TOWN OF NORTH CASTLE

WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

RESIDENTIAL PROJECT
REVIEW COMMITTEE
Adam R. Kaufman AICP, Chair

Telephone: (914) 273-3000 x43
Fax: (914) 273-3554
www.northcastleny.com

RESIDENTIAL PROJECT REVIEW COMMITTEE (RPRC) PROCEDURES

The RPRC was created to streamline the residental review process and quickly reviews all residential projects. Projects determined to have no impact are permitted to apply to the Building Department while more complicated projects are directed to the appropriate review board(s).

THE RPRC reviews all applications for residential permits (including, but not limited to, buildings permits, steep slope permits, wetlands permits and pool permits), but excluding permits only relating to interior alterations/renovations.

To get on an RPRC agenda you must submit a single PDF file containing the following to the Planning Department:

1. Complete all items on the RPRC checklist

2. RPRC Application fee. Check made payable to: Town of North Castle.

3. Floor Area and Gross Land Coverage work sheets (with backup information)

4. Plans for your project according the RPRC Checklist

5. Submit one single PDF file containg all information listed above to the Planning Department: planning@northcastleny.com.

Once your application has been submitted, you may follow your application on the RPRC webpage located at http://www.northcastleny.comlresidential-project-review-committee-rprc

Determination Letters are posted on the website (click on determination letters, find the date of your meeting and click on the name of your project - Letters are posted the day after the meeting, typically by 1 :00 p.m.)

Town of North Castle Master Fee Schedule - Revised 11/18/2020

RPRC Fees

Town Code Chapter Title	Chapter Number	Code Section	Fee Type	Fee Description	Engineering Fee Amount	Planning Fee Amount	Total Amount	Additional Notes
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	One-Family Residence - New Construction	$1,250	$625	$1,875	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	One Family Residence - Teardown/Rebuild	$1,250	$625	$1,875	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Addition to Primary Residence (less than 1,000 s.f.)	$500	$250	$750	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Addition to Primary Residence (greater than or equal to 1,000 s.f.)	$800	$400	$1,200	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Detached Accessory Building/Structure (less than 150 s.f.)	$0	$100	$100	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Detached Accessory Building/Structure (greater than or equal to 150 s.f.)	$500	$250	$750	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Pool/Hot Tub and associated Mechanical Equipment (includes associated deck, patio, walls, walkway, etc.)	$800	$400	$1,200	

Town of North Castle Master Fee Schedule - Revised 11/18/2020

RPRC Fees

Town Code Chapter Title	Chapter Number	Code Section	Fee Type	Fee Description	Engineering Fee Amount	Planning Fee Amount	Total Amount	Additional Notes
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Recreational Court (tennis, basketball, volleyball, etc.) and Associated Utilities	$800	$400	$1,200	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Deck, porch, patio, pergola	$200	$100	$300	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Walkway, piers, wall, gate	$100	$50	$150	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Fence	$0	$50	$50	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Mechanical Equipment (generator, fuel storage tank, etc.) and Associated Utilities	$100	$50	$150	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Installation or Modification of Driveway/Driveway Surface - Under 250 square feet	$0	$0	$0	See § 355-26C(3). RPRC EXEMPT
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Installation or Modification of Driveway/Driveway Surface - Over 250 square feet	$400	$200	$600	

Town of North Castle Master Fee Schedule - Revised 11/18/2020

RPRC Fees

Town Code Chapter Title	Chapter Number	Code Section	Fee Type	Fee Description	Engineering Fee Amount	Planning Fee Amount	Total Amount	Additional Notes
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Solar Panels	$0	$50	$50	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	Installation or Modification of Stormwater Practice/Drainage Facilities	$400	$200	$600	
RESIDENTIAL PROJECT REVIEW COMMITTEE	12, Art. IV	12-24	RPRC	For proposed actions not listed above	$150	$75	$225	per 1,000 s.f. of disturbance or fraction thereof

1. In the event the RPRC determines that Planning Board approval is required, any RPRC Review Fees already paid by the applicant shall be applied towards the escrow review account to be established by the Planning Board.
2. In the event the RPRC determines that an Administrative Wetland Permit is required, an Administrative Wetland Permit application shall be filed with the appropriate fee, as indicated in the Administrative Wetland Permit Fee Schedule.

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RESIDENTIAL PROJECT REVIEW COMMITTEE (RPRC) APPLICATION

Section I- PROJECT

ADDRESS: 1 Hadley Road, Armonk, NY 10504

Section III- DESCRIPTION OF WORK:

Construction of a spa/hot tub and patio/walkway in the rear yard of a single-family dwelling with associated stormwater management system.

Section III- CONTACT INFORMATION:

APPLICANT: Howard Freilich

ADDRESS: 1 Hadley Road, Armonk, NY 10504

PHONE: (914) 589-2100 MOBILE: _____ EMAIL: howard@blondiestreehouse.com

PROPERTY OWNER: Same as Applicant

ADDRESS: _____

PHONE: _____ MOBILE: _____ EMAIL: _____

PROFESSIONAL:: Hudson Engineering & Consulting, P.C. - Michael Stein, P.E.

ADDRESS: 45 Knollwood Road, Suite 201, Elmsford, NY 10523

PHONE: (914) 909-0420 MOBILE: _____

EMAIL: michael@hudsonec.com

Section IV- PROPERTY INFORMATION:

Zone: R-2A Tax ID (lot designation) 108.04-02-31

Town of North Castle
Residential Project Review Committee
17 Bedford Road Armonk, New York 10504
(914) 273-3542 (914) 273-3554 (fax)

RPRC COMPLETENESS REVIEW FORM

This form represents the standard requirements for a completeness review for all Residential Project Review Committee submissions. Failure to provide all of the information requested will result in a determination that the application is incomplete.

Project Name on Plan: Proposed Spa & Alterations

☒ Initial Submittal ☐ Revised Preliminary

Street Location: 1 Hadley Road, Armonk, NY 10504

Zoning District: R-2A Property Acreage: 2.0 Tax Map Parcel ID: 108.04-02-31

Date: 01/12/2024

DEPARTMENTAL USE ONLY

Date Filed: _____ Staff Name: _____

Preliminary Plan Completeness Review Checklist
Items marked with a ☒ are complete, items left blank ☐ are incomplete and must be completed, "NA" means not applicable.

☐ 1. Plan prepared by a registered architect or professional engineer

☐ 2. Aerial photo (Google Earth) showing the applicant's entire property and adjacent properties and streets

☐ 3. Map showing the applicant's entire property and adjacent properties and streets

☐ 4. A locator map at a convenient scale

☐ 5. The proposed location, use and design of all buildings and structures

☐ 6. Existing topography and proposed grade elevations

☐ 7. Location of drives

☐ 8. Location of all existing and proposed site improvements, including drains, culverts, retaining walls and fences

☐ 9. Description of method of water supply and sewage disposal and location of such facilities

☐ 10. The name and address of the applicant, property owner(s) if other than the applicant and of the planner, engineer, architect, surveyor and/or other professionals engaged to work

☐ 11. Submission of a Zoning Conformance Table depicting the plan's compliance with the minimum requirements of the Zoning District

☐ 12. If a tree removal permit is being sought, submission of a plan depicting the location and graphical removal status of all Town-regulated trees within the proposed area of disturbance. In addition, the tree plan shall be accompanied by a tree inventory includes a unique ID number, the species, size, health condition and removal status of each tree.

☐ 13. If a wetlands permit is being sought, identification of the wetland and the 100-foot wetland buffer.

More information about the items required herein can be obtained from the North Castle Planning Department. A copy of the Town Code can be obtained from Town Clerk or on the North Castle homepage: http://www.northcastleny.com/townhall.html

_____ On this date, all items necessary for a technical review of the proposed site plan have been submitted and constitute a COMPLETE APPLICATION.

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PLANNING DEPARTMENT
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Director of Planning

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GROSS LAND COVERAGE CALCULATIONS WORKSHEET

Application Name or Identifying Title: 1 Hadley Road Date: 01/12/24

Tax Map Designation or Proposed Lot No.: 108.04-2-31

Gross Lot Coverage

1.	Total lot Area (Net Lot Area for Lots Created After 12/13/06):	87,123 sf
2.	**Maximum** permitted gross land coverage (per Section 355-26.C(1)(b)):	13,270 sf
3.	**BONUS** maximum gross land cover (per Section 355-26.C(1)(b)):	
	Distance principal home is beyond minimum front yard setback 77 x 10 = 770	770
4.	**TOTAL Maximum Permitted gross land coverage** = Sum of lines 2 and 3	14,040
5.	Amount of lot area covered by **principal building:** 3,687 existing + 0 proposed =	3,687
6.	Amount of lot area covered by **accessory buildings:** 0 existing + 0 proposed =	0
7.	Amount of lot area covered by **decks:** 0 existing + 0 proposed =	0
8.	Amount of lot area covered by **porches:** 0 existing + 0 proposed =	0
9.	Amount of lot area covered by **driveway, parking areas and walkways:** 4,259 existing + 0 proposed =	4,259
10.	Amount of lot area covered by **terraces:** 1,041 existing + 659 proposed =	1,700
11.	Amount of lot area covered by **tennis court, pool and mechanical equip:** 0 existing + 0 proposed =	0
12.	Amount of lot area covered by **all other structures:** 0 existing + 0 proposed =	0
13. Proposed	**gross land coverage:** Total of Lines 5 – 12 =	9,646

If Line 13 is less than or equal to Line 4, your proposal **complies** with the Town's maximum gross land coverage regulations and the project may proceed to the Residential Project Review Committee for review. If Line 13 is greater than Line 4 your proposal does not comply with the Town's regulations.

STATE OF NEW YORK MICHAEL F. STEIN LICENSED PROFESSIONAL ENGINEER No. 80637

Signature and Seal of Professional Preparing Worksheet

01/12/2024
Date

STORMWATER MANAGEMENT PLAN & DRAINAGE ANALYSIS

1 Hadley Road
Town of North Castle - New York

October 14, 2022
Revised December 12, 2023

Hudson Engineering & Consulting, P.C.
45 Knollwood Road – Suite 201
Elmsford, NY 10523
(914) 909-0420

STORMWATER MANAGEMENT
PLAN & DRAINAGE ANALYSIS
1 Hadley Road
Town of North Castle - New York

INTRODUCTION

This Stormwater Management Plan presents the proposed Best Management Practices (BMPs) to control erosion and sedimentation and manage stormwater during and upon construction of dwelling, driveway, spa, walkways and patio at 1 Hadley Road in the Town of North Castle, Westchester County, New York.

