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June 9, 2023

Via Federal Express

Christopher Carthy and Members
of the Planning Board
Town of North Castle
17 Bedford Road
Armonk, NY 10504

Re: 209 Bedford Banksville Road, Town of North Castle
SBL 95.03-2-35

Dear Chairman Carthy and Members of the Planning Board,

Our firm represents Joseph and Celeste Rault (the "Applicants"), the owners of the above referenced property (the "Subject Property") with respect to their application (the Application) to your Board for a Special Use Permit for an Accessory Apartment and Site Plan Approval. This application was last before the Planning Board on January 30, 2023, when the Board passed a motion referring the Application to the Zoning Board of Appeals for consideration of eight (8) area variances identified by the Town Planning in his Memorandum to the Planning Board dated January 23, 2023. The Applicants submitted an application to the Zoning Board for the eight variances and were granted the necessary variances at the meeting on May 25, 2023. Accordingly, the Applicants have returned to this Board to finally obtain the requested Special Permit and Site Plan Approval.

As demonstrated below, the Applicant, by obtaining the necessary variances, is now compliant with all applicable Special Permit conditions for an Accessory Apartment under Section 355-40K. Specifically, the Applicant applied for and received the following variances:

1. A Gross Floor Area Variance of 7,708 sq. ft.

2. A Gross Land Coverage Variance of 12, 970 sq. ft.

3. A Gross Floor Area variance from Zoning Code 355-21 because the proposed accessory structure, the accessory apartment, will exceed 25% of the gross floor area of the principal building.

4. A second Gross Floor Area Variance from Zoning Code 355-21 because the second proposed accessory structure, the garage, will also exceed 25% of the principal building.

5. A height Variance from Zoning Code 355-21 because the height of the proposed garage exceeds the maximum permitted height for an accessory structure.

6. A height Variance from Zoning Code 355-21 because the height of the proposed accessory apartment exceeds the maximum permitted height for an accessory structure.

7. A Variance from Zoning Code 355-40K(4)(a) because the proposed accessory apartment is located in a new structure.

8. A Gross Floor Area Variance from Zoning Code 355-40K(11) because the accessory apartment exceeds the maximum permitted apartment size.

As we explained during our presentation to the Zoning Board of Appeals, as was discussed with your Board on January 30th, 2023 and as will be a condition of the Zoning Board of Appeals' Resolution of approval, the Applicants, who also own the 4.35 acre vacant parcel at 191 Bedford Banksville Road, will be required to execute and file with the Westchester County Clerk's Office, Division of Land Records, a Declaration that any development of 191 Bedford Banksville Road will be prohibited, other than a replacement in kind of the preexisting gardener's shed that existed on 191 Bedford Banksville Road at the time of the 1993 Planning Board subdivision of which both 191 and 209 Bedford Banksville Road are a part. Based upon this and all of the following in support of this application, I respectfully submit that this Application for a Special Permit for an accessory apartment use on 209 Bedford Banksville should be granted. To demonstrate compliance and allay any additional concerns your Board may have, we submit hereinafter the Applicants' responses to the General Comments from the Town of North Castle Planning Department's Staff Report for the January 30, 2023 Planning Board meeting. A copy of that Staff Report is attached hereto as **Exhibit A.**

~~Responses to the Planning Department's General Comments~~:

1. A height Variance from Zoning Code 355-21 because the height of the proposed garage exceeds the maximum permitted height for an accessory structure. A height Variance from Zoning Code 355-21 because the height of the proposed accessory apartment exceeds the maximum permitted height for an accessory structure. A Variance from Zoning Code 355-40K(4)(a) because the proposed accessory apartment is located in a new structure. A Gross Floor Area Variance from Zoning Code 355-40K(11) because the accessory apartment exceeds the maximum permitted apartment size.

Answer: The Applicants applied for and obtained variances from Zoning Code 355-21 for the height of the proposed garage and for the proposed height of the accessory apartment. The Applicants also applied for and obtained a variance from Zoning Code 355-40K(4)(a) because the proposed accessory apartment is located in a new structure. Finally, the Applicants obtained a variance from Zoning Code 355-40K(11) because the accessory apartment exceeds the maximum permitted apartment size.

2. The Applicant has indicated that development at 191 Bedford Banksville Road will be restricted via a filed declaration that additional development on the lot shall be prohibited.

Answer: The Applicants will, by declaration to be recorded, prohibit development of 191 Bedford Banksville Road in perpetuity, agreeing that there can be no structures built upon it other than the preexisting gardener's shed, or its in kind and in place replacement. There is currently a 433 sq. ft. shed and a vegetable garden plot on this lot. This declaration will mitigate the exceedances of certain coverage variances granted by the Zoning Board of Appeals for 209 Bedford Banksville Road.

3. If the existing shed and garden is proposed to remain at 191 Bedford Road, the Applicant should demonstrate that a use variance was previously issued or that the use is a pre-existing permitted non-conforming use. Accessory uses are not permitted on a lot without a permitted principal use.

Answer: The Lot was approved as part of subdivision in December of 1993. The shed was existing at the time of that approval and at the December 12, 2022, Planning Board meeting, the Town Attorney agreed that the shed was in fact a prior nonconforming structure.

4. The proposed house will have a total GFA of 11,774 square feet. Pursuant to Section 355-21 Permitted Accessory Use 5, accessory structures can't exceed 25% of the gross floor area of the principal building (11,774*0.25= 2,943 sq. ft.). The proposed accessory apartment is 3,885 sq ft. The Applicant will need to secure 942 square foot variance. The proposed garage is 3,230 square feet. The Applicant will need to secure a 287 square foot variance.

Answer: The Applicants obtained two variances from Zoning Code 355-21 because both proposed accessory structures, the accessory apartment and the garage, will exceed 25% of the gross floor area of the principal building.

5. The proposed accessory apartment, garage and pool house all exceed 800 square feet in size. The Applicant will need to seek Planning Board special use permit approval for all of the referenced structures/uses.

Answer: The existing detached accessory apartment existed prior to the issuance of the Certificate of Occupancy that was issued for it in 1955. The proposed new accessory apartment is in nearly the same location and is slightly larger. And the Applicant has received variances for all coverage exceedances. The Applicant is merely seeking to reconstruct or recreate existing structures and modernize existing uses, not to introduce new uses to the Subject Property. Accordingly, the Planning Board should permit the construction of the accessory apartment, garage, and pool house as proposed.

6. Pursuant to Section 355-21 Permitted Accessory Use 5, accessory structures can't exceed a maximum vertical height of 22 feet. The proposed garage is 23 feet 3 inches in height and exceeds the maximum permitted height of 22 feet. The Applicant will need to seek a variance from the Zoning Board of Appeals. The accessory apartment is 29 feet 1 inch in height and

exceeds the maximum permitted height of 22 feet. The Applicant will need to seek a variance from the Zoning Board of Appeals.

Answer: The Applicants obtained variances from Zoning Code 355-21 for the height of the proposed garage and the height of the proposed accessory apartment.

7. Pursuant to Section 355-40.K(4)(a) of the Town Code accessory apartments are not permitted to be located in an accessory structure unless the structure was constructed prior to October 11, 1984.

Answer: The Applicants obtained a variance from Zoning Code 355-40K(4)(a) because the proposed accessory apartment is located in a new structure.

8. Pursuant to Section 355-40.K(4(b) of the Town Code, the Applicant should provide documentation that the principal dwelling CO was issued more than four years ago and that the Applicant has owned the property for two years.

Answer: The Applicants have a Certificate of Occupancy for the main house that was issued more than four years ago and the Applicants have owned the Property for more than two years.

9. Pursuant to Section 355-40.K(11) of the Town Code, where the gross floor area of the dwelling is less than or equal to 2,000 square feet, the accessory apartment shall in no case exceed 33% of such area. Where the gross floor area of the dwelling is greater than 2,000 square feet, the permitted maximum size of the accessory apartment may be increased by 25% of the gross floor area in excess of 2,000 square feet.

Answer: The Applicants obtained a variance from Zoning Code 355-40K(11) because the accessory apartment exceeds the maximum permitted apartment size.

10. Pursuant to Section 355-40.K(12) of the Town Code, within 30 days of receipt of a completed application which indicates conformance to all dimensional standards, the Building Inspector and the Fire Inspector shall conduct an on-site inspection of the residence and shall report on such inspection to the Planning Board and shall include in these reports the compliance of the proposed accessory unit with the requirements of this subsection, as well as building and fire codes, and other information as may be requested by the Planning Board.

Answer: The Applicants will coordinate the necessary inspections with both the Building Inspector and Fire Inspector.

11. Pursuant to Section 355-40.K(14) of the Town Code, prior to the issuance of a building permit for the establishment of an accessory apartment, the existing septic disposal system shall be reviewed by the Westchester County Department of Health, except where public sewer is provided. The Building Inspector shall reject all applications for building permits for accessory apartments in those cases where the Health Department report indicates that the septic system is inadequate for the requested use, or contains recommendations for improvements to the system

until such time as such recommended improvements are installed. The applicant shall demonstrate to the Building Inspector that the septic disposal system has been cleaned within one year of the date of application. For properties provided with water supply from an on-site well, the applicant shall also collect a sample of well water for microbiological analysis to determine the presence of the coliform group. Such sample shall be analyzed by a state-approved laboratory, and the results shall be reported to the Building Inspector and Health Department.

Answer: The Applicants has submitted a revised plan for review by the Westchester County Department of Health, whose approval may be made a condition of the Special Permit.

12. Pursuant to Section 355-40.K(15) of the Town Code, accessory apartments which have been approved by the Planning Board, following due notice and public hearing, shall be reinspected by the Building Inspector every three years. The purpose of such continuing reinspection of the accessory unit shall be to determine if all required conditions of approval continue to be complied with, and report on such findings to the Planning Board. At the same time of such inspection, the Building Inspector shall also review and report on compliance with off-street parking requirements. If the Building Inspector finds that additional parking is necessary for the lot, he shall report such finding to the Planning Board and recommend the number of additional spaces to be provided. On the recommendation of the Building Inspector, the Planning Board may make a finding that the original conditions of special permit approval continue to be complied with, modify the conditions of special permit approval in accordance with the Building Inspector's recommendations or revoke the accessory apartment special permit approval.

Answer: The Applicants are aware of, and will comply with, all inspection requirements.

13. Pursuant to Section 355-40.K(16) of the Town Code, a special permit uses for accessory apartments shall terminate upon change of ownership.

Answer: The Applicants are aware of the conditions of a Special Permit for an accessory apartment.

14. Pursuant to Section 355-37 of the Town Code, the Planning Board must determine that:

- The location and size of the use, the nature and intensity of the operations involved in it or conducted in connection with it, the size of the site in relation to it and the location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the district in which it is located.

Answer: The proposed Site Plan and Special Use will not result in a significant increase in the intensity of use of the Property and will be in harmony with the appropriate and orderly development of the district. First, the Applicants are not seeking to change the nature of their use of the Subject Property or to significantly increase the intensity of that use, but are simply seeking to construct and/or enlarge various structures on the Subject Property for the same uses currently existing on the Subject Property and to develop the Subject Property in a way that will allow the Applicants to enjoy their home along with their large and growing extended family.

Second, while the proposed improvements will result in some coverage exceedances, the Applicants have addressed those exceedances by obtaining the necessary variances and will be filing a declaration to restrict development of the property located at 191 Bedford Banksville Road. Thus, this Application will not impact the appropriate and orderly development of the district.

• The location, nature and height of buildings, walls, fences and the nature and extent of existing or proposed plantings on the site are such that the use will not hinder or discourage the appropriate development and use of adjacent land and buildings.

Answer: The Applicants have obtained the necessary height and coverage variances and have designed the improvements in such a way that they will be no change in visibility from the of the structures on the Subject Property from Bedford Banksville Road and the declaration to be filed with regard to 191 Bedford Banksville Road will forever protect the viewshed of this scenic portion of Bedford Banksville Road. There is nothing that the grant of the requested approvals will do to negatively impact appropriate development and use of adjacent land and buildings.

- Operations in connection with any special use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or other characteristics than would be the operations of any permitted uses not requiring a special permit.

Answer: The proposed construction is intended to only be used in connection with appropriate residential uses, specifically to provide a space for the Applicants' children and grandchildren and other family and friends to gather for weekends, holidays and vacations, while still providing the various members of that extended family and invited friends the opportunity for private/quiet time in a residential setting of high-quality architectural design and construction.

- Parking areas will be of adequate size for the particular use, properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve maximum convenience and safety.

Answer: The Subject Property is required to have seven spots per Sect. 355-57 A, two spots per dwelling unit and one spot per bedroom of the accessory apartment. The proposed driveway will have sufficient parking for both the main dwelling unit and the accessory apartment.

- Where required, the provisions of the Town Flood Hazard Ordinance.

Answer: There are no flood plains on the Subject Property although a flood plain does slightly encroach upon the west end of the property located at 191 Bedford Banksville Road.

• The Board finds that the proposed special permit use will not have a significant adverse effect on the environment.

Answer: The Board should find that proposed Special Permit for an Accessory Apartment will not have a significant adverse effect on the environment. The Applicants are not seeking to change the existing use of the Subject Property, only to construct new structures to continue to conduct those uses. And the resulting coverage exceedances will be mitigated by the deed restriction of the second property at 191 Bedford Banksville Road.

I look forward to appearing before your Board at its June 26th meeting to discuss this matter further.

Very truly yours,

P. Daniel Hollis, III

Enclosures

Exhibit A

STAFF REPORT - TOWN OF NORTH CASTLE PLANNING DEPARTMENT
January 23, 2023

APPLICATION NUMBER - NAME	SBL
#2022-051 – 209 Bedford Banksville Road Site Plan, Oversized Accessory Structure Special Use Permit and Accessory Apartment Special Permit	95.03-2-35
MEETING DATE	**PROPERTY ADDRESS/LOCATION**
January 30, 2023	209 Bedford Banksville Road

BRIEF SUMMARY OF REQUEST

Proposed new guest house, new pool house, new main addition (porch 1st floor and 2nd floor office), new pool and new garage. The Applicant is seeking to permanently restrict a nearby vacant property and transfer development rights from that vacant property to the subject property.

PENDING ACTION: ■ Plan Review ☐ Town Board Referral ☐ Preliminary Discussion

EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	SITE IMPROVEMENTS	SIZE OF PROPERTY
R-4A One-Family Residence District (4 acre)	Existing Single-family home	Residential	Addition, Accessory Apt, Pool, Pool House	6.02 acres

PROPERTY HISTORY

CO issued for house in 1955.

COMPATIBILITY with the COMPREHENSIVE PLAN

- Continue to take neighborhood context into account in approving new single-family homes.
- Continue to protect natural resources and environmentally sensitive areas such as rivers, streams, lakes, ponds, wetlands, flood plains, aquifers, wildlife habitats, steep slopes and forested areas, significant trees, and woodlands, among others, from unnecessary and avoidable impacts.
- Preserve the current overall development pattern of North Castle and its neighborhoods. Be sure new development responds to environmental constraints, particularly for preservation of the New York City watershed.
- Maintain the quality-of-life created by physical and natural attributes, by structuring development that promotes sound conservation measures.
- The Town should encourage residential development that is compatible in scale, density, and character with its neighborhood and natural environment.

STAFF RECOMMENDATIONS

1. The Applicant should be directed to address all outstanding staff and consultant's comments.

Procedural Comments	Staff Notes
1. The Proposed Action would be classified as a Type II Action pursuant to the State Environmental Quality Review Act (SEQRA). 2. A public hearing regarding the proposed site plan and special permits will need to be scheduled. 3. The application for special permit approval requires referral to the Westchester County Planning Board pursuant to § 239-m of New York State General Municipal Law (GML) since a special permit is being requested.	
General Comments	
1. The Applicant is proposing a Gross Floor area of 23,957 square feet and a Gross Land Coverage of 40,439 square feet. The maximum permitted amount of Gross Floor Area for the 6.02 acre lot is 16,249 square feet. The maximum permitted amount of Gross Land Coverage for the 6.02 acre lot is 27,469 square feet. The Application is premised upon transferring the permitted gross floor area and land coverage from 191 Bedford Banksville Road to 209 Bedford Banksville Road.	As proposed, the Applicant will need to obtain a Gross Floor Area variance of 7,708 square feet. As proposed, the Applicant will need to obtain a Gross Land Coverage variance of 12,970 square feet.
2. The Applicant has indicated that development at 191 Bedford Banksville Road will be restricted via a filed declaration that additional development on the lot shall be prohibited.	
3. If the existing shed and garden is proposed to remain at 191 Bedford Road, the Applicant should demonstrate that a use variance was previously issued or that the use is a pre-existing permitted non-conforming use. Accessory uses are not permitted on a lot without a permitted principal use.	The Applicant may need to secure a use variance for the structures/use at 191 Bedford Banksville Road.
4. The proposed house will have a total GFA of 11,774 square feet. Pursuant to Section 355-21 Permitted Accessory Use 5, accessory structures can't exceed 25% of the gross floor area of the principal building (11,774*0.25= 2,943 sq. ft.). The proposed accessory apartment is 3,885 sq ft. The Applicant will need to secure 942 square foot variance. The proposed garage is 3,230 square feet. The Applicant will need to secure a 287 square foot variance.	
5. The proposed accessory apartment, garage and pool house all exceed 800 square feet in size. The Applicant will need to seek Planning Board special use permit approval for all of the referenced structures/uses.	
6. Pursuant to Section 355-21 Permitted Accessory Use 5, accessory structures can't exceed a maximum vertical height of 22 feet. The proposed garage is 23 feet 3 inches in height and exceeds the maximum permitted height of 22 feet. The Applicant will need to seek a variance from the Zoning Board of Appeals. The accessory apartment is 29 feet 1 inch in height and exceeds the maximum permitted height of 22 feet. The Applicant will need to seek a variance from the Zoning Board of Appeals.	
7. Pursuant to Section 355-40.K(4)(a) of the Town Code accessory apartments are not permitted to be located in an accessory structure unless the structure was constructed prior to October 11, 1984.	Since the proposed accessory apartment is located in a new structure, the Applicant will need to obtain a variance from Section 355-40.K(4)(a) of the Town Code from the Zoning Board of Appeals.

