Primary = 0.25 cfs @ 12.92 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 15L: Post A Offsite Total

Hydrograph



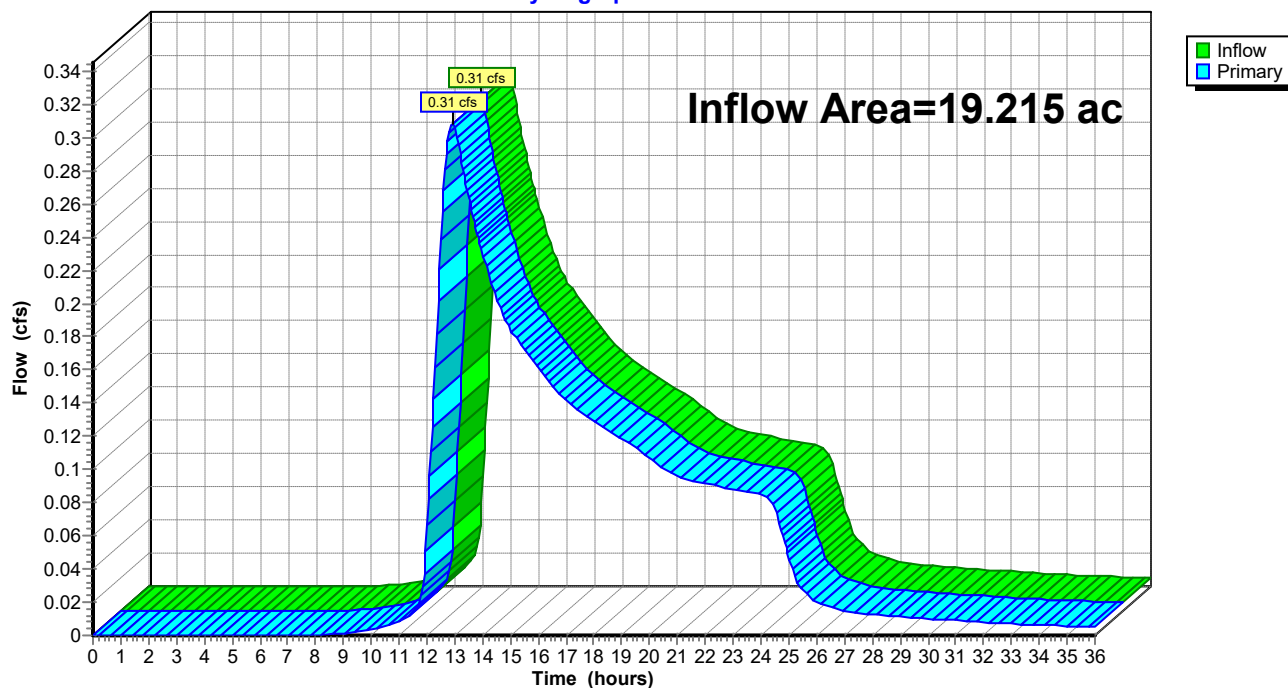
Summary for Link 17L: Post A Total

Inflow Area = 19.215 ac, 0.00% Impervious, Inflow Depth > 0.10" for 1-Year event
 Inflow = 0.31 cfs @ 12.92 hrs, Volume= 0.164 af
 Primary = 0.31 cfs @ 12.92 hrs, Volume= 0.164 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 17L: Post A Total

Hydrograph



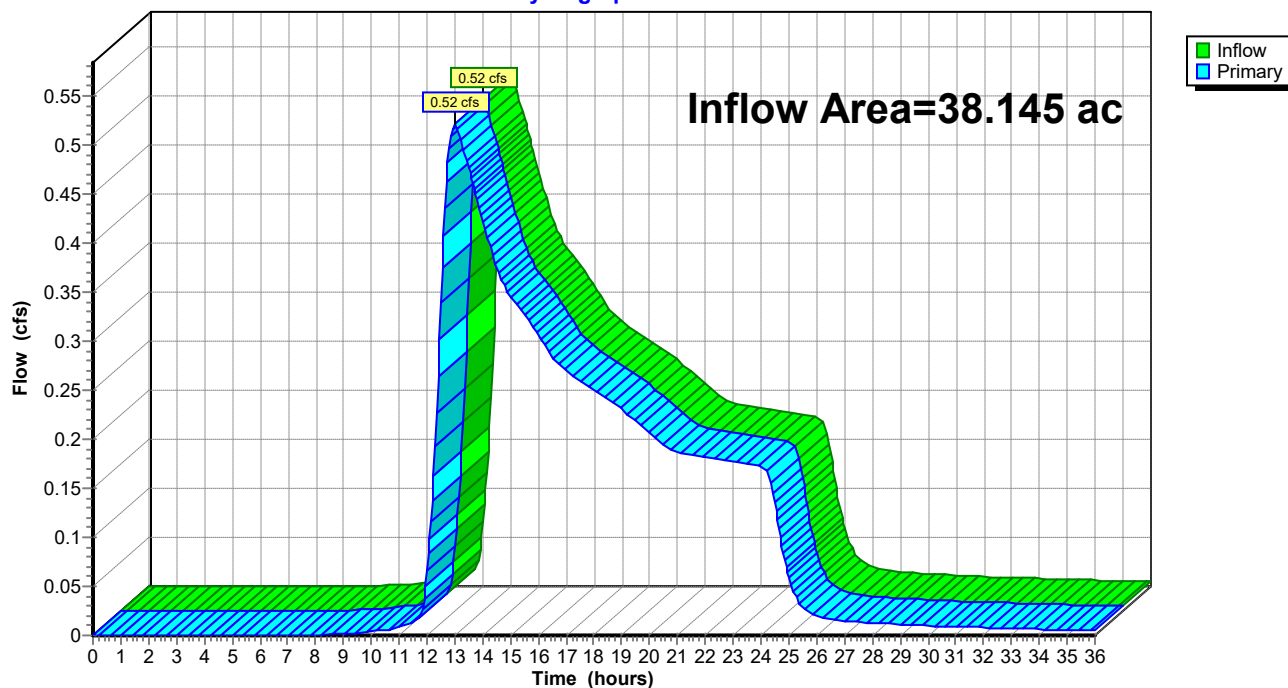
Summary for Link 18L: Post Total

Inflow Area = 38.145 ac, 0.00% Impervious, Inflow Depth > 0.09" for 1-Year event
 Inflow = 0.52 cfs @ 13.00 hrs, Volume= 0.292 af
 Primary = 0.52 cfs @ 13.00 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 18L: Post Total

Hydrograph



Warner Hydrology Model 10-11-2022

Type II 24-hr WQ Rainfall=1.00"

Prepared by GEI Consultants

Printed 10/26/2022

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 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 4S: Post A Pervious to Basin Runoff Area=6.150 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=707' Tc=37.2 min CN=51 Runoff=0.00 cfs 0.000 af

Subcatchment 5S: Post A Impervious to Runoff Area=0.600 ac 0.00% Impervious Runoff Depth=0.36"
Tc=5.0 min CN=91 Runoff=0.39 cfs 0.018 af

Subcatchment 6S: Post B Pervious Runoff Area=18.930 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,070' Tc=43.8 min CN=61 Runoff=0.00 cfs 0.000 af

Subcatchment 14S: Pre A Pervious Offsite Runoff Area=12.160 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=962' Tc=66.1 min CN=61 Runoff=0.00 cfs 0.000 af

Subcatchment 16S: Pre A Impervious Offsite Runoff Area=0.305 ac 0.00% Impervious Runoff Depth=0.36"
Flow Length=962' Tc=66.1 min CN=91 Runoff=0.05 cfs 0.009 af

Pond 13P: Basin Peak Elev=401.31' Storage=508 cf Inflow=0.39 cfs 0.018 af
Outflow=0.01 cfs 0.012 af

Link 15L: Post A Offsite Total Inflow=0.05 cfs 0.009 af
Primary=0.05 cfs 0.009 af

Link 17L: Post A Total Inflow=0.06 cfs 0.021 af
Primary=0.06 cfs 0.021 af

Link 18L: Post Total Inflow=0.06 cfs 0.021 af
Primary=0.06 cfs 0.021 af

Total Runoff Area = 38.145 ac Runoff Volume = 0.027 af Average Runoff Depth = 0.01"
100.00% Pervious = 38.145 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 4S: Post A Pervious to Basin

Preconstruction Conditions for DA South Pond.

[45] Hint: Runoff=Zero

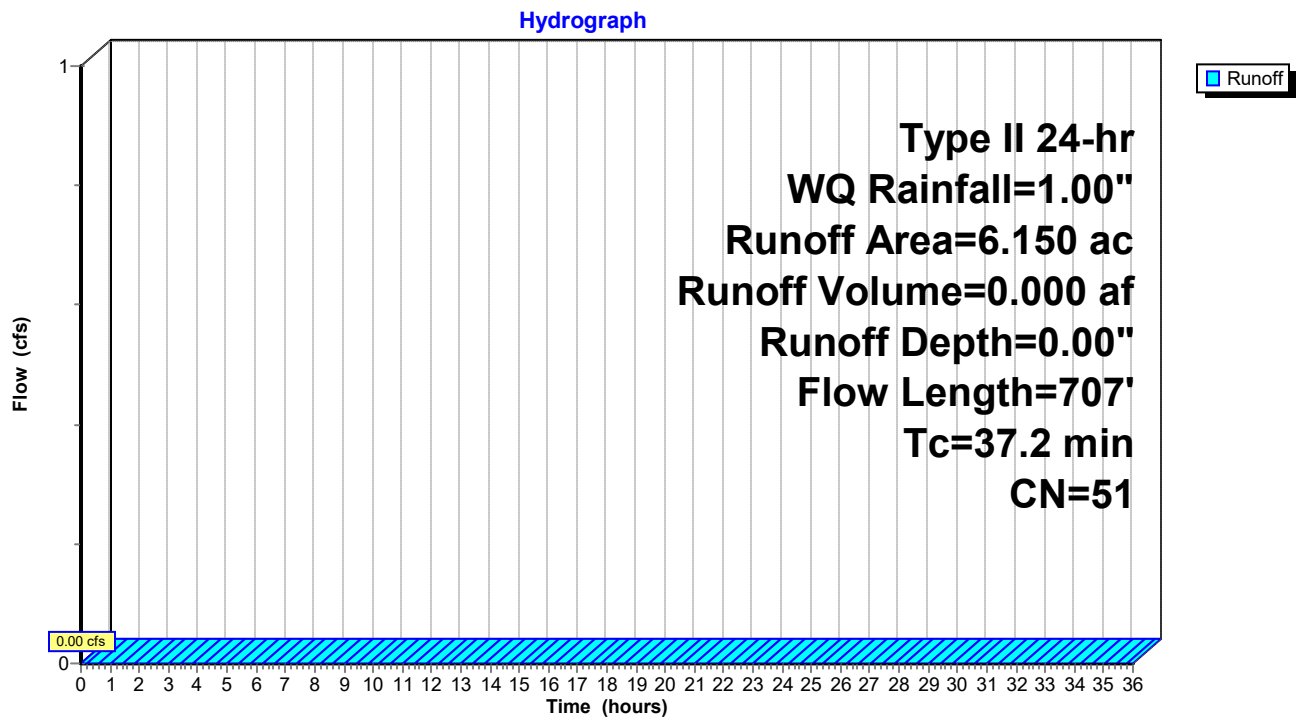
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 2.027	58	HIB
* 1.219	78	WwA
* 0.329	71	ChA
* 2.575	30	CIB
6.150	51	Weighted Average
6.150		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	100	0.0063	0.09		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 2.41"
5.7	324	0.0185	0.95		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
13.6	283	0.0018	0.35	2.08	Channel Flow, Swale Area= 6.0 sf Perim= 8.0' r= 0.75' n= 0.150
37.2	707	Total			

Subcatchment 4S: Post A Pervious to Basin



Summary for Subcatchment 5S: Post A Impervious to Basin

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.39 cfs @ 11.96 hrs, Volume= 0.018 af, Depth= 0.36"

