



STATE OF NEW YORK
DEPARTMENT OF TAXATION AND FINANCE
OFFICE OF REAL PROPERTY TAX SERVICES

Educational Services
W. A. Harriman Campus
Albany, New York 12227
www.tax.ny.gov
orpts.edservices@tax.ny.gov
Telephone (518) 474-1764
FAX (518) 435-8628

Basic Certification Status Report

Date of Report: August 23, 2019

Karen Justus
Appointed Assessor
County: Rensselaer
Town of Schodack (384400)
Assessor's Office
265 Schuurman Road
Castleton, NY 12033

Initial Date: 05/12/2017
Current Term: 05/12/2017
Term Ends: 09/30/2019

Email: karenj@schodack.org

Qualifications: Met

<u>Component(s) Completed for Basic Certification</u>	<u>Date Completed</u>
Assessor Orientation	06/02/2017
Ethics (Basic)	10/03/2017
Fundamentals of Assessment Administration	01/12/2018
Fundamentals of Data Collection	05/21/2018

Timeframe for Required Components Needed for Basic Certification

By 05/11/2019, you must successfully complete the following component(s):

Cost, Market and Income Approach to Value

- You have completed some valuation training which may qualify.
- Please note: This component requires more than one week of training.
Credit can only be awarded when all parts of the cost market and income approach component are satisfied.

By 05/11/2020, you must successfully complete the following component(s):

Fundamentals of Mass Appraisal
Introduction to Farm Appraisal

You are required to be certified by 05/11/2020.



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Education Transcript

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Course, Seminar, or Conference	Begin Date	Certification Purpose	Status
Assessment Administration	01/03/2006	not available	passed
Effective Public Relations Prg	08/07/2006	not available	passed
One Day Seminar - Manuf. Home	11/19/2010	not available	passed
RPS V4 Custom Reports	10/04/2013	not available	passed
RPS V4 Intro & Custom Reports	10/08/2013	not available	waiting list
Assessor Orientation	06/02/2017	basic certification	passed
Ethics and the Assessor	10/03/2017	basic certification	passed
Assessment Admin, Fundamentals	01/12/2018	basic certification	passed
Data Collection, Fundamentals	05/21/2018	basic certification	passed
Application 3 Appro to Value	07/15/2019	basic certification	passed
Ethics and the Assessor	08/16/2019	ethics recertification	passed

!!!! END OF REPORT !!!!

2019-233

**TOWN OF SCHODACK
EDUCATIONAL SEMINARS REQUEST**

Pursuant to Resolution # 2010-044, the Supervisor is authorized to approve staff attendance at educational seminars if registration and expenses are deemed to be appropriately budgeted and do not exceed \$250 in the aggregate.

Please attach information about the seminar (i.e. agenda) include documentation to support each cost item, so that the Supervisor and/or Town Board can appropriately review.

Staff attending educational program: Kerrie Joiner

Name of Seminar/Conf./Course: 2019 NYS SHRM Conference
Location (Venue, City): Albany, NY
Dates of Seminar: Sept. 22-24
Cost of Seminar (Registration Fees): \$600.00

<u>Travel Costs:</u>	<u># of Miles</u>	<u>Rate as of 1/1/19</u>	<u>Estimated Amount</u>
Mileage	72	\$ 0.580	\$ 41.760

Please include a copy of mapquest to estimate total mileage - this will be used as a guideline when your actual mileage is submitted for reimbursement.

Parking 30.00
Town Vehicle _____

Lodging:
Name of Hotel/Motel _____
of Rooms _____
of Nights _____
Cost per night _____
Total Lodging Cost _____

Meals:
Included in seminar cost two per day
Estimated cost if you answered no above _____

Total estimated cost to attend: \$671.76
Estimated cost per staff member* \$671.76

(total cost divided by # of ppl attending)

Is the total cost budgeted?

TB Resolution needed?*
If Yes, please document resolution # #2019

Department Head Approval _____

Supervisor Approval _____

* If the estimated cost per staff member is > \$250, then a TB resolution is required. Please plan ahead. A resolution is required prior to any town obligation (payment) for the seminar. Please attach this form and a copy of the resolution, if applicable, to all payment requests involving payment to a vendor or an employee reimbursement.

Note: Please make sure you bring the appropriate tax exemption forms with you. Most restaurants will accept the tax-exempt letter. There is also a special tax-exempt form for hotels.

YOUR TRIP TO:

Albany Capital Center



14 MIN | 12.0 MI

Est. fuel cost: \$1.29

Trip time based on traffic conditions as of 12:12 PM on August 21, 2019. Current Traffic: Light



Print a full health report of your car with HUM vehicle diagnostics (800) 906-2501



1. Start out going northeast on Schuurman Rd toward Old Post Rd.

Then 0.04 miles

0.04 total miles



2. Turn right onto Columbia Turnpike/US-20 E/US-9 S.

Columbia Turnpike is just past Old Post Rd.

Then 0.54 miles

0.58 total miles



3. Merge onto I-90 W.

Then 8.47 miles

9.04 total miles



4. Merge onto I-787 S via EXIT 6A toward Albany.

Then 2.04 miles

11.09 total miles



5. Take the Madison Ave exit, EXIT 3B, toward US-20 W/Port of Albany.

Then 0.19 miles

11.28 total miles



6. Merge onto Madison Ave.

Then 0.48 miles

11.76 total miles



7. Turn right onto Eagle St.

Eagle St is just past Philip St.

If you reach Museum Rd you've gone about 0.1 miles too far.

Then 0.20 miles

11.96 total miles



8. Albany Capital Center, 55 Eagle St, NY, 12207, 55 EAGLE ST is on the right.

If you reach Lancaster St you've gone a little too far.

Save to My Maps

2019-234

August 29, 2019

Rich Van Alphen Contracting, Inc.
137 County Route 22
Hudson, NY 12534
518-755-7437

Town Of Schodack
265 Schuurman Road
Castleton, NY 12033

Board Members:

I writing to request a refund of my original Renovation Permit No. 13590-19 The project changed from a renovation to a complete demolition (permit no. 13628-19). I will be filing a new construction permit with the building department once the new construction plans are completed. Thank you for your consideration in this matter.

Thank you

Richard A. Van Alphen
Richard A. Van Alphen

Per Joe T. Bldg Dept 4 hours @ \$50 = \$200 for initial review
\$1367.50 - 1567.50 - 200

August 29, 2019

Rich Van Alphen Contracting, Inc.
137 County Route 22
Hudson, NY 12534
518-755-7437

Town Of Schodack
265 Schuurman Road
Castleton, NY 12033

Board Members:

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Thank you


Richard A. Van Alphen

2019-236

Capital Power
TEC Electric Service
500 Elk St.
Albany, NY 12206

Invoice

Date	8/14/2019
Invoice #	3873
P.O. No.	Per Ken Holmes
Order Date	7/24/2019
Completion Date	8/14/2019
Job Number	CRidge24RCLB

Customer
Town of Schodack 265 Shuurman Road Castleton, NY 12033 Attn: Mr. Ken Holmes

Qty	Description	Unit Price	Amount
	Completion billing for installation of new standby generator at Castleridge sewage lift station. Completion billing for standby RENTAL generator for back-up while permanent is on order. Period 7/24/19 - 8/15/19. 3 weeks = 1 month rental.		
1	Generator installation per quote dated 7/24/19.	17,785.00	17,785.00
1	Generator rental - 1 month, connection and removal, per quote	2,810.00	2,810.00

Terms	Due on receipt
-------	----------------

Make check payable to: Capital Power, Division of SL Enterprises Inc.

Subtotal	\$20,595.00
Taxes (0.0%)	\$0.00
Total	\$20,595.00

ThankYou

Laura Palmer

From: Ken Holmes
Sent: Wednesday, July 24, 2019 3:09 PM
To: David Harris; Jim Bult; Mike Kenney; Scott Swartz; Tracey Rex
Cc: Laura Palmer; Paul Harter
Subject: Castleridge Sewer Station, Sewer District #2

All,

The emergency generator for the above sewer plant is inoperable and in need of emergency repair. The generator at this station is critical because we have approximately two hours to get the station pumped before we open ourselves to sewer spill or backup into homes in the event of power failure.

Our repair estimate is near \$7,000. A new replacement generator for the station will cost us under \$18,000 complete. The generator was installed in 1992. It has performed beyond a 25 year life expectancy. We will need to have a temporary generator connected as we did on Empire Blvd. until the new generator is installed. That will be connected tomorrow at a cost of \$2,800 for a month. That cost will be prorated depending on the installation of the new generator. It may take 2 for the new generator to be installed, however 1 week looks possible depending on delivery. We will be using Capital Power for the installation. They have installed generators for us at Miller Road and both generators on Empire Blvd. Their service and response to us is second to none.

Laura Palmer said we have the money in repair reserve to get this done. It will be an emergency replacement. Please contact me or Laura with any questions regarding this matter.

Best Regards,
Ken

Kenneth J. Holmes
Superintendent of Highways
Acting Water/Sewer Director
Town of Schodack

"There are two ways of exerting one's strength: One is pushing down, the other is pulling up."

-Booker T. Washington



August 19, 2019
VIA EMAIL & MAIL

Denise Mayrer, Chairwoman
Town of Schodack Planning Board
Schodack Town Hall
265 Schuurman Road
Castleton, New York 12033

Re: Preliminary Plan Review
Symington Fill Expansion
SPB No. 2019-20
Town of Schodack Planning Board

Dear Chairwoman Mayrer:

We are in receipt of various documents for the Symington Fill Expansion project located at 1191 Brookview Station Road in the Town of Schodack. These documents include:

1. Letter to the Town from KarJaAL Trucking and Excavation Contracting dated July 31, 2019
2. Grading And Erosion Control Plan & Erosion Control Plan both dated March 21, 2019 as prepared by Advanced Engineering & Surveying, Inc.;
3. A Basic Stormwater Pollution Prevention Plan (SWPPP) & Stormwater Management System Engineering Report prepared by Advanced Engineering & Surveying, Inc. dated April 2019;
4. NYS Office of Parks, Recreation and Historic Preservation letter of "No Impact" dated December 28, 2018; and

We understand that the owner has requested Town Board approval for the construction of a clean fill expansion at 191 Brookview Station Road in accordance with Chapter 137-4-Landfills of the Town Code. Subsequent to this request the Town Board has referred the project to the Planning Board for comment.

We offer the following comments:

1. We note that project intends to place general fill. The plans should state that General fill shall consist only of soil, sand, gravel, or rock, with no non-soil constituents (clean fill).
2. The project should include an up to date existing conditions survey that includes the location of the adjacent drainage to the northwest of the property.
3. The Basic SWPPP should be revised to a Full SWPPP since the proposed clean fill expansion construction activities will involve soil disturbances of one (1) or more acres of land. The project is required to prepare a SWPPP that includes post-construction stormwater management practices.

RECEIVED

AUG 21 2019

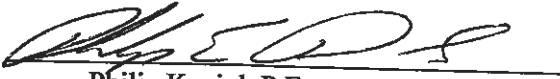
TOWN OF SCHODACK
PLANNING & ZONING

4. The stormwater analysis and management design should be revised as follows:
 - a. The existing conditions land use cover type and hydrologic condition should be modeled as that which occurred prior to the land filling operations at the project site, namely Idle Lands consisting of brush weed grass mixture in fair conditions with a curve number of 70.
 - b. The proposed conditions land use cover type and hydrologic condition should be modeled as Open Space in fair condition with a curve number of 79.
 - c. The drainage analysis pre and post development maps should be included in the design report and include and be labeled accordingly with the watershed boundary, time of concentration flow path and segments, soil types/HSGs, existing/proposed conditions shown.
 - d. If soil restoration is not applied, then the stormwater analysis shall be adjusted to model the cover compacted impervious area and change by one level the post-construction hydrologic soil group (HSG) to a less permeable group than the original condition.
5. The Erosion and Sediment Control Plan should also include the following:
 - a. Sequence of construction to establish a schedule for temporary and permanent practices and their timing relative to other construction activities.
 - b. Additional temporary measures to be utilized resulting from unforeseen conditions such as rill erosion resulting from interim grading and fill placement.
 - c. Interim erosion and control practices and best management practices to be utilized during idle periods of the land filling operations.
 - d. Legend of symbols, soil boundaries & types.
 - e. The limits of disturbance should be extended to include the land that will be utilized by construction equipment between the existing access road and the top of slope of the fill or other areas such as at the toe of slope to construction and maintain stormwater management practices.
 - f. The limits of disturbance should be identified to be field delineated by a licensed land surveyor and construction fencing established to ensure that the limits are not exceeded and existing buffer filter strips are maintained.
6. A Soil Restoration Plan should be detailed on the site plan, including but not limited to seeding rates, hydro-seeding specifications (seed, mulch and application rates). Soil restoration should include topsoil amended with compost to reduce the generation of runoff and enhance runoff reduction performance of post construction practices. It shall be per Deep Ripping and De-compaction, DEC 2008.
7. A qualitative geotechnical evaluation of the slope's stability, both existing and proposed, should be presented with recommendations to improve or maintain slope stability during and after construction.