This plan consists of this narrative and a plan set entitled: "Proposed Single Family Residence, 1 Hadley Road, Town of North Castle, Westchester County - New York", all as prepared by Hudson Engineering and Consulting, P.C., Elmsford, New York, latest revised date December 12, 2023. The design is in accordance with the Town of North Castle requirements. Since the project disturbance is less than one acre the New York State Department of Environmental Conservation [NYSDEC] stormwater regulations are not applicable.

METHODOLOGY

The stormwater analysis was developed utilizing the Soil Conservation Service (SCS) TR-20, 24-hour Type III storm events (HydroCad®) to assist with the design of the mitigating practices. The "Complex Number" (CN) value determination is based on soil type, vegetation and land use. The design is in accordance with the Town of North Castle's stormwater regulations. The "Time of Concentration" (T_c) was determined as a direct entry of one-minute. The CN and T_c data are input into the computer model. The project site was modeled for the 100-year Type III – 24-hour extreme storm event.

PRE-DESIGN INVESTIGATIVE ANALYSIS

A pre-design investigative analysis was performed including percolation and deep holes tests in the location shown on the plans. A percolation test was performed in the vicinity of the potential stormwater mitigation practice [TP-1] until constant rates were achieved, their results as follows:

- TP-1: A percolation rate of 7.33-minutes per inch (8.18-inches per hour) was observed. A rate of 8-inches per hour was utilized in the design.

A deep test hole was excavated and labeled TP-1 as shown on the plans.

- TP-1 was excavated to a depth of 104-inches. The test revealed organic soil with roots to a depth of 10-inches, sandy loam with rocks to a depth of

75-inches, and compact fine sand to the invert. Ground water observed at a depth of 103-inches. No ledge rock was encountered for the entire depth.

The deep test hole log and percolation test data sheets are attached.

PRE-DEVELOPED CONDITION

Watershed 1 contains approximately 87,126-square feet of tributary area, which includes 9,334-square feet of impervious area, in the form of existing walkways, driveways, garage, walkway and building area. Approximately 77,792-square feet of lawn and landscaping. The weighted Complex Number (CN) value is calculated as 85 and the Time of Concentration (Tc) is calculated as 16.5 minutes. Overland flow from this watershed originates west of the property and flows in a eastern direction, eventually exiting the property at DP-1.

The peak rates and volumes of runoff were calculated to be as follows:

Pre-Developed Conditions				
	Storm Event			
Design Point	**1-Year**	**10-Year**	**25-Year**	**100-Year**
	cfs/cf	**cfs/cf**	**cfs/cf**	**cfs/cf**
DP-1	2.46/10,442	5.91/25,260	7.91/34,193	11.99/52,917

E. POST-DEVELOPED CONDITION

In the post-developed condition, the tributary areas were separated into two (2) watersheds: Watershed 1 and Watershed 1A. Each watershed is analyzed as follows:

Proposed Watershed 1

Watershed 1 contains approximately 81,572-square feet of tributary area which includes 4,451-square feet of impervious area, in the form of proposed driveway, walls and walkways. Approximately 77,121-square feet of lawn and landscaping. The weighted Complex Number (CN) value is calculated as 85 and the Time of Concentration (Tc) is calculated as 16.5 minutes. Overland flow from this watershed originates west of the property and flows in a eastern direction, eventually exiting the property at DP-1.

Proposed Watershed 1A

Watershed L1 contains approximately 5,554-square feet of tributary area, all of which is impervious in the form of the proposed roof, spa and patios. The weighted Complex Number (CN) value is calculated as 98 and the Time of Concentration (Tc) is a direct entry of 1.0-minute. The runoff from this watershed is captured via a series of roof drain leaders and area drains and is subsequently

conveyed to a subsurface exfiltration gallery consisting of sixteen (16) Cultec 330XLHD Rechargers surrounded with uniformly graded clean washed crushed stone located in the rear yard of the residence. The proposed system has been designed to treat the entire runoff volume from the watershed for all storms, up to and including the 100-year Type III 24-hour storm event.

The peak rates and volumes of runoff were calculated to be as follows:

Post-Developed Conditions				
	Storm Event			
Design Point	**1-Year**	**10-Year**	**25-Year**	**100-Year**
	cfs/cf	**cfs/cf**	**cfs/cf**	**cfs/cf**
DP-1	2.32/9,856	5.57/23,841	7.46/32,272	11.32/49,944

F. SUMMARY OF FLOWS AT DESIGN POINT

	Storm Event			
Design Point	**1-Year**	**10-Year**	**25-Year**	**100-Year**
	cfs/cf	**Cfs/cf**	**Cfs/cf**	**cfs/cf**
• Pre-	2.46/10,442	5.91/25,260	7.91/34,193	11.99/52,917
• **Post-**	**2.30/9,777**	**5.53/23,650**	**7.40/32,013**	**11.23/49,544**

The rates of runoff from all storm events, up to and including the 100-year storm event are less than or equal to that of the pre-developed conditions.

CONCLUSION

The stormwater management plan proposed meets all the requirements set forth by the Town of North Castle. Design modification requirements that may occur during the approval process will be performed and submitted for review to the Town of North Castle.

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	Connecticut
Location	
Longitude	73.685 degrees West
Latitude	41.122 degrees North
Elevation	0 feet
Date/Time	Mon, 03 Oct 2022 13:10:50 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.34	0.51	0.64	0.84	1.05	1.31	**1yr**	0.90	1.23	1.50	1.85	2.29	2.82	3.19	**1yr**	2.49	3.06	3.56	4.27	4.92	**1yr**
2yr	0.40	0.62	0.77	1.02	1.28	1.60	**2yr**	1.10	1.49	1.84	2.27	2.79	3.43	3.86	**2yr**	3.04	3.71	4.27	5.06	5.73	**2yr**
5yr	0.47	0.74	0.92	1.23	1.58	2.00	**5yr**	1.36	1.84	2.30	2.85	3.51	4.31	4.89	**5yr**	3.81	4.70	5.45	6.35	7.11	**5yr**
10yr	0.53	0.83	1.05	1.43	1.85	2.36	**10yr**	1.60	2.15	2.74	3.40	4.18	5.12	5.84	**10yr**	4.53	5.62	6.56	7.54	8.37	**10yr**
25yr	0.62	0.98	1.25	1.73	2.30	2.96	**25yr**	1.98	2.66	3.44	4.29	5.28	6.43	7.40	**25yr**	5.69	7.12	8.39	9.47	10.40	**25yr**
50yr	0.70	1.12	1.44	2.01	2.71	3.51	**50yr**	2.34	3.13	4.10	5.11	6.29	7.65	8.86	**50yr**	6.77	8.52	10.11	11.25	12.26	**50yr**
100yr	0.79	1.28	1.65	2.34	3.19	4.17	**100yr**	2.75	3.68	4.88	6.10	7.50	9.11	10.60	**100yr**	8.07	10.20	12.18	13.37	14.45	**100yr**
200yr	0.90	1.47	1.90	2.73	3.77	4.96	**200yr**	3.25	4.33	5.81	7.28	8.95	10.86	12.70	**200yr**	9.61	12.21	14.69	15.90	17.04	**200yr**
500yr	1.08	1.78	2.31	3.36	4.70	6.23	**500yr**	4.06	5.37	7.32	9.19	11.30	13.70	16.14	**500yr**	12.12	15.52	18.84	19.99	21.19	**500yr**