8. Pursuant to Section 355-40.K(4(b) of the Town Code, the Applicant should provide documentation that the principal dwelling CO was issued more than four years ago and that the Applicant has owned the property for two years.	
9. Pursuant to Section 355-40.K(11) of the Town Code, where the gross floor area of the dwelling is less than or equal to 2,000 square feet, the accessory apartment shall in no case exceed 33% of such area. Where the gross floor area of the dwelling is greater than 2,000 square feet, the permitted maximum size of the accessory apartment may be increased by 25% of the gross floor area in excess of 2,000 square feet.	The principal house is 11,774 square feet. First 2,000 sq. ft = 2,000 * .33 = 660 s.f. House Balance = (11,774 – 2,000) * .25 = 2,443.5 s.f. Max apt size = 660 s.f. + 2,443.5 s.f. = 3,103.5 s.f. The 3,885 s.f. acc apt exceeds the maximum permitted 3,103.5 apt size. The Applicant will need to obtain a variance from the Zoning Board of Appeals.
10. Pursuant to Section 355-40.K(12) of the Town Code, within 30 days of receipt of a completed application which indicates conformance to all dimensional standards, the Building Inspector and the Fire Inspector shall conduct an on-site inspection of the residence and shall report on such inspection to the Planning Board and shall include in these reports the compliance of the proposed accessory unit with the requirements of this subsection, as well as building and fire codes, and other information as may be requested by the Planning Board.	
11. Pursuant to Section 355-40.K(14) of the Town Code, prior to the issuance of a building permit for the establishment of an accessory apartment, the existing septic disposal system shall be reviewed by the Westchester County Department of Health, except where public sewer is provided. The Building Inspector shall reject all applications for building permits for accessory apartments in those cases where the Health Department report indicates that the septic system is inadequate for the requested use, or contains recommendations for improvements to the system until such time as such recommended improvements are installed. The applicant shall demonstrate to the Building Inspector that the septic disposal system has been cleaned within one year of the date of application. For properties provided with water supply from an on-site well, the applicant shall also collect a sample of well water for microbiological analysis to determine the presence of the coliform group. Such sample shall be analyzed by a state-approved laboratory, and the results shall be reported to the Building Inspector and Health Department.	
12. Pursuant to Section 355-40.K(15) of the Town Code, accessory apartments which have been approved by the Planning Board, following due notice and public hearing, shall be reinspected by the Building Inspector every three years. The purpose of such continuing reinspection of the accessory unit shall be to determine if all required conditions of approval continue to be complied with, and report on such findings to the Planning Board. At the same time of such inspection, the Building Inspector shall also review and report on compliance with off-street parking requirements. If the Building Inspector finds that additional parking is necessary for the lot, he shall report such finding to the Planning Board and recommend the number of additional spaces to be provided. On the recommendation of the Building Inspector, the Planning Board may make a finding that the original conditions of special permit approval continue to be complied with, modify the conditions of special permit approval in accordance with the Building Inspector's recommendations or revoke the accessory apartment special permit approval.	
13. Pursuant to Section 355-40.K(16) of the Town Code, a special permit uses for accessory apartments shall terminate upon change of ownership.	

14. Pursuant to Section 355-37 of the Town Code, the Planning Board must determine that: • The location and size of the use, the nature and intensity of the operations involved in it or conducted in connection with it, the size of the site in relation to it and the location of the site with respect to streets giving access to it are such that it will be in harmony with the appropriate and orderly development of the district in which it is located. • The location, nature and height of buildings, walls, fences and the nature and extent of existing or proposed plantings on the site are such that the use will not hinder or discourage the appropriate development and use of adjacent land and buildings. • Operations in connection with any special use will not be more objectionable to nearby properties by reason of noise, fumes, vibration or other characteristics than would be the operations of any permitted uses not requiring a special permit. • Parking areas will be of adequate size for the particular use, properly located and suitably screened from adjoining residential uses, and the entrance and exit drives shall be laid out so as to achieve maximum convenience and safety. • Where required, the provisions of the Town Flood Hazard Ordinance. • The Board finds that the proposed special permit use will not have a significant adverse effect on the environment.	

Site Design Consultants

Civil Engineers • Land Planners

June 12, 2023

Via Email: planning@northcastleny.com

Christopher Carthy, Chairman
Members of the Town of North Castle Planning Board
15 Bedford Road
Armonk, NY 10504

Re: Rault
209 Bedford Banksville Road
Section 95.03, Block 2, Lot 35

Dear Chairman Carthy and Members of the Planning Board:

The following are our responses to Kellard Sessions' Memo dated January 27, 2023:

GENERAL COMMENTS

1. *Westchester County GIS mapping of the project site illustrates a watercourse with hydric soils extending beyond the watercourse. The hydric soils extend through the valley to the southern boundary of the entrance drive, to the frame barn and within the hillside west of the barn and proposed guest house.*

   The applicant should have a wetland delineation, prepared by a wetland scientist, which delineation is flagged and surveyed. The applicant should contact our office to have the delineation confirmed prior to serving the boundary.

   If improvements are land disturbance will occur within 100 feet of the final donation, a local wetland permit will be required for the project. In accordance with chapter 340 of the town code, a mitigation plan is required for disturbances within the wetland buffer.

   Response: Steve Marino of Tim Miller Assoc. verified that hydric soils do not exist, see attached report.

2. *The project proposes an increase in impervious surface by approximately 12,530 s.f. which will be mitigated through infiltration. The applicant will need to prepare a Stormwater Pollution Prevention Plan (SWPP) which addresses erosion and sediment controls and mitigates water quality and water quantity disturbances.*

   Response: The SWPPP report is included in this submission.

3. *The applicant will need to perform soil testing at the stormwater infiltration location to verify the depth of the soil and percolation rates of the soil.*

   Response: We have completed soil testing as witnessed by Kellard – Sessions at the location of the stormwater infiltration system. The results are contained in the SWPPP report.

251-F Underhill Avenue • Yorktown Heights, New York 10598
60 Walnut Grove Road • Ridgefield, Connecticut 06877
(914) 962-4488 (203) 431-9504 Fax (914) 962-7386

4. *The applicant should clarify zoning schedule (Sheet 1 of 5) which indicates insufficient setbacks of 12.5 feet within the front yard, 28 feet within the rear yard and 12 feet within the side yard.*

   Response: We have updated the zoning schedule (sheet 1 of 5) to show the proper setbacks. Please review the zoning schedule on sheet 1 of the plan.

5. *The plans should illustrate the location of the proposed domestic well, sewer service between the residence, septic tank, and water distribution piping.*

   Response: We have shown the location of the requested items above on the site plan. Please review site plan.

6. *Please provide a detail of the storm drain crossing at the 2,500 gallon septic tank behind the guest house.*

   Response: The stormwater drain no longer crosses the 2,500 gallon septic.

7. *drain Please modify the precast inlet detail to include a sump.*

   Response: The detail has been modified to include 12" sump within drain inlet.

8. *Please provide outlet protection and dispersion of flows discharging from footing drains and stormwater treatment system overflows.*

   Response: Outlet protection and dissipators have been provided at the outlet of footing drains and stormwater infiltration system overflows. Please review site plan.

9. *Please provide on plans the location of the pool equipment. Pool drawdown should be shown discharging to the stormwater infiltration system.*

   Response: The pool equipment will be in the basement of the proposed pool house.

10. *The plans should detail the methods proposed to collect runoff from the patio areas.*

    Response: A drain inlet has been provided at the northwest corner of the pool deck and pitching of the deck has been labeled.

11. *The plans should illustrate the location of the proposed pool fence, walls, and gates protecting the pool area. Please provide details of the protection proposed noting its compliance with the NYS Building Code.*

    Response: proposed fencing enclosure around the pool has been provided.

12. *The applicant is understandably saving large maple trees along the southern and western edges of the driveway. It appears that new curbing and drainage is proposed within the drip line and very close to the trunk of at least four large trees of 24 to 42 inch diameter. The applicant should re-examine the locations of such improvements in close proximity to the trees to be saved.*

    Response: The curbing and storm drainage have been modified to the greatest extent accommodate for trees. Please review site plan.

We are including the following in this submission.

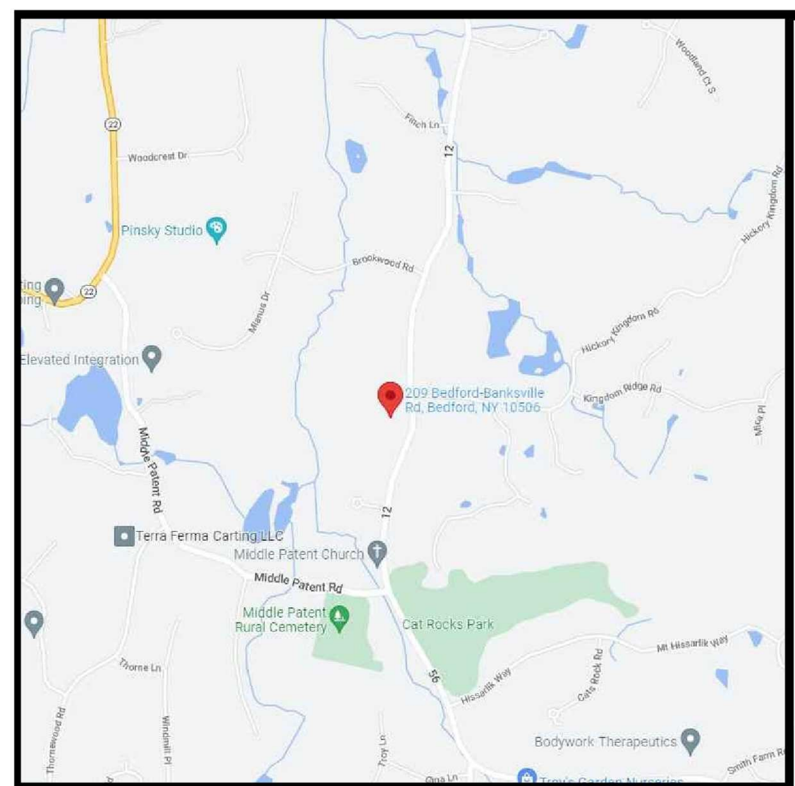
- The Site Plan titled "Joseph & Celeste Rault", Sheets 1-5 of 5, dated 11/25/22, last rev. 6-02-23;
- Report Prepared by Tim Miller Associates dated 3/14/23;
- Stormwater Management report June 12, 2023;

Please contact us if you have any questions. We have provided this submission in an email to Adam Kaufman in pdf format and John Kellard. Thank you.

Yours Truly,

Joseph C. Riina, P.E.

JCR/cm/enc./sdc 21-29

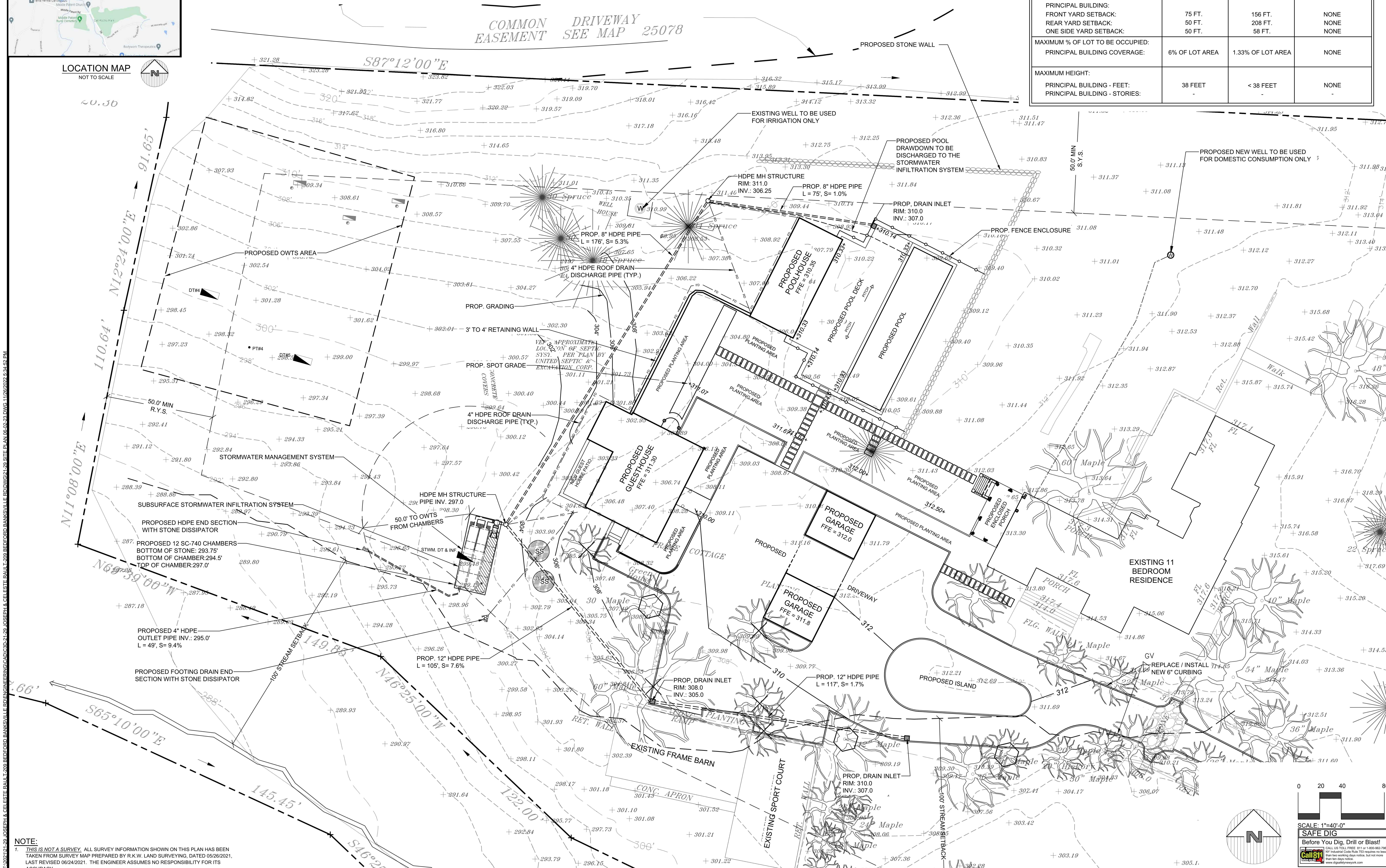


SITE DATA:

OWNER / DEVELOPER:	JOSEPH & CELESTE RAULT 209 BEDFORD BANKSVILLE ROAD BEDFORD, NY, 10506
PROJECT LOCATION:	209 BEDFORD BANKSVILLE ROAD BEDFORD, NY, 10506
EXISTING TOWN ZONING:	R-2A, ONE FAMILY RESIDENCE DISTRICT (2 ACRES)
PROPOSED USE:	R-2A, ONE FAMILY RESIDENCE DISTRICT (2 ACRES)
TOWN TAX MAP DATA:	SECTION 95.03, BLOCK 2, LOT 35
SITE AREA :	6.022 ACRES (262,318.32 SF)
SEWAGE FACILITIES:	ONSITE SUBSURFACE TREATMENT SYSTEM
WATER FACILITIES:	PRIVATE WELL
WATERSHED:	INLAND LONG ISLAND SOUND BASIN

ZONING SCHEDULE:

ZONING DISTRICT:	R-4A, SINGLE FAMILY RESIDENTIAL		
DIMENSIONAL REGULATIONS:	REQUIRED	PROVIDED	VARIANCE REQUIRED
MINIMUM SIZE OF LOT:			
MINIMUM LOT AREA:	4 ACRES.	6.022 AC.	NONE
MINIMUM LOT WIDTH:	250 FT.	100 FT.	NONE
MINIMUM LOT DEPTH:	150 FT.	100 FT.	NONE
MINIMUM YARD DIMENSIONS:			
PRINCIPAL BUILDING:			
FRONT YARD SETBACK:	75 FT.	156 FT.	NONE
REAR YARD SETBACK:	50 FT.	208 FT.	NONE
ONE SIDE YARD SETBACK:	50 FT.	58 FT.	NONE
MAXIMUM % OF LOT TO BE OCCUPIED:			
PRINCIPAL BUILDING COVERAGE:	6% OF LOT AREA	1.33% OF LOT AREA	NONE
MAXIMUM HEIGHT:			
PRINCIPAL BUILDING - FEET:	38 FEET	< 38 FEET	NONE
PRINCIPAL BUILDING - STORIES:	-	-	-


COMMON DRIVEWAY EASEMENT SEE MAP 25078
S87°12'00"E
PROPOSED STONE WALL
EXISTING WELL TO BE USED FOR IRRIGATION ONLY
PROPOSED POOL DRAWDOWN TO BE DISCHARGED TO THE STORMWATER INFILTRATION SYSTEM
PROPOSED NEW WELL TO BE USED FOR DOMESTIC CONSUMPTION ONLY
HDPE MH STRUCTURE RIM: 311.0 INV.: 306.25
PROP. 8" HDPE PIPE L = 75', S= 1.0%
PROP. DRAIN INLET RIM: 310.0 INV.: 307.0
PROP. FENCE ENCLOSURE
50.0' MIN S.Y.S.
PROP. 8" HDPE PIPE L = 176', S= 5.3%
4" HDPE ROOF DRAIN DISCHARGE PIPE (TYP.)
PROPOSED OWTS AREA
PROP. GRADING
3' TO 4' RETAINING WALL
PROP. SPOT GRADE
PROPOSED POOLHOUSE FFE = 310.5
PROPOSED POOL DECK
PROPOSED POOL
PROPOSED PLANTING AREA
50.0' MIN R.Y.S.
4" HDPE ROOF DRAIN DISCHARGE PIPE (TYP.)
STORMWATER MANAGEMENT SYSTEM
PROPOSED GUESTHOUSE FFE = 311.30
HDPE MH STRUCTURE PIPE INV. 297.0
SUBSURFACE STORMWATER INFILTRATION SYSTEM
50.0' TO OWTS FROM CHAMBERS
PROPOSED HDPE END SECTION WITH STONE DISSIPATOR
PROPOSED 12 SC-740 CHAMBERS BOTTOM OF STONE: 293.75' BOTTOM OF CHAMBER:294.5' TOP OF CHAMBER:297.0'
PROPOSED GARAGE FFE = 312.0
PROPOSED ENCLOSED PORCH
EXISTING 11 BEDROOM RESIDENCE
PROPOSED GARAGE FFE = 311.8
DRIVEWAY
PROPOSED 4" HDPE OUTLET PIPE INV.: 295.0' L = 49', S= 9.4%
PROP. 12" HDPE PIPE L = 105', S= 7.6%
PROPOSED FOOTING DRAIN END SECTION WITH STONE DISSIPATOR
100' STREAM SETBACK
PROP. DRAIN INLET RIM: 308.0 INV.: 305.0
PROP. 12" HDPE PIPE L = 117', S= 1.7%
PROPOSED ISLAND
REPLACE / INSTALL NEW 6" CURBING
EXISTING FRAME BARN
EXISTING SPORT COURT
PROP. DRAIN INLET RIM: 310.0 INV.: 307.0
100' STREAM SETBACK
N11°08'00"E
N12°24'00"E
S65°10'00"E
S46°25'
SCALE: 1"=40'-0"
0 20 40 80
SAFE DIG
Before You Dig, Drill or Blast!
Call811

NOTE:

1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY R.K.W. LAND SURVEYING, DATED 05/26/2021, LAST REVISED 06/24/2021. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

PROJECT # 21-29

Site Design Consultants
Civil Engineers • Land Planners
251-F Underhill Avenue, Yorktown Heights, NY 10598
(914) 962-4488 - Fax: (914) 962-7386
www.sitedesignconsultants.com

Engineer:
Joseph C. Riina, P.E.
NYS Lic. No. 64431

Revisions:

No.	Date	Comments:
1.	6/2/23	Town Comments

SCALE: 1" = 20'
DRAWN BY: AB
DATE: 11/25/2022

SITE PLAN

SITE PLAN
PREPARED FOR
Joseph & Celeste Rault
209 Bedford Banksville Road
Town of North Castle Westchester County, New York

Sheet 1 of 5

NOTE:
1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY R.K.W. LAND SURVEYING, DATED 05/26/2021, LAST REVISED 06/24/2021. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

NOTE: UNAUTHORIZED ALTERATIONS OR ADDITIONS TO THIS DRAWING IS A VIOLATION OF SECTION 7209 (2) OF THE NEW YORK STATE EDUCATION LAW.