Denise Mayrer
August 19, 2019
Page 3 of 3

Please contact our office with any questions or comments on the above.

Very truly yours,
LABERGE GROUP

By: 
Philip Koziol, P.E.
Project Manager

PEK: bnl

- C: Craig Crist, Esq., Planning Board Attorney (via email only)
- David Harris, Supervisor (via email and mail)
- Al Symington, Applicant (via email only)
- Steve Hart, P.E., Applicant's Representative (via email only)

SPECIAL PERMIT / SITE PLAN APPLICATION

Town of Schodack- Planning Board
265 Schuurman Road, Castleton, NY 12033
Phone: 518-477-7938; Fax: 518-477-7983; Nadine.fuda@schodack.org

FILE # 2019-20

CONCEPT MEETING: Monday Aug 5, 2019

APPLICATION RECEIVED ON 7/31/19

LOCATION OF PROPERTY 1191 Brookview Station Road

TAX MAP # 199-3-29.111 ZONE RA ACRES 20.97 ROAD FRONTAGE (ft.) 1435 +/-

ENG/SURVEY FIRM Advance Engineering & Survey TELEPHONE 518 698 3772 Fax/ Email ncostape@gmail.com

EXISTING USE(S) OPEN FIELD & FORMER FILL SITE

INTENDED USE(S) CLEAN FILL SITE TO IMPORT APPROX. 9,000 CY AND THEN SEED & MULCH.

WILL DEVELOPMENT BE PHASED? YES NO IF YES, ATTACH LETTER OF EXPLANATION.

WILL YOU BE SEEKING A SITE DEVELOPMENT PERMIT BEFORE FINAL APPROVAL? YES NO

WHEN PRELIMINARY APPROVAL IS GRANTED, THE BUILDING INSPECTOR WILL BE NOTIFIED. A SITE DEVELOPMENT PERMIT WILL BE ISSUED BY THE BUILDING INSPECTOR WHEN ALL PAPERWORK IS IN ORDER.

** IS THIS PROPERTY IN AN AGRICULTURAL DISTRICT CONTAINING A FARM OPERATION? YES NO

** ARE THE BOUNDARIES OF THIS PARCEL WITHIN 500 FEET OF A FARM OPERATION LOCATED IN AN AGRICULTURAL DISTRICT? YES NO IF YOU ANSWERED YES TO EITHER OF THE ** QUESTIONS, ADDITIONAL INFORMATION MAY BE REQUIRED.

ATTACH: EAF, Application fee, Survey/Site Plan Maps (min. 10), appropriate fees, letter of intent, must be submitted 10 days before initial review.

Application is Hereby Made to the Planning Office. The Applicant or Owner agrees to comply with all applicable laws, Ordinances, Regulations of the Town of Schodack and New York State for approval of the application.

WHO WILL BE REPRESENTING YOUR APPLICATION AT THE PLANNING BOARD MEETINGS? HART ENGINEERING

Date 7/31/19 MR. AL SYMINGTON [Signature]
Print name APPLICANT'S Signature

MAILING ADDRESS PO Box 194 Castleton NY 12033

TELEPHONE# 518 495 4271 OTHER# _____ FAX # _____

Date 7/31/19 MR. AL SYMINGTON [Signature]
Print name PROPERTY OWNER'S Signature

MAILING ADDRESS _____

TELEPHONE# _____ OTHER# _____ FAX # _____

Nadine Fuda, Director / Denise Mayrer -Chairperson / Craig Crist Attorney / Richard Laberge, P.E.
Wayne Johnson / John LaVole / Lawrence D Angelo / Andrew Aubin / James D. Shaughnessy

Short Environmental Assessment Form

Part 1 - Project Information

Instructions for Completing

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

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

Part 1 – Project and Sponsor Information			
Name of Action or Project: Karjal Trucking/Symington Proposed Fill Site			
Project Location (describe, and attach a location map): 1181 Brookview Station Road, Town of Schodack - see attached site location map			
Brief Description of Proposed Action: Applicant proposes to place clean fill at his site over an area of approximately 1.3 +/- acres. The total parcel size the applicant owns is 20.9 +/- acres.			
Name of Applicant or Sponsor: Mr. Al Symington , Karjal Trucking and Excavation		Telephone: 518 495 4271	
Address: PO Box 184		E-Mail:	
City/PO: Castleton		State: New york	Zip Code: 12033
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 <input type="checkbox"/>
			YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: Schodack Town Board - site plan/fill approval			NO <input type="checkbox"/>
			YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		20.9 +/- acres	
b. Total acreage to be physically disturbed?		1.4 +/- acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		20.9 +/- acres	
4. Check all land uses that occur on, are adjoining or near the proposed action:			
5. <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban)			
<input type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input type="checkbox"/> Aquatic <input type="checkbox"/> Other(Specify):			
<input type="checkbox"/> Parkland			

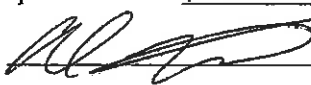
5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?	NO	YES	
If Yes, identify: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Are public transportation services available at or near the site of the proposed action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements?	NO	YES	
If the proposed action will exceed requirements, describe design features and technologies:			
n/a _____	<input type="checkbox"/>	<input type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
If No, describe method for providing potable water: _____			
not needed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
If No, describe method for providing wastewater treatment: _____			
not needed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places?	NO	YES	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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	
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
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:		
<input type="checkbox"/> Shoreline <input type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional <input type="checkbox"/> Wetland <input type="checkbox"/> Urban <input type="checkbox"/> 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
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. Is the project site located in the 100-year flood plan?	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17. Will the proposed action create storm water discharge, either from point or non-point sources?	NO	YES
If Yes,	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a. Will storm water discharges flow to adjacent properties?	<input type="checkbox"/>	<input type="checkbox"/>
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?	<input type="checkbox"/>	<input type="checkbox"/>
If Yes, briefly describe:		

18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)?	NO	YES
If Yes, explain the purpose and size of the impoundment:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?	NO	YES
If Yes, describe:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?	NO	YES
If Yes, describe:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE		
Applicant/sponsor/name: <u>AL SYMINGTON</u>		Date: <u>7/31/19</u>
Signature: <u></u>		Title: <u>OWNER</u>

KarJAL TRUCKING and Excavation Contracting
PO Box 184, Castleton NY 12033 - (518) 732 - 4013

Schodack Town Hall
265 Schuurman Road
Castleton, New York 12033
Attn: Mrs. Nadine Fuda – Director of Planning

July 31, 2019

Re: Proposed Al Symington Fill Site (KarJAL Trucking and Excavation Contracting)
1191 Brookview Station Road - Town of Schodack

Dear Nadine:

KarJAL Trucking and Excavation Contracting, (Mr. Al Symington) respectfully requests the opportunity to appear in front of the Planning Board to discuss our proposal to dump clean fill at our site on 1191 Brookview Station Road in Schodack. Please see the attached plan showing the area that we are proposing to fill. All material brought to the site will be free of large pieces of wood, concrete and asphalt. The area after filling would be returned to its natural vegetative state. The area to be filled in is approximately 1.3 acres in size and our overall parcel size is 20.9 +/- acres.

We appreciate your cooperation in this matter and look forward to meeting with you. Should you have any questions please feel free to contact us at the above number.

Very truly yours,



Mr. Al Symington



Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

December 28, 2018

Mr. Matthew Kirk
Principal Invest.
Hargen Assoc
1744 Washington Ave. Ext.
Rensselaer, NY 12144

Re: DEC
Symington Parcel—Placement of Fill
Town of Schodack, Rensselaer County, NY
18PR08022

Dear Mr. Kirk:

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 New York State Office of Parks, Recreation and Historic Preservation's opinion that your project will have no impact on archaeological and/or historic resources listed in or eligible for the New York State and National Registers of Historic Places.

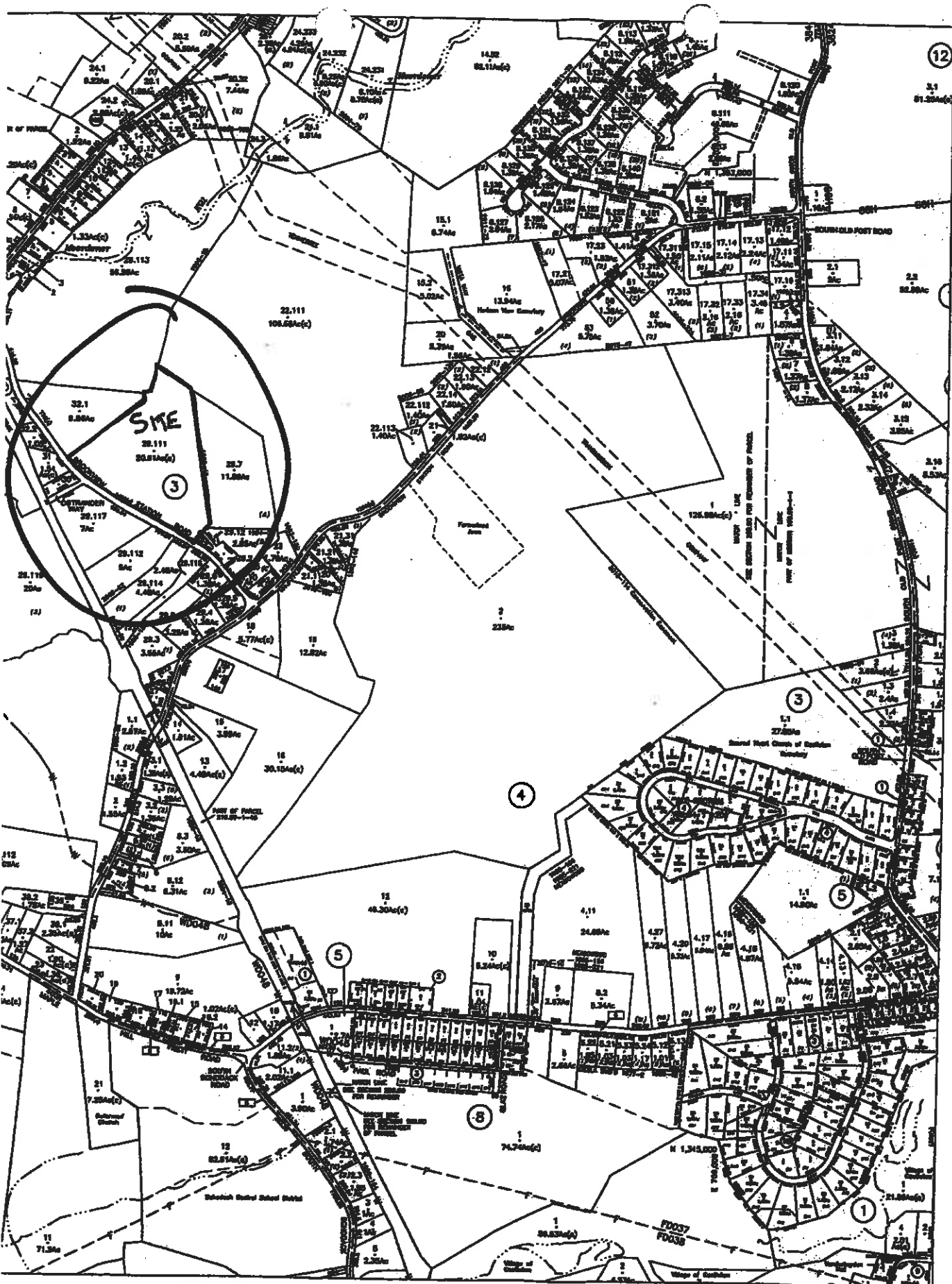
If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Michael F. Lynch, P.E., AIA
Director, Division for Historic Preservation

Division for Historic Preservation

P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • www.nysparks.com



COPYRIGHT © 1976-2013 COUNTY OF RENSSELAER N.Y.

LEGEND

(FROM DEC)	1.50ac	INDIVIDUAL OWNER	(1)	DATE OF MAP:	07-02-25
(SUBLEASE)	1.50ac(a)	N.A. COMPANY	(2)	DATE OF REVISION:	08-14-18
(FROM DEC)	18.5	NEW YORK STATE OWNED	(3)		
(FROM DEC)	66(a)	COUNTY OWNED	(4)		

Scale: 1" = 400'

197	198	199
00	00	00
198	199	200
00	00	00
200	200	210
00	00	00

TOWN OF SCHODACK
 RENSSELAER COUNTY, NEW YORK

**BASIC STORMWATER POLLUTION PREVENTION
PLAN & STORMWATER MANAGEMENT SYSTEM
ENGINEERING REPORT**

FOR

**1191 Brookview Station Road
Town of Schodack, New York**

April 2019

Applicant:

Al Symington
P.O. Box 187
Castleton, NY 12033

Prepared by:

Advance Engineering & Surveying PLLC
11 Herbert Drive
Latham, New York 12110
518-698-3772

Unauthorized alteration or addition to this document is a violation of section 7209 Subdivision 2 of the New York State Education Law.