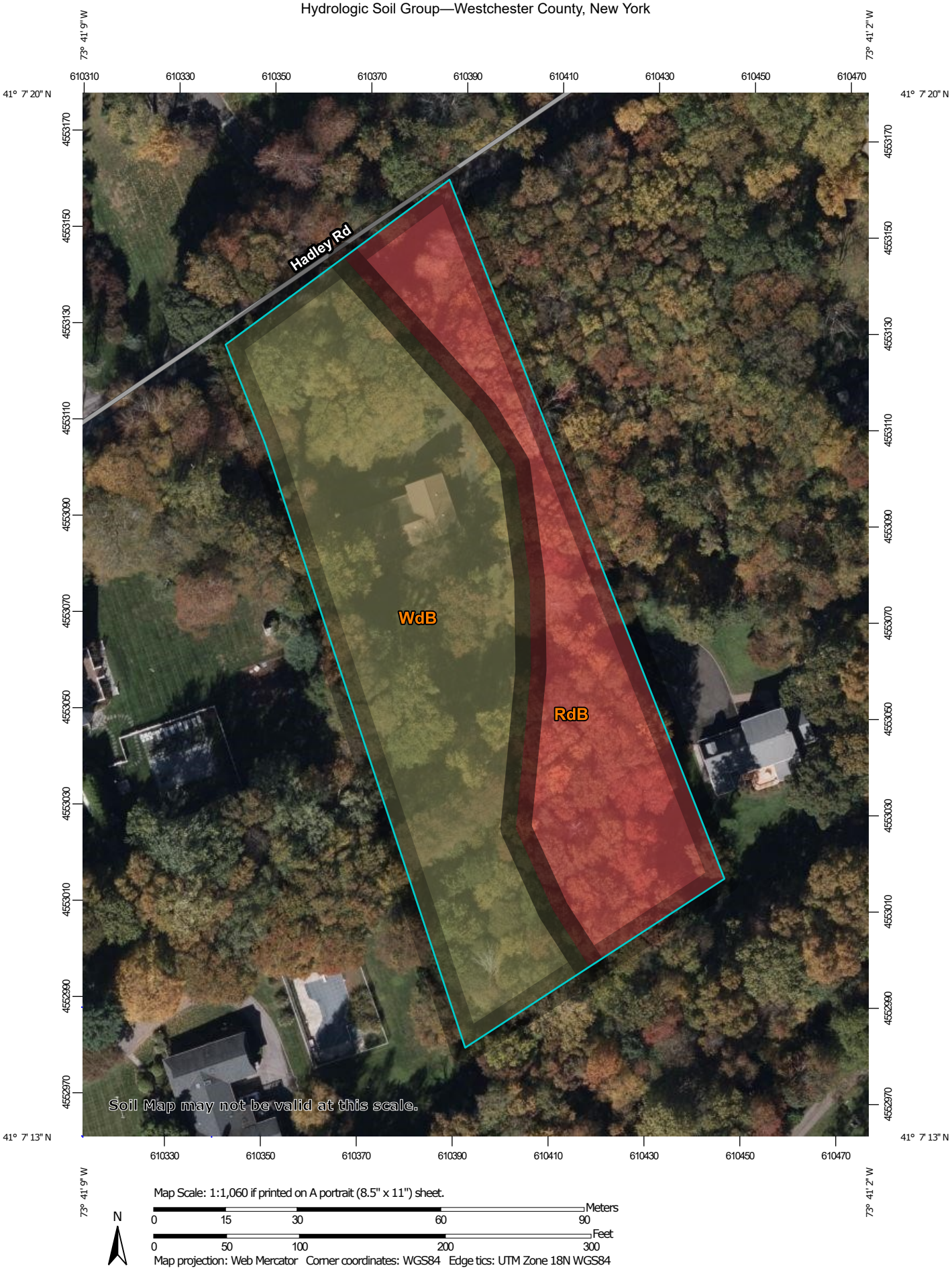
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.49	0.65	0.80	0.95	**1yr**	0.69	0.93	1.29	1.60	1.99	2.58	2.71	**1yr**	2.28	2.60	3.18	3.72	4.25	**1yr**
2yr	0.39	0.61	0.74	1.01	1.24	1.49	**2yr**	1.07	1.46	1.70	2.18	2.74	3.33	3.74	**2yr**	2.95	3.60	4.13	4.90	5.57	**2yr**
5yr	0.43	0.66	0.82	1.13	1.44	1.74	**5yr**	1.24	1.70	1.98	2.58	3.22	3.97	4.52	**5yr**	3.51	4.34	5.01	5.83	6.59	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.97	**10yr**	1.39	1.92	2.22	2.94	3.65	4.53	5.20	**10yr**	4.01	5.00	5.79	6.56	7.48	**10yr**
25yr	0.51	0.77	0.96	1.37	1.80	2.28	**25yr**	1.55	2.23	2.58	3.47	4.32	5.39	6.28	**25yr**	4.77	6.04	7.03	7.64	8.84	**25yr**
50yr	0.53	0.81	1.00	1.44	1.94	2.55	**50yr**	1.67	2.49	2.91	3.96	4.90	6.15	7.26	**50yr**	5.44	6.98	8.12	8.49	10.02	**50yr**
100yr	0.56	0.85	1.06	1.53	2.10	2.83	**100yr**	1.82	2.77	3.28	4.52	5.53	7.02	8.39	**100yr**	6.21	8.07	9.38	9.46	11.36	**100yr**
200yr	0.59	0.89	1.13	1.64	2.29	3.17	**200yr**	1.97	3.10	3.70	5.18	6.30	8.00	9.69	**200yr**	7.08	9.32	10.85	10.43	12.89	**200yr**
500yr	0.63	0.94	1.22	1.77	2.51	3.67	**500yr**	2.17	3.59	4.35	6.24	7.49	9.52	11.72	**500yr**	8.42	11.27	13.15	11.84	15.22	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.37	0.57	0.70	0.94	1.16	1.40	**1yr**	1.00	1.37	1.59	2.08	2.62	3.06	3.48	**1yr**	2.71	3.34	3.84	4.63	5.31	**1yr**
2yr	0.43	0.66	0.82	1.10	1.36	1.58	**2yr**	1.18	1.55	1.81	2.31	2.89	3.56	4.00	**2yr**	3.15	3.85	4.43	5.33	5.94	**2yr**
5yr	0.52	0.80	0.99	1.35	1.72	2.02	**5yr**	1.49	1.97	2.33	2.97	3.71	4.66	5.29	**5yr**	4.13	5.09	5.88	6.86	7.67	**5yr**
10yr	0.61	0.94	1.16	1.63	2.10	2.43	**10yr**	1.81	2.37	2.83	3.59	4.51	5.74	6.53	**10yr**	5.08	6.28	7.31	8.43	9.32	**10yr**
25yr	0.78	1.18	1.47	2.10	2.76	3.13	**25yr**	2.38	3.06	3.67	4.62	5.80	7.55	8.64	**25yr**	6.68	8.31	9.76	11.09	12.06	**25yr**
50yr	0.93	1.41	1.75	2.52	3.39	3.80	**50yr**	2.93	3.72	4.48	5.59	7.03	9.30	10.69	**50yr**	8.23	10.28	12.16	13.68	14.66	**50yr**
100yr	1.12	1.69	2.12	3.06	4.19	4.63	**100yr**	3.62	4.53	5.45	6.79	8.68	11.48	13.23	**100yr**	10.16	12.72	15.17	16.87	17.84	**100yr**
200yr	1.35	2.02	2.57	3.71	5.18	5.63	**200yr**	4.47	5.50	6.65	8.21	10.56	14.17	16.37	**200yr**	12.54	15.74	18.90	20.81	21.71	**200yr**
500yr	1.74	2.60	3.34	4.85	6.90	7.28	**500yr**	5.95	7.12	8.65	10.57	13.71	18.74	21.72	**500yr**	16.58	20.89	25.32	27.58	28.14	**500yr**

Powered by ACIS Northeast Regional Climate Center



Map Scale: 1:1,060 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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: Westchester County, New York
Survey Area Data: Version 18, Sep 10, 2022

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

Date(s) aerial images were photographed: Oct 4, 2020—Oct 31, 2020

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
RdB	Ridgebury complex, 3 to 8 percent slopes	D	0.9	38.2%
WdB	Woodbridge loam, 3 to 8 percent slopes	C/D	1.4	61.8%
Totals for Area of Interest			**2.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

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.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

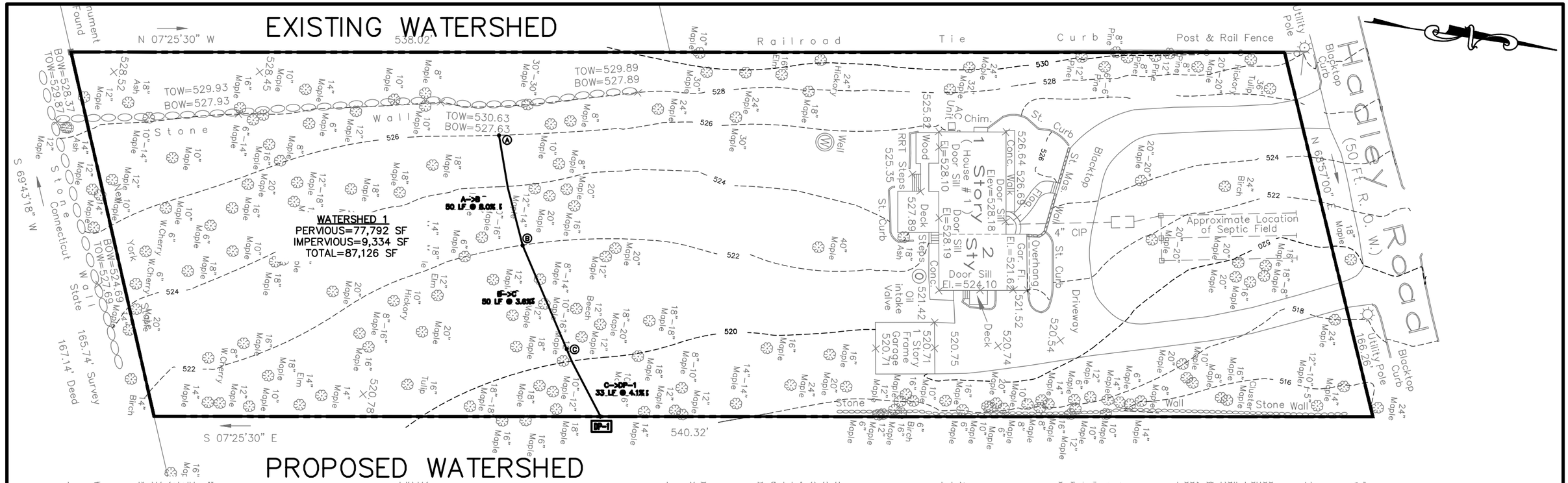
Rating Options

Aggregation Method: Dominant Condition

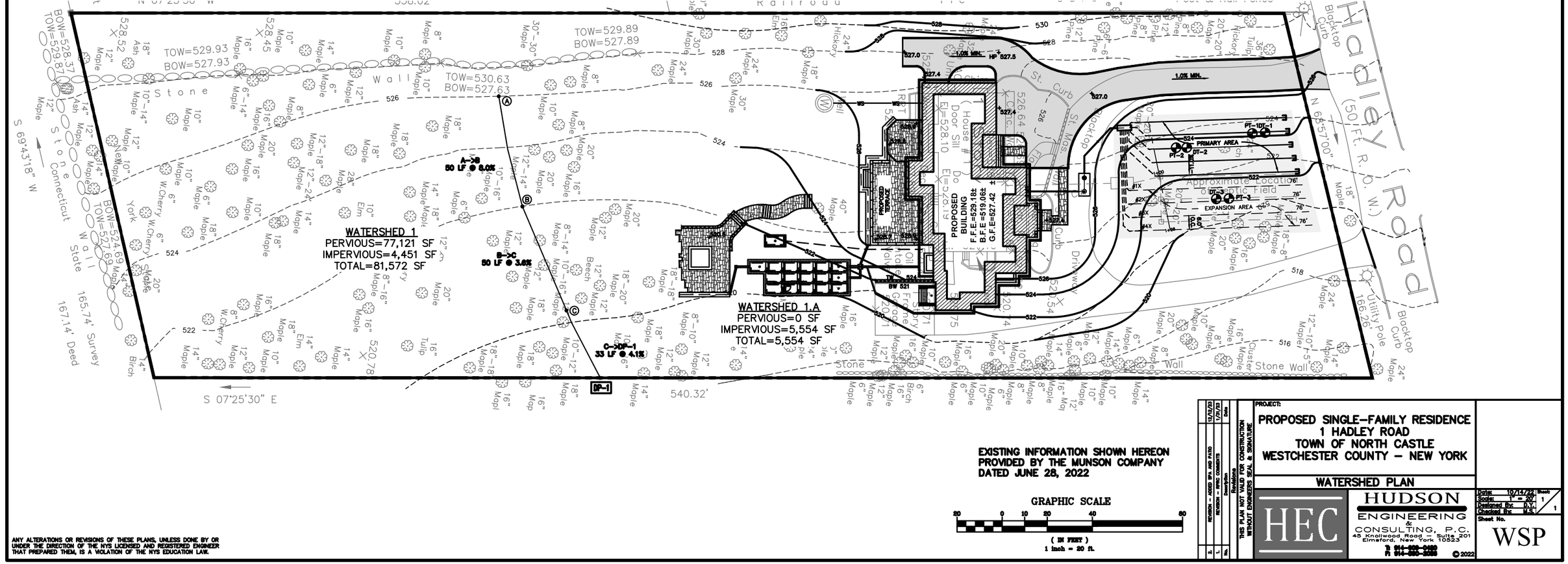
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