F:\2021\21-29 JOSEPH & CELESTE RAULT-209 BEDFORD BANKSVILLE RD\ENGINEERING\CAD\C3D-21-29 JOSEPH & CELESTE RAULT-209 BEDFORD BANKSVILLE RD\DWG\21-29 SITE PLAN 06-02-23.DWG 11/26/2022 5:34:52 PM

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NYS Lic. No. 64431

Revisions:

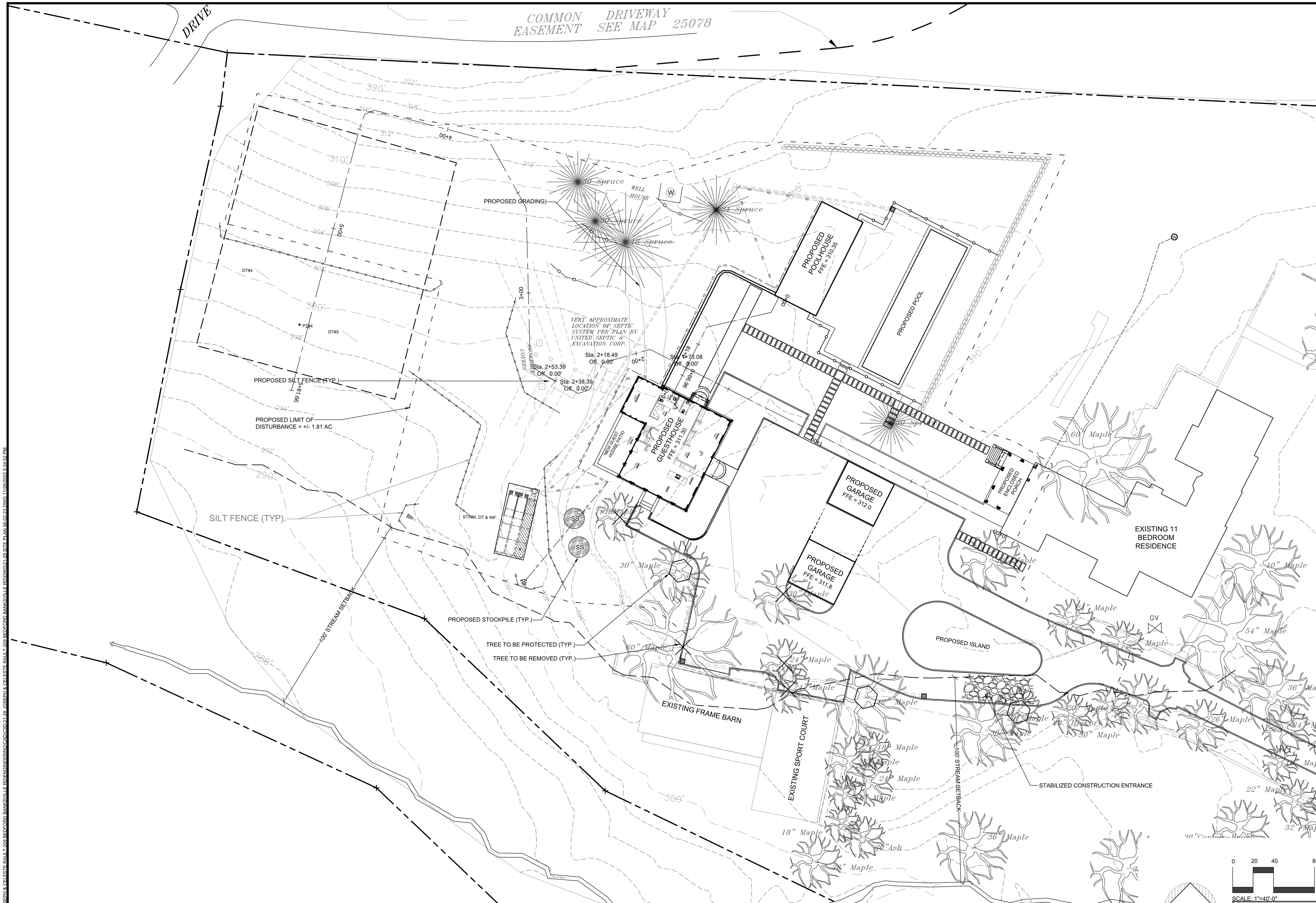
No.	Date	Comments:
1.	6/2/23	Town Comments

SCALE: 1" = 40'
DRAWN BY: AB
DATE: 11/25/22

EXISTING CONDITIONS PLAN

SITE PLAN
PREPARED FOR
Joseph & Celeste Rault
209 Bedford Banksville Road
Town of North Castle Westchester County, New York

Sheet 2 of 5



COMMON DRIVEWAY EASEMENT SEE MAP 25078
DRIVE
PROPOSED GRADING
WELL HOUSE
30" Spruce
VERY APPROXIMATE LOCATION OF SEPTIC SYSTEM PER PLAN BY UNITED SEPTIC & EXCAVATION CORP.
Sta. 2+18.49 Off. 0.00'
Sta. 2+53.39 Off. 0.00'
Sta. 2+38.39 Off. 0.00'
Sta. 2+75.08 Off. 0.00'
PROPOSED SILT FENCE (TYP.)
PROPOSED LIMIT OF DISTURBANCE = +/- 1.81 AC
SILT FENCE (TYP).
PROPOSED POOLHOUSE FFE = 310.35
PROPOSED POOL
PROPOSED GUESTHOUSE FFE = 311.30
PROPOSED GARAGE FFE = 312.0
PROPOSED GARAGE FFE = 311.8
PROPOSED ENCLOSED PORCH
EXISTING 11 BEDROOM RESIDENCE
PROPOSED STOCKPILE (TYP.)
TREE TO BE PROTECTED (TYP.)
TREE TO BE REMOVED (TYP.)
100' STREAM SETBACK
PROPOSED ISLAND
EXISTING FRAME BARN
EXISTING SPORT COURT
STABILIZED CONSTRUCTION ENTRANCE
GENERATOR
GV
BROOK
60" Maple
30" Maple
24" Maple
36" Maple
22" Maple
54" Maple
18" Maple
SCALE: 1"=40'-0"
SAFE DIG
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NOTE:

1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY R.K.W. LAND SURVEYING, DATED 05/26/2021, LAST REVISED 06/24/2021. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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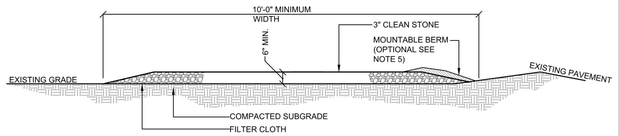
DATE: 11/25/22

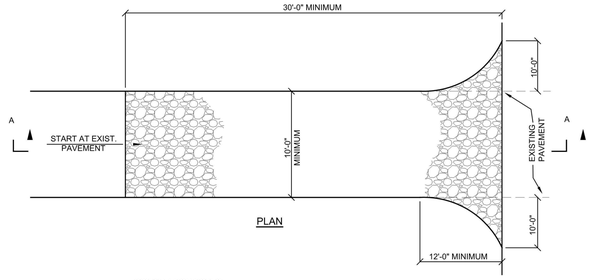
EROSION AND SEDIMENT CONTROL PLAN

SITE PLAN
PREPARED FOR
Joseph & Celeste Rault
209 Bedford Banksville Road
Town of North Castle Westchester County, New York

Sheet 3 of 5



SECTION A-A



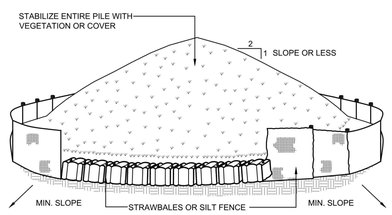
PLAN

INSTALLATION NOTES:
1. Stone size - use 3" min. 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 - 10 foot minimum, but not less than the full width at points where ingress or egress occur. 24 ft if single entrance to site.
5. 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.
6. 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 cleanouts of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public right of way must be removed immediately.
7. 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.
8. Periodic inspection and needed maintenance shall be provided after each rain

SYMBOL

E-1 STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

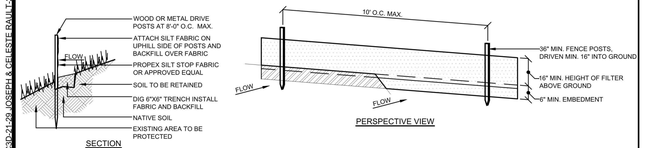


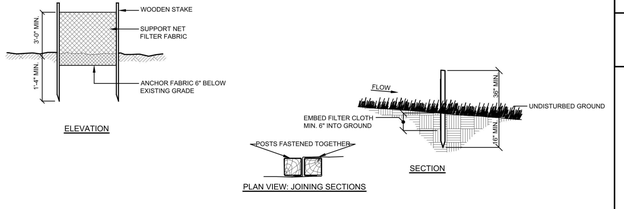
SYMBOL

NOTES:
1. Area chosen for stockpiling operations shall be dry and stable.
2. Maximum slope of stockpile shall be 1:2.
3. Upon completion of soil stockpiling, each pile shall be surrounded with either silt fencing or strawbales, then stabilized with vegetation or covered.
4. See detail for installation of silt fence.

E-2 SOIL STOCKPILE DETAIL

NOT TO SCALE



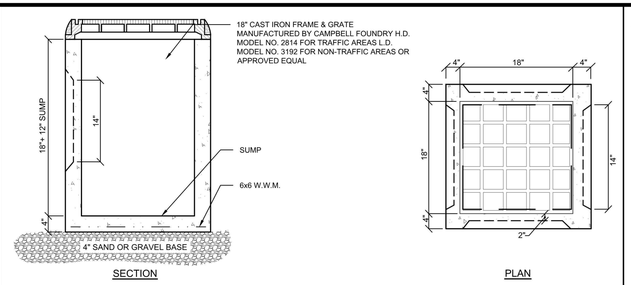


NOTES:
1. Filter cloth to be fastened securely to upgrade side of post: steel posts (either T or U Type) or 2" hardwood posts at top and mid section.
2. When two sections of filter cloth adjoin each other they shall be overlapped by 6 inches and folded. Filter cloth shall be Mirafi 100x, Stabilinka T140n or approved equal
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence or the capacity reaches 50%.
4. Excavate 6 inch trench along the silt fence line and bury the fabric.
5. Unroll a section at a time and position the post against the back (downstream) wall of the trench.
6. Drive the post into the ground until the netting is approximately 2 inches from the trench bottom.
7. 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.
8. Join sections as shown above.

SYMBOL

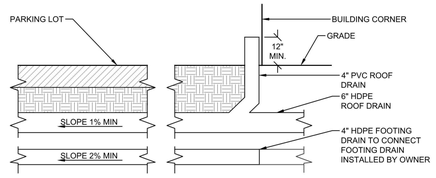
E-3 SILT FENCE DETAIL

NOT TO SCALE



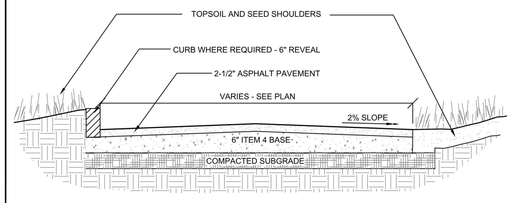
D-1 PRECAST DRAIN INLET DETAIL

NOT TO SCALE



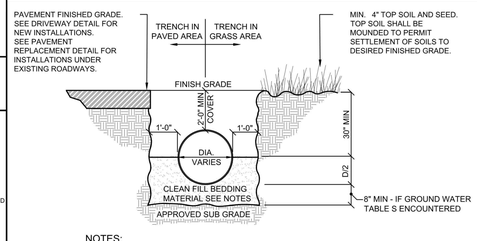
D-2 ROOF & FOOTING DRAIN CONNECTION DETAIL

NOT TO SCALE



D-3 TYPICAL RESIDENTIAL DRIVEWAY DETAIL

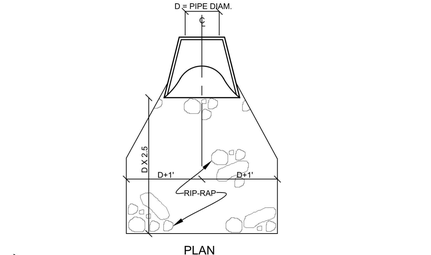
NOT TO SCALE



NOTES:
1. Pipe shall be laid and connected in the bedding which shall consist of:
   A. Compacted existing subsoil when laid above ground water or;
   B. 3/4" crushed stone when laid below ground water.
2. If subsoil is determined to be unsuitable by the Engineer, all unsuitable material shall be removed for at least 2'-6" below the pipe invert or twice the pipe diameter, whichever is greater, and replaced with compacted bedding material.

D-4 STORM PIPE BEDDING DETAIL

NOT TO SCALE



D-5 RIP-RAP APRON/ ENERGY DISSIPATER DETAIL

NOT TO SCALE

GENERAL EROSION CONTROL NOTES:

1. Contractor shall be responsible for compliance with all sediment and erosion control practices. The sediment and erosion control practices are to be installed prior to any major soil disturbances, and maintained until permanent protection is established. Road surface flows from the site should be dissipated with tracking pad or appropriate measures during adjacent road shoulder regrading. Contractor is responsible for the installation and maintenance of all soil erosion and sedimentation control devices throughout the course of construction.
2. Catch basin inlet protection must be installed and operating at all times until tributary areas and basin have been stabilized. When possible flows should be stabilized before reaching inlet protection structure. Timely maintenance of sediment control structures is the responsibility of the Contractor.
3. All structures shall be maintained in good working order at all times. The sediment level in all sediment traps shall be closely monitored and sediment removed promptly when maximum levels are reached or as ordered by the engineer. All sediment control structures shall be inspected on a regular basis, and after each heavy rain to insure proper operation as designed. An inspection schedule shall be set forth prior to the start of construction.
4. The locations and the installation times of the sediment capturing standards shall be as specified in these plans, as ordered by the Engineer, and in accordance with the latest edition of the "New York Standards and Specifications for Erosion and Sediment Control" (NYSSESC).
5. All topsoil shall be placed in a stabilized stockpile for reuse on the site. All stockpile material required for final grading and stored on site shall be temporarily seeded and mulched within 7 days. Refer to soil stockpile details.
6. Any disturbed areas that will be left exposed more than 7 days and not subject to construction traffic, shall immediately receive temporary seeding. Mulch shall be used if the season prevents the establishment of a temporary cover. Disturbed areas shall not be limed and fertilized prior to temporary seeding.
7. All disturbed areas within 500 feet of an inhabited dwelling shall be wetted as necessary to provide dust control.
8. The contractor shall keep the roadways within the project clear of soil and debris and is responsible for any street cleaning necessary during the course of the project.
9. Sediment and erosion control structures shall be removed and the area stabilized when the drainage area has been properly stabilized by permanent measures.
10. All sediment and erosion control measures shall be installed in accordance with current edition of NYSSESC.
11. All regraded areas must be stabilized appropriately prior to any rock blasting, cutting, and/or filling of soils. Special care should be taken during construction to insure stability during maintenance and integrity of control structures.
12. Any slopes graded at 3:1 or greater shall be stabilized with erosion blankets to be staked into place in accordance with the manufactures requirements. Erosion blankets may also be required at the discretion of Town officials or Project Engineer. When stabilized blanket is utilized for channel stabilization, place one half the volume of seed mix prior to laying net, and place the remaining seed after laying the stabilized blanket.
13. To prevent heavy construction equipment and trucks from tracking soil off-site, construct a pervious crushed stone pad. Locate and construct pads as detailed in these plans.
14. Contractor is responsible for controlling dust by sprinkling exposed soil areas periodically with water as required. Contractor to supply all equipment and water.
15. Contractor shall be responsible for construction inspections as per the Town of North Castle requirements.

MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES:

1. Trees and vegetation shall be protected at all times as shown on the detail drawing and as directed by the Engineer.
2. Care should be taken so as not to channel concentrated runoff through the areas of construction activity on the site.
3. Fill and site disturbances should not be created which causes water to pond off site or on adjacent properties.
4. Runoff from land disturbances shall not be discharged or have the potential to discharge off site without first being intercepted by a control structure, such as a sediment trap or the sediment pond. Sediment shall be removed before exceeding 50% of the retention structure's capacity.
5. For finished grading, adequate grade shall be provided so that water will not pond on lawns for more than 24 hours after rainfall, except in swale flow areas which may drain for as long as 48 hours after rainfall.
6. All swales and other areas of concentrated flow shall be properly stabilized with temporary control measures to prevent erosion and sediment travel. Surface flows over cut and fill areas shall be stabilized at all times.
7. All sites shall be stabilized with erosion control materials within 7 days of final grading.
8. Temporary sediment trapping devices shall be removed from the site within 30 days of final stabilization.