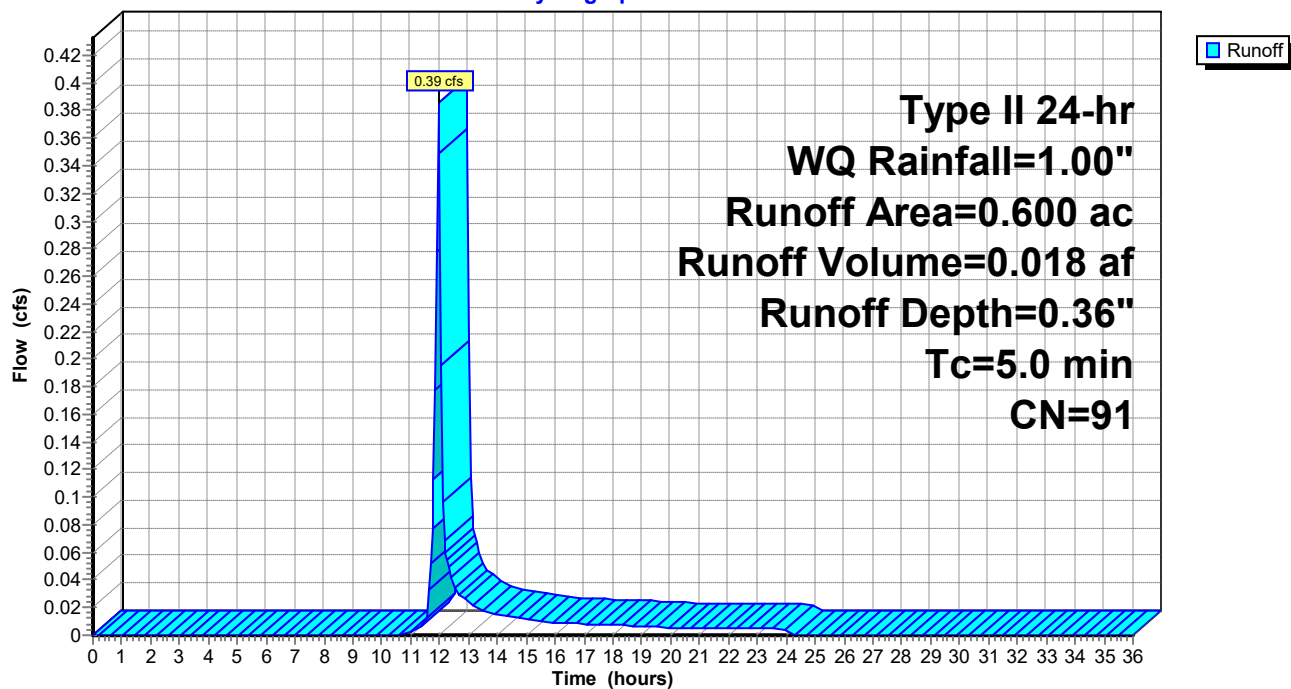
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, $dt=0.05$ hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 0.600	91	Gravel Driveway
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Driveway

Subcatchment 5S: Post A Impervious to Basin

Hydrograph



Summary for Subcatchment 6S: Post B Pervious

[45] Hint: Runoff=Zero

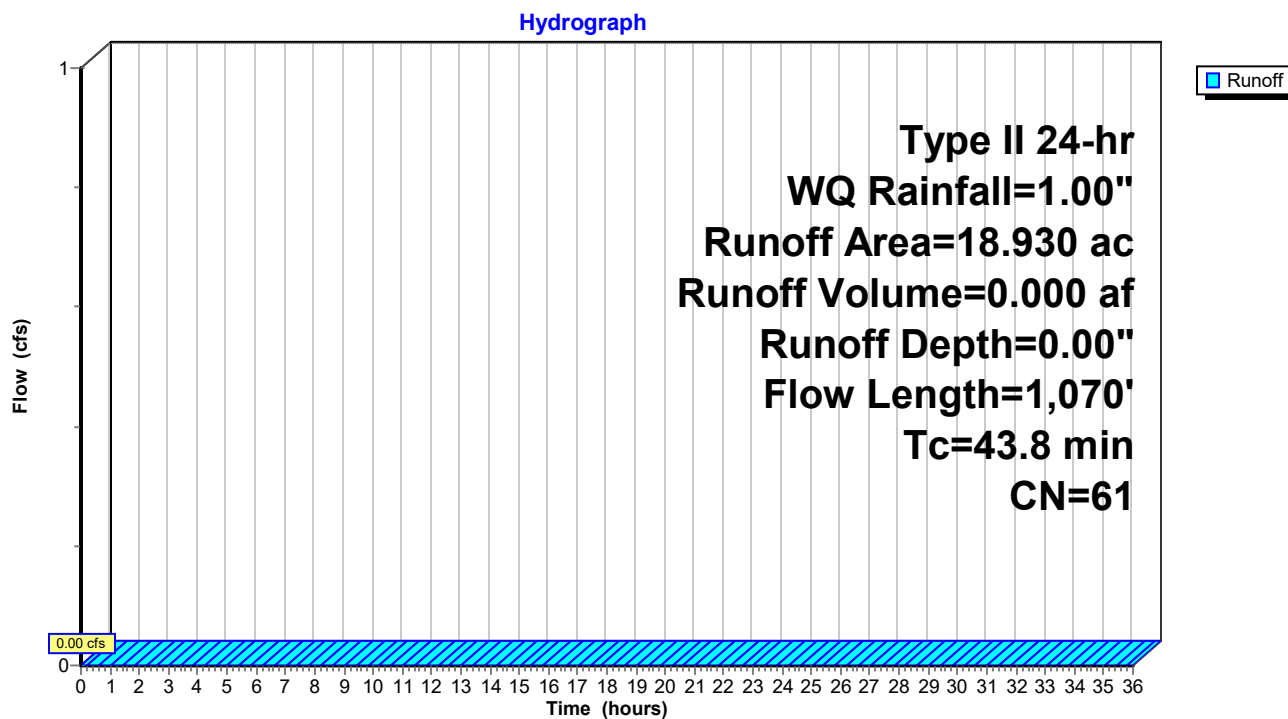
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 7.226	58	AoA
* 7.209	58	HIB
* 3.355	71	Cd
* 0.796	78	WwA
* 0.344	30	CIB
18.930	61	Weighted Average
18.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0088	0.11		Sheet Flow, Grass: Short n= 0.150 P2= 2.41"
10.8	592	0.0169	0.91		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
17.3	378	0.0053	0.36		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
43.8	1,070	Total			

Subcatchment 6S: Post B Pervious



Summary for Subcatchment 14S: Pre A Pervious Offsite

Preconstruction Conditions for DA South Pond.

[45] Hint: Runoff=Zero

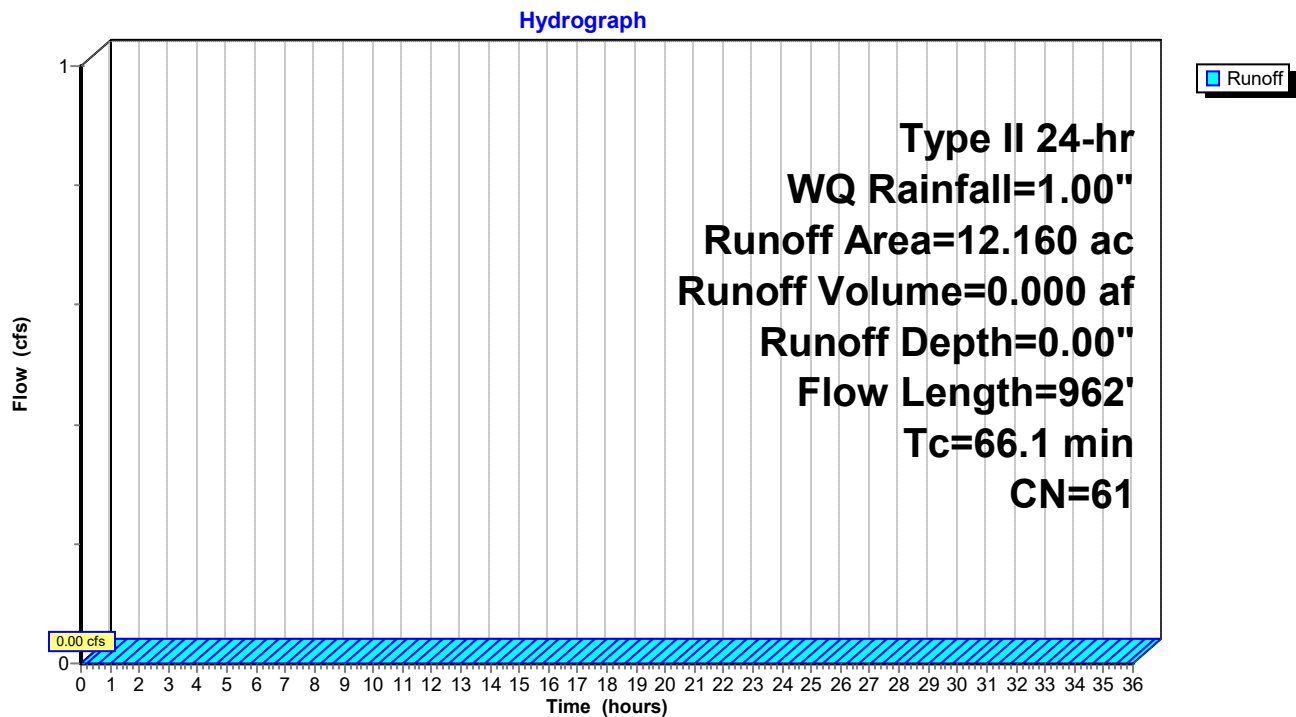
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 3.242	58	HIB
* 3.114	78	WwA
* 2.771	71	ChA
* 2.303	30	CIB
* 0.730	58	AoA
12.160	61	Weighted Average
12.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 14S: Pre A Pervious Offsite



Summary for Subcatchment 16S: Pre A Impervious Offsite

Preconstruction Conditions for DA South Pond.

Runoff = 0.05 cfs @ 12.74 hrs, Volume= 0.009 af, Depth= 0.36"

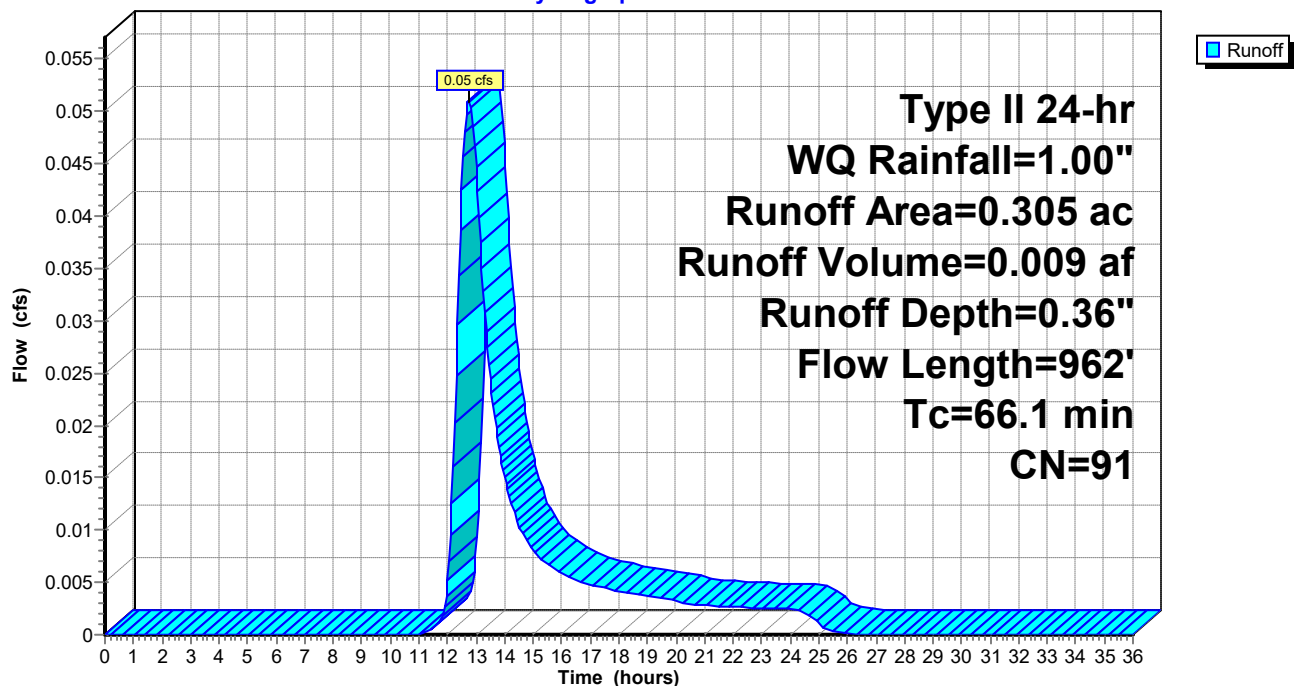
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr WQ Rainfall=1.00"

Area (ac)	CN	Description
* 0.305	91	Gravel Driveway
0.305		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	100	0.0056	0.06		Sheet Flow, Sheet Flow Grass: Dense n= 0.240 P2= 2.41"
3.6	112	0.0054	0.51		Shallow Concentrated Flow, Shallow concentrated flow Short Grass Pasture Kv= 7.0 fps
9.6	505	0.0158	0.88		Shallow Concentrated Flow, Shallow Short Grass Pasture Kv= 7.0 fps
25.5	245	0.0041	0.16		Shallow Concentrated Flow, Shallow Forest w/Heavy Litter Kv= 2.5 fps
66.1	962	Total			

Subcatchment 16S: Pre A Impervious Offsite

Hydrograph



Summary for Pond 13P: Basin

Inflow Area = 6.750 ac, 0.00% Impervious, Inflow Depth = 0.03" for WQ event
 Inflow = 0.39 cfs @ 11.96 hrs, Volume= 0.018 af
 Outflow = 0.01 cfs @ 17.10 hrs, Volume= 0.012 af, Atten= 98%, Lag= 307.9 min
 Primary = 0.01 cfs @ 17.10 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 401.31' @ 17.10 hrs Surf.Area= 8,555 sf Storage= 508 cf

Plug-Flow detention time= 600.2 min calculated for 0.012 af (64% of inflow)
 Center-of-Mass det. time= 479.7 min (1,331.1 - 851.4)

Volume	Invert	Avail.Storage	Storage Description
#1	401.25'	24,650 cf	Custom Stage Data (Conic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.25	8,494	0	0	8,494
402.00	9,278	6,663	6,663	9,317
403.00	10,411	9,839	16,502	10,503
403.75	11,326	8,149	24,650	11,459