EXISTING WATERSHED



PROPOSED WATERSHED



EXISTING INFORMATION SHOWN HEREON PROVIDED BY THE MUNSON COMPANY DATED JUNE 28, 2022

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

No.	Revisions	Date
4	REVISED - PER TOWN COMMENTS	10/14/22
3	REVISED - PER TOWN COMMENTS	9/7/22
2		
1	REVISED - PER TOWN COMMENTS	7/6/22

THIS PLAN NOT VALID FOR CONSTRUCTION WITHOUT ENGINEERS SEAL & SIGNATURE

PROJECT:

PROPOSED SINGLE-FAMILY RESIDENCE
1 HADLEY ROAD
TOWN OF NORTH CASTLE
WESTCHESTER COUNTY – NEW YORK

WATERSHED PLAN

HEC HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
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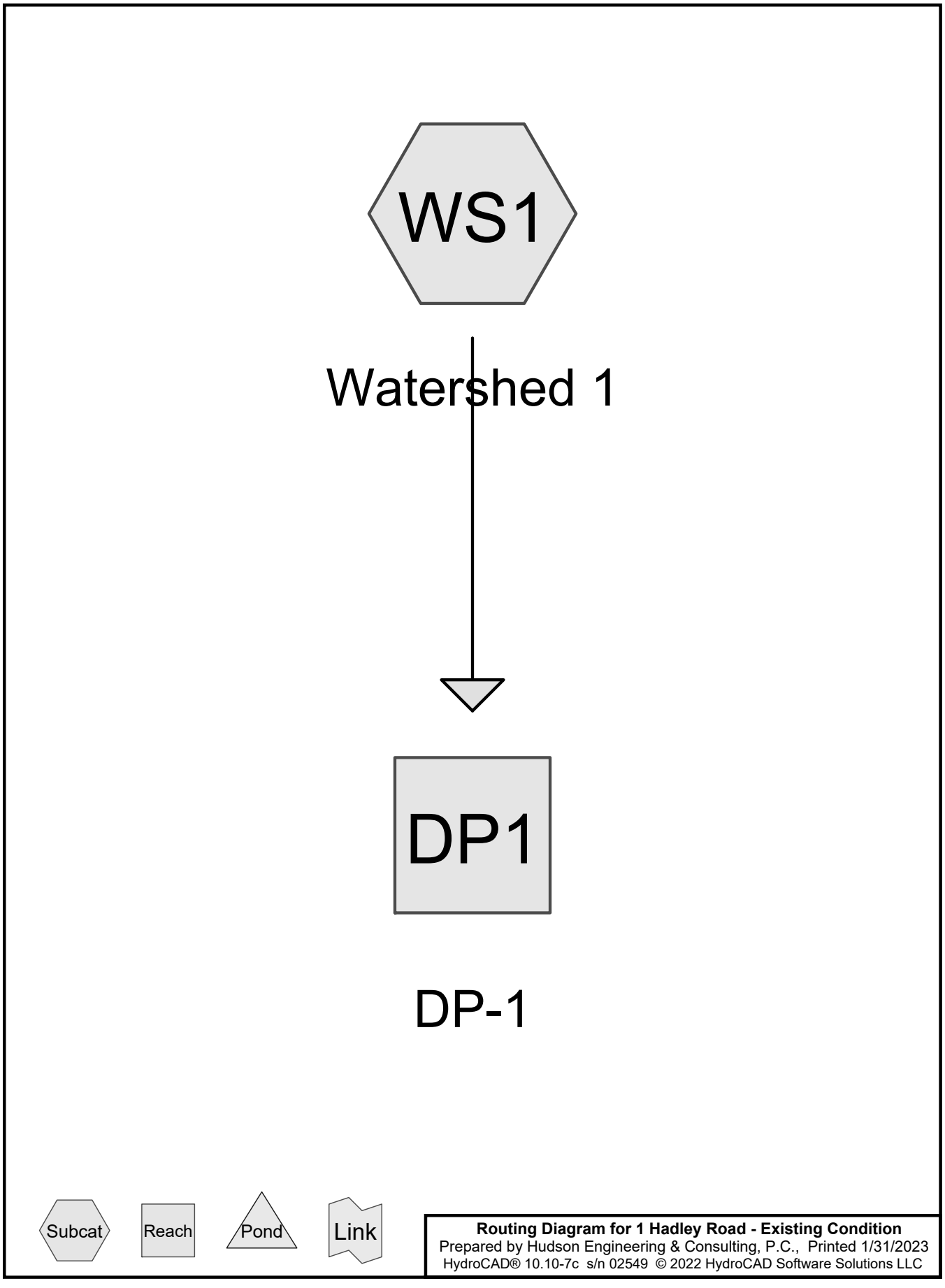
Date: 10/14/22 Sheet 1
Scale: 1" = 20'
Designed By: DY
Checked By: MS
Sheet No. WSP



Routing Diagram for 1 Hadley Road - Existing Condition
Prepared by Hudson Engineering & Consulting, P.C., Printed 1/31/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
77,792	84	50-75% Grass cover, Fair, HSG D (WS1)
5,723	98	Existing Driveway (WS1)
2,394	98	Existing Dwelling (WS1)
599	98	Existing Garage (WS1)
137	98	Existing Misc (WS1)
481	98	Existing Walkway (WS1)
87,126	**85**	**TOTAL AREA**

Summary for Subcatchment WS1: Watershed 1

Runoff = 2.46 cfs @ 12.23 hrs, Volume= 10,442 cf, Depth= 1.44"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.82"

	Area (sf)	CN	Description
	77,792	84	50-75% Grass cover, Fair, HSG D
*	2,394	98	Existing Dwelling
*	599	98	Existing Garage
*	5,723	98	Existing Driveway
*	481	98	Existing Walkway
*	137	98	Existing Misc
	87,126	85	Weighted Average
	77,792		89.29% Pervious Area
	9,334		10.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Reach DP1: DP-1

Inflow Area = 87,126 sf, 10.71% Impervious, Inflow Depth = 1.44" for 1-Year event
Inflow = 2.46 cfs @ 12.23 hrs, Volume= 10,442 cf
Outflow = 2.46 cfs @ 12.23 hrs, Volume= 10,442 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Subcatchment WS1: Watershed 1

Runoff = 5.91 cfs @ 12.23 hrs, Volume= 25,260 cf, Depth= 3.48"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
	77,792	84	50-75% Grass cover, Fair, HSG D
*	2,394	98	Existing Dwelling
*	599	98	Existing Garage
*	5,723	98	Existing Driveway
*	481	98	Existing Walkway
*	137	98	Existing Misc
	87,126	85	Weighted Average
	77,792		89.29% Pervious Area
	9,334		10.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Reach DP1: DP-1

Inflow Area = 87,126 sf, 10.71% Impervious, Inflow Depth = 3.48" for 10-Year event
Inflow = 5.91 cfs @ 12.23 hrs, Volume= 25,260 cf
Outflow = 5.91 cfs @ 12.23 hrs, Volume= 25,260 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Subcatchment WS1: Watershed 1

Runoff = 7.91 cfs @ 12.22 hrs, Volume= 34,193 cf, Depth= 4.71"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.43"

	Area (sf)	CN	Description
	77,792	84	50-75% Grass cover, Fair, HSG D
*	2,394	98	Existing Dwelling
*	599	98	Existing Garage
*	5,723	98	Existing Driveway
*	481	98	Existing Walkway
*	137	98	Existing Misc
	87,126	85	Weighted Average
	77,792		89.29% Pervious Area
	9,334		10.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Reach DP1: DP-1

Inflow Area = 87,126 sf, 10.71% Impervious, Inflow Depth = 4.71" for 25-Year event
Inflow = 7.91 cfs @ 12.22 hrs, Volume= 34,193 cf
Outflow = 7.91 cfs @ 12.22 hrs, Volume= 34,193 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Subcatchment WS1: Watershed 1

Runoff = 11.99 cfs @ 12.22 hrs, Volume= 52,917 cf, Depth= 7.29"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.11"

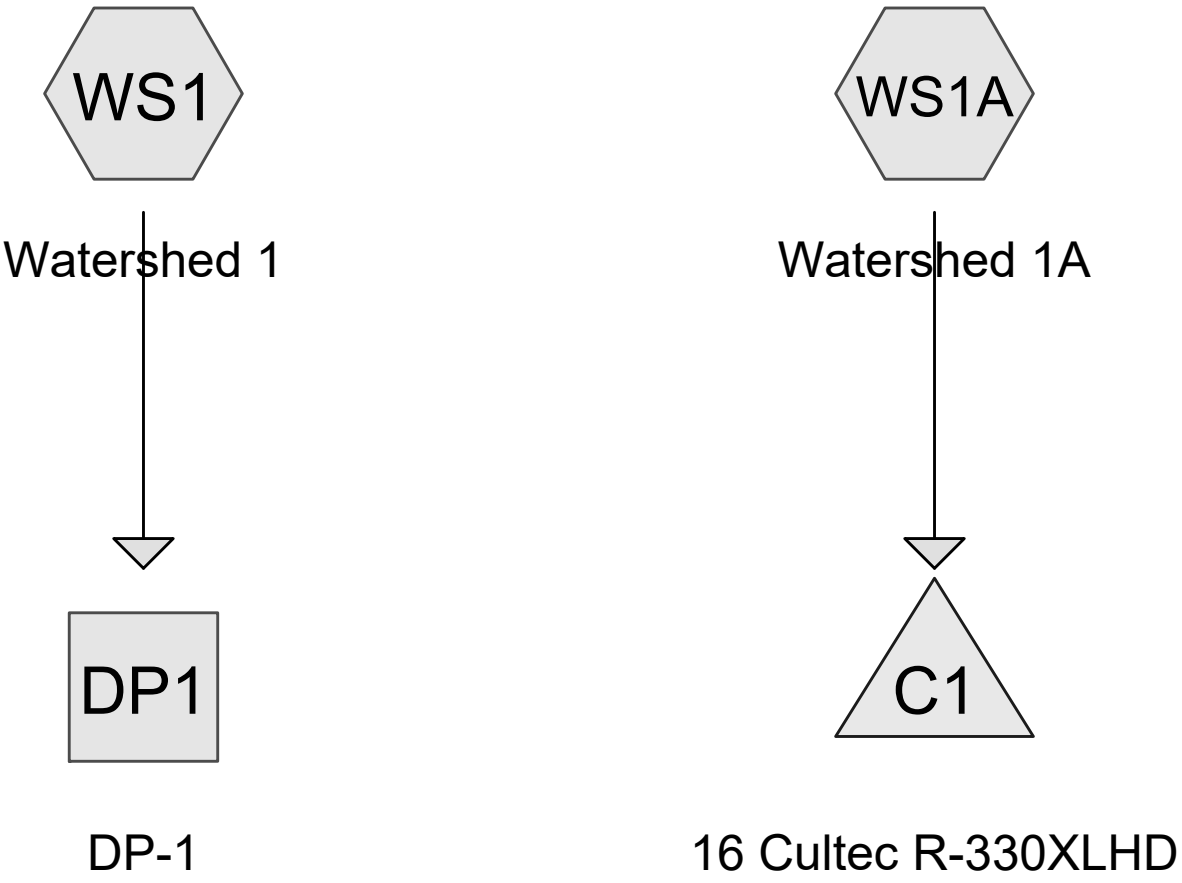
	Area (sf)	CN	Description
	77,792	84	50-75% Grass cover, Fair, HSG D
*	2,394	98	Existing Dwelling
*	599	98	Existing Garage
*	5,723	98	Existing Driveway
*	481	98	Existing Walkway
*	137	98	Existing Misc
	87,126	85	Weighted Average
	77,792		89.29% Pervious Area
	9,334		10.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Reach DP1: DP-1