MAINTENANCE SCHEDULE:

	DAILY	WEEKLY	MONTHLY	AFTER RAINFALL	NECESSARY TO MAINTAIN FUNCTION	AFTER APPROVAL OF INSPECTOR
SILT FENCE	– – –	– – – –			CLEAN/ REPLACE	REMOVE

MAINTENANCE OF PERMANENT CONTROL STRUCTURES DURING CONSTRUCTION:

The stormwater management system and outlet structure shall be inspected on a regular basis and after every rainfall event. Sediment build up shall be removed from the inlet protection regularly to insure detention capacity and proper drainage. Outlet structure shall be free of obstructions. All piping and drain inlets shall be free of obstruction. Any sediment build up shall be removed.

MAINTENANCE OF CONTROLS AFTER CONSTRUCTION:

Controls (including respective outlet structures) should be inspected periodically for the first few months after construction and on an annual basis thereafter. They should also be inspected after major storm events.

DEBRIS AND LITTER REMOVAL:

Twice a year, inspect outlet structure and drain inlets for accumulated debris. Also, remove any accumulations during each mowing operation.

STRUCTURAL REPAIR/REPLACEMENT:

Outlet structure must be inspected twice a year for evidence of structural damage and repaired immediately.

EROSION CONTROL:

Unstable areas tributary to the basin shall immediately be stabilized with vegetation or other appropriate erosion control measures.

SEDIMENT REMOVAL:

Sediment should be removed after it has reached a maximum depth of five inches above the stormwater management system floor.

CONSTRUCTION SEQUENCE:

1. Prior to the beginning of any site work the major features of the construction must be field staked by a licensed surveyor. These include the Additions, limits of disturbance, and Stormwater practices.
2. Prior to commencement of work, an on-site preconstruction meeting will be held. This will be attended by the Owner responsible for any fines or penalties, the Operator responsible for complying with the approved construction drawings including the E&SC plan and details, the Environmental Planner responsible for E&SC monitoring during construction, town representatives from the Engineering Department and Code Enforcement.
3. Temporary erosion and sediment controls (E&SCs) as shown on the approved construction drawings shall be installed as detailed.
4. Remove existing vegetative cover and other surface features in the limit of construction.
5. Excavate for the pool construction. Upon completion of pool walls backfill and grade area around the pool walls.
6. Install infiltration chambers. Entry to the system shall be blocked until the site has reached final stabilization.
7. Install underground services.
8. Topsoil, rake, seed and mulch all disturbed areas.
9. Upon stabilization of all disturbed areas and approval from the Town representative remove all temporary erosion and sediment controls

TOPSOIL:

Existing topsoil will be removed and stored in piles sufficiently as to avoid mixing with other excavation. Stockpiles shall be surrounded by erosion control as outlined on these plans. The furnishing of new topsoil shall be of a better or equal to the following criteria (SS713.01 NYSDOT):

1. The pH of the material shall be 5.5 to 7.6.
2. The organic content shall not be less than 2% or more than 70%.
3. Gradation:

SIEVE SIZE	% PASSING BY WGT.
2 INCH	100
1 INCH	85 TO 100
1/4 INCH	65 TO 100
NO. 200 MESH	20 TO 80

PERMANENT VEGETATIVE COVER:

1. Site preparation:
   - 1.1. Install erosion control measures.
   - 1.2. Scarify compacted soil areas.
   - 1.3. Lime as required to ph 6.5.
   - 1.4. Fertilize with 10-6-4 4 lbs/1,000 S.F.
   - 1.5. Incorporate amendments into soil with disc harrow.
2. Seed mixtures for use on swales and cut and fill areas.

MIXTURE		LBS./ACRE
ALT. A	KENTUCKY BLUE GRASS	20
	CREEPING RED FESCUE	28
	RYE GRASS OR REDTOP	5
ALT. B	CREEPING RED FESCUE	20
	REDTOP	2
	TALL FESCUE/SMOOTH BLOOMGRASS	20

3. SEEDING
   - 3.1. Prepare seed bed by raking to remove stones, twigs, roots and other foreign material.
   - 3.2. Apply soil amendments and integrate into soil.
   - 3.3. Apply seed uniformly by cyclone seeder culti-packer or hydro-seeder at rate indicated.
   - 3.4. Stabilize seeded areas in drainage swales.
   - 3.5. Irrigate to fully saturate soil layer, but not to dislodge planting soil.
   - 3.6. Seed between April 1st and May 15th or August 15th and October 15th.
   - 3.7. Seeding may occur May 15th and August 15th if adequate irrigation is provided.

TEMPORARY VEGETATIVE COVER:

SITE PREPARATION:
1. Install erosion control measures.
2. Scarify areas of compacted soil.
3. Fertilize with 10-10-10 at 400/acre.
4. Lime as required to ph 6.5.

SEED SPECIES:

MIXTURE	LBS./ACRE
Rapidly germinating annual ryegrass	20
Perennial ryegrass	20
Cereal oats	36

SEEDING:
Same as permanent vegetative cover

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PROJECT # 21-29

Engineer: Joseph Celeste Rault, P.E. NYS Lic. No. 64431

Revisions:

No.	Date	Comments:
1.	6/2/23	Town Comments

SCALE: N.T.S.
DRAWN BY: AB
DATE: 11/25/22

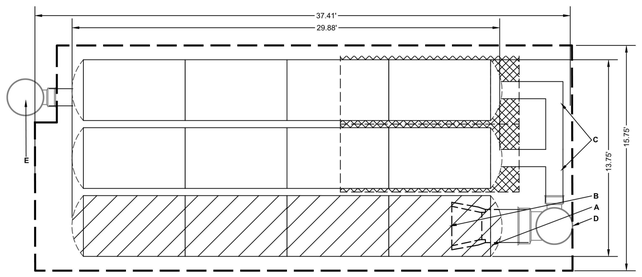
DRAINAGE & ESC DETAILS

SITE PLAN PREPARED FOR
Joseph & Celeste Rault
209 Bedford Banksville Road
Town of North Castle Westchester County, New York

Sheet 4 of 5

F:\2021\21-29_JOSEPH & CELESTE RAULT-209 BEDFORD BANKSVILLE RD\ENGINEERING\CAD\C3D\21-29_JOSEPH & CELESTE RAULT-209 BEDFORD BANKSVILLE RD\DWG\21-29 SITE PLAN 06-02-23.DWG 11/28/2022 5:34:52 PM

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS		PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
5	STORMTECH SC-740 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	11.00	PREFABRICATED EZ END CAP	A	24" BOTTOM PREFABRICATED EZ END CAP. PART#: SC740ECEZ / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS.	0.10"	
4	STORMTECH SC-740 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	5.00					
6	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	4.50	FLAMP	B	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC74024RAMP		
6	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	4.50	MANIFOLD	C	12" x 12" TOP MANIFOLD, ADS N-12	12.50"	
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	4.50	NYLOPLAST (INLET W/ ISO PLUS ROW)	D	30" DIAMETER (24.00" SUMP MIN)		2.3 CFS IN
535	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	3.50					
		TOP OF SC-740 CHAMBER:	3.00	NYLOPLAST (OUTLET)	E	30" DIAMETER (DESIGN BY ENGINEER)		2.0 CFS OUT
		12" x 12" TOP MANIFOLD INVERT:	1.54					
		12" BOTTOM CONNECTION INVERT:	0.69					
284	SYSTEM AREA (SF)	24" ISOLATOR ROW PLUS INVERT:	0.51					
79.8	SYSTEM PERIMETER (ft)	BOTTOM OF SC-740 CHAMBER:	0.50					
		BOTTOM OF STONE:	0.00					



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

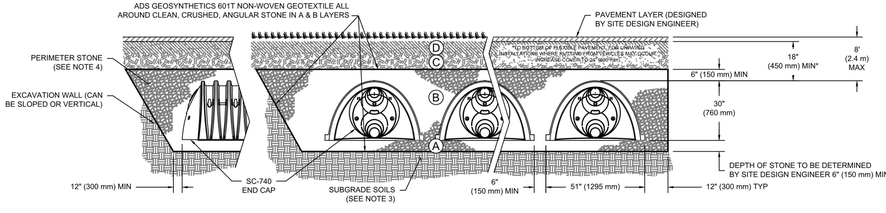
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

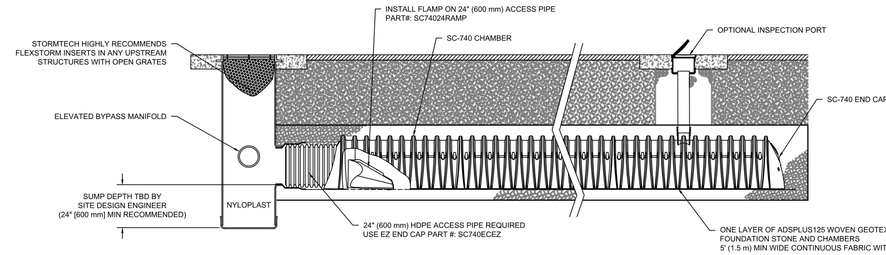
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



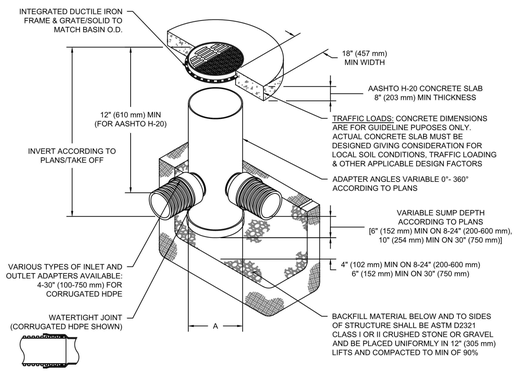
NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



SC-740 ISOLATOR ROW PLUS DETAIL
NTS

NYLOPLAST DRAIN BASIN
NTS

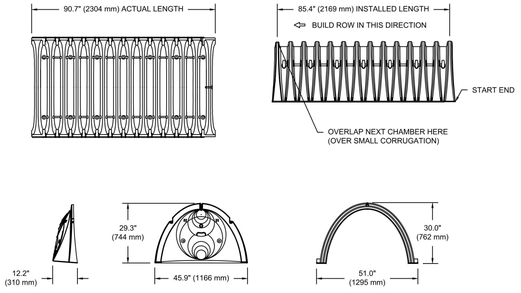


NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

SC-740 TECHNICAL SPECIFICATION
NTS

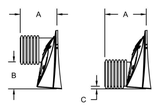


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE-FAB STUB AT BOTTOM OF END CAP WITH FLAMP END WITH "BR"
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"



PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740ECEZ*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740ECEZ THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROJECT # 21-29

Site Design Consultants
Civil Engineers • Land Planners
251-F Underhill Avenue, Yorktown Heights, NY 10598
(914) 962-4488 - Fax: (914) 962-7386
www.sitedesignconsultants.com

Engineer: Joseph Celeste Rault, P.E. NYS Lic. No. 64431

Revisions:

No.	Date	Comments:
1.	6/2/23	Town Comments

SCALE: N.T.S.
DRAWN BY: AB
DATE: 11/25/22

SITE PLAN
PREPARED FOR
Joseph & Celeste Rault
209 Bedford Banksville Road
Town of North Castle Westchester County, New York

Sheet 5 of 5

STORMWATER MANAGEMENT PLAN

Prepared for

Rault Residence
209 Bedford Banksville Road
Town of North Castle, NY

Prepared by:

Site Design Consultants
251F Underhill Avenue
Yorktown Heights, New York 10598
914-962-4488

Joseph C. Riina, P.E.
NYS Lic. No. 64431
CPESC No. 2670
CPSWQ No. 0073

June 12, 2023

STORMWATER MANAGEMENT PLAN

Prepared for

Rault Residence
209 Bedford Banksville Road
Town of North Castle, NY

Property Owner: Joseph & Celeste Rault
209 Bedford Banksville Road
Bedford, NY 10506

Site Engineer: Joseph C. Riina, P.E.
NYS Lic. No. 64431
CPESC No. 2670
CPSQW No. 0073

Site Design Consultants
251-F Underhill Avenue
Yorktown Heights, NY 10598
914-962-4488

June 12, 2023

Table of Contents

Appendices

Project Description

The subject property is located at 209 Bedford Banksville Road in the Town of North Castle, New York. The existing lot has an area of 6.02 acres and is zoned R-4A Single Family Residential. The project site is developed with an existing house, driveway, deck and pool. Coverage within the site consists of open lawn, landscaping, with shrubs and a watercourse located in the southwestern portion of the property. The property has slight to moderate slope in a southernly and westerly direction.

It is proposed to expand the current residence with three additions to the existing home increasing the impervious area by 12,812 sf. The existing driveway will be modified and expanded as shown in the plans. A stormwater management system is proposed to capture and retain the 25-year storm event.

The total disturbance proposed for the site will be 1.81 AC. This disturbance will be managed during construction by implementing this stormwater management plan which will control stormwater runoff and related erosion potential. During construction, temporary erosion and sediment control measures will be installed and maintained. After construction surface runoff will be drain to a subsurface chamber system.

The following Report and Plans describe in detail the design and implementation of the Stormwater Management Plan.

1.0 Site Hydrology

The proposed improvements will not significantly change the surface runoff patterns. The site is sloping downward from the front of the property to the back. Currently, the surface runoff pattern starts by the middle of the property and travels through the site, to a low point southwest of property. The majority of this area is lawn with a fair amount impervious surface from the existing residence and driveway.

Under the proposed condition the general direction of the surface runoff will not be altered. It is proposed that part of the surface runoff from the new impervious areas will be collected and retained up to and including the 25-year storm. The proposed improvements as shown will result in an increase in the imperviousness of the area. Therefore, there will be an increase in the volume of runoff generated by the project for a given rainfall event. This will be mitigated with the stormwater management system.

In the planning, design and construction of the development, stormwater will be managed to minimize or eliminate potential off-site impacts. The proper implementation of temporary sediment and erosion control measures are used to achieve this goal. Erosion and Sediment Control measures have been established and will be implemented during construction until the completion of the project. The Erosion and Sediment Control measures incorporate the sequence of construction and designed measures to be installed, operated, and maintained during all aspects of construction. The erosion and sediment control measures are designed in accordance with the NYS Standards and Specifications for Erosion and Sediment Control.

2.0 Soils

On-site soils were classified by using the USDA Natural Resources Conservation Service (NRCS) Websoil survey for Westchester County, NY, see Figure 4.1 – Soil Map.

The predominant soil type for this project is Charlton fine sandy loam, which has a hydrologic classification of "B". The erosion hazard level for these soil at the given slope is low. These soil properties are essential in the design and proper construction management of the site.

4.0 Stormwater Regulatory Requirements

Regulatory Obligation

Since the project disturbance is greater than one acre, the filing of a Notice of Intent with the NYS DEC for compliance with General Permit 0-20-001 is required. Therefore, the project needs to comply with the provisions of the NYSDEC and the Town of North Castle Chapter 267 Stormwater Management. This project as designed complies with the Town Code Chapter 267.

A stormwater analysis has been performed and Stormwater Management Systems have been designed to provide for water quality treatment and the retention of stormwater. The basis of analysis was to capture, treat and retain the 90% storm event with a runoff depth of 1.5" and to attenuate the 25-year storm which has a runoff depth of 6.5". The subsurface chambers have the capacity to retain and infiltrate the water quality volume with an overflow to retain the 25-year storm event in Stormtech infiltrator units.

5.0 Reducing Pollutant Impact

Stormwater Management During Construction

The Erosion and Sediment Control measures will be implemented during all phases of construction until the completion of the project. This will minimize or eliminate the potential short-term adverse impacts which may occur during construction. After completion, the erosion and sediment control will become a maintenance plan to ensure that permanent erosion and sediment controls continue to function and prevent the transport of sediments.

The plans include the Sequence of Construction and designed measures to be installed, operated and maintained during all aspects of construction. The appropriate measures were selected and detailed in plan for implementation by the site contractor. The main objective of the plan is to prevent erosion from occurring by stabilization of the construction site where possible. Sediment controls are to be used as a containment system to allow the removal of sediment from runoff to the greatest extent possible before leaving the work site. Control methods and standards utilized are provided in the NYS GUE&SC.

Prior to completion of the project, all permanent structural features will be cleaned, restored, and re-vegetated as necessary. The erosion and sediment control phase of the project is

complete when all work is completed, and all areas are stabilized. The post-construction Stormwater Management Inspection and Maintenance agreement will describe the long-term inspection schedule, periodic maintenance requirements, and the responsible party.

6.0 Methodology

To satisfy the requirements of the Town of North Castle standard practices have been selected. These practices meet either attenuation or water quality goals. The practices selected and the sizing analyses are found in Chapter 6 of the NYS DEC Stormwater Management Design Manual January, 2015.

7.0 Hydrologic Analysis

A hydrologic analysis was performed for the area of interest or subject to development site for existing and proposed conditions. For the purpose of this analysis the existing and proposed conditions were compared to determine the increase in runoff volume to be controlled. The method used to compute project runoff was the Soil Conservation Service TR-55. The basis for the analysis was the Type III, 24-hour storm, for the 25-year storm event. The rainfall depth for the 25-year storm is 6.5 inches. The runoff coefficient "CN" and Time of Concentration for existing and post-development conditions were computed using Standard TR-55 criteria. The summary of the input can be found in Appendix C.

Under the proposed condition DA-2S, which includes the proposed structures has a total impervious area of 26,976 SF and a CN number of 98. Runoff from this area will drain to the proposed subsurface chambers which have been designed to receive the 25 year storm event. The area which the Stormtech units are to be placed meet the minimum criteria for infiltration.

The contributing watershed is limited to the project site with the design point which is the lowest point of the site where all of the current surface runoff flows to. The following table summarizes the runoff calculations shown in Appendix C.

Drainage Summary:

Storm Frequency	Existing, cfs	Proposed, cfs	Net Change, cfs	% Change
25 year	3.63	2.82	-0.81	-23.31%

The peak rate of discharge from the 24-hour rainfall for each rainfall event shows no increase over the existing condition; therefore, there are no downstream impacts associated with this project. The Stormtech units have been sized to attenuate peak flows from the 25-year.