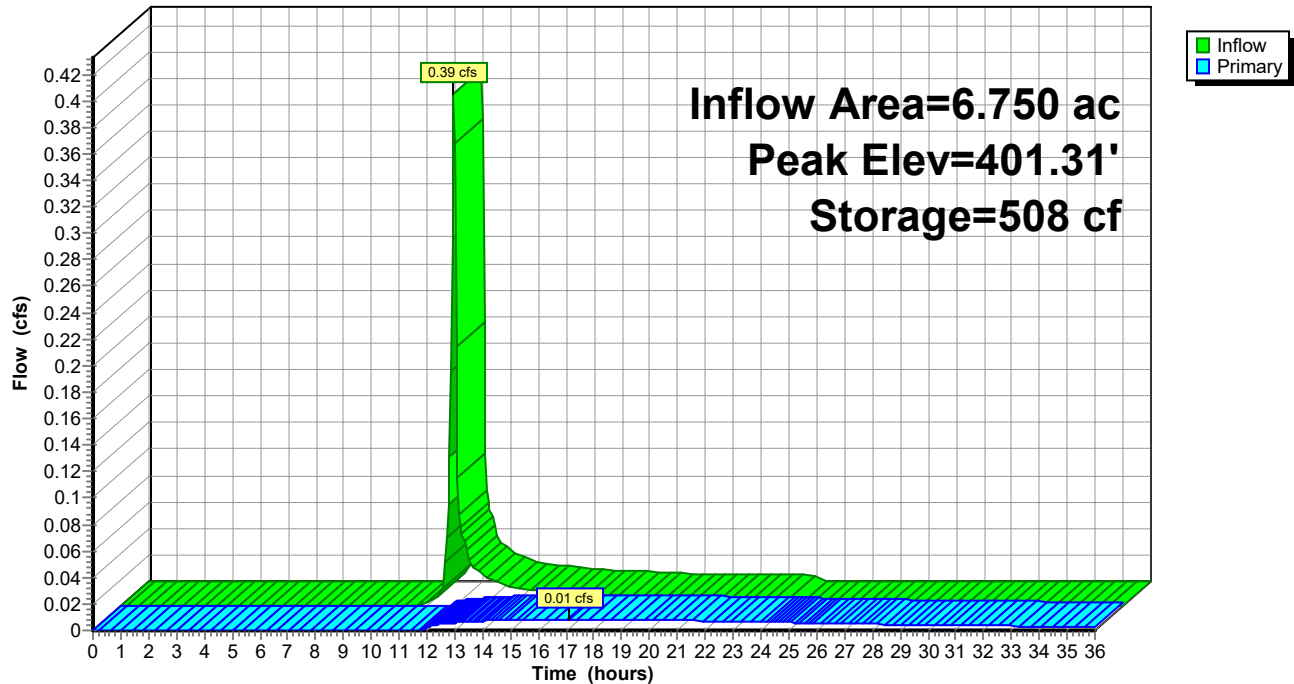
Device	Routing	Invert	Outlet Devices
#1	Primary	401.25'	2.5" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	401.25'	12.0" Round RCP_Round 12" L= 10.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 401.25' / 401.20' S= 0.0050 ' / Cc= 0.900 n= 0.120, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 17.10 hrs HW=401.31' (Free Discharge)

↑ **1=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.83 fps)
 ↓ **2=RCP_Round 12"** (Barrel Controls 0.00 cfs @ 0.09 fps)

Pond 13P: Basin

Hydrograph

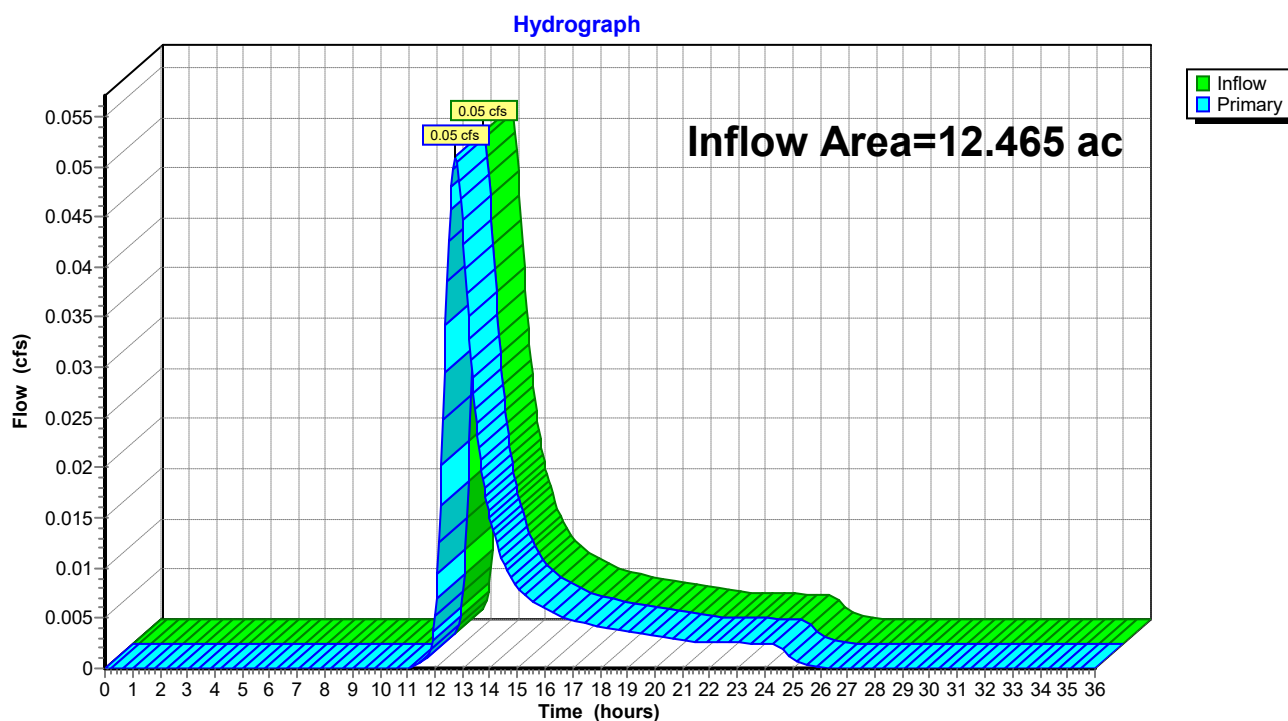


Summary for Link 15L: Post A Offsite Total

Inflow Area = 12.465 ac, 0.00% Impervious, Inflow Depth = 0.01" for WQ event
 Inflow = 0.05 cfs @ 12.74 hrs, Volume= 0.009 af
 Primary = 0.05 cfs @ 12.74 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 15L: Post A Offsite Total



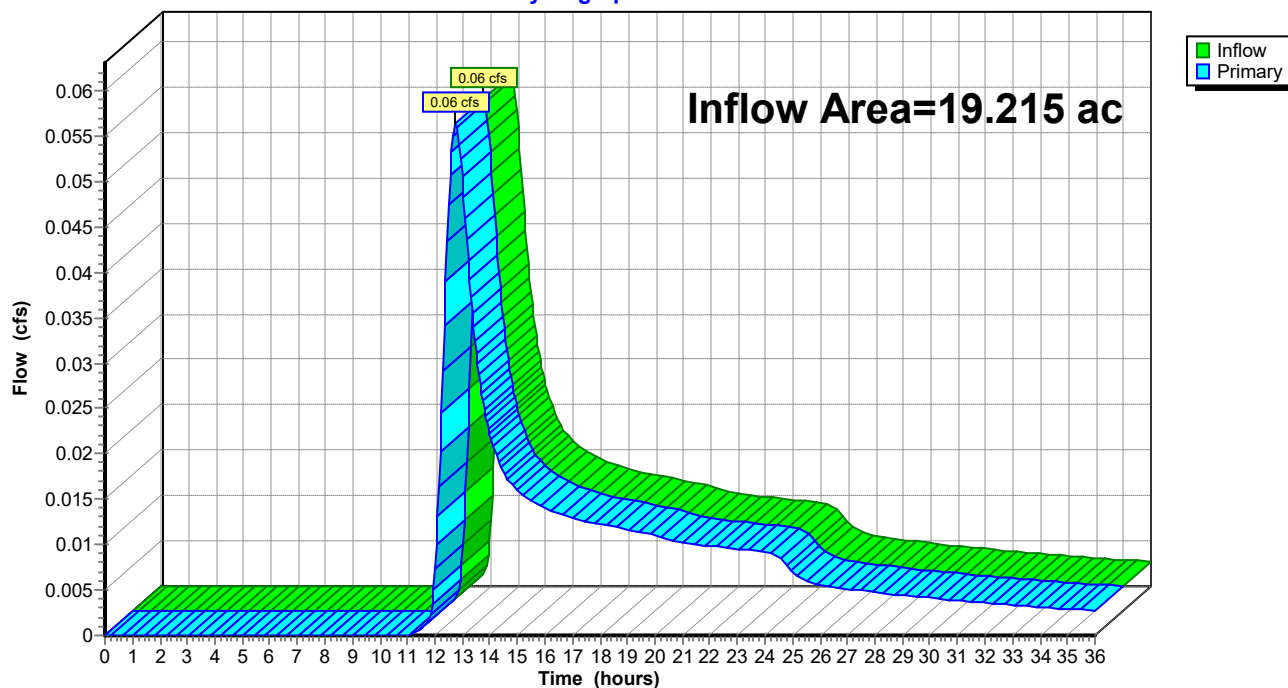
Summary for Link 17L: Post A Total

Inflow Area = 19.215 ac, 0.00% Impervious, Inflow Depth > 0.01" for WQ event
 Inflow = 0.06 cfs @ 12.75 hrs, Volume= 0.021 af
 Primary = 0.06 cfs @ 12.75 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 17L: Post A Total

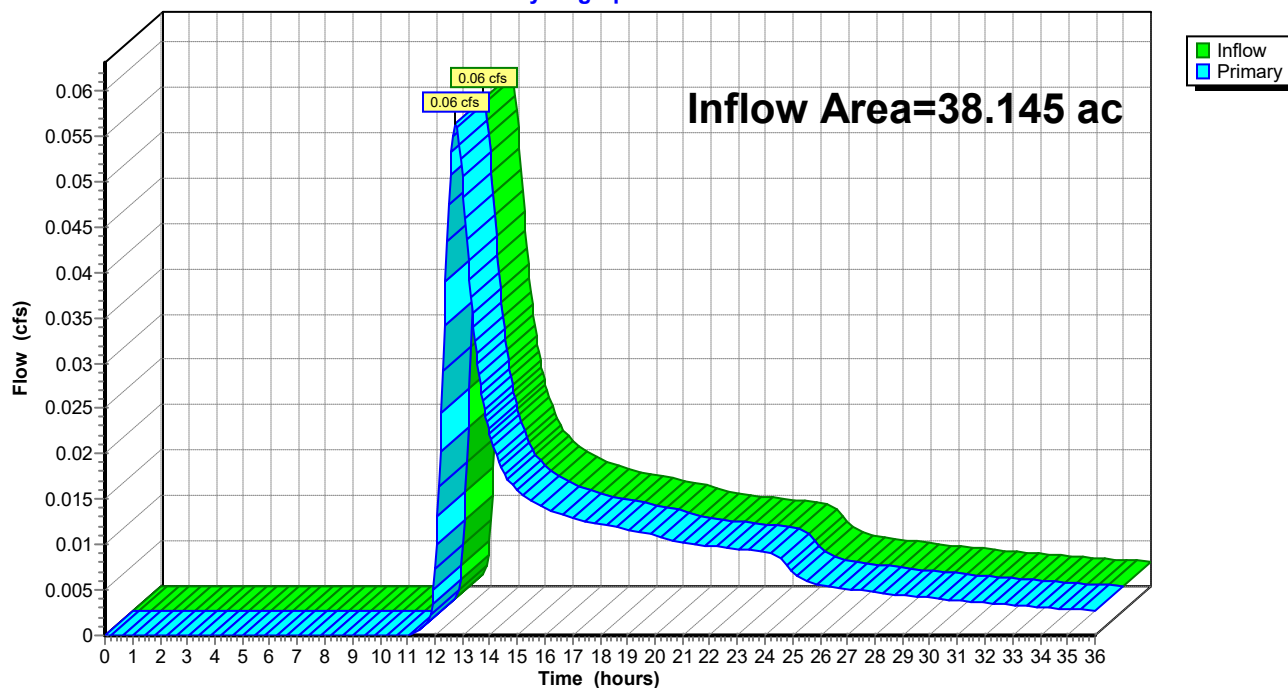
Hydrograph



Summary for Link 18L: Post Total

Inflow Area = 38.145 ac, 0.00% Impervious, Inflow Depth > 0.01" for WQ event
Inflow = 0.06 cfs @ 12.75 hrs, Volume= 0.021 af
Primary = 0.06 cfs @ 12.75 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link 18L: Post Total**Hydrograph**

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....