Inflow Area = 87,126 sf, 10.71% Impervious, Inflow Depth = 7.29" for 100-Year event
Inflow = 11.99 cfs @ 12.22 hrs, Volume= 52,917 cf
Outflow = 11.99 cfs @ 12.22 hrs, Volume= 52,917 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs



Subcat Reach Pond Link

Routing Diagram for 1 Hadley Road - Proposed Condition - 2023-12-12
Prepared by Hudson Engineering & Consulting

Summary for Subcatchment WS1: Watershed 1

Runoff = 2.30 cfs @ 12.23 hrs, Volume= 9,777 cf, Depth= 1.44"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.82"

	Area (sf)	CN	Description
	77,121	84	50-75% Grass cover, Fair, HSG D
*	3,727	98	Proposed Driveway
*	433	98	Prtoposed Walkway
*	51	98	Proposed Misc
*	240	98	Proposed Steps and Walls to Spa
	81,572	85	Weighted Average
	77,121		94.54% Pervious Area
	4,451		5.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Subcatchment WS1A: Watershed 1A

Runoff = 0.41 cfs @ 12.01 hrs, Volume= 1,198 cf, Depth= 2.59"
Routed to Pond C1 : 16 Cultec R-330XLHD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 1-Year Rainfall=2.82"

	Area (sf)	CN	Description
*	3,831	98	Proposed Dwelling
*	1,040	98	Proposed Patio
*	24	98	Steps
*	659	98	Proposed Patio and Spa w/ steps
	5,554	98	Weighted Average
	5,554		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Direct Entry**

Summary for Reach DP1: DP-1

Inflow Area = 81,572 sf, 5.46% Impervious, Inflow Depth = 1.44" for 1-Year event
Inflow = 2.30 cfs @ 12.23 hrs, Volume= 9,777 cf
Outflow = 2.30 cfs @ 12.23 hrs, Volume= 9,777 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond C1: 16 Cultec R-330XLHD

Inflow Area = 5,554 sf,100.00% Impervious, Inflow Depth = 2.59" for 1-Year event
Inflow = 0.41 cfs @ 12.01 hrs, Volume= 1,198 cf
Outflow = 0.12 cfs @ 11.80 hrs, Volume= 1,198 cf, Atten= 70%, Lag= 0.0 min
Discarded = 0.12 cfs @ 11.80 hrs, Volume= 1,198 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 0.79' @ 12.26 hrs Surf.Area= 664 sf Storage= 156 cf

Plug-Flow detention time= 5.6 min calculated for 1,198 cf (100% of inflow)
Center-of-Mass det. time= 5.6 min (760.1 - 754.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	**11.17'W x 59.50'L x 3.54'H Field A** 2,353 cf Overall - 857 cf Embedded = 1,496 cf x 30.0% Voids
#2A	1.00'	857 cf	**Cultec R-330XLHD** x 16 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		1,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**8.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 11.80 hrs HW=0.04' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Summary for Subcatchment WS1: Watershed 1

Runoff = 5.53 cfs @ 12.23 hrs, Volume= 23,650 cf, Depth= 3.48"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
	77,121	84	50-75% Grass cover, Fair, HSG D
*	3,727	98	Proposed Driveway
*	433	98	Prtoposed Walkway
*	51	98	Proposed Misc
*	240	98	Proposed Steps and Walls to Spa
	81,572	85	Weighted Average
	77,121		94.54% Pervious Area
	4,451		5.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Subcatchment WS1A: Watershed 1A

Runoff = 0.76 cfs @ 12.01 hrs, Volume= 2,260 cf, Depth= 4.88"
Routed to Pond C1 : 16 Cultec R-330XLHD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=5.12"

	Area (sf)	CN	Description
*	3,831	98	Proposed Dwelling
*	1,040	98	Proposed Patio
*	24	98	Steps
*	659	98	Proposed Patio and Spa w/ steps
	5,554	98	Weighted Average
	5,554		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Direct Entry**

Summary for Reach DP1: DP-1

Inflow Area = 81,572 sf, 5.46% Impervious, Inflow Depth = 3.48" for 10-Year event
Inflow = 5.53 cfs @ 12.23 hrs, Volume= 23,650 cf
Outflow = 5.53 cfs @ 12.23 hrs, Volume= 23,650 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond C1: 16 Cultec R-330XLHD

Inflow Area = 5,554 sf,100.00% Impervious, Inflow Depth = 4.88" for 10-Year event
Inflow = 0.76 cfs @ 12.01 hrs, Volume= 2,260 cf
Outflow = 0.12 cfs @ 11.62 hrs, Volume= 2,260 cf, Atten= 84%, Lag= 0.0 min
Discarded = 0.12 cfs @ 11.62 hrs, Volume= 2,260 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 1.64' @ 12.44 hrs Surf.Area= 664 sf Storage= 528 cf

Plug-Flow detention time= 21.4 min calculated for 2,260 cf (100% of inflow)
Center-of-Mass det. time= 21.4 min (764.4 - 743.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	**11.17'W x 59.50'L x 3.54'H Field A** 2,353 cf Overall - 857 cf Embedded = 1,496 cf x 30.0% Voids
#2A	1.00'	857 cf	**Cultec R-330XLHD** x 16 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		1,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**8.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 11.62 hrs HW=0.04' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Summary for Subcatchment WS1: Watershed 1

Runoff = 7.40 cfs @ 12.22 hrs, Volume= 32,013 cf, Depth= 4.71"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.43"

	Area (sf)	CN	Description
	77,121	84	50-75% Grass cover, Fair, HSG D
*	3,727	98	Proposed Driveway
*	433	98	Prtoposed Walkway
*	51	98	Proposed Misc
*	240	98	Proposed Steps and Walls to Spa
	81,572	85	Weighted Average
	77,121		94.54% Pervious Area
	4,451		5.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Subcatchment WS1A: Watershed 1A

Runoff = 0.96 cfs @ 12.01 hrs, Volume= 2,866 cf, Depth= 6.19"
Routed to Pond C1 : 16 Cultec R-330XLHD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.43"

	Area (sf)	CN	Description
*	3,831	98	Proposed Dwelling
*	1,040	98	Proposed Patio
*	24	98	Steps
*	659	98	Proposed Patio and Spa w/ steps
	5,554	98	Weighted Average
	5,554		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Direct Entry**

Summary for Reach DP1: DP-1

Inflow Area = 81,572 sf, 5.46% Impervious, Inflow Depth = 4.71" for 25-Year event
Inflow = 7.40 cfs @ 12.22 hrs, Volume= 32,013 cf
Outflow = 7.40 cfs @ 12.22 hrs, Volume= 32,013 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond C1: 16 Cultec R-330XLHD

Inflow Area = 5,554 sf,100.00% Impervious, Inflow Depth = 6.19" for 25-Year event
Inflow = 0.96 cfs @ 12.01 hrs, Volume= 2,866 cf
Outflow = 0.12 cfs @ 11.57 hrs, Volume= 2,866 cf, Atten= 87%, Lag= 0.0 min
Discarded = 0.12 cfs @ 11.57 hrs, Volume= 2,866 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 2.12' @ 12.48 hrs Surf.Area= 664 sf Storage= 764 cf

Plug-Flow detention time= 33.8 min calculated for 2,866 cf (100% of inflow)
Center-of-Mass det. time= 33.7 min (773.2 - 739.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	**11.17'W x 59.50'L x 3.54'H Field A** 2,353 cf Overall - 857 cf Embedded = 1,496 cf x 30.0% Voids
#2A	1.00'	857 cf	**Cultec R-330XLHD** x 16 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		1,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**8.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 11.57 hrs HW=0.04' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Summary for Subcatchment WS1: Watershed 1

Runoff = 11.23 cfs @ 12.22 hrs, Volume= 49,544 cf, Depth= 7.29"
Routed to Reach DP1 : DP-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.11"

	Area (sf)	CN	Description
	77,121	84	50-75% Grass cover, Fair, HSG D
*	3,727	98	Proposed Driveway
*	433	98	Prtoposed Walkway
*	51	98	Proposed Misc
*	240	98	Proposed Steps and Walls to Spa
	81,572	85	Weighted Average
	77,121		94.54% Pervious Area
	4,451		5.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.8	50	0.0800	0.12		**Sheet Flow, A->B** Woods: Light underbrush n= 0.400 P2= 3.50"
9.3	50	0.0360	0.09		**Sheet Flow, B>C** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	33	0.0410	1.42		**Shallow Concentrated Flow, C->DP-1** Short Grass Pasture Kv= 7.0 fps
16.5	133	Total			