8.0 Selected Stormwater Management Practices (SMPs)

Since the only requirement is the attenuation of the increase in stormwater runoff during the 25-year storm event most of the runoff from the impervious areas is being collected and detained with a controlled release with no increase in peak runoff over existing conditions.

The selected practices are as follows:

Infiltration – (I-3) NYS DEC SMDM:

Stormwater Infiltration Practices capture and temporarily store stormwater. The stormwater is then infiltrated into the existing soil strata over an extended period of time allowing recharge into the groundwater.

Required Elements:

Pre-Treatment Volume	
Required	Provided
If Fc for underlying soils is less than 2.0 in/hr minimum pre-treatment volume of 25% is required.	N/A
If Fc for underlying soil greater than 2.0 in/hour, minimum pretreatment volume of 50% is required	50%
If Fc for underlying soil greater than 5.0 in/hour,100% of WQv must be pretreated	100%
Exit velocities from pretreatment volume shall be non-erosive (3.5 to 5.0 fps) during the 2-year storm event	Exit velocities are not a concern since there are no significant surface discharges.

Treatment Volume	
Required	Provided
Infiltration practice designed to exfiltrate entire WQv through floor of practice (side walls not included in sizing);	All criteria have been met. The subsurface infiltration system has been designed to exfiltrate the entire WQv and has been sized based solely on the surface area of the bottom.
Installation shall carefully follow the construction sequence.	All criteria have been met. The surface infiltration system has been designed to exfiltrate the entire WQv and has been sized based solely on the surface

	area of the bottom.
The surface area of the infiltration practice shall be sized based on Ap = Vw / ndt Ap = surface area (SF) Vw = Water Quality Volume (cf) n = porosity (one used since open cavity) dt = depth of practice	All criteria have been met. The surface infiltration system has been designed to exfiltrate the entire WQv and has been sized based solely on the surface area of the bottom.

See Routing Calculations in Appendix C for calculations.

9.0 Stormwater Management Practice Justification and Design

The selection of the management practice was based on evaluating the site to determine what would best fit the conditions providing maximum benefits. The goal was to select practices which would meet treatment and attenuation standards and minimize the disturbance footprint. The selection of Stormwater Practices was based on the surface and subsurface conditions of the site. In addition, the site design concept is to create a natural and environmentally sensitive setting. The well-drained soils made it very clear that infiltration was a possible practice. Therefore, a Rain Garden was selected for its low profile and aesthetically appealing qualities. These calculations are located in Appendix C.

10.0 Erosion and Sediment Control Selection

Silt / Sediment Fence:

Silt fence has been specified to control and contain sediment from leaving areas under disturbance to undisturbed areas. The type, placement, and installation shall meet the requirements of the NYSGUESC. The fence shall be installed as best as possible following the contours and will be spaced in accordance with the same criteria. The fence will be inspected daily, repaired, and sediment removed. The location and details can be found on the site plan.

Soil Stockpile:

Areas are provided for temporary stockpiling of delivered soil material for the construction. These areas will be contained with sediment fence to prevent the movement of sediment. The stockpiles if not active for less than 14 days will be seeded and mulched. The stockpile areas were placed to best suit the proposed construction activity. The stockpile will be installed as described in the Construction Sequence. The location and detail can be found on the site plan.

Temporary and Permanent Vegetative Cover:

Disturbed areas that will not contain structures or other improvements must be stabilized. The stabilization may be temporary and in other cases permanent vegetative cover. The vegetative cover specifications are based on the NYS ES&C Manual. On the Construction Plans are notes, locations, and specifications as to the vegetative cover requirements. In the notes, there are specific situations and time constraints related to stabilization of disturbed areas. The specifications give seed and fertilizer mixes as well as placement.

11.0 Construction Sequence

A key object of the SWPPP is to reduce erosion and sedimentation potentials for the project. The construction sequence was developed to assist the site contractor. Its intent is to coordinate the installation of E&SCs with the site disturbing activities as a means to minimize the adverse impacts of the site work.

Construction Sequence

1. Prior to the beginning of any site work the major features of the construction must be field staked by a licensed surveyor. These include the proposed addition, limits of disturbance, and Stormwater practices.
2. Prior to commencement of work, an on-site preconstruction meeting will be held. This will be attended by the Owner responsible for any fines or penalties, the Operator responsible for complying with the approved construction drawings including the E&SC plan and details, the Environmental Planner responsible for E&SC monitoring during construction, town representatives from the Engineering Department and Code Enforcement.
3. Temporary erosion and sediment controls (E&SCs) as shown on the approved construction drawings shall be installed as detailed.
4. Remove existing vegetative cover and other surface features in the limit of construction.
5. Excavate for the house addition construction. Upon completion of foundation backfill and grade area around the foundation walls.
6. Install subsurface chambers and drainage structures. Entry to the system shall be blocked until the site has reached final stabilization.
7. Install underground services to house.
8. Install final plantings.
9. Topsoil, rake, seed and mulch all disturbed areas.
10. Upon stabilization of all disturbed areas and approval from the Town representative remove all temporary erosion and sediment control

The Construction Sequence is also shown on the E&SC Notes and Details. A signature line for the Owner and Operator, if different, to certify that they have read, understand and agree to follow the Site Development, including the Construction Sequence and Erosion and Sedimentation Control Plan.

Responsible Party during and after Construction:

Joseph & Celeste Rault
209 Bedford Banksville Road
Bedford, NY 10506

12.0 Maintenance of Stormwater Management Practices During Construction

Regular site inspections will be performed by the Town or certified inspector throughout the construction of the project. Inspections will be made weekly and after major rainfall events, i.e. ½" or greater. A report will be made of each inspection.

13.0 Maintenance of Stormwater Management Practices After Construction

This will be clearly detailed in the Stormwater Management Inspection and Maintenance Agreement. These responsibilities will reside with the Town.

The following is the proposed Inspection and Maintenance Schedule:

Control to be Inspected	Inspection Frequency	Maintenance Threshold Criteria	Maintenance Procedure
Subsurface Infiltration	Bi-annually	3"+ accumulated sediment	JetVac debris and sediment. Replace gravel surface when necessary.

Drain Inlets:

Access through grate structure and remove debris and sediment with hand tools.

In General:

- Controls should be inspected periodically for the first few months after construction and on a semi-annual basis thereafter. They should also be inspected after major storm events (greater than 0.5 inches).
- All stormwater controls shall be inspected and cleaned of any debris or sediment.
- Any erosion shall be repaired and stabilized with seeding and mulch or stone.

Please note that additional notes regarding maintenance activities are contained on the project Construction Drawings and should be adhered to during and after construction.

15.0 Conclusion

The Stormwater Management Plan has been established for this project in accordance with the requirements of Town of North Castle Code Chapter 267 Stormwater Management. This plan will effectively control stormwater generated by this project during and after construction. The management of the stormwater is based on controlling increases in peak runoff as well as water quality. The design of the water quality component not only will treat runoff due to the project, but also that which is currently not treated. Overall, it would improve even the existing conditions.

The effectiveness of the stormwater practices selected in design will be insured by implementing a maintenance plan. The maintenance plan details specific activities, safeguards and provisions to be monitored and performed by specified frequencies. By adhering to the maintenance plan, optimum performance of the stormwater practices can be expected.

In conclusion, the Stormwater Management System will not create negative downstream impacts as a result of this project.

November 22nd, 2022

Joseph C. Riina, P.E.
NYS License No. 64431

Figures

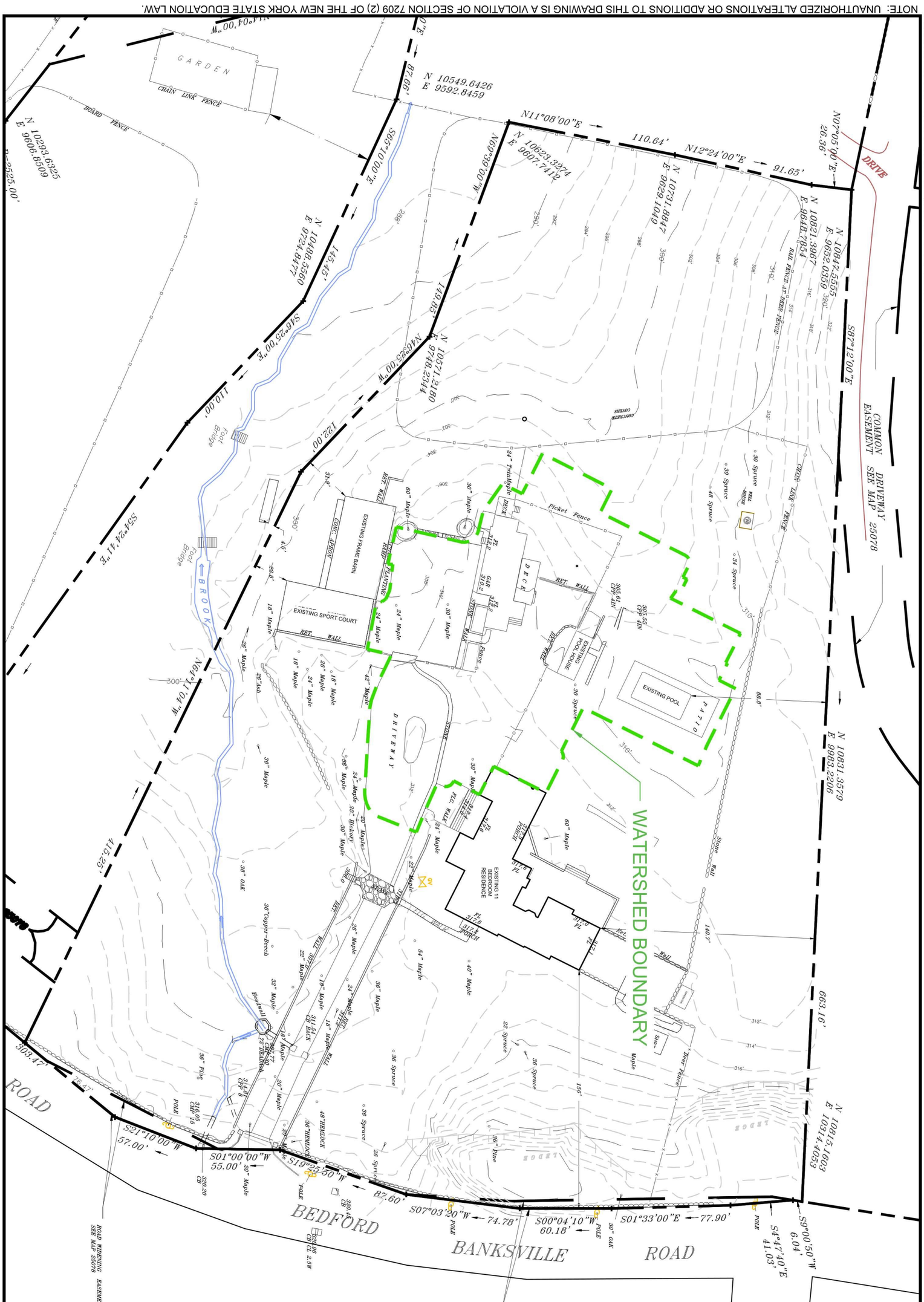


FIG 1A. PRE DEVELOPMENT CONDITION WATERSHED

PREPARED FOR

JOSEPH & CELESTE RAULT

Town of North Castle — Westchester County, New York

Site Design Consultants

Civil Engineers • Land Planners

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www.sitedesignconsultants.com

DATE: 6/09/23
REVISED:

FIG 1B. POST DEVELOPMENT CONDITION WATERSHED

PREPARED FOR

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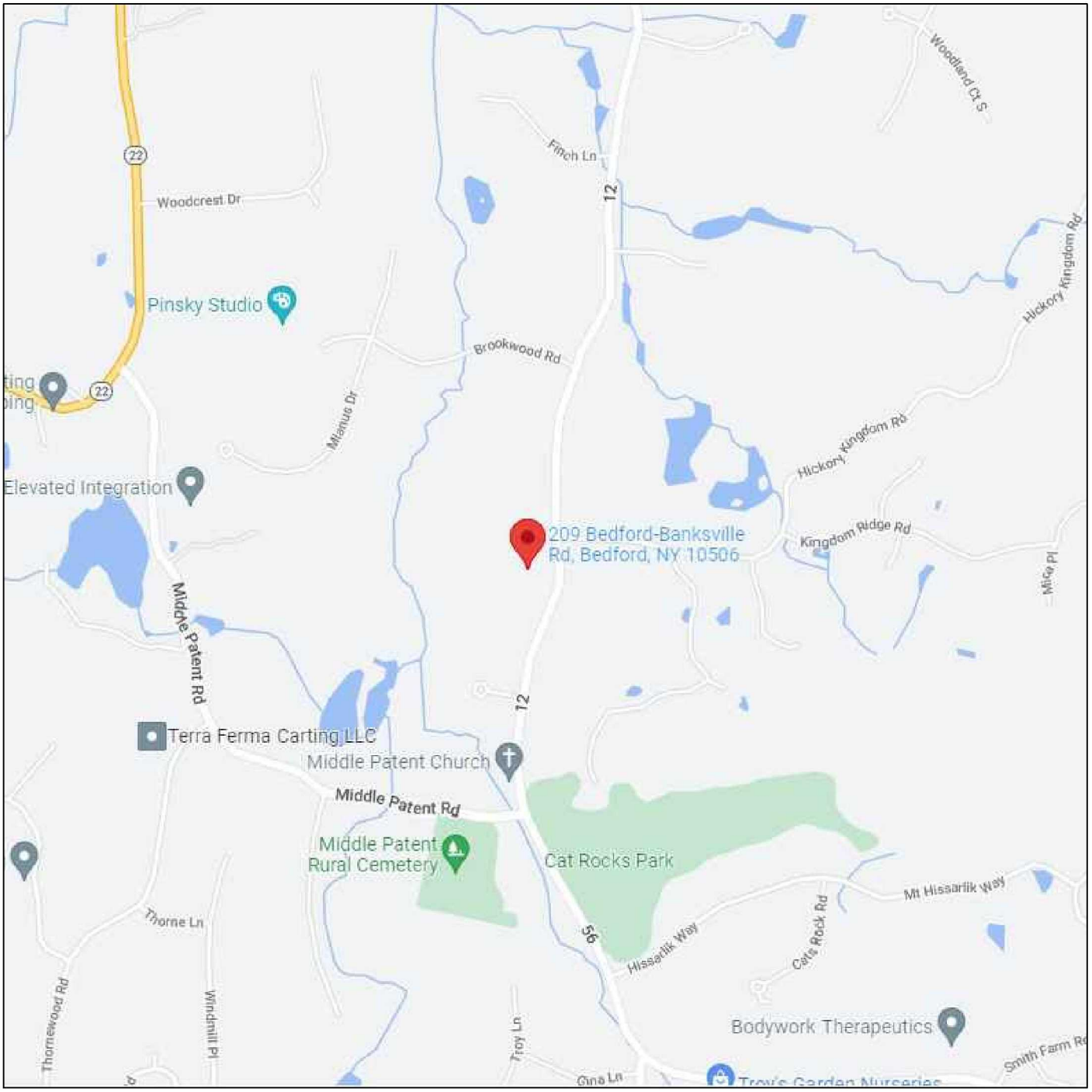
DATE: 6/09/2021
REVISED: 9/21/2021



NOTE:
1. Google Maps

FIG 1.1 Location Map

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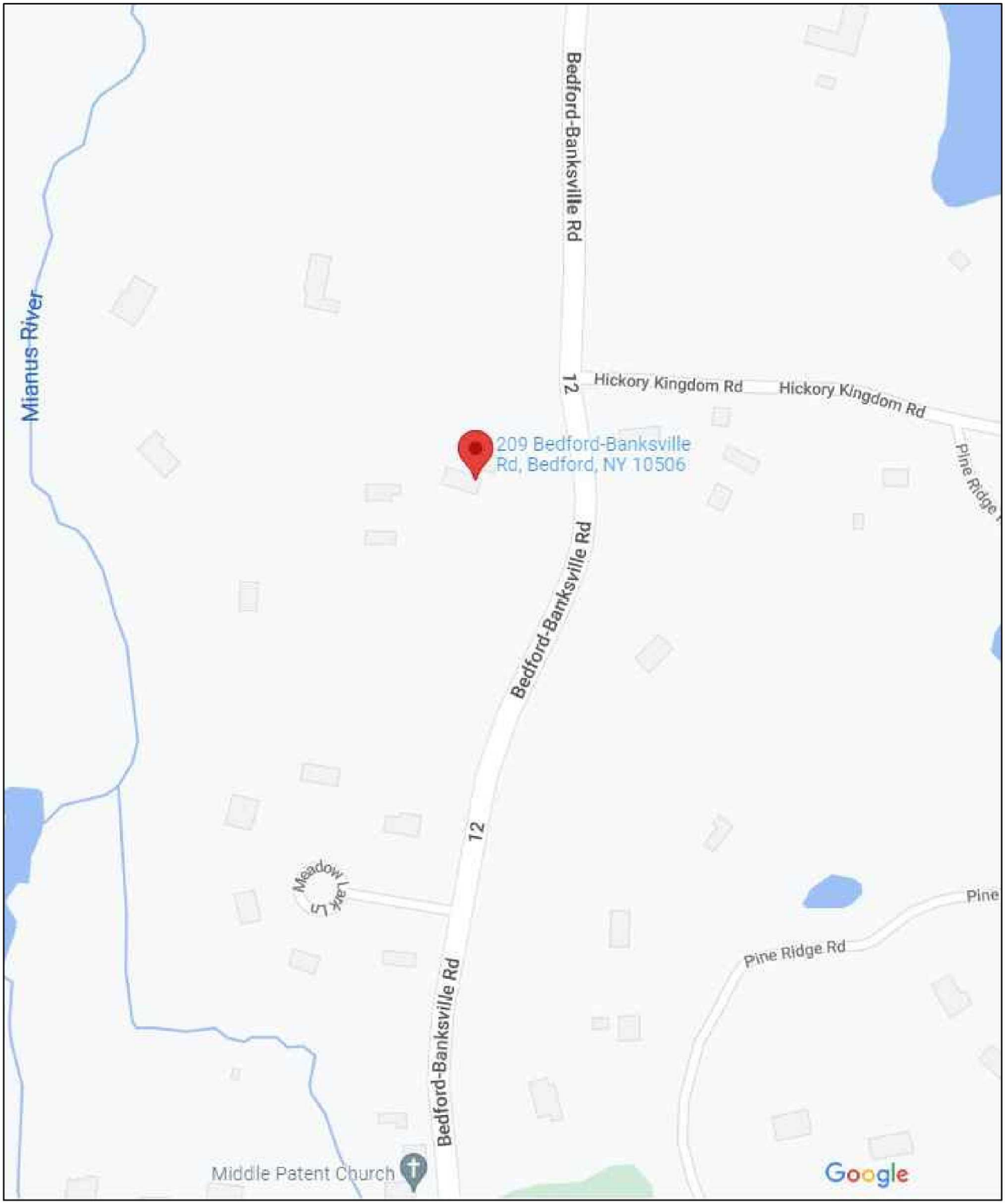
NOT TO SCALE
DATE:7/11/2022