Design Point:	1					
P=	1.00	inch				
Breakdown of Subcatchments						
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft ³)	Description
1	0.06	0.02	33%	0.35	76	Filter Strips
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	0.06	0.02	33%	0.35	76	Subtotal 1
Total	0.06	0.02	33%	0.35	76	Initial WQv

Identify Runoff Reduction Techniques By Area			
Technique	Total Contributing Area	Contributing Impervious Area	Notes
	(Acre)	(Acre)	
Conservation of Natural Areas	0.00	0.00	minimum 10,000 sf
Riparian Buffers	0.00	0.00	maximum contributing length 75 feet to 150 feet
Filter Strips	0.06	0.02	
Tree Planting	0.00	0.00	Up to 100 sf directly connected impervious area may be subtracted per tree
Total	0.06	0.02	

Recalculate WQv after application of Area Reduction Techniques					
	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Runoff Coefficient Rv	WQv (ft ³)
"<<Initial WQv"	0.06	0.02	33%	0.35	76
Subtract Area	-0.06	-0.02			
WQv adjusted after Area Reductions	0.00	0.00	0%	0.05	0
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	0.00	0.00	0%	0.05	0
WQv reduced by Area Reduction techniques					76

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techniques/Standard SMPs		Total Contributing Area	Total Contributing Impervious Area	WQv Reduced (RRv)	WQv Treated
			(acres)	(acres)	cf	cf
Area/Volume Reduction	Conservation of Natural Areas	RR-1	0.00	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.06	0.02		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2				
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4)	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2)	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			0.06	0.02	76	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			0.00	0.00	0	0
Totals by Standard SMP →			0.00	0.00		0
Totals (Area + Volume + all SMPs) →			0.06	0.02	77	0
	Impervious Cover v	okay				

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A	0.00	55%
B	0.02	40%
C	0.00	30%
D	0.00	20%
Total Area	0.02	
Calculate the Minimum RRv		
S =	0.40	
Impervious =	0.02	acre
Precipitation	1	in
Rv	0.95	
Minimum RRv	28	ft3
	0.00	af

Filter Strip

Design Point:	1						
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	Total Area (Acres)	Impervious Area (Acres)	Percent Impervious %	Rv	WQv (ft³)	Precipitation (in)	Description
1	0.06	0.02	0.33	0.35	76.23	1.00	Filter Strips
Design Elements							
Is another area based practice applied to this area?			No	Y/N			
Amended Soils & Dense Turf Cover?			Yes	Y/N			
Is area protected from compaction from heavy equipment during construction?			Yes	Y/N			
Small Area of Impervious Area & close to source?			Yes	Y/N			
Composte Amendments?			Yes	Y/N			
Boundary Spreader?			Yes	Y/N	Gravel Diaphram at top		
Boundary Zone?			Yes	Y/N	25 feet of level grass		
Specify how sheet flow will be ensured.					level spreader shall be used for buffer slopes ranging from 3-15%		
Average contributing slope			3	%	3% maximum unless a level spreader is		
Slope of first 10 feet of Filter Strip			2	%	2% maximum		
Overall Slope			3.5	%	8% maximum		
Contributing Length of Pervious Areas (PC)			20	ft	150 ft maximum		
Contributing Length of Impervious areas			15	ft	75 ft maximum		
Maximum PC Contributing Length for combination of PC & IC			135	ft			
Soil Group (HSG)			C				
Filter Strip Width			58	ft	50 ft minimum for slopes 0-8% 75 ft minimum for slopes 8-12% 100 ft minimum for slopes 12-15% HSG C or D increase by 15-20%		
Are All Criteria in Section 5.3.2 (fitler strips) met?			Yes				
Area Reduction Adjustments							
Subtract			0.06	Acres from total Area			
Subtract			0.02	Acres from total Impervious Area			

PROPOSED PIPES-WARNER SOLAR FIELD

From	Inv	To	Inv	AREAS			C	A (ac)	CA (ac)	ΣCA (ac)	Tc (min)	i100 (in/hr)	Q100 (req) (CFS)	Type	Pipe n	Leng (ft)	Dia (in)	Slope (%)	Vel ¼ Full (ft/sec)	Vel (ft/sec)	Q (prov) (CFS)	Q (Prov) > Q (Req'd)
				Paved 0.98	Open 'C' 0.61	Total (sf)																
Swale	401.50	Basin	401.25										4.31	RCP	0.013	10	12	2.50%	5.03	7.17	5.63	good
Basin	401.25	Outfall	401.00										1.29	RCP	0.013	10	12	2.50%	5.03	7.17	5.63	good

SCOUR HOLE CALCULATIONS

Job # 203192

Job Name: Warner Solar

Structure: Concrete Headwall

Designed by: VD

Checked by: BMM

Q =	8.02 c.f.s.	W _o =	1.00 Ft.
D _o =	1.00 Ft.	q = Q/W _o =	8.02 c.f.s.
TW =	1.00 Ft.		

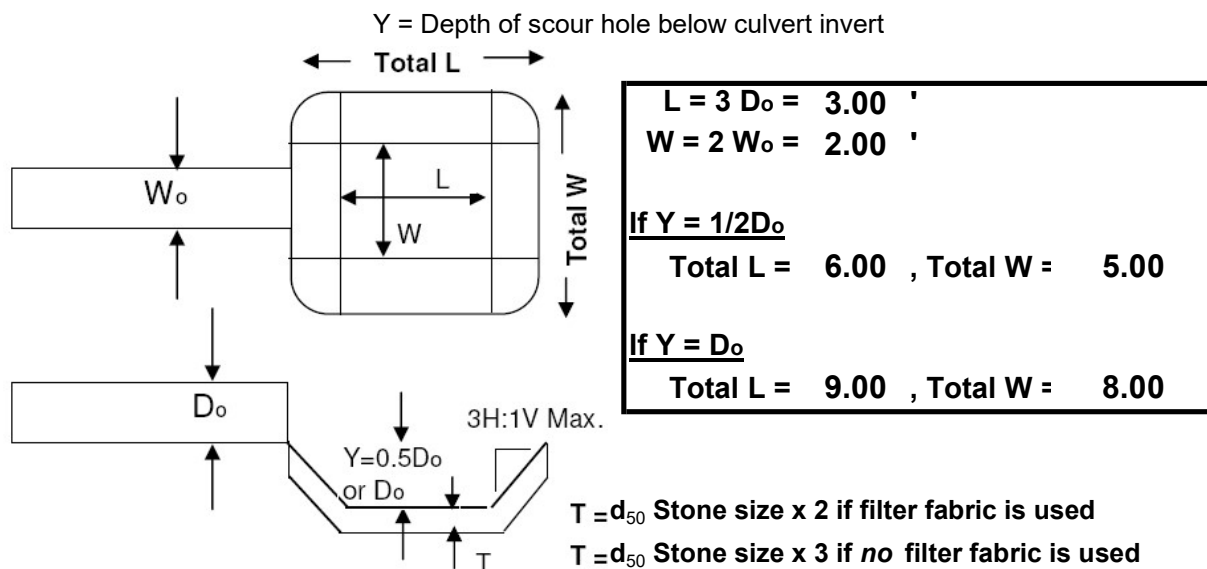
0.2

d₅₀ Stone size formula**When Y = 1/2 D_o**

$d_{50} = \frac{0.0125 * q^{1.33}}{TW}$	=	0.20 Ft.	=	3 " Stone Calculated
				9 " Stone Used for Construction
				0.50 ' = Y

d₅₀ Stone size formula**When Y = D_o**

$d_{50} = \frac{0.0082 * q^{1.33}}{TW}$	=	0.13 Ft.	=	2 " Stone Calculated
				6 " Stone Used for Construction
				1.00 ' = Y

**Structure Concrete Headwall Design Summary**

Select Scour Hole Design	Total L = 6'	L = 3'
	Total W = 5'	W = 2'
Y = 1/2 D _o Use Filter Fabric	Depth of scour hole (Y) =	0.5'
	d ₅₀ stone size =	9"
	Thickness of riprap (T) =	18"
	Volume of riprap (V) =	1.67 CY

Notes:

RIPRAP CALCULATIONS**TW = 0.2D_o**

Job #

Job Name: Warner Solar

Designed by: VD

Checked by: BMM

Structure: Outfall**Select TW Conditions: TW = 0.2D_o**

Q =	1.28 c.f.s.	W _o =	1.00 Ft.
D _o =	1.00 Ft.	q = Q/W _o =	1.28 c.f.s.
TW = 0.2D _o =	0.20 Ft.		

Length of apron (L_a)

$$L_a = \frac{1.8q + 7D_o}{D_o^{1/2}} = 9.3 \text{ Ft.} \quad \mathbf{10 \text{ Ft. Provided}}$$

Width of apron (W₁)**(downstream end)**

$$W_1 = 3W_o + L_a = 12.3 \text{ Ft.} \quad \mathbf{13 \text{ Ft. Provided}}$$

Width of apron (W₂)**(outlet end)**

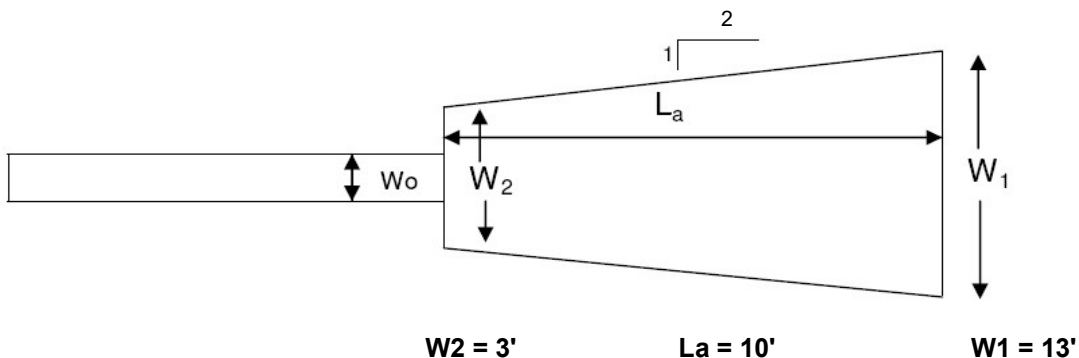
$$W_2 = 3W_o = 3.0 \text{ Ft.} \quad \mathbf{3 \text{ Ft. Provided}}$$

d₅₀ Stone size

$$d_{50} = \frac{0.016 * q^{1.33}}{TW} = 0.11 \text{ Ft.} \quad \mathbf{2 \text{ " Stone Calculated}}$$

6 " Stone Used for Construction

NJ Standards require d₅₀=3" min, NJDOT requires d₅₀=6" min

Apron Thickness (T)T = d₅₀ Stone size x 2 if filter fabric is usedT = d₅₀ Stone size x 3 if no filter fabric is used**Select Apron Design****Use Filter Fabric****T = 12 " Thick with fabric****Volume of riprap = 2.96 CY****Structure Outfall Detail**

Notes:

Post Spillway Design - North

Enter values in blue. Results automatically update after any new entry.

Channel Properties

Q =	4.31 cfs	Flow Rate ¹
n =	0.025	Manning's n (grass)
S =	0.0340 ft/ft	Downstream Slope
b =	6.0 ft	Base Width
z =	1.00 ft/ft	Side Slope

Warner Solar Field
Town of Manilus, NY
10/17/2022
Prepared by: VD

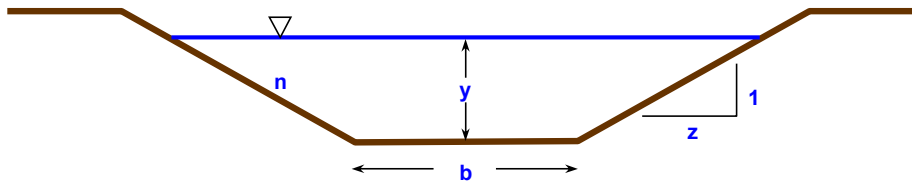
Uniform Flow Depth

A =	1.36 ft ²	Flow Area
P =	6.62 ft	Wetted Perimeter
R =	0.21 ft	Hydraulic Radius
K =	23.4 cfs	Manning's Conveyance
err =	0.0000 cfs	Manning's Q - Given Q
y_n =	0.22 ft	Uniform Flow Depth

Critical Flow Depth

A =	1.55 ft ²	Flow Area
P =	6.70 ft	Wetted Perimeter
R =	0.23 ft	Hydraulic Radius
T =	6.50 ft	Top Width
err =	0.0000 ft ⁵	Q ² /g - A ³ /T
y_c =	0.25 ft	Critical Flow Depth

Note: Assign b = 0 for triangular channels or z = 0 for rectangular channels.



Post Spillway Design -South

Enter values in blue. Results automatically update after any new entry.

Channel Properties

Q =	4.31 cfs	Flow Rate ¹
n =	0.240	Manning's n (grass)
S =	0.0020 ft/ft	Downstream Slope
b =	6.0 ft	Base Width
z =	0.50 ft/ft	Side Slope

Warner Solar Field
Town of Manilus, NY
10/17/2022
Prepared by: VD

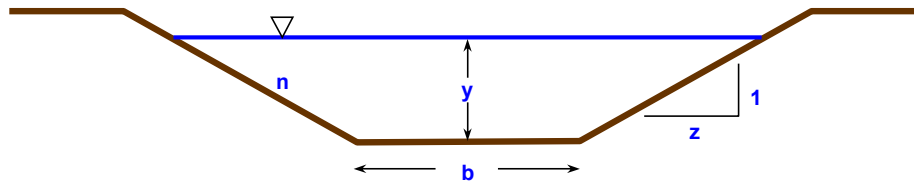
Uniform Flow Depth

A =	3.28 ft ²	Flow Area
P =	7.17 ft	Wetted Perimeter
R =	0.46 ft	Hydraulic Radius
K =	96.4 cfs	Manning's Conveyance
err =	0.0000 cfs	Manning's Q - Given Q
y_n =	0.52 ft	Uniform Flow Depth

Critical Flow Depth

A =	1.53 ft ²	Flow Area
P =	6.56 ft	Wetted Perimeter
R =	0.23 ft	Hydraulic Radius
T =	6.25 ft	Top Width
err =	0.0000 ft ⁵	Q ² /g - A ³ /T
y_c =	0.25 ft	Critical Flow Depth

Note: Assign b = 0 for triangular channels or z = 0 for rectangular channels.