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**TOWN OF SCHODACK
PLANNING & ZONING**



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Introduction

The purpose of this report is to present the impact and the proposed mitigation resulting from the proposed construction of a Soils spoil area at 1191 Brookview Station Road which is in compliance with the Town of Schodack Requirements for site disturbance. Per the current General Permit for Construction Discharges SPDES GP-0-15-002, construction activities involving soil disturbance of (1) or more acres of land but less than (5) acres are required to prepare a SWPPP. The total soil disturbance area for the proposed project is approximately 1.37 acres. Therefore, a full SWPPP for the project is not required. Since the proposed clearing and grading for the subject project site is less than 5 acres only a basic SWPPP is required. This basic SWPPP is incorporated into the relevant sections of this report.

Existing Conditions

The subject parcel is approximately 20.9 +/- acres in area being irregular in shape consisting of existing wood frame structures, gravel driveway, gravel roads, woods, grass and a clean fill spoil area. The site is bounded by Brookview Station Road on the south, single family on the west and easterly sides and Gould Orchard on the northerly side. Frontage along Brookview Station Road is approximately 1,435 feet.

Vegetative Cover

Site cover consists of roofs, gravel, woods and lawn.

Topography

The topography varies from 3-8% sloping westerly on the easterly half of the site and increases too steep on the westerly side of the site. Stormwater runoff sheet flows across the site in a westerly direction.

Soils

The National Cooperative Soil Survey (NCSS) indicates that the onsite soils in the area of disturbance is Hudson and Rhinebeck silt loams. The Hudson soils are deep and moderately well drained formed in silt and clay deposits. The top layer is typically 5 inches thick being dark brown silt loam. The sublayer extends 28 inches being a yellowish brown silty clay on top and brown silty clay on the bottom. From 28 - 60 inches is grayish brown silty clay. Permeability is moderately slow in the surface layer and very slow in the sublayers. Depth to seasonal high groundwater is typically 1.5-2.0 feet below ground in early spring. Depth to rock is over 5 feet.

The Rhinebeck soils are deep and poorly drained formed in silt and clay deposits. The top layer is typically 8 inches thick being dark brown silt loam. The sublayer extends 36 inches being a light brown silty clay loam on top and dark brown silty clay loam on the bottom. From 36 - 62 inches is dark grayish brown silty clay loam. Permeability is moderately slow in the surface layer and very slow in the sublayers. Depth to seasonal high groundwater is typically 0.5-1.5 feet below ground in early spring. Depth to rock is over 5 feet. The above-identified soils are further classified by the Soils Conservation Service (SCS) depending on the soils type, into a hydrologic soil group. Depending upon the cover type and the hydrologic condition, the soil groups are assigned curve numbers that represent the storm water runoff condition. The following is a tabular summary of these

parameters for the soils component of the project site that will be developed with the proposed residence.

<u>Soil Name and Symbol</u>	<u>Hydrologic Group</u>	<u>Slope</u>
Hudson (HuE)	C/D	Steep
Rhinebeck (RhB)	C/D	3 - 8%

Hydrologic Group A/B soils have low runoff potential and high infiltration rates. Hydrologic Group C/D soils have high runoff potential and low infiltration rates

For the stormwater analysis we modeled the site as Hydrologic Type C Soils for the Pre and Post development conditions.

Proposed Improvements

The proposed improvements consists of completing the spoil area grading and vegetative cover over the 1.37 acre disturbance area. Approximately 8,800 cubic yards of clean spoil material is required to reshape the slope. Placement of the imported spoil material will be in 12" compacted lifts. A permanent stilling basin will be constructed at the bottom of the slope with a turf reinforced level earth berm spreader.

Project Basic SWPPP Plan Objective

The primary objective of the Basic SWPPP is to maintain water quality during the construction phase by implementing Best Management Practices (BMP) that have a proven record of preventing sedimentation associated with construction operations from leaving the project site. The planning of the Basic SWPPP has held as a prime objective the protection of water quality. After development, the surface water leaving the project site will be free of sediments. During construction, the disturbance of the site soils occurring during the construction operations results in altered grades and removal of vegetation which leads to greater runoff velocities and volumes in addition to the generation of sediment and soil erosion as a result from natural occurrences such as rainstorms and winds.

These potential impacts are mitigated during the construction phase by ensuring that:

- A. Erosion and Sediment Controls are in place as a first line of treatment during construction.
- B. That disturbed areas that advance to final grade are properly seeded in order to establish a vegetative layer, or are stabilized by other means in order to reduce the Erosion and Sediment generation.

Construction Management

Compliance with the Town's Grading Permit and the "New York State Standards and Specifications for Erosion and Sediment Control" requires a program that manages stormwater through ongoing careful review and monitoring of the project site. The narrative, which follows, explains techniques and measures employed to protect water quality during construction.

1. The Contractor will be responsible for:

- a. Delineating the disturbance limits in the field with erosion control barrier.
- b. Constructing and maintaining temporary erosion control features.
- c. Monitoring surface water quality during construction.
- d. Continual updating of the Basic SWPPP and field erosion control measures.

The Owner and principal Contractor will be responsible for informing all other contractors working on the project site of the conditions of the Grading Permit and ensure their compliance with this Basic SWPPP.

Construction Sequence Schedule

1. Obtain plan approval and all applicable permits.
2. Flag the work limits and property boundary for protection.
3. Hold pre-construction conference at least one week prior to starting construction with Town of Schodack Stormwater Office Personnel.
4. Install sediment fence as the first construction activity.
5. Delineate construction vehicles access routes.
6. Rough grade site, stockpile topsoil, install erosion protection around stockpile, excavate for building foundation and maintain sediment fence as needed.
7. Finish the slopes as soon as rough grading is complete. Leave the surface slightly roughened and vegetate and mulch immediately.
8. Complete final grading for parking area. Install topsoil in critical areas, and permanently vegetate, landscape, and mulch.
9. All erosion and sediment control practices will be inspected weekly and after rainfall events. Needed repairs will be made immediately.
10. Once minimum of 80% vegetation has been established on the disturbed areas, remove all temporary measures and install permanent vegetation on the disturbed areas.

Construction Process and Phasing

In order to minimize soil exposure, which affects the magnitude of the erosion and sedimentation potential, the site opened for earthwork operation will be only at those areas scheduled for imminent construction. The entire site will not be exposed and left un-worked. The site work will be divided into a series of phases that will commence with a phase composed of site clearing and will conclude with the seeding operations. During construction operations, the contractor will ensure that critical areas are protected by the guidelines presented herein. Furthermore, these guidelines will be reviewed daily and modifications will be implemented in anticipation of predicted weather conditions, soil handling issues, and as determined by the Contractor and reviewed by the Engineer.

Management of Construction Debris and Storage of Construction Materials

The project site will be managed in a neatly and established manner as discussed during the pre-construction meeting. The Contractor will establish dedicated locations for the storage of construction materials. Construction debris will be actively managed by disposal into dedicated waste containers. Field personnel will be instructed to carry any loose waste materials found and/or

generated at the site into the waste containers. The waste containers will be replaced or emptied upon reaching its filling limits.

Erosion and Sediment Control Features

Erosion and Sediment Control Facilities will be erected at the start of the construction process. While all erosion control measures begin as "temporary", some elements of these features remain in-place long term to continue the protection of the resource adjacent to the development project.

The Erosion and Sediment Control Measures to be employed are in accordance with the Best Management Practices as depicted in the manual "New York State Standards and Specifications for Erosion and Sediment Control" and are as follows:

- A. **Sediment Fence:** A sediment fence will be constructed around the topsoil stockpile and along the downstream side of the limits of disturbance to prevent sediment from exiting the site.
- B. **Temporary Sediment Trap:** A type 1 temporary sediment trap with a piped outlet will be installed at the base of the slope capturing sediment laden runoff from the slope via sheet flow. The sediment trap will allow heavy sediments to settle while dewatering the runoff through filter fabric and a crushed stone filter.
- C. **Surface Roughening:** The 3:1 cut slopes will be lightly roughened by disking just prior to vegetating, and the surface 4 to 6 inches of the 3:1 fill slopes will be left in a loose conditions and grooved on the contour.
- D. **Surface Stabilization:** The project site will rely primarily on vegetative stabilization for the vast majority of those areas susceptible to erosion. Areas that are persistent erosion problems will be specially treated to ameliorate sediment transport and organic soil loss.
- E. **Dust Control:** Should excessive dust be generated, it will be controlled by means of a sprinkler system designed to suppress the dust.

Erosion and Sediment Control Phasing

Phases of Construction Activities		
Phase of Construction	Description of Area	Approximate Area (Acres)
1	Install silt fence, temporary sediment trap and construction entrance.	1.4
2	Place spoil material on slope in 12" compacted lifts. Maintain erosion control devices as needed.	1.4
3	Fine grade and spread topsoil. Seed, mulch and water as needed. Reseed areas that have not achieved 80% growth, mow and water lawn areas, reseed bare areas as required.	1.4
6	Perform site clean-up, remove erosion control devices, mow lawn areas as required	NA
Total Area of Disturbance		1.4 +/-

Note: All idle areas of the site shall receive a minimum of 4-inches topsoil, seed & mulch. At no time shall disturbance to the site exceed 1.4 acres. Contractor shall water, mow and re-seed disturbed areas as required throughout the duration of the project.

Erosion and Sediment Maintenance

The following set of review guidance and criteria will be employed during erosion and sediment control maintenance. The supervision of this program in the field shall be performed by the Contractor:

- A. All erosion and sediment control practices will be checked for stability and operation following every runoff-producing rainfall but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed.
- B. Sediment will be removed from the sediment fence when it becomes about 12-inches deep at the fence. The sediment fence will be repaired as necessary to maintain its intended function.
- C. All seeded areas will be fertilized, re-seeded as necessary and mulched according to specifications in the vegetative plan to maintain a vigorous, dense vegetative cover.

Stormwater Management Engineering Analysis Proposed Stormwater Management System

This section presents and discusses the analysis and design of the Proposed Development Stormwater Management System. This analysis has calculated the Pre-development and Post-development runoff from the site and establishes the parameters for the Stormwater Management facilities and their discharge rates.

The stormwater analysis for this site, for pre and post development scenario, was performed utilizing the SCS-TR20 Method and was modeled with the Hydrocad Software package. The soils Curve Number (CN) presented in the soils section above were used in the modeling of the stormwater system and analysis.

Pre-Development Conditions – Watershed Analysis:

The 1.4 acre area of disturbance is identified as Subcatchment 1. Following is a detailed discussion of the subcatchment.

Pre-subcatchment No. 1

Pre-subcatchment #1 is approximately 1.4 acres in area consisting of clean imported fill material. The existing placed fill material soil does not have substantial vegetative cover and was modeled as Fallow, bare soil. The curve number for type C soils, Fallow bare soil is 91. Existing time of concentration is fast at 2.9 minutes.

The following Table 1 presents a summary of the analysis. In addition, Appendix B contains the detailed computer output for the analysis summarized in Table 1.

Table 1
Pre Development Peak Runoff

Storm Event	Pre Subcatchment #1 Q_{peak} (CFS)
10-year	8.32

Post-Development Conditions:

With the completion of placing imported fill, topsoil, seed and mulch the curve number for Post subcatchment 1 has decreased from 91 to 74. The addition of topsoil and a vegetative cover over the 1.4 acre area has increased the time of concentration from 2.9 minutes to 6.7 minutes.

Table 2 below presents the pre and post development analysis for the project site. In addition, Appendix C contains the detailed computer output for the analysis summarized in Table 2.

Table 2
Presubcatchment 1 versus Post Subcatchment 1 Peak Runoff Comparison

Storm Event	Pre Subcatchment #1 Q_{peak} (CFS)	Post Subcatchment #1 Q_{peak} (CFS)
10-year	8.32	4.23

The above post peak flows are less than the existing or precondition peak flows, therefore stormwater mitigation is not required.

SUMMARY

This Engineering Report has presented and outlined the analysis and design of the Stormwater Management System components for the proposed improvements at 1191 Brookview Station Road. The post-development stormwater drainage analysis has shown that the completion of placing fill material to the grades shown on the construction plans, installing topsoil, seeding and mulching the disturbed area will decrease the stormwater runoff existing the site.

Additionally, this Report has also presented the basic SWPPP that will be implemented at the project site to prevent and control the generation of erosion and sediments associated with the disturbance of ground surfaces during the construction process.

These systems, when constructed as designed, will function adequately and will not adversely affect downstream watercourses, structures or properties.