NOTE:

1. Map Source: Google Maps.

FIG 1.2 Vicinity Map

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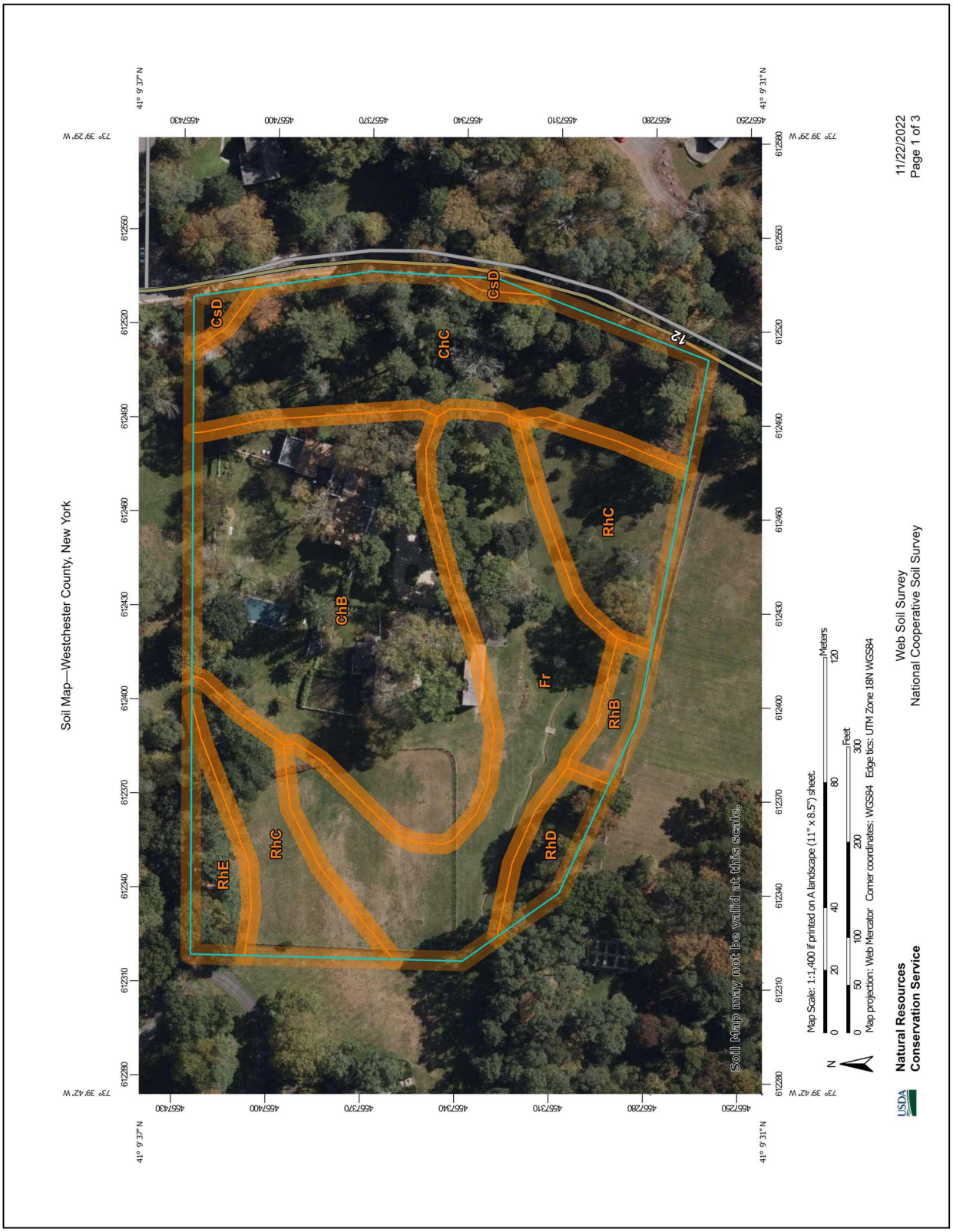

NOTE:

1. Map Source: USDA National Resources Conservation Service, National Cooperative Soil Survey, Web Soil Survey Map.

FIG 4.1 Soils Map

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NOTE:

1. Map Source: USDA National Resources Conservation Service, National Cooperative Soil Survey, Web Soil Survey Map.

FIG 4.1 Soils Map

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	2.4	32.0%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	1.6	21.2%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	0.1	0.9%
Fr	Fredon silt loam	1.7	23.1%
RhB	Riverhead loam, 3 to 8 percent slopes	0.1	1.9%
RhC	Riverhead loam, 8 to 15 percent slopes	1.1	14.9%
RhD	Riverhead loam, 15 to 25 percent slopes	0.2	2.7%
RhE	Riverhead loam, 25 to 50 percent slopes	0.2	3.3%
Totals for Area of Interest		**7.5**	**100.0%**

NOTE:
1. Map Source: USDA National Resources Conservation Service, National Cooperative Soil Survey, Web Soil Survey Map.

FIG 4.1 Soils Map

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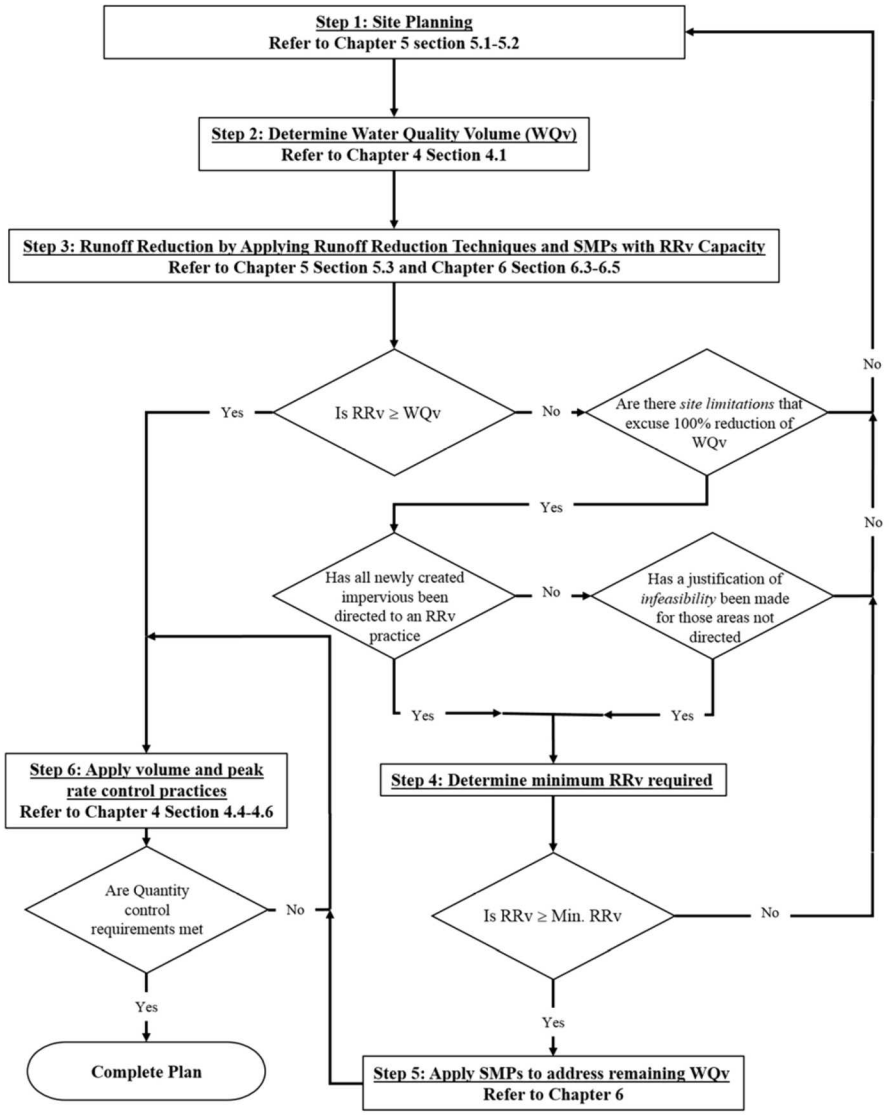
New York State Stormwater Management Design Manual
Chapter 3: Stormwater Management Planning
Section 3.6 The Six Step Process for Stormwater Site Planning and Practice Selection

Figure 3.1: Stormwater Site Planning and Practice Selection Flow Chart



NOTE:
1. Source: NYS DEC Stormwater Design Manual - August 2010

FIGURE 3.1 - Stormwater Site Planning and Practice Selection Flow Chart

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Table 5.3 Soil Restoration Requirements

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
Areas where topsoil is stripped only - no change in grade	HSG A &B	HSG C&D	Protect area from any ongoing construction activities.
	apply 6 inches of topsoil	Aerate* and apply 6 inches of topsoil	
Areas of cut or fill	HSG A &B	HSG C & D	
	Aerate and apply 6 inches of topsoil	Apply full Soil Restoration **	
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls)	Apply full Soil Restoration (de-compaction and compost enhancement)		
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.		Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.		

*Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.

** Per "Deep Ripping and De-compaction, DEC 2008".

Using this Practice

During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:

1) Apply 3 inches of compost over subsoil

NOTE:
1. Map Source: USDA National Resources Conservation Service, National Cooperative Soil Survey, Web Soil Survey Map.

FIG 8.1 Soil Restoration

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Appendix A

List of Approvals and Applications:

Town of North Castle Building Permit – approvals pending
Town of North Castle Stormwater Management Control Permit
NYSDEC-Notice of Intent

Appendix B

Town of North Castle Code Chapter 267 Stormwater Management

Chapter 267

STORMWATER MANAGEMENT

[HISTORY: Adopted by the Town Board of the Town of North Castle 12-19-2007 by L.L. No. 22-2007 (Ch. 173 of the 1987 Code). Amendments noted where applicable.]

GENERAL REFERENCES

Building code administration and enforcement — See Ch. 127.

Excavations — See Ch. 157.

Filling and grading — See Ch. 161.

Flood damage prevention — See Ch. 177.

Sewers — See Ch. 250.

Subdivision of land — See Ch. 275.

Water — See Ch. 336.

Wetlands and watercourses — See Ch. 340.

Zoning — See Ch. 355.

ARTICLE I
Stormwater Management and Erosion and Sediment Control

§ 267-1. Title.

This chapter shall be known and cited as the "Stormwater Management, Erosion and Sediment Control Law and Illicit Discharges, Activities and Connections to Separate Storm Sewer System of the Town of North Castle."

§ 267-2. Statutory authority.

In accordance with § 10 of the Municipal Home Rule Law of the State of New York, the Town Board of North Castle has the authority to enact local laws and amend local laws for the purpose of promoting the health, safety or general welfare of the Town of North Castle and for the protection and enhancement of its physical environment. The Town Board of North Castle may include in any such local law provisions for the appointment of any municipal officer, employees or independent contractor to effectuate, administer and enforce such local law.

§ 267-3. Findings; purpose; applicability; exemptions.

A. Findings. The Town Board of the Town of North Castle hereby finds that:

(1) Land development activities and associated increases in site impervious cover often alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, or sediment transport and deposition.

(2) This stormwater runoff contributes to increased quantities of waterborne pollutants, including siltation of aquatic habitat for fish and other desirable species.

(3) Clearing and grading during construction tends to increase soil erosion and add to the loss of native vegetation necessary for terrestrial and aquatic habitat.

(4) Improper design and construction of stormwater management practices can increase the velocity of stormwater runoff, thereby increasing stream bank erosion and sedimentation.

(5) Impervious surfaces allow less water to percolate into the soil, thereby decreasing groundwater recharge and stream base flow.

(6) Substantial economic losses can result from these adverse impacts on the waters of the municipality.

(7) Stormwater runoff, soil erosion and nonpoint source pollution can be controlled and minimized through the regulation of stormwater runoff from land development activities.

(8) The regulation of stormwater runoff discharges from land development activities in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion, stream channel erosion, and nonpoint source pollution associated with stormwater runoff is in the public interest and will

minimize threats to public health and safety.

(9) Regulation of land development activities by means of performance standards governing stormwater management and site design will produce development compatible with the natural functions of a particular site or an entire watershed and thereby mitigate the adverse effects of erosion and sedimentation from development.

B. Purpose. The purpose of this chapter is to establish minimum stormwater management requirements and controls to protect and safeguard the general health, safety and welfare of the public residing within this jurisdiction and to address the findings of fact identified in § 267-3 of this chapter. This chapter seeks to meet those purposes by achieving the following objectives:

(1) Meet the requirements of Minimum Control Measures four and five of the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit No. GP-15-003, or as amended or revised; **[Amended 11-18-2015 by L.L. No. 9-2015]**

(2) Require land development activities to conform to the substantive requirements of the New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities, Permit No. GP-15-002, or as amended or revised; **[Amended 11-18-2015 by L.L. No. 9-2015]**

(3) Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature and stream bank erosion and maintain the integrity of stream channels;

(4) Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality;

(5) Minimize the total annual volume of stormwater runoff which flows from any specific site during and following development to the maximum extent practicable; and

(6) Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.

C. Applicability.

(1) This chapter shall be applicable to all land development activities as defined in § 267-4B of this chapter.

(2) The municipality shall designate a Stormwater Management Officer (SMO), who shall accept and review all stormwater pollution prevention plans and forward such plans to the applicable municipal board. The Stormwater Management Officer may:

(a) Review the plans.

(b) Upon approval by the Town Board of the Town of North Castle, engage the services of a registered professional engineer to review the plans, specifications and related documents.

(3) All land development activities subject to review and approval by the applicable board of the Town of North Castle under subdivision, site plan and/or special permit regulations shall be reviewed subject to the standards contained in this chapter.

(4) All land development activities not subject to review as stated in § 267-3C(3) of this chapter shall be required to submit a stormwater pollution prevention plan (SWPPP) to the Stormwater Management Officer, who shall approve the SWPPP if it complies with the requirements of this chapter.

(5) The provisions of this chapter shall not apply to any project that has been physically completed prior to the effective date of this chapter. **[Added 11-18-2015 by L.L. No. 9-2015]**

(6) A project that was approved prior to the effective date of this chapter, but which is not in conformity with the provisions of this chapter, may be continued, subject to the following: **[Added 11-18-2015 by L.L. No. 9-2015]**

(a) All such activities shall continue to be governed by the present regulations of the Town of North Castle.

(b) No such activity shall be expanded, changed, enlarged or altered without compliance with this chapter.

(c) If such activity is discontinued for 12 consecutive months, any resumption of the activity shall conform to this chapter.

(d) If any use or activity is destroyed by human activities, a force of nature or an act of God, it shall not be resumed except in conformity with the provisions of this chapter.

D. Exemptions.

(1) Repairs to any stormwater management practice or facility deemed necessary by the Stormwater Management Officer.

(2) Any part of a subdivision if a plat for the subdivision has been approved by the Town of North Castle on or before the effective date of this chapter.

(3) Land development activities for which a building permit has been approved on or before the effective date of this chapter.

(4) Cemetery graves.

(5) Installation of fence, sign, telephone and electric poles and other kinds of posts or poles.

(6) Emergency activity immediately necessary to protect life, property or natural

resources.

(7) Activities of an individual engaging in home gardening by growing flowers, vegetables and other plants primarily for use by that person and his or her family.

(8) Landscaping and horticultural activities in connection with an existing structure.

§ 267-4. Definitions and word usage.

A. Unless specifically defined below, words and phrases used in this chapter shall be interpreted to have the meaning they have in common English usage, to give effect to the purpose set forth in § 267-3B, and to provide reasonable application of this chapter.

B. As used in this chapter, the following terms shall have the meanings indicated:

AGRICULTURAL ACTIVITY — The activity of an active farm, including grazing and watering livestock, irrigating crops, harvesting crops, using land for growing agricultural products, and cutting timber for sale, but shall not include the operation of a dude ranch or similar operation or the construction of new structures associated with agricultural activities.

APPLICANT — A property owner or agent of a property owner who has filed an application for a land development activity.

BEST MANAGEMENT PRACTICES (BMPs) — Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters or stormwater conveyance systems. BMPs also include treatment practices, operating procedures and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

BUILDING — Any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal or property, and occupying more than 100 square feet of area.

CHANNEL — A natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

CLEAN WATER ACT — The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

CLEARING — Any activity that removes the vegetative surface cover.

CONSTRUCTION ACTIVITY — Activity requiring authorization under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, GP-15-002, as amended or revised. These activities include construction projects resulting in land disturbance of one or more acres. Such activities include, but are not limited to, clearing and grubbing, grading, excavating and demolition.**[Amended 11-18-2015 by L.L. No. 9-2015]**

DEDICATION — The deliberate appropriation of property by its owner for general public use.

DEPARTMENT — The New York State Department of Environmental Conservation.

DESIGN MANUAL — The New York State Stormwater Management Design Manual, most recent version, including applicable updates, that serve as the official guide for stormwater management principles, methods and practices.

DEVELOPER — A person who undertakes land development activities.

EROSION CONTROL MANUAL — The most recent version of the New York Standards and Specifications for Erosion and Sediment Control manual, commonly known as the "Blue Book."

GREEN INFRASTRUCTURE PRACTICE — As set forth in Chapter 5 of the New York State Stormwater Management Design Manual.**[Added 11-18-2015 by L.L. No. 9-2015]**

GRADING — Excavation or fill of material, including the resulting conditions thereof.

HAZARDOUS MATERIAL — Any material, including any substance, waste or combination thereof, which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or significantly contribute to a substantial present or potential hazard to human health, safety, property or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

ILLICIT CONNECTION — Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the MS4, including but not limited to:

(1) Any conveyances which allow any nonstormwater discharge, including treated or untreated sewage, process wastewater and wash water, to enter the MS4 and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted or approved by an authorized enforcement agency; or

(2) Any drain or conveyance connected from a commercial or industrial land use to the MS4 which has not been documented in plans, maps or equivalent records and approved by an authorized enforcement agency.