Appendix G

Regulatory Correspondence

DRAFT



**New York State
Parks, Recreation and
Historic Preservation**

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

October 06, 2022

Jennifer Sanka
Archaeologist
GEI Consultants, Inc.
8615 West Bryn Mawr
Suite 406
Chicago, IL 60631

Re: SEQRA
The Warner Farm Solar Project/4.5 MW AC/29 Acres
7859 Peck Rd, Kirkville, NY 13082
22PR06884
N/A

Dear Jennifer Sanka:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

rev: J. Carter



February 15, 2023

Planning Board
Town of Manlius
301 Brooklea Drive
Fayetteville, NY 13066

**RE: Twin Ponds Housing Development – Concept Plan
5440 Burdick Street
CHA Project No. 080118**

Dear Planning Board Members:

CHA, on behalf of the applicant, is pleased to submit an updated Conceptual Site Plan for the above referenced project.

The proposed project includes the construction of residential apartments and supporting infrastructure within the existing parcel. Based on the new zoning district (R-5), a variety of building types, architecture, and unit mix will be provided to create a new residential housing community.

Based on feedback received from the Planning Board, several changes have been made to the conceptual project plan.

- Revised driveway location to align with existing traffic signal.
- Revised Townhome footprint to allow for garage access at each unit, along with driveway space in order to remove surface parking along the main access driveway.
- Revised Multi-family building footprint to be 5 stories, which contain a ground floor parking level, with 4 stories of residential apartments.
- Addition of a clubhouse and depiction of outdoor amenities

The applicant is seeking comment and referral related to the necessary variance for building height to be allowed as five (5) stories in order to submit the ZBA application.

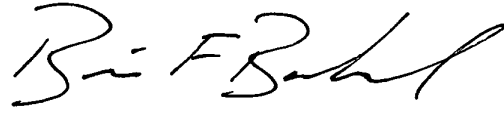
It is also our opinion that surface parking for the apartment use can be reduced in order to maintain a greater area of greenspace surrounding the apartments, although this would necessitate a variance.

The following items have been included for Conceptual Site Plan review to be discussed with Board:

- Concept Site Plan
- “Usable Space” Plan (calculations)
- Site Elevation Cross Section Plan

Should you require any additional copies of these items, or have any questions related to the submission, please do not hesitate to contact me at 315-228-0036 or bbouchard@chacompanies.com

Very truly yours,

A handwritten signature in black ink, appearing to read "Brian F. Bouchard". The signature is fluid and cursive, with the first name "Brian" and last name "Bouchard" clearly distinguishable.

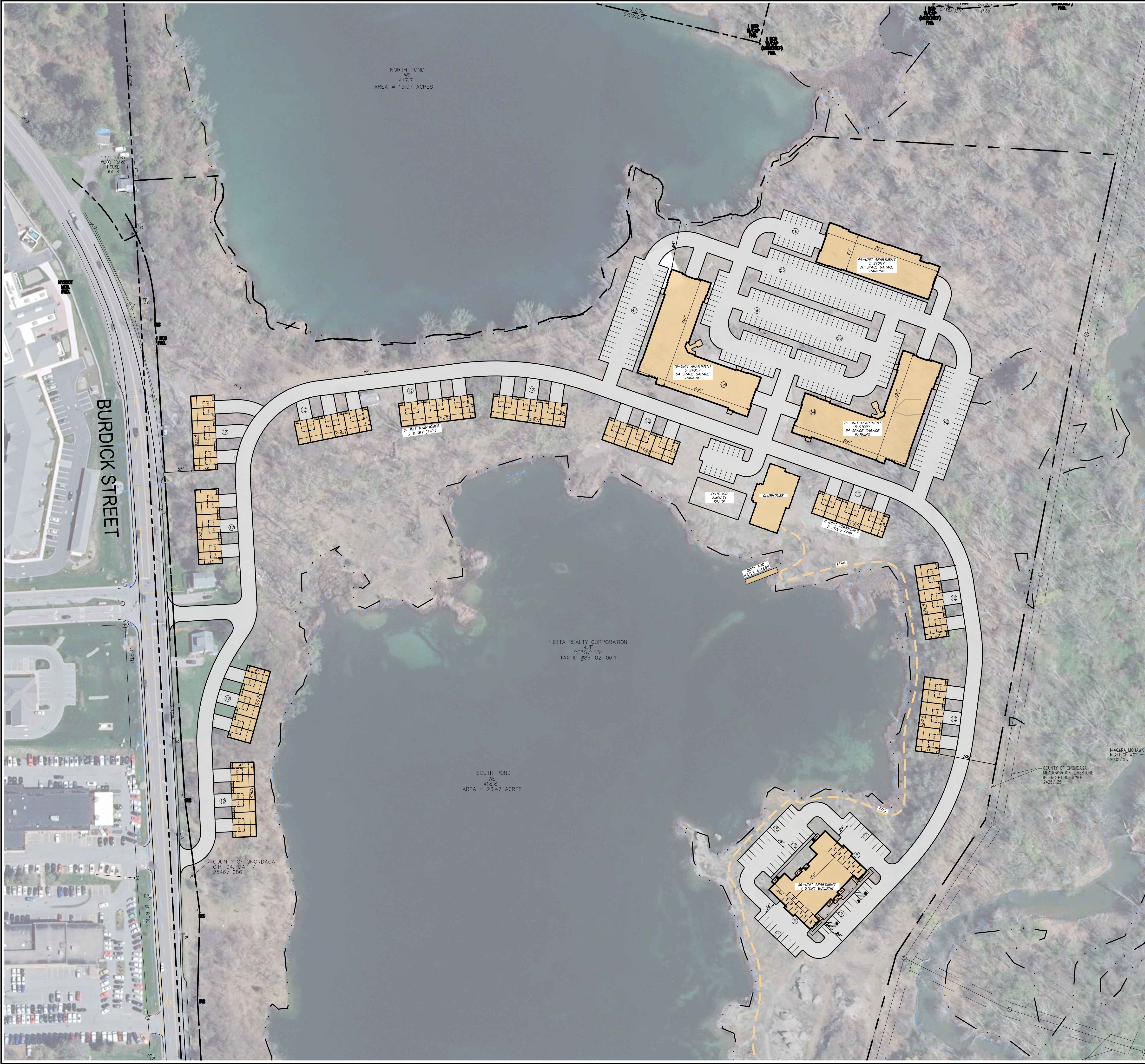
Brian F. Bouchard, PE.
Senior Engineer V

Enclosures

Cc:

\\cha-llp.com\proj\Projects\ANY\K6\080118.000\07_Permitting\Local\2 - Revised Concept Application-2-15-23\0 - Cover Letter-Twin Ponds-2-15-23.doc

File: \\CHA-LP-COM\PROJ\PROJECTS\ANY\6\080118.000\09_DESIGN\DRAWINGS\CIVIL\MODEL FILES\MANIUS_CONCEPT-02-15-23.DWG
Saved: 2/15/2023 2:04:26 PM Plotted: 2/15/2023 3:06:58 PM Current User: Vitale, Anthony Last Saved By: 4138



ZONING INFORMATION

EXISTING LOT INFORMATION:

ADDRESS: 5440 Burdick St, Manlius, NY
TAX MAP No.: 086-02-06.1
PARCEL SIZE: 52.20+ ACRES
ZONING DISTRICT: Residential (R-5)

DWELLING UNITS

Per Building Type

TOWNHOUSES-6 (2-Story, 30 ft Height)	6 UNITS (2 BDRM)	12 Beds
APARTMENTS -76 (5-Story, 68 ft Height)	32 UNITS (1 BDRM) 44 UNITS (2 BDRM)	32 Beds 88 Beds
APARTMENTS -44 (5-Story, 68 ft Height)	16 UNITS (1 BDRM) 28 UNITS (2 BDRM)	16 Beds 56 Beds
APARTMENTS -36 (4-Story, 55 ft Height)	10 UNITS (1 BDRM) 24 UNITS (2 BDRM) 2 UNITS (3 BDRM)	10 Beds 48 Beds 6 Beds

Proposed Project Site

TOWNHOUSES-6 (11 BUILDINGS)	66 UNITS (2 BDRM)	132 Beds
APARTMENTS -76 (2 BUILDINGS)	64 UNITS (1 BDRM) 88 UNITS (2 BDRM)	64 Beds 176 Beds
APARTMENTS -44 (1 BUILDINGS)	16 UNITS (1 BDRM) 28 UNITS (2 BDRM)	16 Beds 56 Beds
APARTMENTS -36 (1 BUILDING)	10 UNITS (1 BDRM) 24 UNITS (2 BDRM) 2 UNITS (3 BDRM)	10 Beds 48 Beds 6 Beds
Project Site Totals:	298 UNITS	508 Beds

LOT SIZE REQUIREMENTS

CODE	PROVIDED
5 Acres MIN, 10 Ac MAX.	52.20 Acres*

CALCULATED USABLE DISTRICT SPACE

1,640,590 SF (37.66 Acres)

USABLE DISTRICT SPACE PER DWELLING UNIT

1 BEDROOM UNITS (90 ea)	3,500 SF/Unit	315,000 SF
2 BEDROOM UNITS (206 ea)	5,000 SF/Unit	1,030,000 SF
3 BEDROOM UNITS (2 ea)	7,000 SF/Unit	14,000 SF
TOTALS:	1,359,000 SF (31.20 Acres)	1,640,590 SF (37.66 Acres)

MAX. BUILDING COVERAGE (% OF USABLE SPACE)

20% 8.3% (3.14Ac)

MINIMUM YARD REQUIREMENTS

FROM RIGHT OF WAY	50 FT	51 FT
SIDE (30 ft min or equal to building height)	55 FT	85 FT
REAR (30 ft min or equal to building height)	55 FT	100 FT

MAXIMUM BUILDING HEIGHT

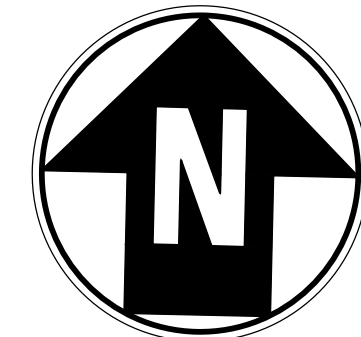
3-Story, 40 ft 5-Story, 68 ft *

PARKING REQUIREMENTS

CODE	PROVIDED
TOWNHOUSES-6 (66 UNITS; 2 BDRM) 2 SP/Unit	132 SPACES 132 SPACES
APARTMENTS -76 (64 UNITS; 1 BDRM) 2 SP/Unit (88 UNITS; 2 BDRM) 2 SP/Unit	128 SPACES 176 SPACES 304 SPACES
APARTMENTS -44 (16 UNITS; 1 BDRM) 2 SP/Unit (28 UNITS; 2 BDRM) 2 SP/Unit	32 SPACES 56 SPACES 101 SPACES
APARTMENTS -36 (10 UNITS; 1 BDRM) 2 SP/Unit (24 UNITS; 2 BDRM) 2 SP/Unit (2 UNITS; 3 BDRM) 3 SP/Unit	20 SPACES 48 SPACES 6 SPACES 72 SPACES
TOTALS:	598 SPACES 609 SPACES

Applicant/Owner:

Twin Ponds
Housing, LLC,
PO Box 515
Syracuse, NY 13210



0 80 160
Scale in feet

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY MANNER THAT REQUIRES THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED. THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION."