Summary for Subcatchment WS1A: Watershed 1A

Runoff = 1.36 cfs @ 12.01 hrs, Volume= 4,105 cf, Depth= 8.87"
Routed to Pond C1 : 16 Cultec R-330XLHD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=9.11"

	Area (sf)	CN	Description
*	3,831	98	Proposed Dwelling
*	1,040	98	Proposed Patio
*	24	98	Steps
*	659	98	Proposed Patio and Spa w/ steps
	5,554	98	Weighted Average
	5,554		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0					**Direct Entry, Direct Entry**

Summary for Reach DP1: DP-1

Inflow Area = 81,572 sf, 5.46% Impervious, Inflow Depth = 7.29" for 100-Year event
Inflow = 11.23 cfs @ 12.22 hrs, Volume= 49,544 cf
Outflow = 11.23 cfs @ 12.22 hrs, Volume= 49,544 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond C1: 16 Cultec R-330XLHD

Inflow Area = 5,554 sf,100.00% Impervious, Inflow Depth = 8.87" for 100-Year event
Inflow = 1.36 cfs @ 12.01 hrs, Volume= 4,105 cf
Outflow = 0.12 cfs @ 11.39 hrs, Volume= 4,105 cf, Atten= 91%, Lag= 0.0 min
Discarded = 0.12 cfs @ 11.39 hrs, Volume= 4,105 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 3.39' @ 12.67 hrs Surf.Area= 664 sf Storage= 1,272 cf

Plug-Flow detention time= 64.3 min calculated for 4,105 cf (100% of inflow)
Center-of-Mass det. time= 64.3 min (799.4 - 735.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	**11.17'W x 59.50'L x 3.54'H Field A** 2,353 cf Overall - 857 cf Embedded = 1,496 cf x 30.0% Voids
#2A	1.00'	857 cf	**Cultec R-330XLHD** x 16 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 2 rows
		1,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**8.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.12 cfs @ 11.39 hrs HW=0.04' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.12 cfs)

HUDSON ENGINEERING & CONSULTING, P.C.

SITE ADDRESS: 1 Hadley Road

TOWN/VILLAGE: Armonk (North Castle)

DATE: 08/04/2022 TIME: 8:00am

WEATHER: Sunny TEMP. 73° F

WITNESSED BY: Nicholas Shirriah

DEEP TEST HOLE DATA SHEET – STORMWATER MANAGEMENT SYSTEM

DEPTH	HOLE NO. 1	HOLE NO. 2	HOLE NO. 3	HOLE NO. 4
G.L.	0 – 10”			
6”	Organic soil w/			
12”	Roots			
18”				
24”				
30”				
36”				
42”				
48”				
54”				
60”				
66”	10 – 75”			
72”	Sandy loam,			
78”	Very rocky			
84”	75 – 104”			
90”	Compact fine			
96”	Sand			
102”	**No Ledge**			
108”	**GW @ 103”**			

- *Indicate level at which Ground Water (GW), Mottling and/or Ledge Rock is encountered.*
- *Indicate level for which water level rises after being encountered.*

EXCAVATION PERFORMED BY: **MEADOWBROOK CONTRACTING**

HUDSON ENGINEERING & CONSULTING, P.C.

SITE ADDRESS: 1 Hadley Road

TOWN/VILLAGE: Armonk (North Castle)

DATE: 08/04/2022 TIME: 9:11am

WEATHER: Sunny TEMP. 75˚ F

WITNESSED BY: Nicholas Shirriah

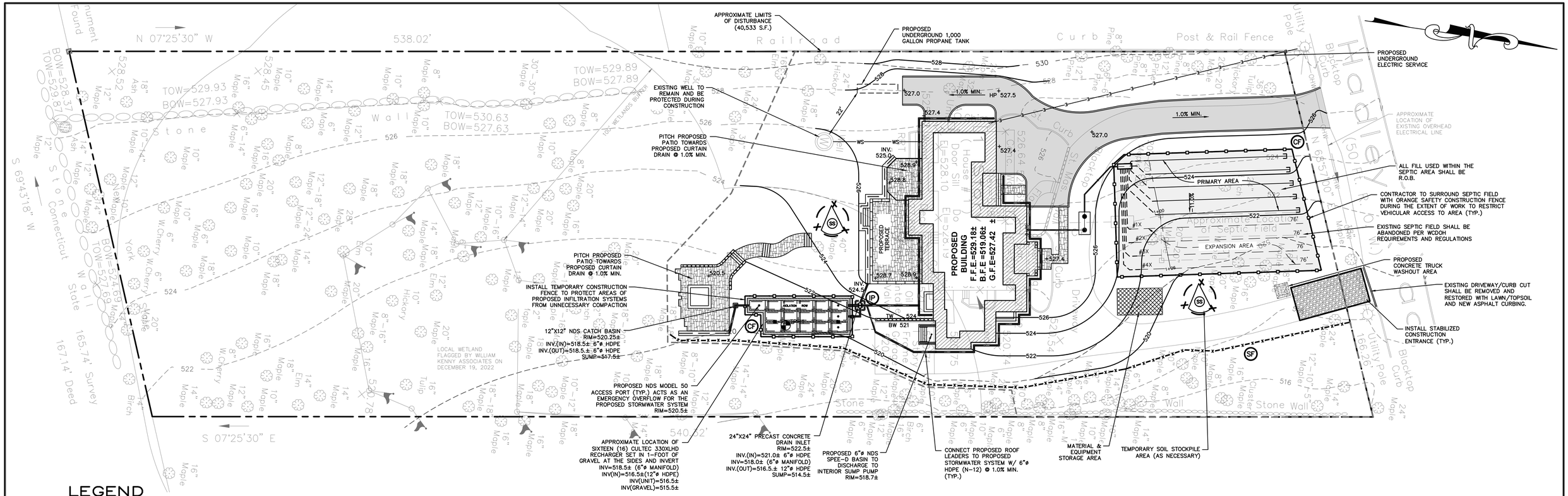
PERCOLATION TEST HOLE DATA SHEET – STORMWATER MANAGEMENT SYSTEM

Owner _____

HOLE #	CLOCK TIME				PERCOLATION				
					Depth to Water From Ground Surface			Soil Rate	
Hole Number	Run No.	Start	Stop	Elapse Time (Min.)	Start Inches	Stop Inches	Water Level in Inches Drop in inches	Min. per inch	Inches per Hour
# 1	1	10:16	10:36	20	38	41	3	6.67	9
	2	10:46	11:06	20	38	41	3	6.67	9
4" Ø	3	11:07	11:29	22	38	41	3	7.33	8.18
	4	11:30	11:52	22	38	41	3	7.33	8.18
	5								
# 2	1								
	2								
4" Ø	3								
	4								
	5								
# 3	1								
	2								
4" Ø	3								
	4								
	5								

Notes:

1) Tests to be repeated at the same depth until approximately equal soil rates are obtained at each percolation test hole. All data to be submitted for review.
2) Depth measurements to be made from top of hole



LEGEND

- PROPERTY LINE
- PROPOSED BELGIAN BLOCK CURB
- PROPOSED ASPHALT DRIVEWAY
- PROPOSED WALKWAY/PATIO
- PROPOSED STONE MASONRY WALL
- PROPOSED CONTOUR — 526
- PROPOSED SPOT GRADE — +526.5
- PROPOSED STORM PIPE
- PROPOSED DRAIN INLET
- PROPOSED WATER SERVICE — WS
- TEMPORARY INLET PROTECTION — IP
- TEMPORARY SILT FENCE — SF
- TEMPORARY CONSTRUCTION FENCE — CF
- TEMPORARY SOIL STOCKPILE AREA — SS
- STABILIZED CONSTRUCTION ENTRANCE
- TEST PIT LOCATION — TP-1
- PROPOSED LIMIT OF DISTURBANCE

Cut/Fill Summary

Name	Cut	Fill	Net
Totals	290.44 Cu. Yd.	1,543.16 Cu. Yd.	1252.72 Cu. Yd.<Fill>

GENERAL NOTES:

1. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE SUPERVISION OF THE CONSTRUCTION.
2. NO CHANGES SHALL BE MADE TO THESE PLANS EXCEPT AS PER NYS LAW CHAPTER 987.
3. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO ACI, AISC, ZONING, AND THE NEW YORK STATE BUILDING CODE.
4. ALL CONDITIONS, LOCATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY DISCREPANCIES.
5. ALL CHANGES MADE TO THE PLANS SHALL BE APPROVED BY THE ENGINEER AND ANY SUCH CHANGES SHALL BE FILED AS AMENDMENTS TO THE ORIGINAL BUILDING PERMIT.
6. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR THE ACTS AND OMISSIONS OF HIS EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTACT WITH THE CONTRACTOR.
8. SAFETY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL AGENCIES IN EFFECT DURING THE PERIOD OF CONSTRUCTION.
9. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL MAKE APPLICATION TO RECEIVE ALL NECESSARY PERMITS TO PERFORM THE WORK UNDER CONTRACT. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL BE LICENSED TO DO ALL WORK AS REQUIRED BY THE LOCAL, COUNTY, AND STATE AGENCIES WHICH MAY HAVE JURISDICTION OVER THOSE TRADES, AND SHALL PRESENT THE OWNER WITH COPIES OF ALL LICENSES AND INSURANCE CERTIFICATES.
10. FINAL GRADING AROUND THE BUILDING AREA SHALL SLOPE AWAY FROM THE STRUCTURE.
11. ALL WRITTEN DIMENSIONS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ANY SCALED DIMENSIONS.
12. ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION, REMODELING AND DEMOLITION WORK. PROTECTION MUST BE PROVIDED FOR FOOTINGS, FOUNDATIONS, PARTY WALLS, CHIMNEYS, SKYLIGHTS AND ROOFS. PROVISIONS SHALL BE MADE TO CONTROL WATER RUNOFF AND EROSION DURING CONSTRUCTION OR DEMOLITION ACTIVITIES. THE PERSON MAKING OR CAUSING AN EXCAVATION TO BE MADE SHALL PROVIDE WRITTEN NOTICE TO THE OWNERS OF ADJOINING BUILDINGS ADVISING THEM THAT THE EXCAVATION IS TO BE MADE AND THAT THE ADJOINING BUILDING SHOULD BE PROTECTED. SAID NOTIFICATION SHALL BE DELIVERED NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF THE EXCAVATION.
13. OWNER SHALL INSURE THAT THE INSURANCE PROVIDED BY THE CONTRACTOR HIRED TO PERFORM THE WORK SHALL BE ENDORSED TO NAME HUDSON ENGINEERING & CONSULTING, P.C., AND ANY DIRECTORS, OFFICERS, EMPLOYEES, SUBSIDIARIES, AND AFFILIATES, AS ADDITIONAL INSURED ON ALL POLICIES AND HOLD HARMLESS DOCUMENTS, AND SHALL STIPULATE THAT THIS INSURANCE IS PRIMARY, AND THAT ANY OTHER INSURANCE OR SELF-INSURANCE MAINTAINED BY HUDSON ENGINEERING & CONSULTING, P.C., SHALL BE EXCESS ONLY AND SHALL NOT BE CALLED UPON TO CONTRIBUTE WITH THIS INSURANCE. ISO ADDITIONAL INSURED ENDORSEMENT FORM NUMBER CG2010 1185 UNDER GL. COPIES OF THE INSURANCE POLICIES SHALL BE SUBMITTED TO HUDSON ENGINEERING & CONSULTING, P.C., FOR APPROVAL PRIOR TO THE SIGNING OF THE CONTRACT.
14. INDUSTRIAL CODE RULE 753: THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES 72 HOURS PRIOR TO THE START OF HIS OPERATIONS AND SHALL COMPLY WITH ALL THE LATEST INDUSTRIAL CODE RULE 753 REGULATIONS.