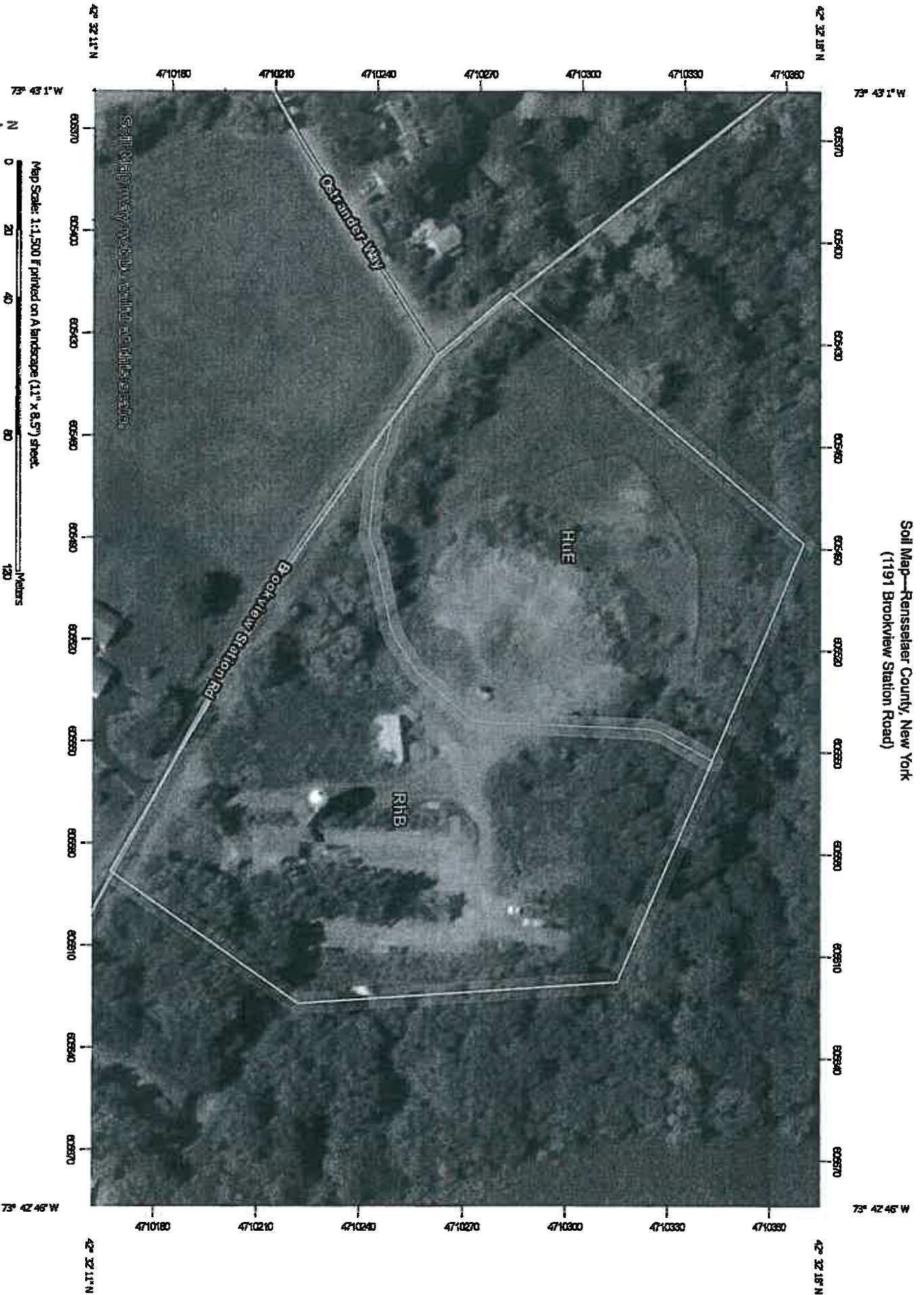
Respectfully submitted:

Advance Engineering & Surveying PLLC
Nicholas Costa, P.E.
N.Y.S. License No. 074627












































APPENDIX A

USDA Soils Map

Soil Map—Rensselaer County, New York
(1191 Brookview Station Road)



MAP LEGEND

	Area of Interest (AOI)		Spoil Area
	Area of Interest (AOI)		Stony Spot
	Soils		Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
	Special Point Features		Water Features
	Blowout		Streams and Canals
	Borrow Pit		Transportation
	Clay Spot		+++
	Closed Depression		Rails
	Gravel Pit		Interstate Highways
	Gravelly Spot		US Routes
	Landfill		Major Roads
	Lava Flow		Local Roads
	Marsh or swamp		Background
	Mine or Quarry		Aerial Photography
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Rensselaer County, New York
Survey Area Data: Version 15, Sep 3, 2018

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

Date(s) aerial images were photographed: Mar 18, 2016—Oct 16, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HuE	Hudson silt loam, steep	2.8	44.1%
RhB	Rhinebeck silt loam, 3 to 8 percent slopes	3.5	55.9%
Totals for Area of Interest		6.2	100.0%

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

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

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

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk ¹ denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties—Rensselaer County, New York															
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index	
					Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200			
HuE—Hudson silt loam, steep			In												
Hudson	80	C/D	0-8	Silt loam	CL, CL-ML, ML, OL	A-6, A-4, A-7	0-0-0	0-0-0	95-100-100	95-100-100	85-95-100	65-80-95	25-37-48	5-12-19	
			8-16	Silty clay, silty clay loam	CH, CL	A-6, A-7	0-0-0	0-0-0	92-100-100	85-100-100	80-95-100	70-90-95	35-50-65	15-25-35	5
			16-28	Silty clay, silty clay loam	CH, CL	A-6, A-7	0-0-0	0-0-0	95-100-100	85-100-100	80-95-100	70-90-95	35-50-65	15-25-35	5
			28-60	Silty clay, silt loam, clay	CH, CL	A-6, A-7	0-0-0	0-0-0	95-100-100	85-100-100	80-95-100	65-90-95	35-50-65	15-25-35	5
RhB—Rhinebeck silt loam, 3 to 8 percent slopes															
Rhinebeck	85	C/D	0-8	Silt loam	CH, CL, MH, ML	A-7, A-6	0-0-0	0-0-0	92-100-100	85-100-100	70-95-100	60-80-95	30-43-55	10-18-25	5
			8-36	Silty clay loam, silty clay	CH, CL	A-6, A-7	0-0-0	0-0-0	92-100-100	85-100-100	75-95-100	65-90-95	30-43-55	15-23-30	0
			36-62	Silty clay loam, silty clay, clay	CH, CL	A-6, A-7	0-0-0	0-0-0	92-100-100	85-100-100	75-95-100	65-90-95	30-43-55	15-23-30	0

Data Source Information

Soil Survey Area: Rensselaer County, New York
Survey Area Data: Version 15, Sep 3, 2018

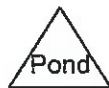


APPENDIX B

Pre-Development Conditions Analysis (Computer Output for the 10-Year Storm Event)



Existing Conditions



Existing Conditions

Type II 24-hr 10-year Rainfall=4.20"

Prepared by {enter your company name here}

Printed 4/12/2019

HydroCAD® 10.00-24 s/n 08030 © 2018 HydroCAD Software Solutions LLC

Page 2

Summary for Subcatchment 1S: Existing Conditions

Runoff = 8.32 cfs @ 11.93 hrs, Volume= 0.374 af, Depth> 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=4.20"

Area (ac)	CN	Description
1.400	91	Fallow, bare soil, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	100	0.0900	0.70		Sheet Flow, Fallow n= 0.050 P2= 2.80"
0.1	20	0.0900	3.00		Shallow Concentrated Flow, Nearly Bare & Untilled Kv= 10.0 fps
0.4	120	0.2000	4.47		Shallow Concentrated Flow, Nearly Bare & Untilled Kv= 10.0 fps
2.9	240	Total			

APPENDIX C

Post Development Conditions Analysis (Computer Output for the 10-Year Storm Event)



Proposed Conditions



Proposed Conditions

Type II 24-hr 10-year Rainfall=4.20"

Prepared by {enter your company name here}

Printed 4/12/2019

HydroCAD® 10.00-24 s/n 08030 © 2018 HydroCAD Software Solutions LLC

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Summary for Subcatchment 1S: Proposed Conditions

Runoff = 4.23 cfs @ 11.98 hrs, Volume= 0.203 af, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs
 Type II 24-hr 10-year Rainfall=4.20"

Area (ac)	CN	Description
1.400	74	>75% Grass cover, Good, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	100	0.0800	0.28		Sheet Flow, Grass: Short n= 0.150 P2= 2.80"
0.3	40	0.0800	1.98		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	100	0.3300	4.02		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.7	240	Total			

APPENDIX D

Temporary Sediment Trap Calculations

Advance Engineering & Surveying, PLLC

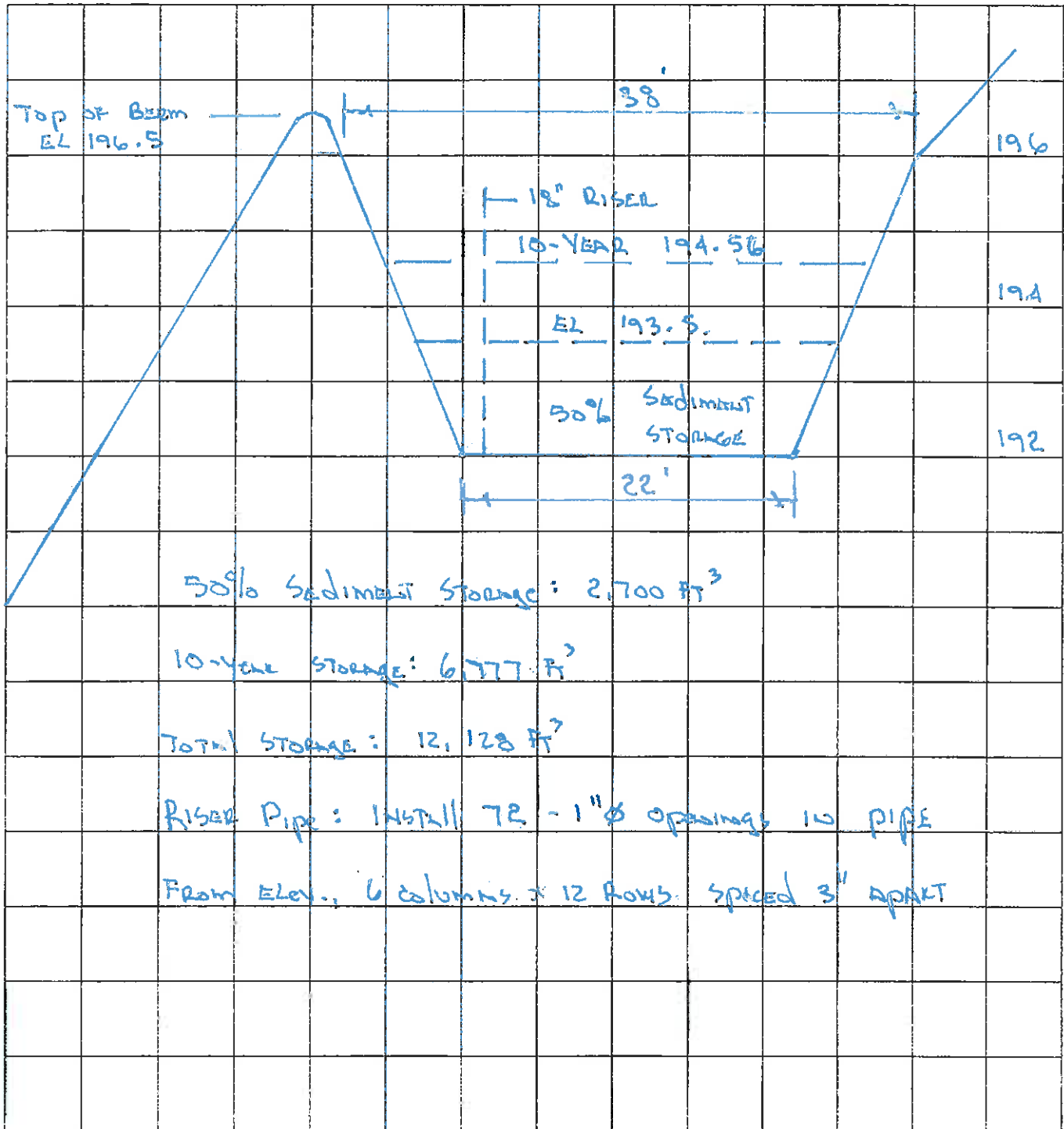
Consulting in: Civil & Environmental Engineering • Land Surveying • Land Development
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Fax: (518) xxx-xxxx

www.advanceengineering.com

Nicholas Costa, PE &
John P. Petrucco, LS



Temporary Sediment Trap Table

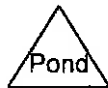
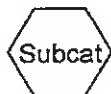
Trap Type	Type of Outlet	Drainage Area (Acres)	Required Storage Volume (Ft ³)	Bottom of Trap Elevation (Ft)	Length x Width (Ft)	Top of Trap Elevation (Ft)	Length X Width (Ft)	Barrel Diameter (Inches)	Riser Diameter (Inches)	Outlet Elevation (Ft)
I	Piped	1.50	5,400	192	22 x 92	196	38 x 108	15	18	192.0