Project Title:

TWIN PONDS
HOUSING

5440 Burdick St,
Fayetteville, NY

No. Submittal / Revision Apprd. By Date

CONCEPT REVIEW PLANNING BOARD --- AMV 02/15/23
CONCEPT REVIEW PLANNING BOARD --- AMV 12/19/22

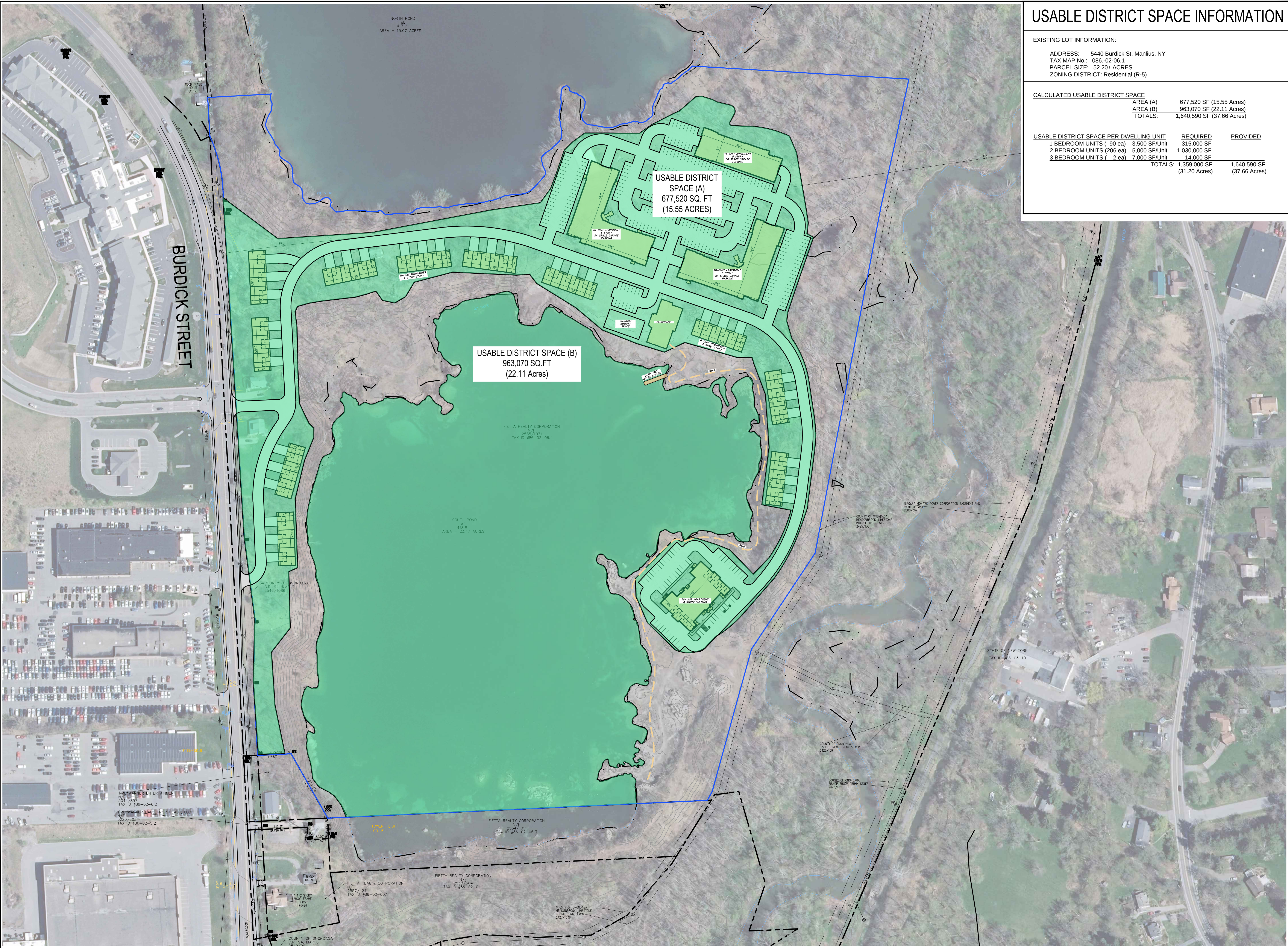
CONCEPTUAL SITE PLAN

Designed By: AMV Drawn By: AMV Checked By: BFB
Issue Date: 12/19/22 Project No: 080118 Scale: AS SHOWN

Drawing No.:

C-100

File: \\CHA-LLP-COM\PROJ\PROJECTS\ANY\6\080118.000\09_DESIGN\DRAWINGS\CIVIL\MODEL FILES\MANILUS_CONCEPT-02-15-23.DWG
Saved: 2/15/2023 2:04:26 PM Plotted: 2/15/2023 3:06:40 PM Current User: Vitale, Anthony Last Saved By: 4138



USABLE DISTRICT SPACE INFORMATION

EXISTING LOT INFORMATION:

ADDRESS: 5440 Burdick St, Manlius, NY
TAX MAP No.: 086-02-06.1
PARCEL SIZE: 52.20± ACRES
ZONING DISTRICT: Residential (R-5)

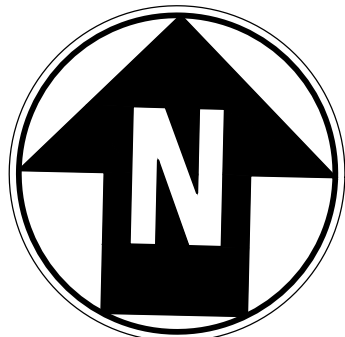
CALCULATED USABLE DISTRICT SPACE

AREA (A)	677,520 SF (15.55 Acres)
AREA (B)	963,070 SF (22.11 Acres)
TOTALS:	1,640,590 SF (37.66 Acres)

USABLE DISTRICT SPACE PER DWELLING UNIT	REQUIRED	PROVIDED
1 BEDROOM UNITS (90 ea)	3,500 SF/Unit	315,000 SF
2 BEDROOM UNITS (206 ea)	5,000 SF/Unit	1,030,000 SF
3 BEDROOM UNITS (2 ea)	7,000 SF/Unit	14,000 SF
TOTALS:	1,359,000 SF (31.20 Acres)	1,640,590 SF (37.66 Acres)

Applicant/Owner:

Twin Ponds
Housing, LLC,
PO Box 515
Syracuse, NY 13210



0 100 200
Scale in feet

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE
ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL
ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND
SURVEYOR TO ALTER ANY ITEM IN ANY ITEM BEARING THE
STAMP OF A LICENSED PROFESSIONAL IS ALTERED. THE ALTERING
ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND
SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE
NOTATION "ALTERED BY FOLLOWING BY THEIR SIGNATURE, THE
DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION
OF THE ALTERATION."

Project Title:

TWIN PONDS
HOUSING

5440 Burdick St,
Fayetteville, NY

No.	Submital / Revision	Apprd.	By	Date
-----	---------------------	--------	----	------

△ CONCEPT REVIEW PLANNING BOARD --- AMV 02/15/23

△ CONCEPT REVIEW PLANNING BOARD --- AMV 12/19/22

USABLE SPACE
PLAN

Designed By:	Drawn By:	Checked By:
--------------	-----------	-------------

AMV	AMV	BFB
-----	-----	-----

Issue Date:	Project No:	Scale:
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12/19/22	080118	AS SHOWN
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Drawing No.:

C-101

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Grazia Zizza Y, being duly sworn, deposes and says that (s) he is:

Applicant

(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
 - 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: _____, 20____.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN, BOARD OF
By (Officer) (Title) ELDERS

4600 ENDERS RD, MANLIUS NY 13104
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/15, 2022.

GRAZIANO ZAZZARA JR
(Print Name)

[Signature]
(Signature)

N/A (Propose B/R)
(Entity Name)

By (Officer) (Title)

344 S Warren Street, Syracuse, NY 13202
(Mailing Address of Applicant)

315 299 6292
(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 2022, before me, the undersigned, a notary public in and for said state, personally appeared Graziano Zazzara,
Michael Garver, and _____ 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 Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

[Signature]
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

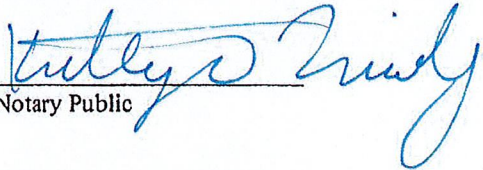
CORPORATE ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

Graham Zarnon X, being duly sworn, deposes and says the
s(he) is the Manager of 4600 Ends Run LLC
corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and
knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters
therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be
true.


Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22


Notary Public

KAITLYN QUESINBERRY	
NOTARY PUBLIC, STATE OF NEW YORK	
Registration No. 01QU6395745	
Qualified in Onondaga County	
Commission Expires	August 5, 2023

Expected
Fee: _____

TOWN OF MANLIUS
PLANNING DEPARTMENT
INITIAL APPEARANCE APPLICATION

Town of Manlius

FEB 15 2023

Received

DATE: FEB. 14, 2023

Name of Project: MIXED USE CONVERSION PROJECT

Applicant must submit 12 copies of all site plans, surveys, and supporting data with the final application before a planning board meeting can be scheduled.

Location of Project: 4600 Enders Rd., Manlius, NY 13104

Type of Project:

☐ Division of Land ☐ Subdivision ☐ Accessory Use ☐ Zone Change ☒ Site Review ☐ Other

Developer: ICON COMPANIES Phone: 315.299.6292

Address: 344 S. WARREN ST., SYRACUSE, NY Zip: 13202

Tax Map Number(s): 117.2-01-04.0

Present Zoning: 'RM' (Approved 02/08/23) Desired Zoning: _____

Total Acreage: 3.44 acres Total Number of Lots: _____

Property Owner/s: Eastern Hills Bible Church Phone: 315.682.5008

Address: 4600 Enders Rd., Manlius, NY Zip: 13104

Tax Map(s): 117.2-01-04.0 Owner's Signature: Michael P. Carver

Printed Name: MICHAEL P. CARVER

Property Owner/s: _____ Phone: _____

Address: _____ Zip: _____

Tax Map(s): _____ Owner's Signature: _____

Printed Name: _____

Use next page for additional known property owners' information

Planning Board Meeting Date Assignment: _____

Fee: _____ Paid: _____ Per: ☐ Credit/Debit Card ☐ Check ☐ Cash

Planning Board - Initial

617.20
Appendix B
Short Environmental Assessment Form

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: MIXED USE CONVERSION PROJECT			
Project Location (describe, and attach a location map): 4600 ENDERS RD., MANLIUS, NY 13104			
Brief Description of Proposed Action: Renovation of interior for Mixed Use Project Reduction of existing pavement to new greenscape areas.			
Name of Applicant or Sponsor: Grazi Zazzara, Jr.		Telephone: 315.569.5678 E-Mail: gzazzara26@gmail.com	
Address: 344 S. Warren St., Ste. 102, Syracuse, NY 13202			
City/PO: Syracuse		State: NY	Zip Code: 13202
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 governmental Agency? If Yes, list agency(s) name and permit or approval: BUILDING DEPARTMENT (MANLIUS)		NO ☐	YES ☒
3.a. Total acreage of the site of the proposed action?		3.44 acres	
b. Total acreage to be physically disturbed?		1.11 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		3.44 acres	
4. Check all land uses that occur on, adjoining and near the proposed action. ☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☒ Residential (suburban) ☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____ ☐ Parkland			

5. Is the proposed action, a. A permitted use under the zoning regulations?	NO ☐	YES ☒	N/A ☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO ☐	YES ☒	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO ☒	YES ☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO ☒	YES ☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☒	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near 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: _____	NO ☐	YES ☒	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____	NO ☐	YES ☒	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____	NO ☐	YES ☒	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO ☒	YES ☐	
b. Is the proposed action located in an archeological sensitive area?	☒	☐	
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?	NO ☒	YES ☐	
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 plain?	NO ☒	YES ☐	
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? ☒ NO ☐ YES b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☒ YES EXISTING TO REMAIN	NO ☒	YES ☐	

18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	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 AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: JEREMY J. ARTS Date: 02.14.2023

Signature: [Signature]

STOP

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. 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)?	☐	☐

	No, or small impact may occur	Moderate to large impact may occur
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?	☐	☐

Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3. 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.

☐	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.
Name of Lead Agency Print or Type Name of Responsible Officer in Lead Agency Signature of Responsible Officer in Lead Agency Date Title of Responsible Officer Signature of Preparer (if different from Responsible Officer) 	

PRINT

TOWN OF MANLIUS

DISCLOSURE AFFIDAVIT

This affidavit is a part of and must be completed and attached to every application, petition, request submitted for a *site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit.*

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

I. Grazias Zappi, being duly sworn, deposes and says that (s) he is:

Applicant
(applicant, petitioner, corporation officer, property owner, etc.)

II. That deponent has read and is familiar with the provisions of the General Municipal Law, Section 809 which states:

- A. Every application, petition or request submitted for a site plan, variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provisions or any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state officer or any officer or employee of such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.
- B. For the purpose of this action an officer or employee shall be deemed to have an interest in the applicant when (s)he, his/her spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them:
- 1) is the applicant, or
 - 2) is an officer, director, partner or employee of the applicant, or
 - 3) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
 - 4) is a party to an agreement with such an applicant, express or implied, whereby (s) he may receive any payment or other benefit, whether or not for services rendered, or contingent upon the favorable approval of such application, petition or request.
- C. Ownership of less than five percent (5%) of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.
- D. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

III. That no Town of Manlius officer, employee or a relative of either, as defined in Section 809 General Municipal Law has any interest in this application.

-OR-

If a Town of Manlius officer, employee or relative of either as defined in Section 809 General Municipal law has any interest in this application, the full particulars are provided on an attached sheet.

Date: _____, 20 ____.

MICHAEL P. GARVER
(Print Name)

Michael P. Garver
(Signature)

EASTERN HILLS BIBLE CHURCH
(Entity Name)

Michael P. Garver CHAIRMAN, BOARD OF
By (Officer) (Title) ELDER

4600 ENDERS RD, MANLIUS NY 13104
(Mailing Address of Applicant)

(315) 682-5008
(Telephone Number)

Date: 7/15, 20 22.

GRAZIANO ZAZZARA JR
(Print Name)

[Signature]
(Signature)

N/A (Propose By) [Signature]
(Entity Name)

By (Officer) (Title)

344 S Warren Street, Syracuse, NY 13202
(Mailing Address of Applicant)

315 299 6292
(Telephone Number)

ACKNOWLEDGEMENTS

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

On this 15th day of July in the year 20 22, before me, the undersigned, a notary public in and for said state, personally appeared GRAZIANO ZAZZARA, Michael Garver, and _____ 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 Petition and acknowledged to me the he/she/they executed the same in his/her/their capacity, and that by his/her/their signature(s) on the Petition, the individual or the persons upon behalf of which the individual acted executed the instrument.