ILLICIT DISCHARGE — Any direct or indirect nonstormwater discharge to the MS4, except as exempted in § 267-12 of this chapter.

IMPERVIOUS COVER — Those surfaces, improvements and structures that cannot effectively infiltrate rainfall, snowmelt and water (e.g., building rooftops, pavement, sidewalks, driveways, etc.).

INDUSTRIAL ACTIVITY — Activities requiring the NYSDEC SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, GP-0-12-001, as amended or revised.**[Amended 11-18-2015 by L.L. No. 9-2015]**

INDUSTRIAL STORMWATER PERMIT — A State Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries, which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

INFILTRATION — The process of percolating stormwater into the subsoil.

JURISDICTIONAL WETLAND — An area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as "hydrophytic vegetation."

LAND DEVELOPMENT ACTIVITY — Construction activity, including clearing, grubbing, grading, filling, excavating or stockpiling activities, that results in soil disturbance equal to or greater than 5,000 square feet. Clearing activities include, but are not limited to, logging equipment operations, the cutting and skidding of trees, and stump removal and/or brush root removal. Land development activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility.**[Amended 11-18-2015 by L.L. No. 9-2015]**

LANDOWNER — The legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

LARGER COMMON PLAN OF DEVELOPMENT OR SALE — A contiguous area where multiple separate and distinct land development activities are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) application, zoning request, computer design, etc.) or physical demarcation (including signs, lot stakes, surveyor markings, etc.) indicating that land development activities may occur on a specific plot. For discrete construction projects that are located within a "larger common plan of development or sale" that are at least 1/4 mile apart, each activity can be treated as a separate plan of development or sale, provided any interconnecting road, pipeline or utility project that is part of the same common plan is not concurrently being disturbed.**[Added 11-18-2015 by L.L. No. 9-2015]**

MAINTENANCE AGREEMENT — A legally recorded document that acts as a property deed restriction and which provides for long-term maintenance of stormwater management practices.

MS4 — Municipal separate storm sewer system.

MUNICIPALITY — The Town of North Castle.

MUNICIPAL SEPARATE STORM SEWER SYSTEM — A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains):

(1) Owned or operated by the Town of North Castle;

(2) Designed or used for collecting or conveying stormwater;

(3) Which is not a combined sewer; and

(4) Which is not part of a publicly owned treatment works (POTW) as defined at 40 CFR 122.2.

NONPOINT SOURCE POLLUTION — Pollution from any source other than from any discernible, confined and discrete conveyances and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

NONSTORMWATER DISCHARGE — Any discharge to the MS4 that is not composed entirely of stormwater.

PERSON — Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

PHASING — Clearing a parcel of land in distinct pieces or parts, with the stabilization of each piece completed before the clearing of the next.

POINT SOURCE POLLUTION — Pollution from a single identifiable localized source, typically a discernible, confined and discrete conveyance.**[Added 11-18-2015 by L.L. No. 9-2015]**

POLLUTANT — Dredged spoil, filter backwash, solid waste, incinerator residue, treated or untreated sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water, which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards.

POLLUTANT OF CONCERN — Sediment or a water quality measurement that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the land development activity.

PREMISES — Any building, lot, parcel of land or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips.

PROJECT — Land development activity.

QUALIFIED INSPECTOR — A person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed professional engineer, certified professional in erosion and sediment control (CPESC), registered landscape architect, or other NYSDEC endorsed individual(s). It can also mean someone working under the direct supervision of, and at the same company as, the licensed professional engineer or registered landscape architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed professional engineer or registered landscape architect has received four hours of NYSDEC endorsed training in proper erosion and sediment control principles every three years.**[Added 11-18-2015 by L.L. No. 9-2015]**

QUALIFIED PROFESSIONAL — A person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a

licensed professional engineer, registered landscape architect or other NYSDEC endorsed individual(s). Individuals preparing SWPPPs that require post-construction stormwater management practices must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design and, in many cases, the principles of hydraulics, in order to prepare a SWPPP that conforms to the NYSDEC's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the New York State Education Law, shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.**[Added 11-18-2015 by L.L. No. 9-2015]**

RECHARGE — The replenishment of underground water reserves.

SEDIMENT CONTROL — Measures that prevent eroded sediment from leaving the site.

SENSITIVE AREAS — Cold-water fisheries, shellfish beds, swimming beaches, groundwater recharge areas, water supply reservoirs, habitats for threatened, endangered or special concern species.

SPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES GP-15-002 — A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to developers of construction activities to regulate disturbance of one or more acres of land, or 5,000 square feet or more within the New York City east of Hudson Watershed.**[Amended 11-18-2015 by L.L. No. 9-2015]**

SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM MUNICIPAL SEPARATE STORMWATER SEWER SYSTEMS GP-15-003 — A permit under the New York State Pollutant Discharge Elimination System (SPDES) issued to municipalities to regulate discharges from municipal separate storm sewers for compliance with EPA-established water quality standards and/or to specify stormwater control standards.**[Amended 11-18-2015 by L.L. No. 9-2015]**

SPECIAL CONDITION —

(1) Discharge compliance with water quality standards: the condition that applies where a municipality has been notified that the discharge of stormwater authorized under its MS4 permit may have caused or has the reasonable potential to cause or contribute to the violation of an applicable water quality standard. Under this condition, the municipality must take all necessary actions to ensure future discharges do not cause or contribute to a violation of water quality standards.

(2) Section 303(d)-listed waters: the condition in the municipality's MS4 permit that applies where the MS4 discharges to a 303(d)-listed water. Under this condition, the stormwater management program must ensure no increase of the listed pollutant of concern to the 303(d)-listed water.

(3) Total maximum daily load (TMDL) strategy: the condition in the municipality's MS4 permit where a TMDL including requirements for control of stormwater discharges has been approved by the EPA for a water body or watershed into which the MS4 discharges. If the discharge from the MS4 did not meet the TMDL stormwater allocations prior to September 10, 2007, the municipality was required to modify its stormwater management program to

ensure that reduction of the pollutant of concern specified in the TMDL is achieved.

(4) The condition in the municipality's MS4 permit that applies if a TMDL is approved in the future by the EPA for any water body or watershed into which an MS4 discharges. Under this condition, the municipality must review the applicable TMDL to see if it includes requirements for control of stormwater discharges. If an MS4 is not meeting the TMDL stormwater allocations, the municipality must, within six months of the TMDL's approval, modify its stormwater management program to ensure that reduction of the pollutant of concern specified in the TMDL is achieved.

303(D) LIST — A list of all surface waters in the state for which beneficial uses of the water (drinking, recreation, aquatic habitat and industrial use) are impaired by pollutants, prepared periodically by the Department as required by Section 303(d) of the Clean Water Act. Section 303(d)-listed waters are estuaries, lakes and streams that fall short of state surface water quality standards and are not expected to improve within the next two years.

STABILIZATION — The use of practices that prevent exposed soil from eroding.

STABILIZED — That all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a minimum density of 80% over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock riprap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.**[Added 11-18-2015 by L.L. No. 9-2015]**

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) STORMWATER DISCHARGE PERMIT — A permit issued by the Department that authorizes the discharge of pollutants to waters of the state.

STOP-WORK ORDER — An order issued which requires that all construction activity on a site be stopped.

STORMWATER — Rainwater, surface runoff, snowmelt and drainage.

STORMWATER HOT SPOT — A land use or activity that generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical stormwater runoff, based on monitoring studies.

STORMWATER MANAGEMENT — The use of structural or nonstructural practices that are designed to reduce stormwater runoff and mitigate its adverse impacts on property, natural resources and the environment.

STORMWATER MANAGEMENT FACILITY — One or a series of stormwater management practices installed, stabilized and operating for the purpose of controlling stormwater runoff.

STORMWATER MANAGEMENT OFFICER (SMO) — An employee or officer designated by the municipality to accept and review stormwater pollution prevention plans, forward the plans to the applicable municipal board and inspect stormwater management practices. In addition, the SMO enforces the prohibition of illicit discharges, activities and connections to the separate storm sewer system.

STORMWATER MANAGEMENT PRACTICES (SMPS) — Measures, either

structural or nonstructural, that are determined to be the most-effective practical means of preventing flood damage and preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) — A plan for controlling stormwater runoff and pollutants from a site during and after construction activities, prepared in conformance with this chapter, the SPDES General Permit for Construction Activities, and applicable NYSDEC technical standards.**[Amended 11-18-2015 by L.L. No. 9-2015]**

STORMWATER RUNOFF — Flow on the surface of the ground, resulting from precipitation.

SURFACE WATERS OF THE STATE OF NEW YORK — Lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial seas of the State of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Storm sewers and waste treatment systems, including treatment ponds or lagoons which also meet the criteria of this definition, are not waters of the state. This exclusion applies only to man-made bodies of water which neither were originally created in waters of the state (such as a disposal area in wetlands) nor resulted from impoundment of waters of the state.

TMDL — Total maximum daily load.

TOTAL MAXIMUM DAILY LOAD — The maximum amount of a pollutant to be allowed to be released into a water body so as not to impair uses of the water, allocated among the sources of that pollutant.

TRAINED CONTRACTOR — An employee from the contracting (construction) company that has received four hours of NYSDEC-endorsed training in proper erosion and sediment control principles. After receiving the initial training, the trained contractor shall receive four hours of training every three years. It can also mean an employee from the contracting (construction) company that meets the qualified inspector qualifications as defined herein.**[Added 11-18-2015 by L.L. No. 9-2015]**

WASTEWATER — Water that is not stormwater, is contaminated with pollutants, and is or will be discarded.

WATERCOURSE — A permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

WATERWAY — A channel that directs surface runoff to a watercourse or to the public storm drain.

§ 267-5. Stormwater pollution prevention plans. [Amended 11-18-2015 by L.L. No. 9-2015]

A. Stormwater pollution prevention plan requirement. No application for approval of a land development activity shall be reviewed until either the SMO or the

appropriate board has received a stormwater pollution prevention plan (SWPPP) prepared in accordance with the specifications in this chapter. For projects also requiring coverage under the SPDES General Permit for Construction Activities, applications must also be accompanied by all related NYSDEC forms and certifications.

B. All SWPPPs shall be prepared by a qualified professional, as defined in § 267-4 of this chapter.

C. All SWPPPs shall be prepared in conformance with this chapter, the SPDES General Permit for Construction Activities, and the NYSDEC technical standards, as applicable.

D. Contents of stormwater pollution prevention plans.

(1) All SWPPPs shall provide the following background information and erosion and sediment controls:

(a) Background information about the scope of the project, including location, type and size of project;

(b) Site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s);

(c) Description of the soil(s) present at the site;

(d) Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (Erosion Control Manual), not more than five acres shall be disturbed at any one time unless a greater amount is determined necessary pursuant to an approved SWPPP;

(e) Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;

(f) Description of construction and waste materials expected to be stored on site, with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;

(g) Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage

of the project, from initial land clearing and grubbing to project closeout;

(h) A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;

(i) Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;

(j) Temporary practices that will be converted to permanent control measures;

(k) Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and the duration that each practice should remain in place;

(l) Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;

(m) Name(s) of the receiving water(s);

(n) Delineation of SWPPP implementation responsibilities for each part of the site;

(o) Description of structural practices designed to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable;

(p) Any existing data that describes the stormwater runoff at the site; and

(q) Post-construction stormwater quantity and quality controls, at the discretion of the SMO and/or the Town Engineer, may be required.

(2) Post-construction stormwater management practice component.

(a) All construction projects identified as needing post-construction stormwater management practices pursuant to the SPDES General Permit for Construction Activities shall prepare a SWPPP that includes practices designed in conformance with the Design Manual, including green infrastructure practices, in addition to the items listed under § 267-5D(1) above. Where post-construction stormwater management practices are not designed in conformance with this technical standard, the applicant must demonstrate equivalence to the technical standard.

(b) At a minimum, the post-construction stormwater practice component of the SWPPP shall include the following:

[1] Identification of all post-construction stormwater management practices to be constructed as part of the project.

[2] Site map/construction drawing(s) showing the specific location(s) and size(s) of each post-construction stormwater management practice.

[3] Hydrologic and hydraulic analysis for all structural components of the stormwater management control system for the applicable design storms. The analysis shall include tributary area maps with two-foot contours for the predevelopment and post-development conditions.

[4] Detailed summary (including calculations) of the sizing criteria that was used to design all post-construction stormwater management practices. At a minimum, the summary shall address the required design criteria from the applicable chapter of the Design Manual; including the identification of and justification for any deviations from the Design Manual, and identification of any design criteria that are not required based on the design criteria or waiver criteria included in the Design Manual.

[5] Identification of any elements of the design that are not in conformance with the Design Manual. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the technical standards.

[6] Comparison of post-development stormwater runoff conditions with predevelopment conditions.

[7] Dimensions, material specifications and installation details for each post-construction stormwater management practice or facility.

[8] Site maps must include existing topography with two-foot contours, a proposed grading plan with a limit of disturbance line, and the calculated area of disturbance in acres.

[9] An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice or facility. The plan shall identify the entity that will be responsible for the long-term operation and maintenance of each practice.

[10] Maintenance easements to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property.

[11] Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management measures in accordance with § 267-7 of this chapter.

(3) Enhanced phosphorus. All projects that are required to conform to the Enhanced Phosphorus Removal Standards, pursuant to the SPDES General Permit for Construction Activities, shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice

component of the SWPPP shall include items D(2)(b)[1] through D(2)(b)[11] above.

E. Other environmental permits. The applicant shall assure that all other applicable environmental permits have been or will be acquired for the land development activity prior to approval of the final stormwater design plan.

F. Contractor certification.

(1) All certifications required pursuant to the SPDES General Permit for Construction Activities shall be submitted, endorsed and incorporated into the SWPPP.

(2) Each contractor and subcontractor identified in the SWPPP who will be responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP and the post-construction stormwater management practice installation must sign and date a copy of the following contractor certification statement before undertaking any land development activity: "I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") General Permit for Stormwater Discharges from Construction Activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

(3) The certification must include the name and title of the person providing the signature, address and telephone number of the contracting firm, the address (or other identifying description) of the site, and the date the certification is made.

(4) The certification statement(s) shall become part of the SWPPP for the land development activity.

G. A copy of the SWPPP shall be retained at the site of the land development activity during construction from the date of initiation of construction activities to the date of final stabilization.

§ 267-6. Performance and design criteria.

All land development activities shall be subject to the following performance and design criteria:

A. Technical standards. For the purpose of this chapter, the following documents shall serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed

by this chapter.

(1) The New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the "Design Manual").

(2) New York Standards and Specifications for Erosion and Sediment Control (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the "Erosion Control Manual").

B. Equivalence to technical standards. Where stormwater management practices are not in accordance with technical standards, the applicant or developer must demonstrate equivalence to the technical standards set forth in Subsection A of this section, and the SWPPP shall be prepared by a licensed professional.

C. Water quality standards. Any land development activity shall not cause an increase in turbidity that will result in substantial visible contrast to natural conditions in surface waters of the State of New York.

§ 267-7. Maintenance, inspection and repair of stormwater facilities.

A. Maintenance and inspection during construction. **[Amended 11-18-2015 by L.L. No. 9-2015]**

(1) Inspection requirements shall be as specified within the SPDES General Permit for Construction Activities.

(2) The applicant or developer of the land development activity or his or her representative shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the applicant or developer to achieve compliance with the conditions of this chapter. Sediment shall be removed from sediment traps or sediment ponds whenever their design capacity has been reduced by 50%.

(3) The applicant/developer must ensure that all erosion and sediment control practices and all post-construction stormwater management practices identified in the SWPPP are maintained in effective operating condition at all times.

(4) The applicant/developer shall inspect, in accordance with the requirements of the most current version of the Erosion Control Manual, the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating condition at all times. The applicant/ developer shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the trained contractor. The applicant/developer shall ensure that at least one trained contractor is on site on a daily basis when soil disturbance activities are being performed.

(5) For land development activities that disturb one or more acres of land, the

applicant shall have a qualified inspector conduct site inspections and document the effectiveness of all erosion and sediment control practices every seven calendar days. Inspection reports shall be prepared in compliance with standards outlined within the SPDES General Permit for Construction Activities. Inspection reports shall be maintained on site and copies furnished to the SMO upon request.

(6) Inspections of any post-construction stormwater management practice that includes structural components shall be performed by a New York State licensed professional engineer.

B. Maintenance easement(s). Prior to the issuance of any approval that has a stormwater management facility as one of the requirements, the applicant or developer must execute a maintenance easement agreement that shall be binding on all subsequent landowners served by the stormwater management facility. The easement shall provide for access to the facility at reasonable times for periodic inspection by the Town of North Castle to ensure that the facility is maintained in proper working condition to meet design standards and any other provisions established by this chapter. The easement shall be recorded by the grantor in the office of the County Clerk after approval by the North Castle Town Attorney.

C. Maintenance after construction. The owner or operator of permanent stormwater management practices installed in accordance with this chapter shall ensure they are operated and maintained to achieve the goals of this chapter. Proper operation and maintenance also includes, as a minimum, the following:

(1) A preventive/corrective maintenance program for all critical facilities and systems of treatment and control (or related appurtenances) which are installed or used by the owner or operator to achieve the goals of this chapter.

(2) Written procedures for operation and maintenance and training new maintenance personnel.

(3) Discharges from the SMPs shall not exceed design criteria or cause or contribute to water quality standard violations in accordance with § 267-6C of this chapter.

D. Maintenance agreements. The Town of North Castle shall approve a formal maintenance agreement for stormwater management facilities binding on all subsequent landowners and recorded in the office of the County Clerk as a deed restriction on the property prior to final plan approval. The maintenance agreement shall be consistent with the terms and conditions of the Town of North Castle Stormwater Control Facility Maintenance Agreement on file with the Town Attorney. The Town of North Castle, in lieu of a maintenance agreement, at its sole discretion, may accept dedication of any existing or future stormwater management facility, provided such facility meets all the requirements of this chapter and includes adequate and perpetual access and sufficient area, by easement or otherwise, for inspection and regular maintenance.

§ 267-8. Inspections; performance guarantees; enforcement; penalties for offenses; fees.