Sediment Trap



Existing Conditions



Sediment Trap

Type II 24-hr 10-year Rainfall=4.20"

Prepared by {enter your company name here}

Printed 4/12/2019

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Page 2

Summary for Subcatchment 1S: Existing Conditions

Runoff = 8.32 cfs @ 11.93 hrs, Volume= 0.374 af, Depth> 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-year Rainfall=4.20"

Area (ac)	CN	Description
1.400	91	Fallow, bare soil, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	100	0.0900	0.70		Sheet Flow, Fallow n= 0.050 P2= 2.80"
0.1	20	0.0900	3.00		Shallow Concentrated Flow, Nearly Bare & Untilled Kv= 10.0 fps
0.4	120	0.2000	4.47		Shallow Concentrated Flow, Nearly Bare & Untilled Kv= 10.0 fps
2.9	240	Total			

Summary for Pond 1P: Sediment Trap

Inflow Area = 1.400 ac, 0.00% Impervious, Inflow Depth > 3.21" for 10-year event
 Inflow = 8.32 cfs @ 11.93 hrs, Volume= 0.374 af
 Outflow = 1.80 cfs @ 12.04 hrs, Volume= 0.363 af, Atten= 78%, Lag= 6.6 min
 Primary = 1.80 cfs @ 12.04 hrs, Volume= 0.363 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Peak Elev= 194.56' @ 12.04 hrs Surf.Area= 3,307 sf Storage= 6,777 cf

Plug-Flow detention time= 79.0 min calculated for 0.363 af (97% of inflow)
 Center-of-Mass det. time= 60.7 min (847.0 - 786.3)

Volume	Invert	Avail.Storage	Storage Description
#1	192.00'	12,128 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
192.00	2,024	0	0
194.00	3,000	5,024	5,024
196.00	4,104	7,104	12,128

Device	Routing	Invert	Outlet Devices
#1	Primary	192.00'	15.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 192.00' / 191.60' S= 0.0200 '/ Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	192.00'	1.0" Vert. Orifice X 6.00 columns X 12 rows with 3.0" cc spacing C= 0.600

Sediment Trap

Type II 24-hr 10-year Rainfall=4.20"

Prepared by {enter your company name here}

Printed 4/12/2019

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Page 3

#3 Device 1 195.50' 18.0" Horiz. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.80 cfs @ 12.04 hrs HW=194.56' (Free Discharge)

1=Culvert (Passes 1.80 cfs of 8.21 cfs potential flow)

2=Orifice (Orifice Controls 1.80 cfs @ 5.14 fps)

3=Orifice (Controls 0.00 cfs)

APPENDIX E
TOWN OF SCHODACK
Tax Map #199.00

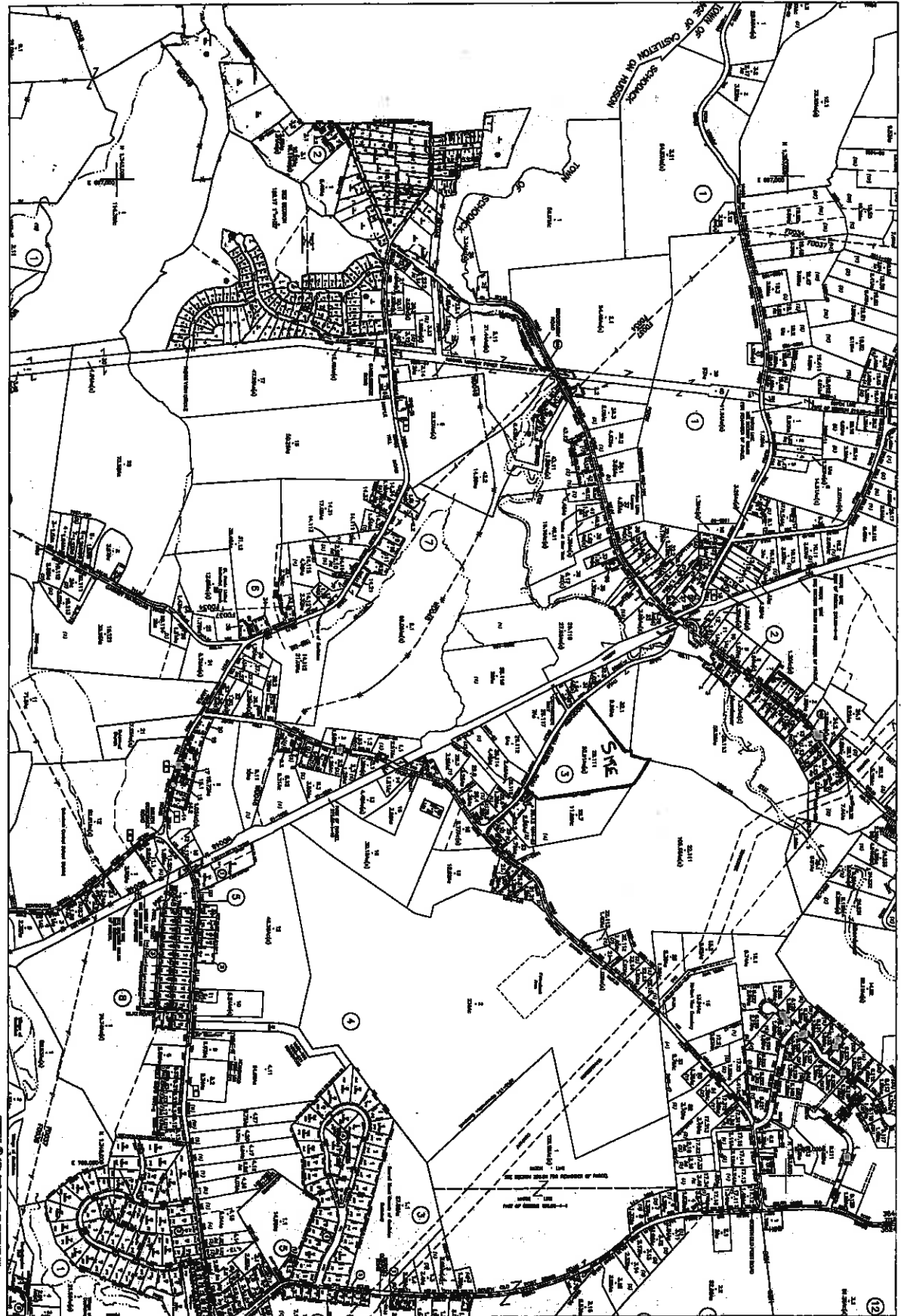
File: 19046 Basic Swppp

REAL PROPERTY MAP
 SHOWING THE SEVERAL LOTS OF THE TOWN OF SCHODACK
 RENSSELAER COUNTY, NEW YORK
 1898

PREPARED BY
 J. H. SCHODACK
 100 N. 3rd St. Schodack, N.Y.

Scale: 1" = 100'

Copyright © 1898 J. H. Schodack



TOWN OF SCHODACK
 RENSSELAER COUNTY, NEW YORK
 1898

Wells Fargo Bank, N.A.
U.S. Trade Services
Standby Letters of Credit
401 N. Research Pkwy, 1st Floor
MAC D4004-017,
Winston-Salem, NC 27101-4157
Phone: 1(800) 776-3862 Option 2
E-Mail: sbic-new@wellsfargo.com

THIS SAMPLE WORDING IS PRESENTED WITHOUT ANY RESPONSIBILITY ON OUR PART. THIS PROFORMA IS PROVIDED TO YOU AT YOUR REQUEST ONLY AS SUGGESTED WORDING FOR THE LETTER OF CREDIT. PLEASE NOTE THAT THE LETTER OF CREDIT IS IN DRAFT FORM ONLY AND REMAINS UNISSUED AND IS NOT AN ENFORCEABLE INSTRUMENT.

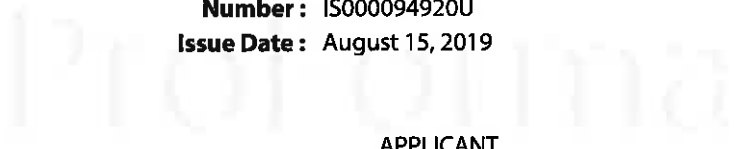
APPLICANT(S) HEREBY AGREE WITH THE FORM AND WORDING OF THE FOLLOWING PROFORMA LETTER OF CREDIT, AND REQUEST THAT WELLS FARGO BANK, N.A. ISSUE THE LETTER OF CREDIT WITH SUCH FORM AND WORDING. IF THERE ARE MULTIPLE APPLICANTS FOR THE LETTER OF CREDIT, THE SIGNATURE OF ONE APPLICANT DENOTES APPROVAL BY ALL APPLICANTS AND BINDS ALL APPLICANTS.

BY: _____
NAME AND TITLE:

THIS PROFORMA LETTER OF CREDIT IS AN INTEGRAL PART OF THE APPLICATION AND AGREEMENT FOR THE ISSUANCE OF THE LETTER OF CREDIT. THE LETTER OF CREDIT CANNOT BE ISSUED UNTIL THE PROFORMA LETTER OF CREDIT IS RETURNED TO US WITH THE APPLICANT'S SIGNATURE ABOVE.

Irrevocable Standby Letter Of Credit

Number : IS000094920U
Issue Date : August 15, 2019



BENEFICIARY	APPLICANT
TOWN OF SCHODACK 265 SCHUURMAN RD, CASTLETON, NEW YORK 12033	DONALD AND BARBARA LUCARELLI 13080 MARSH LANDING PALM BEACH GARDENS, FLORIDA 33418

LETTER OF CREDIT ISSUE AMOUNT USD 116,000.00 EXPIRY DATE AUGUST 15, 2020

LADIES AND GENTLEMEN:

WE HEREBY OPEN OUR IRREVOCABLE STANDBY LETTER OF CREDIT IN YOUR FAVOR FOR THE ACCOUNT OF THE ABOVE REFERENCED APPLICANT IN THE AGGREGATE AMOUNT OF USD116000.00 (USD DOLLARS ONE HUNDRED SIXTEEN THOUSAND AND 00/100) WHICH IS AVAILABLE BY PAYMENT UPON PRESENTATION OF THE FOLLOWING DOCUMENTS:

1. A DRAFT DRAWN ON US AT SIGHT MARKED "DRAWN UNDER WELLS FARGO BANK, N.A. STANDBY LETTER OF CREDIT NO. IS000094920U."

2. THE ORIGINAL LETTER OF CREDIT AND ANY AMENDMENTS ATTACHED THERETO.

3. A DATED STATEMENT ISSUED ON THE LETTERHEAD OF THE BENEFICIARY AND PURPORTEDLY SIGNED BY AN AUTHORIZED REPRESENTATIVE STATING:

"BENEFICIARY IS PERMITTED TO DRAW ON THIS LETTER OF CREDIT UNDER THE EXPRESS TERMS OF THE STRAWVERRY FIELDS PLANNING #2014-22 CONDITIONS OF APPROVAL DATED (INSERT DATE) BY AND BETWEEN THE TOWN OF SCHODACK AND DONALD AND BARBARA LUCARELLI. WE THEREFORE DEMAND PAYMENT IN THE AMOUNT OF (INSERT AMOUNT) AS SAME IS DUE AND OWING".

ONLY ONE DRAFT MAY BE DRAWN AND PRESENTED UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS LETTER OF CREDIT, AND SUCH DRAFT MUST BE FOR THE FULL AMOUNT OF THIS LETTER OF CREDIT.

THIS LETTER OF CREDIT EXPIRES AT OUR ABOVE OFFICE ON 08/15/2020. IT IS A CONDITION OF THIS LETTER OF CREDIT THAT SUCH EXPIRATION DATE SHALL BE DEEMED AUTOMATICALLY EXTENDED, WITHOUT WRITTEN AMENDMENT, FOR ONE YEAR PERIODS TO AUGUST 15 IN EACH SUCCEEDING CALENDAR YEAR, UNLESS AT LEAST 60 CALENDAR DAYS PRIOR TO SUCH EXPIRATION DATE WE SEND WRITTEN NOTICE TO YOU AT YOUR ADDRESS ABOVE BY OVERNIGHT COURIER OR REGISTERED MAIL THAT WE ELECT NOT TO EXTEND THE EXPIRATION DATE OF THIS LETTER OF CREDIT BEYOND THE DATE SPECIFIED IN SUCH NOTICE.