[Signature]
Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

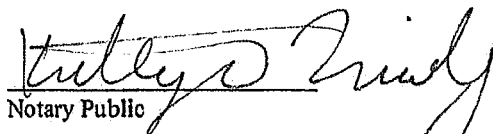
CORPORATE ACKNOWLEDGEMENT

STATE OF NEW YORK)
) SS:
COUNTY OF ONONDAGA)

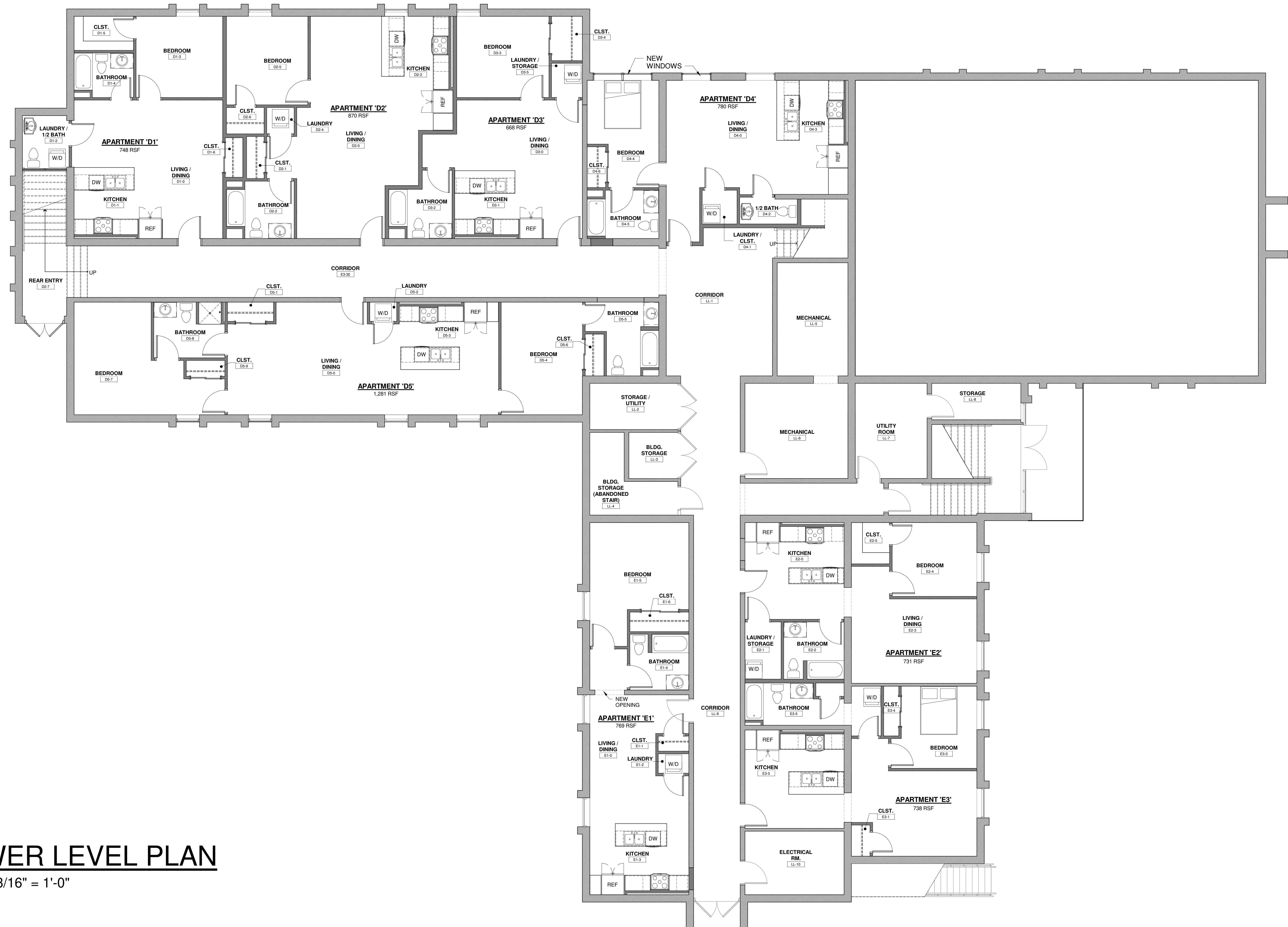
Graham Zarni Jr, being duly sworn, deposes and says the
s(he) is the Manager of 4600 Ends Run LLC
corporation named in the within Application/Petition, that s(he) has read the foregoing affidavit and
knows the contents thereof; that the same is true of s(he) own knowledge, except as to those matters
therein stated to be alleged upon information and belief, and as to those matters s(he) believes it to be
true.


Applicant Signature

Subscribed to me before this day
Of July 15th, 20 22


Notary Public

KAITLYN QUESINBERRY
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01QU6395745
Qualified in Onondaga County
Commission Expires August 5 2023