INSTALLATION & MAINTENANCE OF EROSION CONTROL:

CONSTRUCTION SCHEDULE
NOTIFY APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 5 DAYS PRIOR TO START.

EROSION CONTROL MEASURES
INSTALL ALL EROSION CONTROL MEASURES PRIOR TO START OF CONSTRUCTION. CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

INSPECTION BY MUNICIPALITY
MAINTENANCE (TO BE PERFORMED DURING ALL PHASES OF CONSTRUCTION)

AFTER ANY RAIN CAUSING RUNOFF, CONTRACTOR TO INSPECT HAYBALES, ETC. AND REMOVE ANY EXCESSIVE SEDIMENT AND INSPECT STOCKPILES AND CORRECT ANY PROBLEMS WITH SEED ESTABLISHMENT.
INSPECTIONS SHALL BE DOCUMENTED IN WRITING AND SUBMITTED TO THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION.

INSPECTION BY MUNICIPALITY – FINAL GRADING
REMOVE UNNEEDED SUBGRADE FROM SITE.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

INSPECTION BY MUNICIPALITY – LANDSCAPING

SPREAD TOPSOIL EVENLY OVER AREAS TO BE SEEDED. HAND RAKE LEVEL. BROADCAST 1.25 LB. BAG OF JONATHAN GREEN "FASTGROW" MIX OR EQUAL OVER AREA TO BE SEEDED. APPLY STRAW MULCH AND WATER WITHIN 2 DAYS OF COMPLETION OF TOPSOILING. CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

INSPECTION BY MUNICIPALITY – FINAL LANDSCAPING

GRASS ESTABLISHED.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

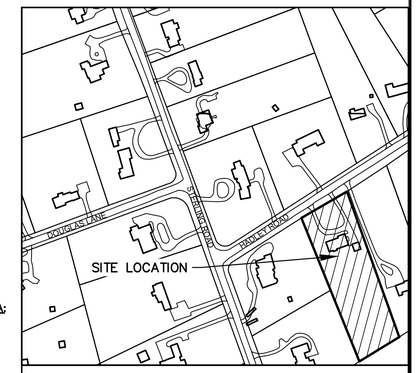
INSPECTION BY MUNICIPALITY – FINAL INSPECTION

ALL EROSION CONTROL MEASURES REMOVED AND GRASS ESTABLISHED.
CALL FOR INSPECTION FROM THE APPROPRIATE MUNICIPAL AGENCY HAVING JURISDICTION AT LEAST 2 DAYS PRIOR TO FINISH.

CONTRACTOR SHALL CONTACT DESIGN ENGINEER TO SCHEDULE A SITE INSPECTION PRIOR TO BACKFILLING INFILTRATION/ATTENUATION SYSTEM(S). ALL CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND VISIBLE AT TIME OF INSPECTION. SHOULD THE CONTRACTOR BACKFILL PRIOR TO INSPECTION, THE CONTRACTOR SHALL EXPOSE THE SYSTEM AT THEIR OWN EXPENSE.

STORMWATER TEST HOLE DATA:

TEST HOLE #1
DEPTH – 104"
0–10" ORGANIC SOIL WITH ROOTS
10–75" SANDY LOAM WITH ROCKS
75–104" COMPACT FINE SAND
GROUNDWATER @ 103"
NO LEDGE ROCK
PERC. = 8.18 INCHES/HOUR



LOCATION MAP
SCALE: 1"=250'

EXISTING INFORMATION SHOWN HEREON PROVIDED BY THE MUNSON COMPANY DATED JUNE 28, 2022

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

No.	Description / Revisions	Date
3.	REVISION – ADDED SPA AND PATIO	12/12/23
2.	REVISION – TOWN'S CONSULTANT COMMENTS	3/23/23
1.	REVISION – RPRC COMMENTS	1/31/23

THIS PLAN NOT VALID FOR CONSTRUCTION WITHOUT ENGINEER'S SEAL & SIGNATURE

PROJECT:
PROPOSED SINGLE–FAMILY RESIDENCE
1 HADLEY ROAD
TOWN OF NORTH CASTLE
WESTCHESTER COUNTY – NEW YORK

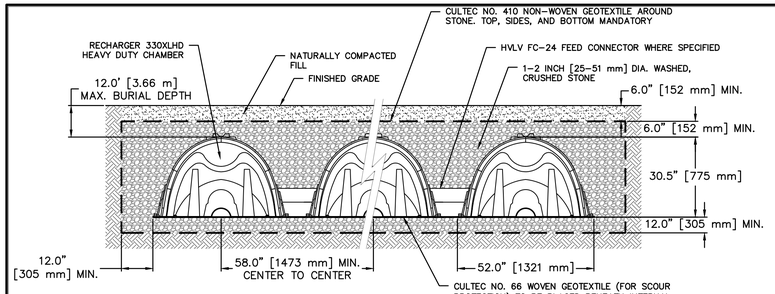
STORMWATER MANAGEMENT PLAN

STATE OF NEW YORK · MICHAEL F. STEIN · 080937 · LICENSED PROFESSIONAL ENGINEER

HEC

HUDSON ENGINEERING & CONSULTING, P.C.
45 Knollwood Road – Suite 201
Elmsford, New York 10523
T: 914–909–0420
F: 914–560–2086

Date: 10/14/22 Sheet: 1
Scale: 1" = 20' of 2
Designed By: D.Y.
Checked By: M.S.
Sheet No.
C-1

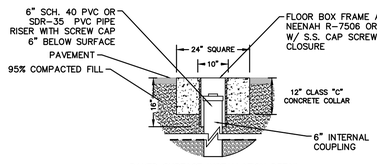


GENERAL NOTES

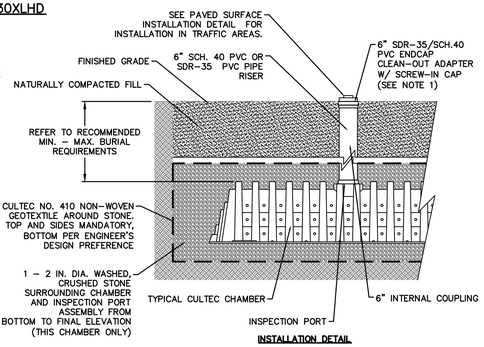
RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT.
STORAGE PROVIDED = 11.32 CF/FT [1.05 m^3/m] PER DESIGN UNIT.
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS

ALL RECHARGER 330XL HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
ALL RECHARGER 330XL HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS

CULTEC RECHARGER 330XLHD



PAVED SURFACE INSTALLATION DETAIL

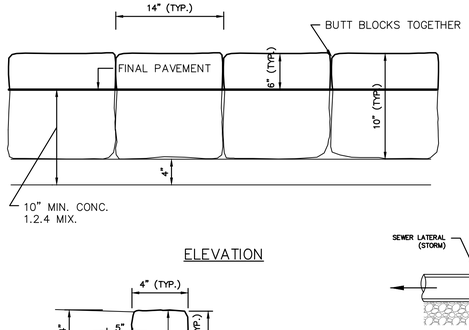


INSTALLATION DETAIL

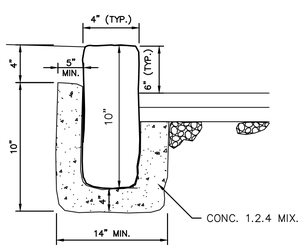
NOTES:

1. WHEN ACCESS PORT IS UTILIZED AS SYSTEM OVERFLOW, INSTALL NDS MODEL 50 GRATE. GRATE TO BE SET 1/2" ABOVE ADJACENT GRADE. ADJACENT GRADE TO PITCH AWAY FROM ACCESS PORT IN ALL DIRECTION.
2. INSPECTION PORT NOT TO SERVE AS OVERFLOW WHEN INSTALLED IN PAVED/TRAFFIC AREAS.

CULTEC INSPECTION PORT



ELEVATION

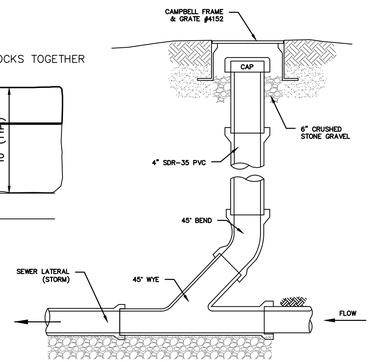


SECTION

BELGIUM BLOCK CURB DETAIL

CONTRACTOR SHALL CONTACT DESIGN ENGINEER TO SCHEDULE A SITE INSPECTION PRIOR TO BACKFILLING INFILTRATION/ATTENUATION SYSTEM(S). ALL CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND VISIBLE AT TIME OF INSPECTION. SHOULD THE CONTRACTOR BACKFILL PRIOR TO INSPECTION, THE CONTRACTOR SHALL EXPOSE THE SYSTEM AT THEIR OWN EXPENSE.

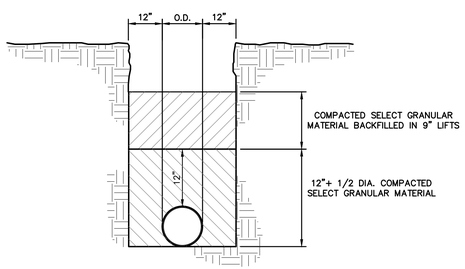
ANY ALTERATIONS OR REVISIONS OF THESE PLANS, UNLESS DONE BY OR UNDER THE DIRECTION OF THE NYS LICENSED AND REGISTERED ENGINEER THAT PREPARED THEM, IS A VIOLATION OF THE NYS EDUCATION LAW.