UPON OUR SENDING YOU SUCH NOTICE OF THE NON-EXTENSION OF THE EXPIRATION DATE OF THIS LETTER OF CREDIT, YOU MAY ALSO DRAW UNDER THIS LETTER OF CREDIT, ON OR BEFORE THE EXPIRATION DATE SPECIFIED IN SUCH NOTICE, BY PRESENTATION OF THE FOLLOWING DOCUMENTS TO US AT OUR ABOVE ADDRESS:

1. A DRAFT DRAWN ON US AT SIGHT MARKED "DRAWN UNDER WELLS FARGO BANK, N.A. STANDBY LETTER OF CREDIT NO. IS000094920U."

2. THE ORIGINAL OF THIS STANDBY LETTER OF CREDIT AND ANY AMENDMENTS THERETO.

3. YOUR SIGNED AND DATED STATEMENT WORDED AS FOLLOWS:

"THE UNDERSIGNED, AN AUTHORIZED REPRESENTATIVE OF THE BENEFICIARY OF WELLS FARGO BANK, N. A. LETTER OF CREDIT NO. IS000094920U, HEREBY CERTIFIES THAT BENEFICIARY HAS RECEIVED NOTIFICATION FROM WELLS FARGO BANK, N.A. THAT THIS LETTER OF CREDIT WILL NOT BE EXTENDED PAST ITS CURRENT EXPIRATION DATE. THE UNDERSIGNED FURTHER CERTIFIES THAT (I) AS OF THE DATE OF THIS STATEMENT, BENEFICIARY HAS NOT RECEIVED A LETTER OF CREDIT OR OTHER INSTRUMENT ACCEPTABLE TO BENEFICIARY AS A REPLACEMENT; AND (II) DONALD AND BARBARA LUCARELLI HAS NOT BEEN RELEASED FROM ITS OBLIGATIONS."

THIS IRREVOCABLE LETTER OF CREDIT SETS FORTH IN FULL THE TERMS OF OUR UNDERTAKING. THIS UNDERTAKING IS INDEPENDENT OF AND SHALL NOT IN ANY WAY BE MODIFIED, AMENDED, AMPLIFIED, OR INCORPORATED BY REFERENCE TO ANY DOCUMENT, CONTRACT, OR AGREEMENT REFERENCED HEREIN.

WE HEREBY AGREE WITH YOU THAT DRAFT(S) DRAWN UNDER AND IN COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS CREDIT SHALL BE DULY HONORED IF PRESENTED TOGETHER WITH DOCUMENT(S) AS SPECIFIED ABOVE AT OUR OFFICE LOCATED AT 401 N. RESEARCH PKWY, MAIL CODE D4004-017, WINSTON-SALEM, NC 27101, ATTENTION: STANDBY LETTER OF CREDIT DEPT. ON OR BEFORE THE ABOVE STATED EXPIRY DATE, OR ANY EXTENDED EXPIRY DATE IF APPLICABLE.

EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, THIS LETTER OF CREDIT IS SUBJECT TO THE UNIFORM CUSTOMS AND PRACTICE FOR DOCUMENTARY CREDITS, (2007 REVISION) THE INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION NO.600.

Very Truly Yours,

WELLS FARGO BANK, N.A.

By: _____
Authorized Signature

The original of the Letter of Credit contains an embossed seal over the Authorized Signature.

Please direct any written correspondence or inquiries regarding this Letter of Credit, always quoting our reference number, to **Wells Fargo Bank, National Association**, Attn: U.S. Standby Trade Services

at either 794 Davis Street, 2nd Floor
MAC A0283-023,
San Leandro, CA 94577-6922

or 401 N. Research Pkwy, 1st Floor
MAC D4004-017,
WINSTON-SALEM, NC 27101-4157

Phone inquiries regarding this credit should be directed to our Standby Customer Connection Professionals

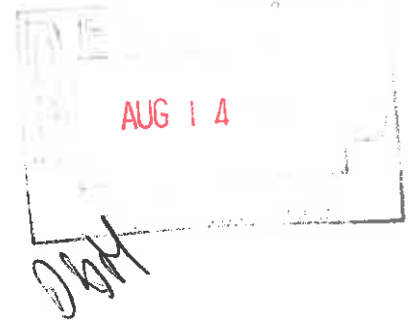
1-800-776-3862 Option 2
(Hours of Operation: 8:00 a.m. PT to 5:00 p.m. PT)

1-800-776-3862 Option 2
(Hours of Operation: 8:00 a.m. EST to 5:00 p.m. EST)



August 12, 2019

VIA EMAIL & MAIL



Denise Mayrer, Chair
Town of Schodack Planning Board
265 Schuurman Road
Castleton, New York 12033

Re: **Preliminary Site 2nd Review**
TJA Clean Energy
Solar SPB # 2019-3
Town of Schodack Planning Board

Dear Ms. Mayrer:

We are in receipt of a letter from C&S Companies dated 07/30/19 responding to Laberge Group review of 07/08/19 for the above referenced application. Attachments to the letter included the following:

1. Letter dated 07/31/19 from Hartgen Archeological Associates Inc. regarding results of Phase IB investigations;
2. Summary Table on an undated paper entitled "TJA Clean Energy Completed Project List";
3. Memorandum dated 04/05/18 NYS DEC subject "Solar Panel Construction Stormwater Permitting/SWPPP Guidance";
4. Maryland Department of the Environment "Stormwater Design Guidance-Solar Panel Installations";
5. Plan entitled "Aerial Plan" with a sheet name C-100 received by our office 8/12/19;
6. Plan entitled "Site Layout" with a sheet name C-101 received by our office 8/12/19; and
7. Plan entitled "Enlarged Plan" with a sheet name C-102 received by our office 8/12/19.

The project is subject to §219-39.3 of the Town's zoning law. As such, the application must comply with the regulation for planned developments in Article XII of the zoning law including referral by the Planning Board of the application to the Town Board for approval.

With the above in mind, we offer the following comments:

1. The project is a Type I action under SEQRA.
2. The Applicant has indicated on the plans, a proposed planted berm in the northwest portion of the site inside the 200-ft buffer zone. The berm would aid in screening the project from the residents of Paul Road. The berm is indicated to be 3-ft high with a base of 17-ft. Evergreens 6 to 8-ft high are proposed to be planted 15-ft apart in a double, staggered row.
 - a. A similar berm of approximately 60-75' in length should also be proposed east of the site access road to ensure screening.
 - b. In addition to the plant list schedule provided, the plans should indicate the location of the individual types and their location as typically provided with landscaping plans.

3. Poles 1-3, 1-4 and 1-5 require additional screening from adjacent residences. Alternatively, the applicant should consider moving all or some of them further south into the site, or a combination of moving and screening.
4. While the most of the solar arrays will be perpendicular to the contour, given the minor slopes are generally less than 5% and the requirement that the project will be providing soil de-compaction and amendment; we concur with the applicant's statement that water quality treatment for the solar panel stormwater runoff will not be required.
 - a. However, peak flow mitigation may still be required for the site which shall be determined by the Applicant based upon a "...site assessment/hydrology analysis..." per the NYS DEC Solar guidance.
 - b. Likewise new impervious areas should also be provided water quality and quantity treatment. Alternatively, the applicant should consider use of the 2019 NYSDEC limit use pervious road detail.
5. While the plans now note that the soils / area between arrays will be restored after construction, specifications on soil restoration have not been indicated on the plans. The Applicant should add a note that all disturbed soils shall be restored by the application of de-compaction and compost enhancement per the NYS Stormwater Management Design Manual Chapter 5, p. 5-19.
6. The Applicant has conducted a Phase IB investigation with the conclusion by Hartgen Archeological Associates "...that the project will have no impact on archeological resources...". A letter from SHPO stating that the project will have no impact should be provided prior to further action on SEQRA.
7. The Applicant has indicated that wetlands and watercourses will be field reviewed with the USACOE on August 14, 2019.
 - a. As such the USACOE and NYSDEC Jurisdictional Determination (JD) is pending and the results of the JD should be provided for review.
 - b. The JD will be required prior to further action on SEQRA.
8. At the time of site plan approval the Applicant and the property owner must submit proof of insurance in an amount acceptable to the Town. Town shall be named a Certificate Holder and be provided notice if the policy is to be cancelled.
9. The Applicant has acknowledged the following will be required during the construction and life of the facility:
 - a. Surety for construction and maintenance along with acceptable construction cost estimate;
 - b. Surety for removal; and
 - c. Annual documentation from the utility company that the facility is active.
10. The Applicant has indicated the area of disturbance will be over 25 acres and as such will be preparing a Storm Water Pollution Prevention Plan (SWPPP) for the project.
 - a. The SWPPP should include a map that shows the limits of ground disturbance with calculated the areas tabulated. Include any areas to be graded, staging areas, access roads, temporary stockpiles, electrical trenching disturbance, etc., in the calculation.
 - b. The Applicant has provided a "Gravel Road Detail". The applicant should consider

Denise Mayrer
August 12, 2019
Page 3 of 3

revising this detail to fully agree with the 2019 NYS DEC "limited use pervious access road" detail. Otherwise the road area shall be treated as impervious area in the SWPPP with the increased site runoff addressed with permanent storm water management facilities.

11. The Applicant should submit advanced design plans, construction notes and details that include but not limited to:
 - a. Drawings at scales that are typical for engineering drawings such as 1"=100', 50', 40', 20', etc. as appropriate to show detail.
 - b. Drawings should indicate the locations of: proposed trenching for underground electrical lines, battery storage, concrete pads, camera monitoring, inverters, transformer stations, misc. other structures as may be required, erosion and sediment measures, stormwater management practices, and construction details.

After reviewing the information submitted to date, we find that all the necessary application material has been presented. As such, we recommend the Chairwoman certify same to the Town Board for further action under Article XII including a public hearing on the matter.

Please contact our office with any questions or comments on the above.

Very truly yours,
LABERGE GROUP

By: _____
Philip Koziol, P.E.
Project Manager

PEK: ahb

C: Craig Crist, Esq., Planning Board Attorney (via email & mail)
David Harris, Supervisor (via email and mail) *DGH*



C&S Companies
499 Col. Eileen Collins Blvd.
Syracuse NY 13212
☎ (315) 455-2000
☎ (315) 455-9667
www.cscos.com

September 3, 2019

Ms. Nadine Fuda, Director of Planning and Zoning
Town Board, Town of Schodack
265 Schuurman Road
Castleton-on-Hudson, New York 12033

**Re: Castleton Solar Project
 13 Paul Road
 Castleton-on-Hudson, Rensselaer County, New York
 Special Permit / Site Plan Application**

File: U41.013.001

Dear Ms. Fuda:

C&S Engineers, Inc. (C&S) is submitting the enclosed materials at the above referenced site on behalf of TJA Clean Energy. TJA is requesting the approval of a Planned Development district at the above referenced address for the purpose constructing and operating a ground-mounted solar farm. The Town of Schodack Planning Board has reviewed the proposed site plan and other application materials, and our understanding is that they have certified to the Town Board that all the necessary application materials have been provided to the Planning Board.

The proposed project is for the construction of a ground-mounted solar farm and associated electrical appurtenances to the south of Paul Road in the Town of Schodack. The solar photovoltaic (PV) system is proposed for installation within an approximate 74-acre site. The project uses 40 SUNGROW SG125HV 125kW string inverters, and 18,876 LG Neon 2 LG335N1C-A5 335W Modules to obtain a total generation of 5-megawatts AC. There is an existing three phase National Grid feeder running north-south along the east side of Paul Road which will be upgraded/overbuilt to allow for the interconnection. The interconnection wiring, connecting the solar array to the National Grid point of interconnection along Paul Road, will be pole mounted, overhead wiring.

Should you have any questions or require additional information, please feel free to contact us.

Sincerely,

C&S ENGINEERS, INC.

A handwritten signature in blue ink, appearing to read 'Eric N. Kenna'.

Eric N. Kenna, P.E.
Department Manager
(315) 703-4109
ekenna@cscos.com

HARTGEN



archeological associates inc

July 31, 2019

1744 Washington Ave Ext
Rensselaer, NY 12144

Bryan A. Bayer, PWS, CE
C&S Companies
499 Col. Eileen Collins Boulevard, Syracuse, New York 13212
p. 315.703.4312
e. bbayer@cscos.com

CORPORATE

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Rensselaer NY 12144

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NEW ENGLAND

PO Box 81
Putney VT 05346

p +1 802 387 6020
f +1 802 387 6520

Subject: End-of-Field Letter for Phase IB Archeological Investigations
Castleton Solar Project, Rensselaer County, New York (19PR03355)

Dear Mr. Bayer,

This letter presents Hartgen Archeological Associates, Inc.'s preliminary survey results for the above-referenced project, located south of Paul Road in the Town of Schodack, Rensselaer County, New York.

Fieldwork was completed between July 23 and July 29, 2019. A total of 397 shovel tests were excavated at 50-foot (15 meter) intervals within dry, undisturbed areas of the Area of Potential Effects (APE). There were no findings of archeological significance during the Phase IB Survey. No precontact cultural materials or potentially significant historic artifacts were recovered. No structural remains or other archeological features were observed within the APE.

The Project contained extensive ground disturbance in some areas, particularly along the main access road and smaller dirt pathways, with large push piles of soil on either side of these paths throughout the APE. Large push piles were also noted towards the northern end of the Project, possibly remnants of farming activities or the construction of Paul Road. Piles of debris indicative of modern dumping activities were observed throughout the Project. This included furniture remnants, food and beverage containers, old appliances, concrete blocks, and miscellaneous plastic and metal fragments.