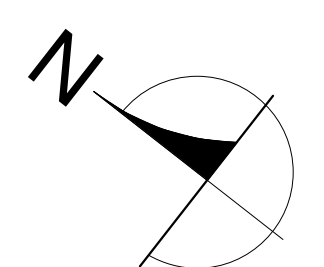


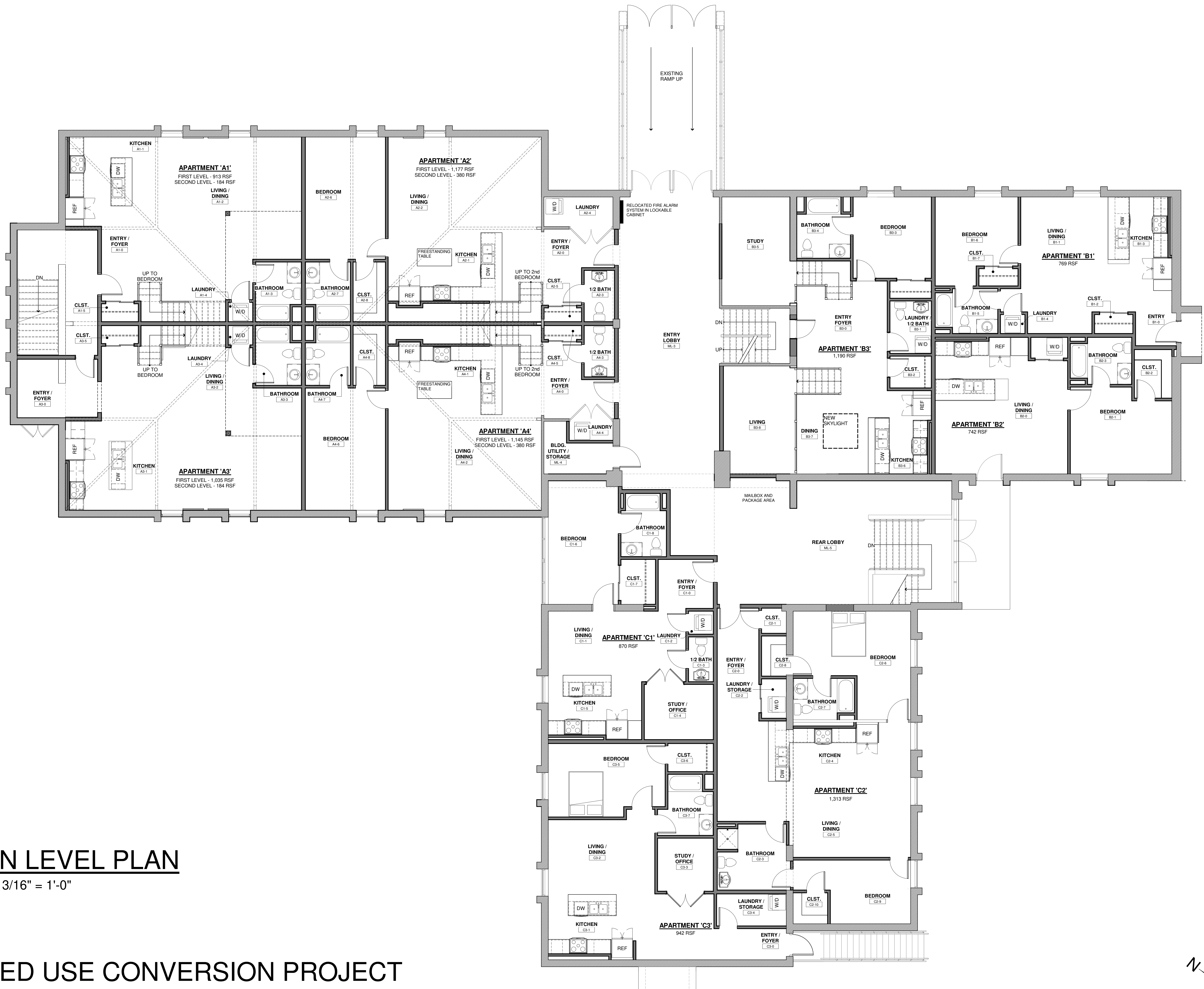
LOWER LEVEL PLAN

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104



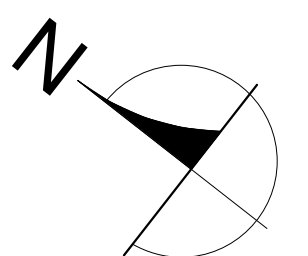


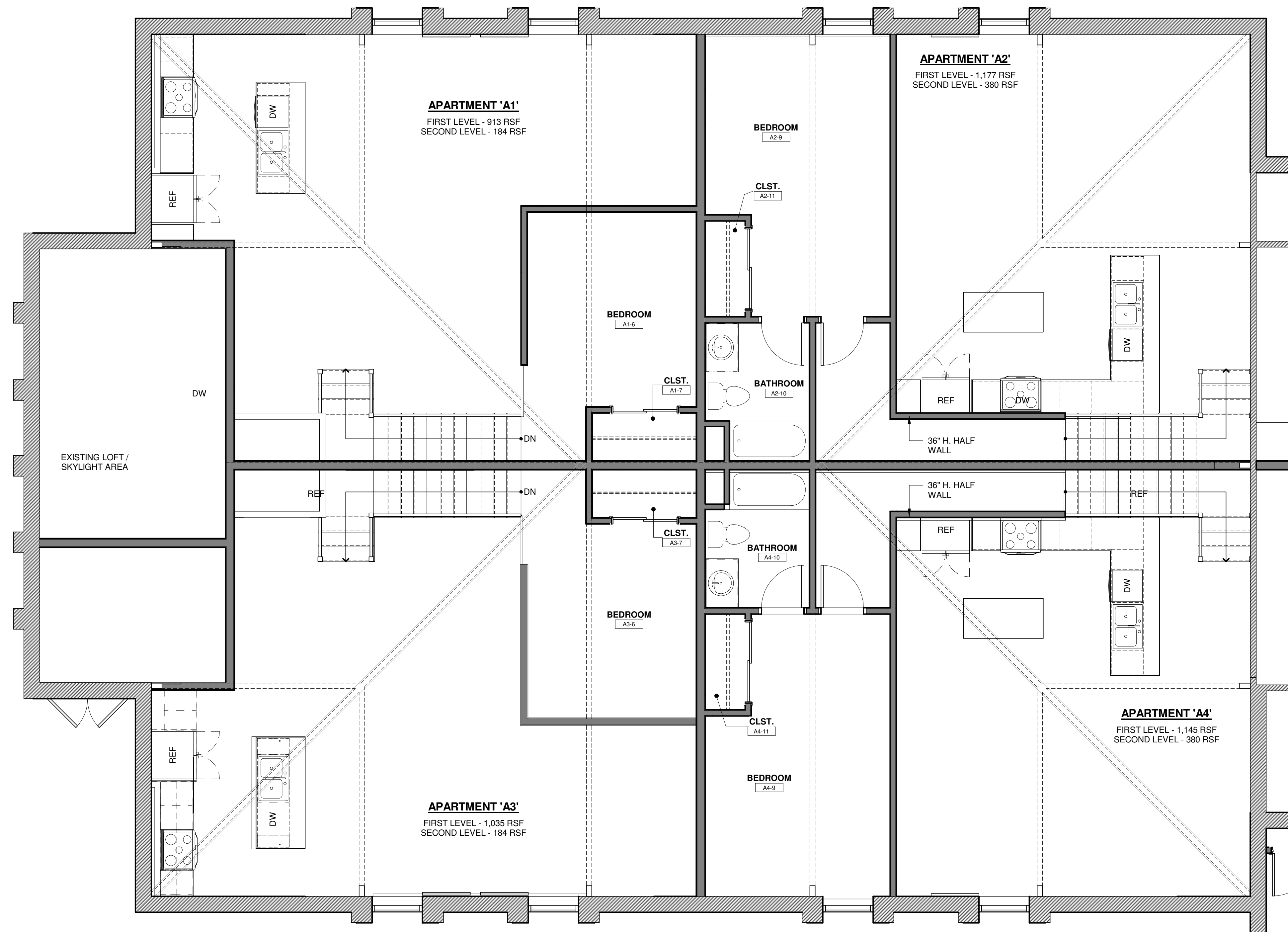
MAIN LEVEL PLAN

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

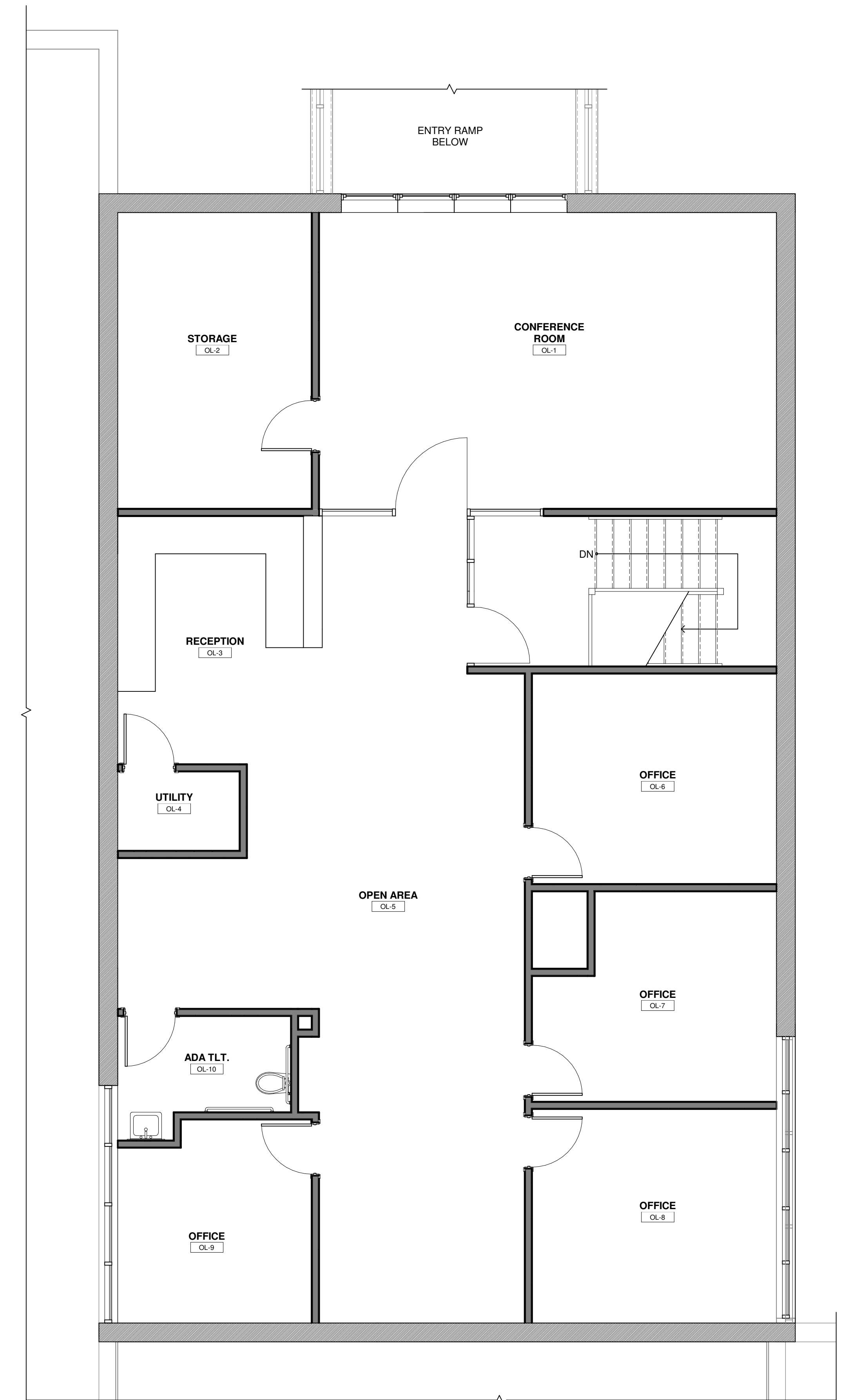
4600 ENDERS ROAD MANLIUS, NY 13104





MAIN LEVEL PLAN - LOFT AREA

SCALE: 1/4" = 1'-0"

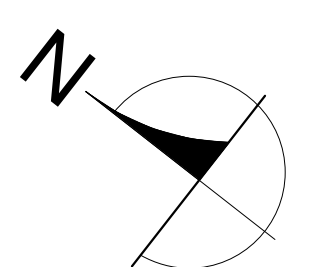


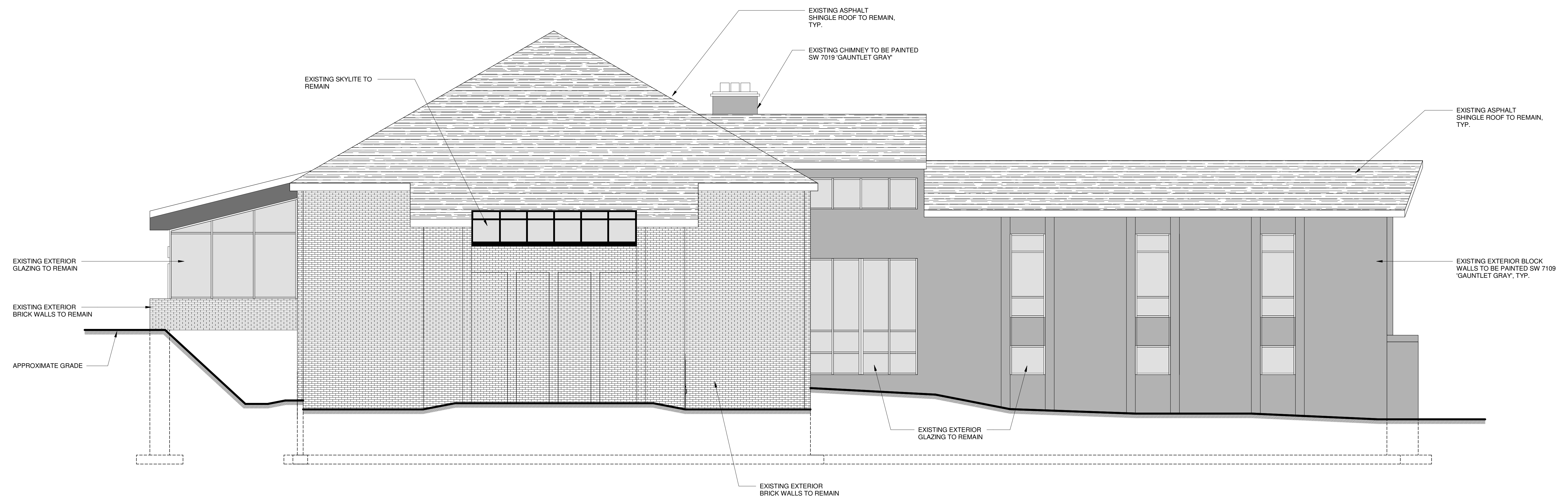
OFFICE LEVEL PLAN

SCALE: 1/4" = 1'-0"

MIXED USE CONVERSION PROJECT

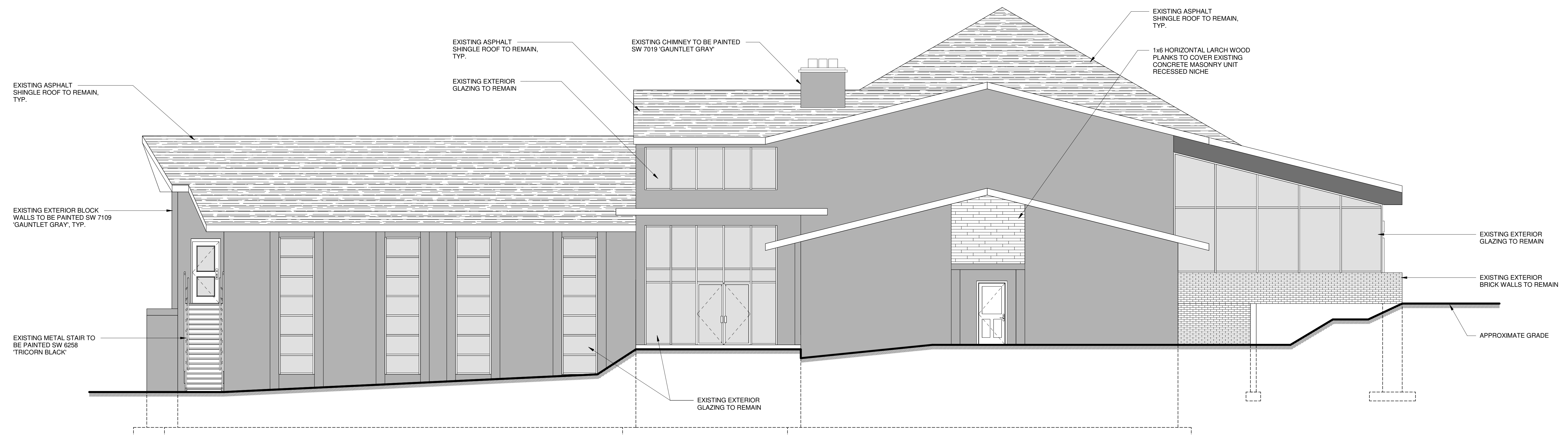
4600 ENDERS ROAD MANLIUS, NY 13104





EXTERIOR ELEVATION - NORTH

SCALE: 3/16" = 1'-0"

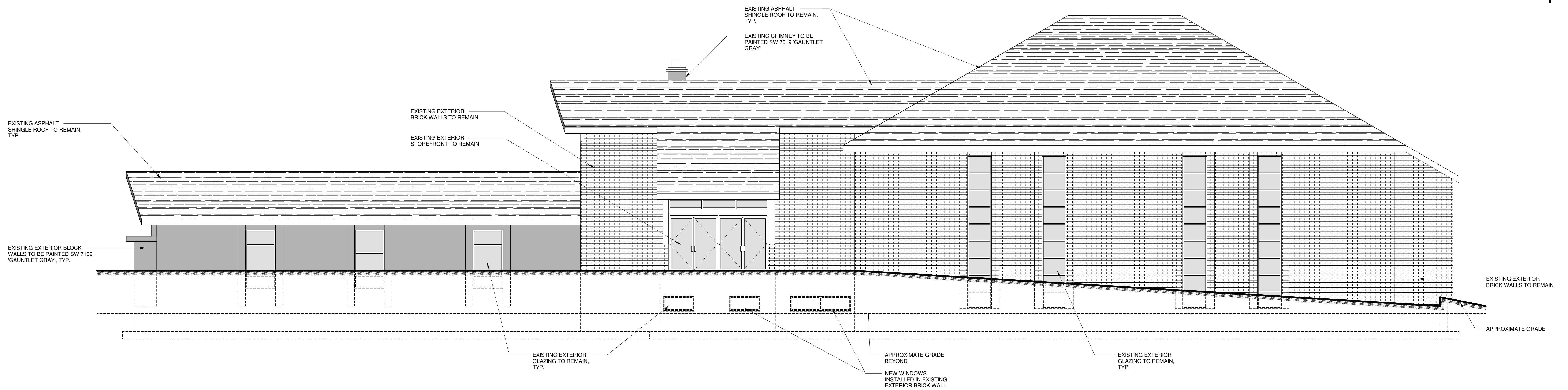


EXTERIOR ELEVATION - SOUTH

SCALE: 3/16" = 1'-0"

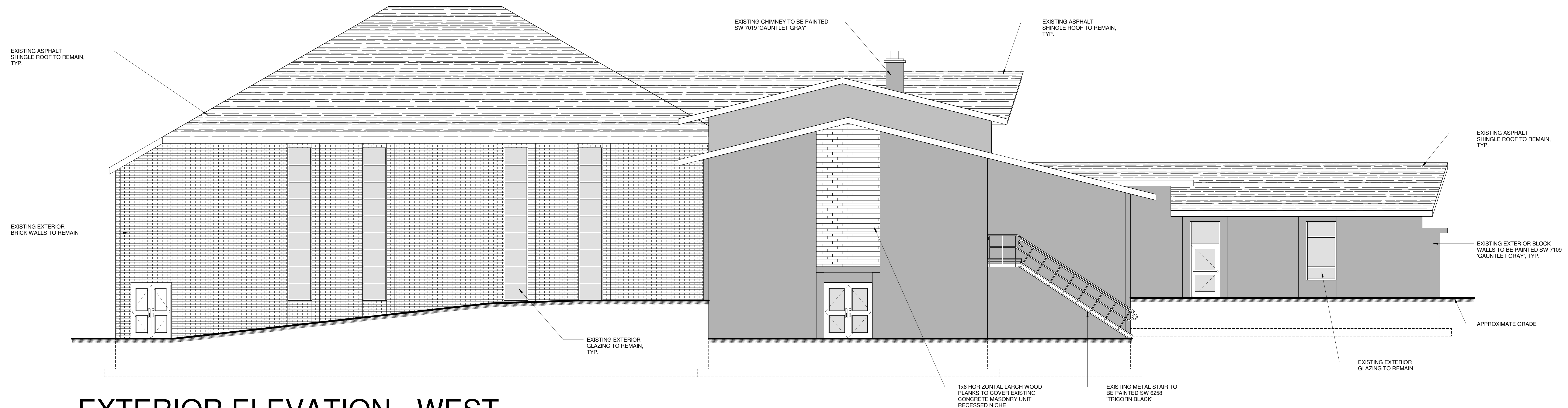
MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104



EXTERIOR ELEVATION - EAST

SCALE: 3/16" = 1'-0"



EXTERIOR ELEVATION - WEST

SCALE: 3/16" = 1'-0"

MIXED USE CONVERSION PROJECT

4600 ENDERS ROAD MANLIUS, NY 13104