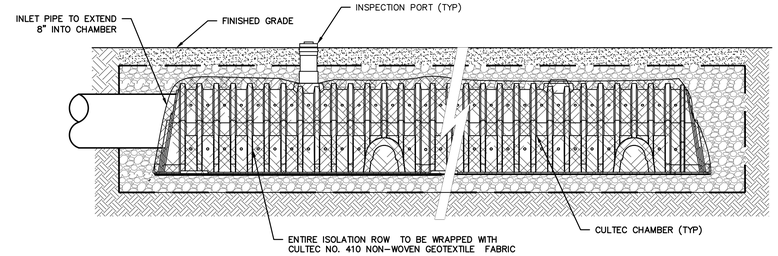
NOTES (STORM SEWER):
1. REFER TO PLAN FOR SPECIFIC PIPE SIZING AND SLOPE SPECIFICATIONS; HOWEVER, IN GENERAL, ALL STORM SEWER SERVICES TO BE 6"ø SCH. 40 @ 1.0% MINIMUM.
2. CLEANOUTS SHALL BE PLACED BEFORE SIGNIFICANT PIPE BEND LOCATIONS (I.E., JUNCTIONS, 90-DEGREE BENDS, ETC.) UNLESS A ROOF LEADER DOWNSPOUT CONNECTION IS PROPOSED.

SEWER CLEANOUT DETAIL (GRAVITY)

(STORM)



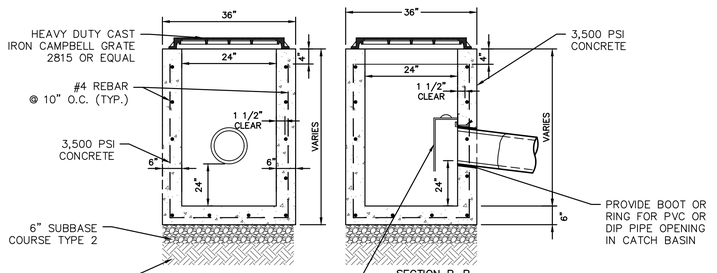
TRENCH BEDDING



CULTEC ISOLATION ROW

ISOLATION ROW NOTES:

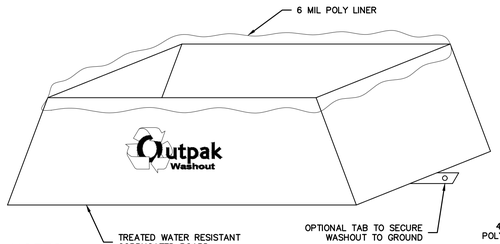
1. ISOLATION ROW SHALL BE COMPLETELY ENCAPSULATED IN GEOTEXTILE FABRIC.
2. FABRIC SHALL BE OVERLAPPED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. NO FEED CONNECTORS OR PIPES SHALL CONNECT THE ISOLATION ROW TO THE REMAINDER OF THE SYSTEM.



STANDARD CATCH BASIN TRAP - BY CAMPBELL FOUNDRY CO. PATTERN NUMBER 2564 OR APPROVED EQUAL

NOTES:
1. CONCRETE - 3,500 PSI MINIMUM STRENGTH @ 28 DAYS
2. STEEL REINFORCEMENT - ASTM A-615, # 4 REBAR, GRADE 60
3. COVER TO STEEL - 1 ½" MINIMUM
4. DESIGN LOADING - AASHTO HS20-44
5. EARTH COVER - 0 TO 5 FEET
6. CONSTRUCTION JOINT - LAPPED

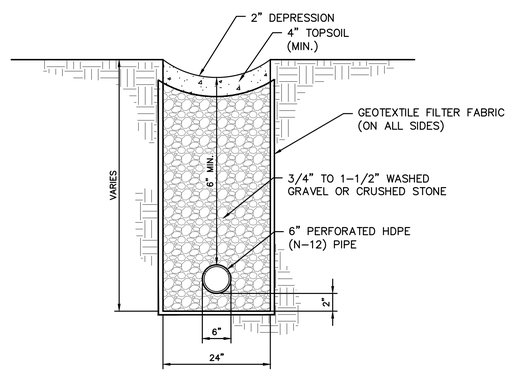
PRECAST DRAIN INLET



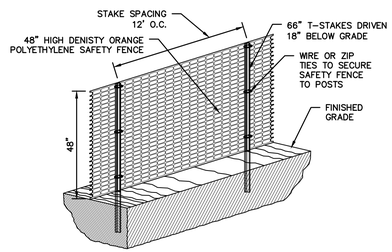
NOTES:

1. THE WASHOUT SHALL BE INSTALLED PRIOR TO USING MATERIALS THAT REQUIRE WASHOUT ON THIS PROJECT.
2. AS NECESSARY, SIGNS SHALL BE PLACED THROUGHOUT THE SITE TO INDICATE THE LOCATION OF THE WASHOUT.
3. THE WASHOUT AREA WILL BE REPLACED AS NECESSARY TO MAINTAIN CAPACITY FOR LIQUID WASTE.
4. WASHOUT RESIDUE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE FACILITY.
5. DO NOT WASHOUT INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
6. AVOID DUMPING EXCESS CONCRETE IN NON-DESIGNATED DUMPING AREAS.
7. LOCATE WASHOUT AT LEAST 50' (15 METERS) FROM STORM DRAIN, OPEN DITCHES, OR WATER BODIES.
8. THE WASHOUT SHALL BE USED ONLY FOR NON-HAZARDOUS WASTES.

CORRUGATED CONCRETE WASHOUT

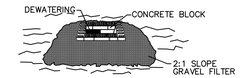


CURTAIN DRAIN

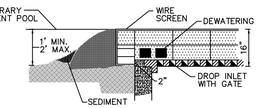


CONSTRUCTION FENCE

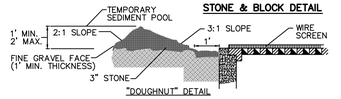
STONE & BLOCK DROP INLET PROTECTION



STONE & BLOCK PLAN VIEW



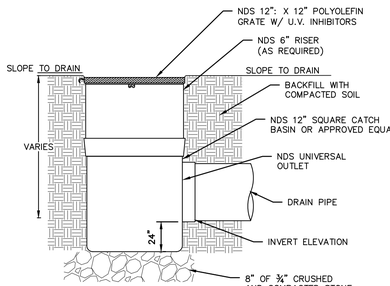
STONE & BLOCK DETAIL



CONSTRUCTION SPECIFICATION

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARECLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

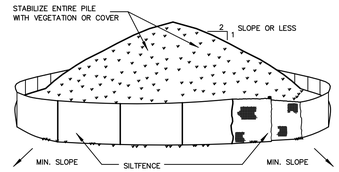
MAXIMUM DRAINAGE AREA 1 ACRE.



NDS SQUARE CATCH BASIN

NDS SPEE-D BASIN (STAIR DRAIN)

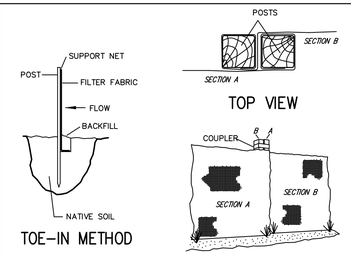
SOIL STOCKPILING



INSTALLATION NOTES

INSTALLATION NOTES:
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. SOILS OR FILL TO BE STOCKPILED ON SITE DURING CUTTING AND FILLING ACTIVITIES SHOULD BE LOCATED ON LEVEL PORTIONS OF THE SITE WITH A MINIMUM OF 50-75 FOOT SETBACKS FROM TEMPORARY DRAINAGE SWALES.
3. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
4. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
5. STOCKPILES REMAINING IN PLACE FOR MORE THAN A WEEK SHOULD BE SEEDED AND MULCHED OR COVERED WITH GEOTEXTILE FABRIC SURROUNDED BY SILT FENCE.
6. SEE SPECIFICATIONS (THIS MANUAL) FOR INSTALLATION OF SILT FENCE.

SILT FENCE



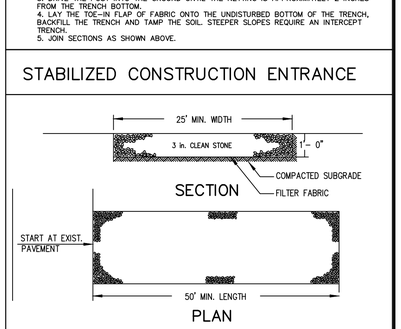
TOE-IN METHOD

JOINING SECTIONS OF FENCING

INSTALLATION NOTES:

1. EXCAVATE A 4 INCH * 4 INCH TRENCH ALONG THE LOWER PERIMETER OF THE SITE.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH (NET SIDE AWAY FROM DIRECTION OF FLOW).
3. DRIVE THE POST INTO THE GROUND UNTIL THE NETTING IS APPROXIMATELY 2 INCHES FROM THE TRENCH BOTTOM.
4. LAY THE TOE-IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH, BACKFILL THE TRENCH AND TAMP THE SOIL. STEEPER SLOPES REQUIRE AN INTERCEPT TRENCH.
5. JOIN SECTIONS AS SHOWN ABOVE.

STABILIZED CONSTRUCTION ENTRANCE



INSTALLATION NOTES:
1. STONE SIZE - USE 3" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - 25 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

No.	Description Revisions	Date
2.	REVISION - ADDED NDS CATCH BASIN DETAIL	12/12/23
1.	REVISION - RPRC COMMENTS	1/31/23

THIS PLAN NOT VALID FOR CONSTRUCTION WITHOUT ENGINEER'S SEAL & SIGNATURE

PROJECT:

PROPOSED SINGLE-FAMILY RESIDENCE
1 HADLEY ROAD
TOWN OF NORTH CASTLE
WESTCHESTER COUNTY - NEW YORK

DETAILS

STATE OF NEW YORK · MICHAEL F. STEIN · 081271 · LICENSED PROFESSIONAL ENGINEER · No. 80637

HEC

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Date: 10/14/22 Sheet: 2
Scale: N.T.S. 2
Designed By: D.Y.
Checked By: M.S.
Sheet No. C-2