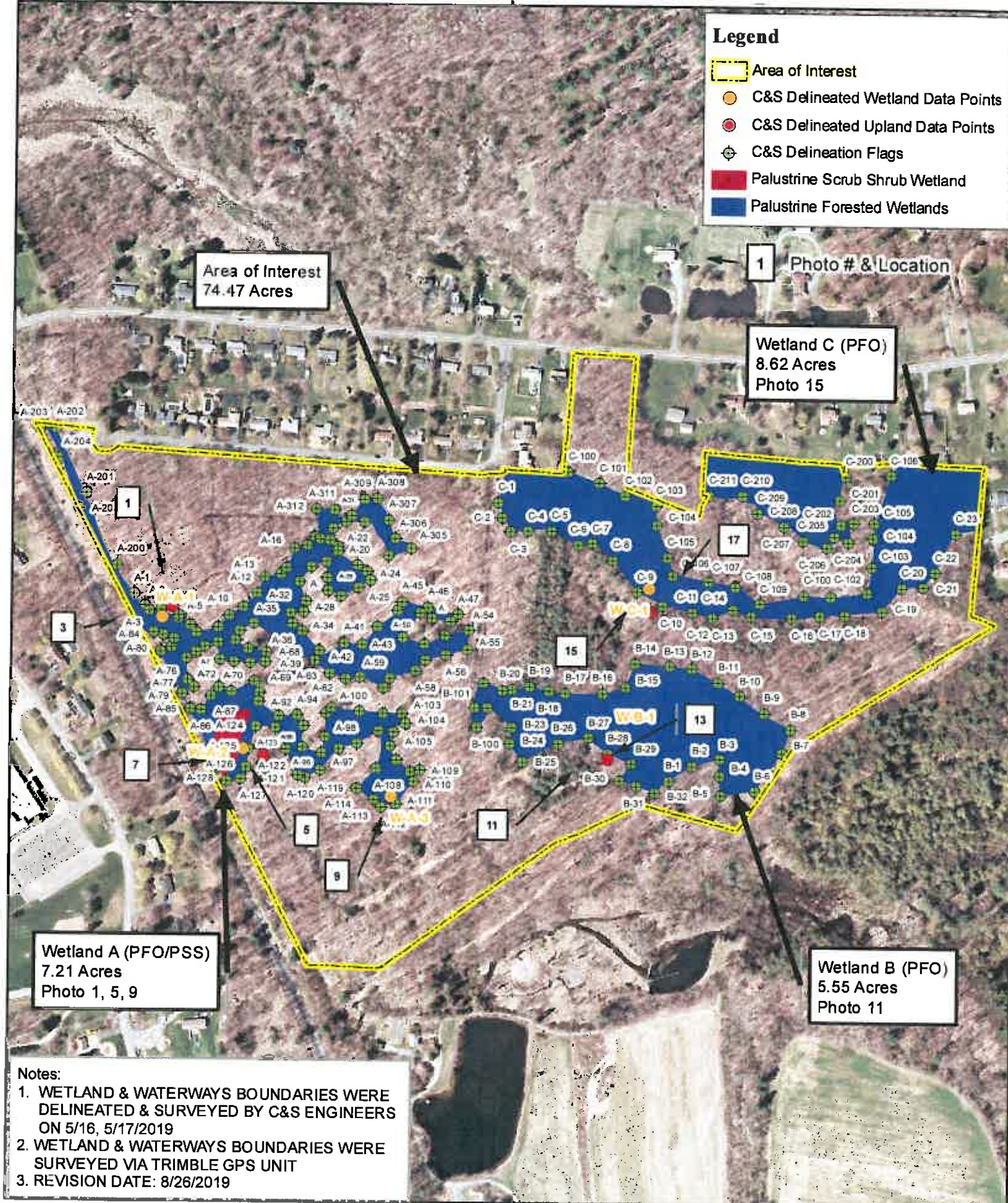
Hartgen's preliminary recommendation is that the proposed Project will have no impact on archeological resources, and no further work is recommended. The Phase IA/IB archeological report is in progress and will be submitted in the near future.

Regards,

Justin DiVirgilio
President

Legend

- Area of Interest
- C&S Delineated Wetland Data Points
- C&S Delineated Upland Data Points
- ⊕ C&S Delineation Flags
- Palustrine Scrub Shrub Wetland
- Palustrine Forested Wetlands



Area of Interest
74.47 Acres

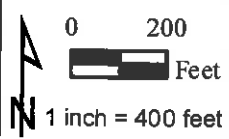
1 Photo # & Location

Wetland C (PFO)
8.62 Acres
Photo 15

Wetland A (PFO/PSS)
7.21 Acres
Photo 1, 5, 9

Wetland B (PFO)
5.55 Acres
Photo 11

- Notes:**
1. WETLAND & WATERWAYS BOUNDARIES WERE DELINEATED & SURVEYED BY C&S ENGINEERS ON 5/16, 5/17/2019
 2. WETLAND & WATERWAYS BOUNDARIES WERE SURVEYED VIA TRIMBLE GPS UNIT
 3. REVISION DATE: 8/26/2019



Castleton Solar Project
13 Paul Road
Castleton on Hudson
Rensselaer County, New York 12033

PROJECT NO.	V92 001 001
DATE	August 2019
SCALE	AS SHOWN
DRAWN BY	JRS
DESIGNED BY	JRS
CHECKED BY	JRS
METAL	8/26/2019 10:00 AM

Wetlands & Surface Waters Delineation Map
Figure 6



GlareGauge Glare Analysis Results

Site Configuration: 13 Paul Rd

Project site configuration details and results.



Created **May 20, 2019 3:39 p.m.**
 Updated **May 20, 2019 4:13 p.m.**
 DNI varies and peaks at **1,000.0 W/m²**
 Analyze every **1 minute(s)**
0.5 ocular transmission coefficient
0.002 m pupil diameter
0.017 m eye focal length
9.3 mrad sun subtended angle
 Timezone **UTC-5**
 Site Configuration ID: 28101.5010

Summary of Results Glare with potential for temporary after-image predicted

PV name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV1	30.0	180.0	0	15,373	16,380,000.0

Component Data

PV Array(s)

Name: PV1
 Axis tracking: Fixed (no rotation)
 Tilt: 30.0 deg
 Orientation: 180.0 deg
 Rated power: 6970.0 kW
 Panel material: Smooth glass with AR coating
 Vary reflectivity with sun position? Yes
 Correlate slope error with surface type? Yes
 Slope error: 8.43 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	42.523380	-73.705538	309.02	15.00	324.02
2	42.523436	-73.702363	298.01	15.00	313.02
3	42.522437	-73.698858	300.01	15.00	315.02
4	42.522055	-73.698846	308.02	15.00	323.02
5	42.521998	-73.702086	305.01	15.00	320.02
6	42.521321	-73.702064	296.01	15.00	311.02
7	42.520177	-73.704406	294.01	15.00	309.02
8	42.520159	-73.705433	291.01	15.00	306.01



PV Array Results

PV1 potential temporary after-image

Predicted energy output: 16,380,000.0 kWh (assuming sunny, clear skies)

Component	Green glare (min)	Yellow glare (min)
OP: OP 1	0	0
OP: OP 2	0	0
OP: OP 3	0	0
OP: OP 4	0	0
OP: OP 5	0	0
OP: OP 6	0	83
OP: OP 7	0	5093
OP: OP 8	0	0
OP: OP 9	0	0
OP: OP 10	0	0
OP: OP 11	0	0
OP: OP 12	0	0
OP: OP 13	0	0
OP: OP 14	0	86
OP: OP 15	0	5036
OP: OP 16	0	0
OP: OP 17	0	0
OP: OP 18	0	0
OP: OP 19	0	0
OP: OP 20	0	0
OP: OP 21	0	0
OP: OP 22	0	87
OP: OP 23	0	4988
OP: OP 24	0	0
Route: I-90 N	0	0

PV1 - OP Receptor (OP 1)

No glare found

PV1 - OP Receptor (OP 2)

No glare found

PV1 - OP Receptor (OP 3)

No glare found

PV1 - OP Receptor (OP 4)

No glare found

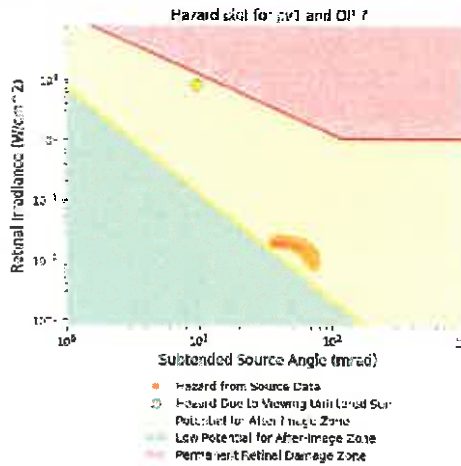
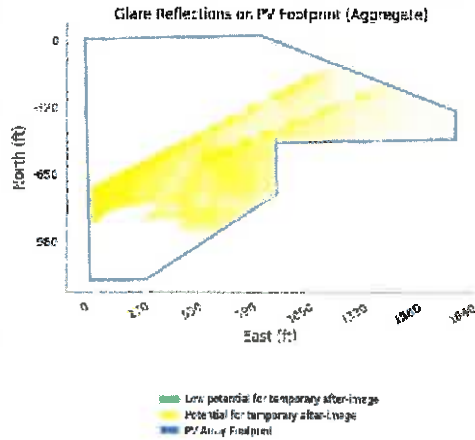
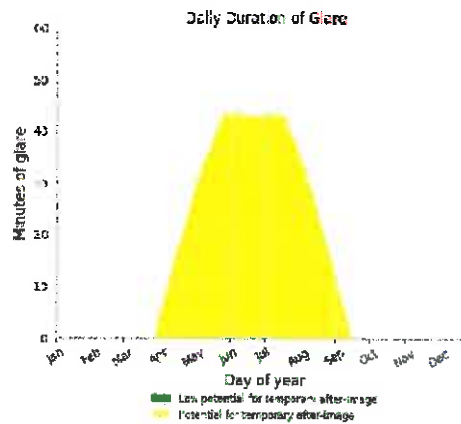
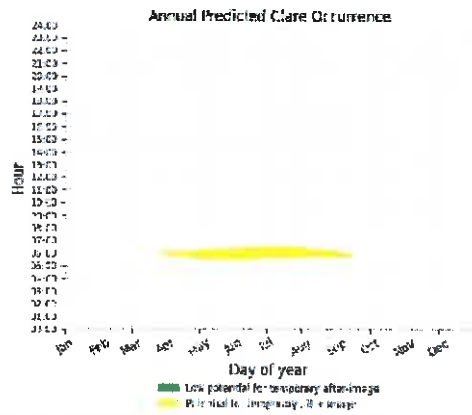
PV1 - OP Receptor (OP 5)

No glare found

PV1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,093 minutes of "yellow" glare with potential to cause temporary after-image.



PV1 - OP Receptor (OP 8)

No glare found

PV1 - OP Receptor (OP 9)

No glare found

PV1 - OP Receptor (OP 10)

No glare found

PV1 - OP Receptor (OP 11)

No glare found

PV1 - OP Receptor (OP 12)

No glare found

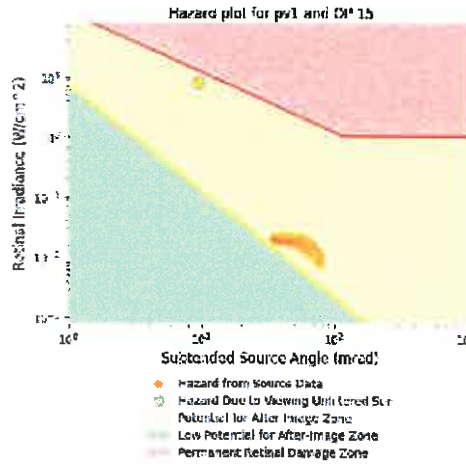
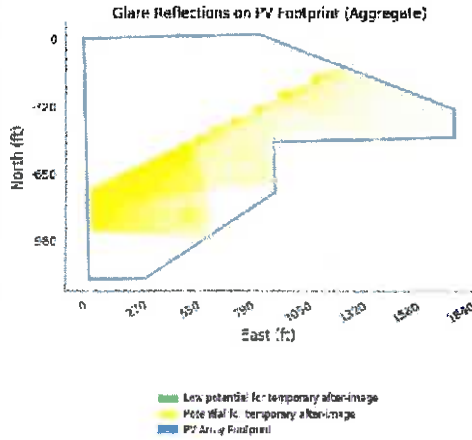
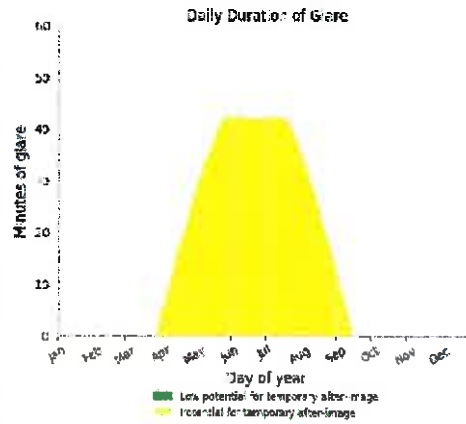
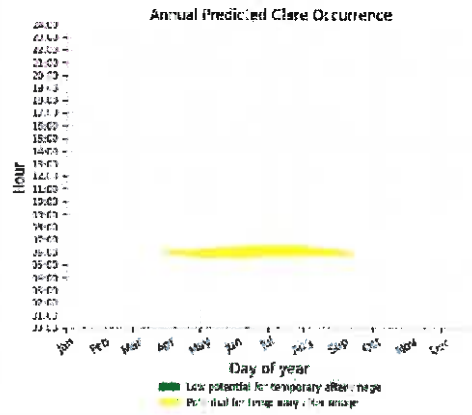
PV1 - OP Receptor (OP 13)

No glare found

PV1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,036 minutes of "yellow" glare with potential to cause temporary after-image.



PV1 - OP Receptor (OP 16)

No glare found

PV1 - OP Receptor (OP 17)

No glare found

PV1 - OP Receptor (OP 18)

No glare found

PV1 - OP Receptor (OP 19)

No glare found

PV1 - OP Receptor (OP 20)

No glare found

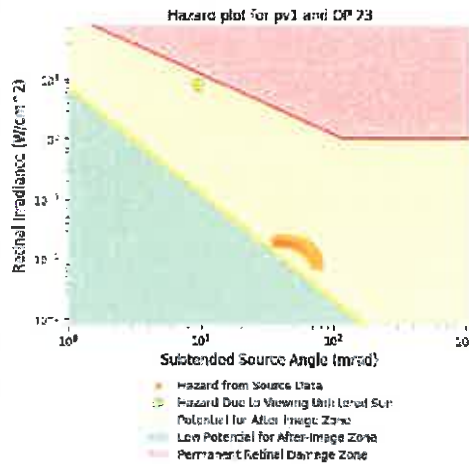
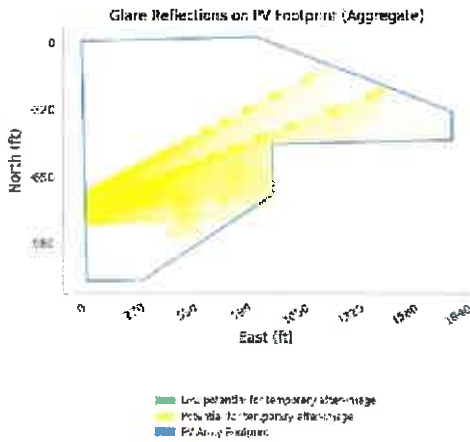
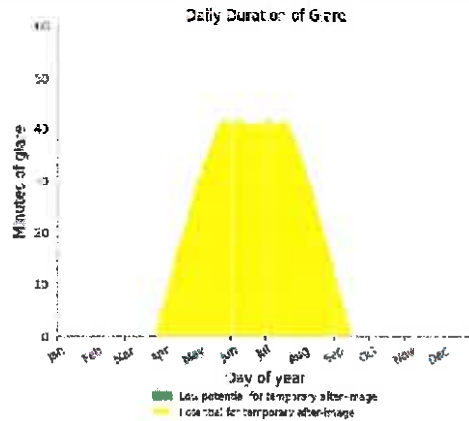
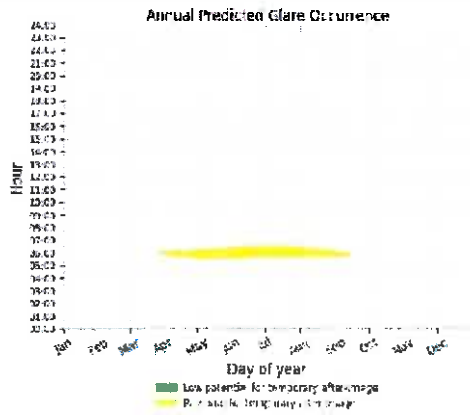
PV1 - OP Receptor (OP 21)

No glare found

PV1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,988 minutes of "yellow" glare with potential to cause temporary after-image.



PV1 - OP Receptor (OP 24)

No glare found

PV1 - Route Receptor (I-90 N)

No glare found

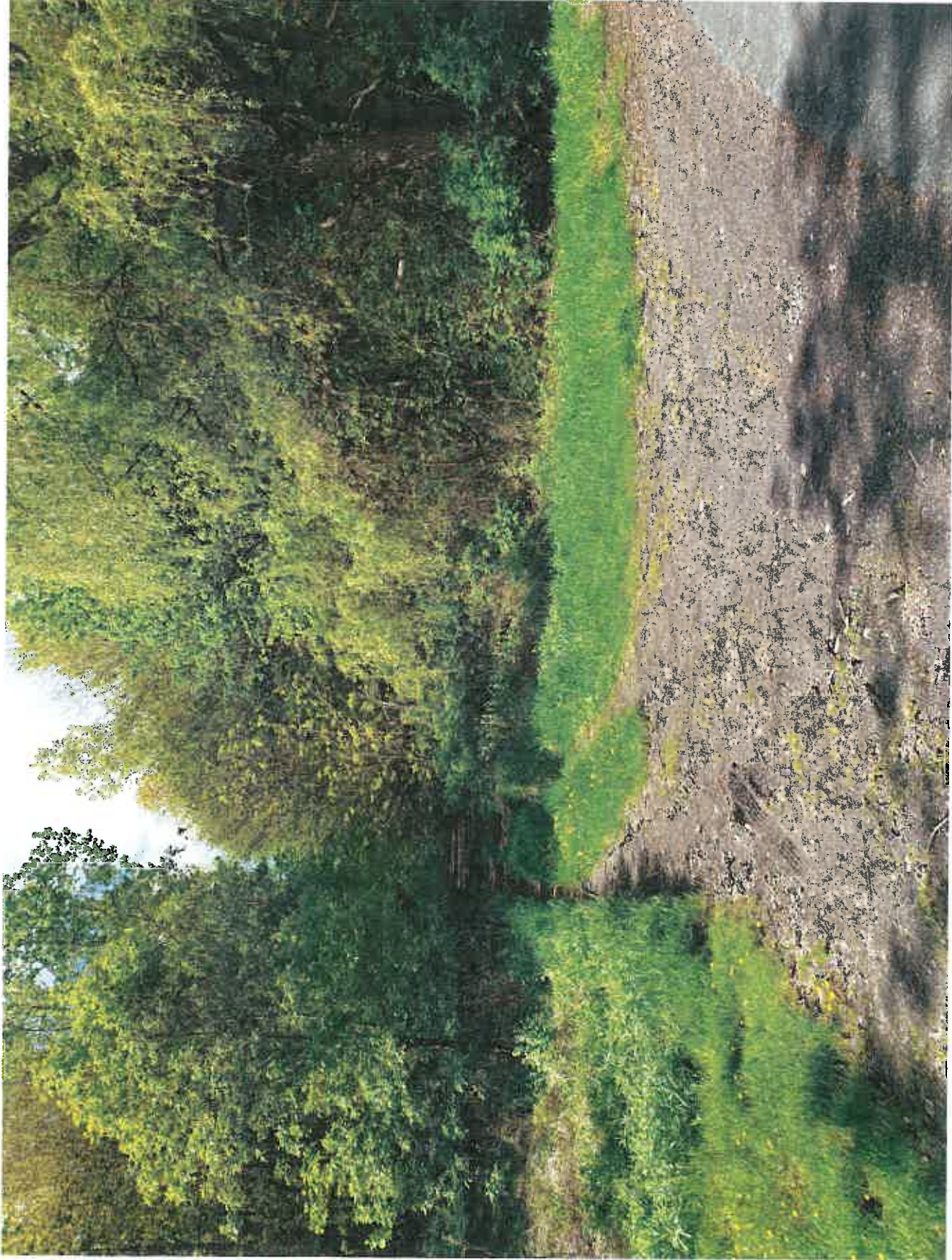


Photo Simulation – Existing Conditions

C&S Engineers, Inc.
489 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.csceos.com



Entrance to Site
Castleton Solar Site



Photo Simulation – Existing Conditions

C&S Engineers, Inc.
480 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com



Intersection of Maple Hill Rd and Glaz Road
Castleton Solar Site

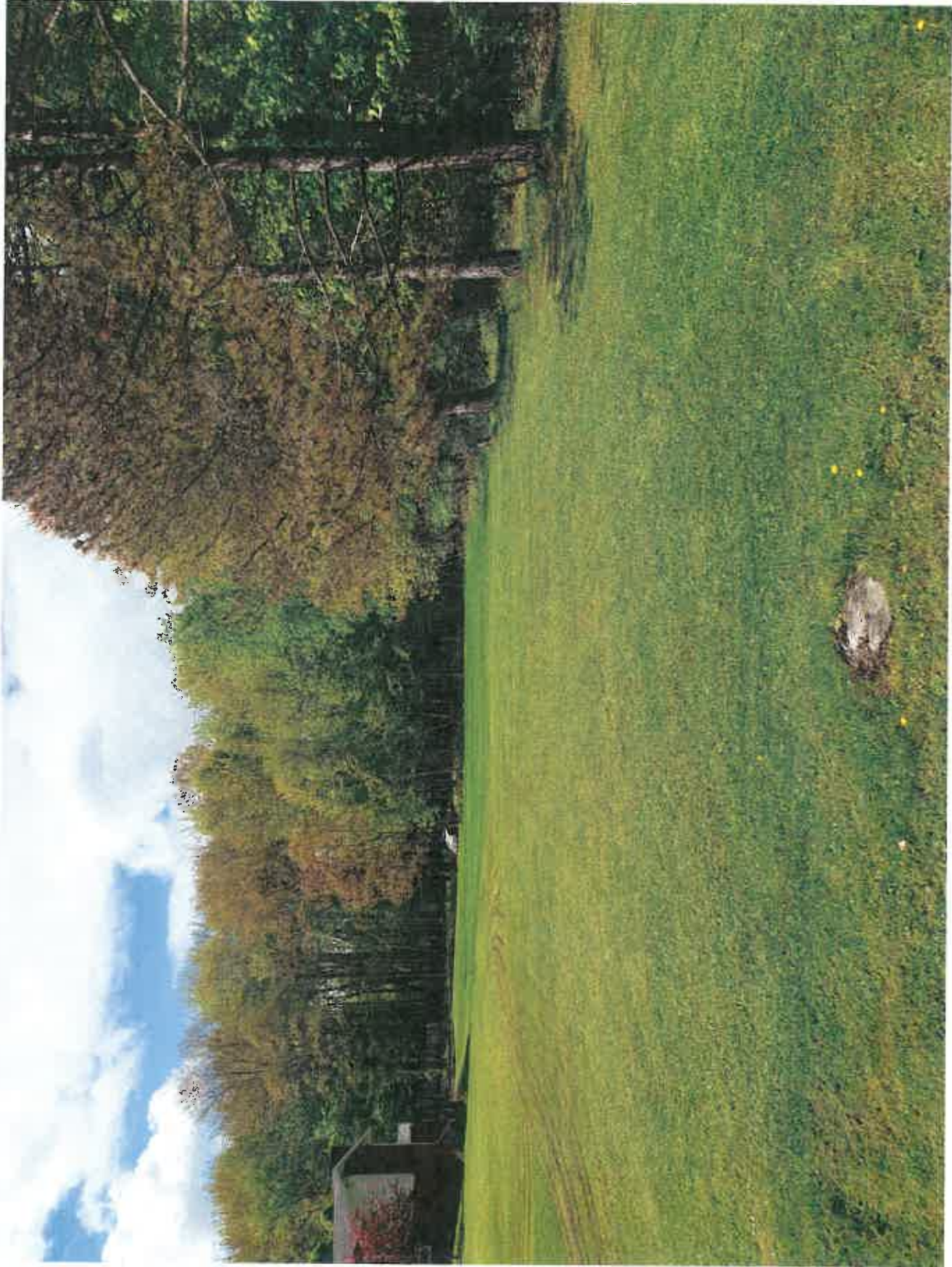


Photo Simulation – Existing Conditions

C&S Engineers, Inc.
485 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9687
www.csrps.com



500 ft East of Intersection with Glaz Rd
Castleton Solar Site



Photo Simulation – Existing Conditions

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409 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cacos.com



Intersection of Maple Hill Rd and Maple Crest Dr
Castleton Solar Site



Photo Simulation – Existing Conditions

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Phone: 315-455-2000
Fax: 315-455-9887
www.cseinc.com



Intersection of Maple Hill Rd and Railroad Tracks
Castleton Solar Site



Photo Simulation – Existing Conditions

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www.cscos.com



End of Meadow Lane
Castleton Solar Site



Photo Simulation – Existing Conditions

C&S Engineers, Inc.
484 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2900
Fax: 315-455-9667
www.gcscs.com



**School Parking Lot
Castleton Solar Site**



Photo Simulation – Existing Conditions

C&S Engineers, Inc.
492 Col Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.ccsenr.com



Water Works Road
Castleton Solar Site