A. Construction inspections.

(1) Erosion and sediment control inspection.

(a) The Town of North Castle Stormwater Management Officer may require such inspections as necessary to determine compliance with this Chapter 267 of the Town Code and may either approve that portion of the work completed or notify the applicant wherein the work fails to comply with the requirements of this Chapter 267 of the Town Code and the stormwater pollution prevention plan (SWPPP) as approved. To obtain inspections, the applicant shall notify the Town of North Castle Building Department at least 48 hours before any of the following, as required by the Stormwater Management Officer:

[1] Start of construction.

[2] Installation of sediment and erosion control measures.

[3] Completion of site clearing.

[4] Completion of rough grading.

[5] Completion of final grading.

[6] Close of the construction season.

[7] Completion of final landscaping.

[8] Successful establishment of landscaping in public areas.

(b) If any violations are found, the applicant and developer shall be notified in writing of the nature of the violation and the required corrective actions. No further land development activity shall be conducted except for site stabilization until any violations are corrected and all work previously completed has received approval by the Stormwater Management Officer.

(2) Stormwater management practice inspections. The Town of North Castle Stormwater Management Officer is responsible for conducting inspections of stormwater management practices (SMPs). All applicants are required to submit as-built plans for any stormwater management practices located on site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be certified by a professional engineer.

(3) Inspection of stormwater facilities after project completion. Inspection programs shall be established on any reasonable basis, including but not limited to routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher-than-typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher-than-usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to

cause violations of state or federal water or sediment quality standards or the SPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other stormwater management practices.

(4) Submission of reports. The Town of North Castle Stormwater Management Officer may require monitoring and reporting from entities subject to Chapter 267 of the Town Code as are necessary to determine compliance with this Chapter 267 of the Town Code.

(5) Right of entry for inspection. When any new stormwater management facility is installed on private property or when any new connection is made between private property and the public stormwater system, the landowner shall grant to the Town of North Castle the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection as specified in Subsection A(3) of this section.

B. Performance guarantee.

(1) Construction completion guarantee. In order to ensure the full and faithful completion of all land development activities related to compliance with all conditions set forth by the Town of North Castle in its approval of the stormwater pollution prevention plan, the Town of North Castle may require the applicant or developer to provide, prior to construction, a performance bond, cash escrow or irrevocable letter of credit from an appropriate financial or surety institution which guarantees satisfactory completion of the project and names the Town of North Castle as the beneficiary. The security shall be in an amount to be determined by the Town of North Castle based on submission of final design plans, with reference to actual construction and landscaping costs. The performance guarantee shall remain in force until the surety is released from liability by the Town of North Castle, provided that such period shall not be less than one year from the date of final acceptance or such other certification that the facility(ies) has (have) been constructed in accordance with the approved plans and specifications and that a one-year inspection has been conducted and the facilities have been found to be acceptable to the Town of North Castle. Per annum interest on cash escrow deposits shall be reinvested in the account until the surety is released from liability.

(2) Maintenance guarantee. Where stormwater management and erosion and sediment control facilities are to be operated and maintained by the developer or by a corporation that owns or manages a commercial or industrial facility, the developer, prior to construction, may be required to provide the Town of North Castle with an irrevocable letter of credit from an approved financial institution or surety to ensure proper operation and maintenance of all stormwater management and erosion control facilities both during and after construction and until the facilities are removed from operation. If the developer or landowner fails to properly operate and maintain stormwater

management and erosion and sediment control facilities, the Town of North Castle may draw upon the account to cover the costs of proper operation and maintenance, including engineering and inspection costs.

(3) Recordkeeping. The Town of North Castle may require entities subject to Chapter 267 of the Town Code to maintain records demonstrating compliance with this Chapter 267 of the Town Code.

C. Enforcement and penalties.

(1) Notice of violation. When the Town of North Castle determines that a land development activity is not being carried out in accordance with the requirements of this Chapter 267 of the Town Code, it may issue a written notice of violation to the landowner. The notice of violation shall contain:

(a) The name and address of the landowner, developer or applicant.

(b) The address, when available, or a description of the building, structure or land upon which the violation is occurring.

(c) A statement specifying the nature of the violation.

(d) A description of the remedial measures necessary to bring the land development activity into compliance with this chapter and a time schedule for the completion of such remedial action.

(e) A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed.

(f) A statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within 15 days of service of notice of violation.

(2) Stop-work orders. The Town of North Castle may issue a stop-work order for violations of Chapter 267 of the Town Code. Persons receiving a stop-work order shall be required to halt all land development activities, except those activities that address the violations leading to the stop-work order. The stop-work order shall be in effect until the Town of North Castle confirms that the land development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a stop-work order in a timely manner may result in civil, criminal or monetary penalties in accordance with the enforcement measures authorized in this Chapter 267 of the Town Code.

(3) Violations. Any land development activity that is commenced or is conducted contrary to this chapter may be restrained by injunction or otherwise abated in a manner provided by law.

(4) Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this article shall be guilty of a violation punishable by a fine not exceeding $350 or imprisonment for a period not to exceed six months, or both, for conviction of a first offense; for conviction of a second offense, both of which were committed within a period of five years, punishable by a fine not less than $350 nor more than $700 or

imprisonment for a period not to exceed six months, or both; and upon conviction for a third or subsequent offense, all of which were committed within a period of five years, punishable by a fine not less than $700 nor more than $1,000 or imprisonment for a period not to exceed six months, or both. However, for the purpose of conferring jurisdiction upon courts and judicial officers generally, violations of this article shall be deemed misdemeanors, and for such purpose only, all provisions of law relating to misdemeanors shall apply to such violations. Each week's continued violation shall constitute a separate additional violation.

(5) Withholding of certificate of occupancy. If any building or land development activity is installed or conducted in violation of this chapter, the Stormwater Management Officer may prevent the occupancy of said building or land.

(6) Restoration of lands. Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the Town of North Castle may take necessary corrective action, the cost of which shall become a lien upon the property until paid.

D. Fees for services. The Town of North Castle may require any person undertaking land development activities regulated by Chapter 267 of the Town Code to pay reasonable costs at prevailing rates for review of SWPPPs, inspections or SMP maintenance performed by the Town of North Castle or performed by a third party for the Town of North Castle in such amounts as set forth in the Master Fee Schedule.[1] **[Amended 8-14-2013 by L.L. No. 7-2013]**

1. **Editor's Note: See Ch. A370, Master Fee Schedule.**

ARTICLE II
Illicit Discharges and Connections to Storm Sewer System

§ 267-9. Purpose.

The purpose of this article is to provide for the health, safety and general welfare of the citizens of the Town of North Castle through the regulation of nonstormwater discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal and state law. This chapter establishes methods for controlling the introduction of pollutants into the MS4 in order to comply with requirements of the SPDES General Permit for Municipal Separate Storm Sewer Systems. The objectives of this article are:

A. To meet the requirements of the SPDES General Permit for Stormwater Discharges from MS4s, Permit No. GP-15-003, or as amended or revised; **[Amended 11-18-2015 by L.L. No. 9-2015]**

B. To regulate the contribution of pollutants to the MS4 since such systems are not designed to accept, process or discharge nonstormwater wastes;

C. To prohibit illicit connections, activities and discharges to the MS4;

D. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this chapter; and

E. To promote public awareness of the hazards involved in the improper discharge of trash, yard waste, lawn chemicals, pet waste, wastewater, grease, oil, petroleum products, cleaning products, paint products, hazardous waste, sediment and other pollutants into the MS4.

§ 267-10. Applicability.

This article shall apply to all water entering the MS4 generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

§ 267-11. Responsibility for administration.

The Stormwater Management Officer(s) [SMO(s)] shall administer, implement and enforce the provisions of this article. Such powers granted or duties imposed upon the authorized enforcement official may be delegated in writing by the SMO as may be authorized by the municipality.

§ 267-12. Discharge prohibitions.

A. Prohibition of illegal discharges. No person shall discharge or cause to be discharged into the MS4 any materials other than stormwater except as provided in Subsection A(1). The commencement, conduct or continuance of any illegal discharge to the MS4 is prohibited except as described as follows:

   (1) The following discharges are exempt from discharge prohibitions established by this chapter, unless the Department or the municipality has determined them to be substantial contributors of pollutants: waterline flushing or other

potable water sources; landscape irrigation or lawn watering; existing diverted stream flows; rising groundwater; uncontaminated groundwater infiltration to storm drains; uncontaminated pumped groundwater; foundation or footing drains; crawl space or basement sump pumps; air-conditioning condensate; irrigation water; springs; water from individual residential car washing; natural riparian habitat or wetland flows; dechlorinated swimming pool discharges; residential street wash water; water from firefighting activities; and any other water source not containing pollutants. Such exempt discharges shall be made in accordance with an appropriate plan for reducing pollutants.

(2) Discharges approved in writing by the SMO to protect life or property from imminent harm or damage, provided that such approval shall not be construed to constitute compliance with other applicable laws and requirements, and further provided that such discharges may be permitted for a specified time period and under such conditions as the SMO may deem appropriate to protect such life and property while reasonably maintaining the purpose and intent of this chapter.

(3) Dye testing in compliance with applicable state and local laws is an allowable discharge but requires a verbal notification to the SMO prior to the time of the test.

(4) The prohibition shall not apply to any discharge permitted under an SPDES permit, waiver or waste discharge order issued to the discharger and administered under the authority of the Department, provided that the discharger is in full compliance with all requirements of the permit, waiver or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the MS4.

B. Prohibition of illicit connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the MS4 is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this article if the person connects a line conveying sewage to the municipality's MS4 or allows such a connection to continue.

§ 267-13. Prohibition against activities contaminating stormwater.

A. Activities that are subject to the requirement of this article are those types of activities that:

(1) Cause or contribute to a violation of the municipality's MS4 SPDES permit.

(2) Cause or contribute to the municipality being subject to a special condition, as defined in § 267-4 of this chapter.

B. Upon notification to a person that he or she is engaged in activities that cause or

contribute to violations of the municipality's MS4 SPDES permit authorization, that person shall take all reasonable actions to correct such activities such that he or she no longer causes or contributes to violations of the municipality's MS4 SPDES permit authorization.

§ 267-14. Use of best management practices to prevent, control and reduce stormwater pollutants.

A. Best management practices. Where the SMO has identified illicit discharges as defined in § 267-4 of this chapter or activities contaminating stormwater as defined in § 267-13, the municipality may require implementation of best management practices (BMPs) to control those illicit discharges and activities.

(1) The owner or operator of a commercial or industrial establishment shall provide, at its own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the MS4 through the use of structural and nonstructural BMPs.

(2) Any person responsible for a property or premises, which is or may be the source of an illicit discharge as defined in § 267-4 of this chapter or an activity contaminating stormwater as defined in § 267-13, may be required to implement, at said person's expense, additional structural and nonstructural BMPs to reduce or eliminate the source of pollutant(s) to the MS4.

(3) Compliance with all terms and conditions of a valid SPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this article.

§ 267-15. Suspension of access to MS4; illicit discharges in emergency situations.

A. The SMO may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, to the health or welfare of persons, or to the MS4. The SMO shall notify the person of such suspension within a reasonable time thereafter, in writing, of the reasons for the suspension. If the violator fails to comply with a suspension order issued in an emergency, the SMO may take such steps as deemed necessary to prevent or minimize damage to the MS4 or to minimize danger to persons.

B. Suspension due to the detection of illicit discharge. Any person discharging to the municipality's MS4 in violation of this chapter may have his or her MS4 access terminated if such termination would abate or reduce an illicit discharge. The SMO will notify a violator in writing of the proposed termination of its MS4 access and the reasons therefor. The violator may petition the SMO for a reconsideration and hearing. Access may be granted by the SMO if he/she finds that the illicit discharge has ceased and the discharger has taken steps to prevent its recurrence. Access may be denied if the SMO determines in writing that the illicit discharge has not ceased or is likely to recur. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section without the prior approval of the SMO.

§ 267-16. Industrial or construction activity discharges.

Any person subject to an industrial or construction activity SPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Town prior to the allowing of discharges to the MS4.

§ 267-17. Access to facilities; monitoring of discharges.

A. Applicability. This section applies to all facilities that the SMO must inspect to enforce any provision of this article or whenever the authorized enforcement agency has cause to believe that there exists, or potentially exists, in or upon any premises, any condition which constitutes a violation of this article.

B. Access to facilities.

(1) The SMO shall be permitted to enter and inspect facilities subject to regulation under this chapter as often as may be necessary to determine compliance with this article. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to the SMO.

(2) Facility operators shall allow the SMO ready access to all parts of the premises for the purposes of inspection, sampling, examination and the copying of records as may be required to implement this article.

(3) The Town shall have the right to set up on any facility subject to this chapter such devices as are necessary in the opinion of the SMO to conduct monitoring and/or sampling of the facility's stormwater discharge.

(4) The Town has the right to require the facilities subject to this article to install monitoring equipment as is reasonably necessary to determine compliance with this article. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

(5) Unreasonable delays in allowing the Town access to a facility subject to this chapter are a violation of this article. A person who is the operator of a facility subject to this article commits an offense if the person denies the Town reasonable access to the facility for the purpose of conducting any activity authorized or required by this article.

(6) If the SMO has been refused access to any part of the premises from which stormwater is discharged and he/she is able to demonstrate probable cause to believe that there may be a violation of this article or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this article or any order issued hereunder, then the SMO may seek issuance of a search warrant from any court of competent jurisdiction.

§ 267-18. Notification of spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into the MS4, said person shall take all necessary steps to ensure the discovery, containment and cleanup of such release. In the event of such a release of hazardous materials, said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of nonhazardous materials, said person shall notify the Town in person or by telephone or facsimile no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the Town within three business days of the telephone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

§ 267-19. Enforcement.

A. Notice of violation.

(1) When the Town's SMO finds that a person has violated a prohibition or failed to meet a requirement of this article, he/she may order compliance by written notice of violation to the responsible person. Such notice may require, without limitation:

(a) The elimination of illicit connections or discharges;

(b) That violating discharges, practices or operations shall cease and desist;

(c) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;

(d) The performance of monitoring, analyses and reporting;

(e) Payment of a fine; and

(f) The implementation of source control or treatment BMPs.

(2) If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor, and the expense thereof shall be charged to the violator.

B. Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this article shall be guilty of a violation punishable by a fine not exceeding $1,000 or by imprisonment for a period not to exceed 15 days, or by both such fine and imprisonment. However, for the purposes of conferring jurisdiction upon courts and judicial officers generally, violations of this article shall be deemed misdemeanors, and for such purpose only,

all provisions of law relating to misdemeanors shall apply to such violations. Each day's continued violation shall constitute a separate additional violation. **[Amended 4-29-2020 by L.L. No. 3-2020]**

§ 267-20. Appeal of notice of violation.

Any person receiving a notice of violation may appeal the determination of the SMO to the Town Board within 15 days of its issuance, which Board shall hear the appeal within 30 days after the filing of the appeal and, within five days of making its decision, file its decision in the office of the Town Clerk and mail a copy of its decision by certified mail to the discharger.

§ 267-21. Corrective measures after appeal.

A. If the violation has not been corrected pursuant to the requirements set forth in the notice of violation or, in the event of an appeal, within five business days of the decision of the municipal authority upholding the decision of the SMO, then the SMO shall request the owner's permission for access to the subject private property to take any and all measures reasonably necessary to abate the violation and/or restore the property.

B. If refused access to the subject private property, the SMO may seek a warrant in a court of competent jurisdiction to be authorized to enter upon the property to determine whether a violation has occurred. Upon determination that a violation has occurred, the SMO may seek a court order to take any and all measures reasonably necessary to abate the violation and/or restore the property. The cost of implementing and maintaining such measures shall be the sole responsibility of the discharger.

§ 267-22. Injunctive relief.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this article. If a person has violated or continues to violate the provisions of this article, the SMO may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

§ 267-23. Alternative remedies.

A. Where a person has violated a provision of this article, he/she may be eligible for alternative remedies in lieu of a civil penalty, upon recommendation of the Town Attorney and concurrence of the Town Building Inspector, where:

   (1) The violation was unintentional.

   (2) The violator has no history of previous violations of this article.

   (3) Environmental damage was minimal.

   (4) The violator acted quickly to remedy the violation.

   (5) The violator cooperated in investigation and resolution.

B. Alternative remedies may consist of one or more of the following:

(1) Attendance at compliance workshops.

(2) Storm drain stenciling or storm drain marking.

(3) River, stream or creek cleanup activities.

§ 267-24. Violations deemed public nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this article is a threat to public health, safety and welfare and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken.

§ 267-25. Remedies not exclusive.

The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law, and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

Appendix C

Design Data Sheet

Stormwater Runoff Calculations
and Stormwater Runoff Management Practices Sizing Calculations

Hydrologic Analysis

WESTCHESTER COUNTY DEPARTMENT OF HEALTH
Bureau of Environmental Quality
25 Moore Ave
Mount Kisco, NY 10549

DESIGN DATA SHEET – SEPARATE SEWAGE SYSTEM FILE NO.__________________

Owner [redacted]______________ Address [redacted]______________________

Located at (Street) [redacted]__________________ Sec. [redacted]___ Block [redacted]___ Lot [redacted]___
(Indicate nearest cross street)

Municipality [redacted]________________________ Watershed [redacted]______

SOIL PERCOLATION TEST DATA REQUIRED TO BE SUBMITTED WITH APPLICATION

Presoak Date: [redacted]______________ Run Date: [redacted]______________

Hole #	CLOCK TIME				PERCOLATION			
					Depth to Water From Ground Surface			
Hole Number	Run No.	Start	Stop	Elapse Time Min.	Start Inches	Stop Inches	Water Level Drop In Inches	Soil Rate Min/in Drop
[redacted]	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	4							
	5							
[redacted]	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	4							
	5							
[redacted]	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	4							
	5							

Perc test done by: [redacted]__________
WCDOH Personnel present: [redacted]______________

Notes:
1. Tests to be repeated at 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. DO NOT REPORT INCREMENTS OF LESS THAN ONE INCH.

TEST PIT DATA REQUIRED TO BE SUBMITTED WITH APPLICATION

DESCRIPTION OF SOILS ENCOUNTERED IN TEST HOLES

DEPTH G.L.	HOLE NO. [redacted]	HOLE NO. [redacted]	HOLE NO. [redacted]	HOLE NO. _____
[redacted]				
6”				
12”				
18”				
24”				
30”				
36”				
42”				
48”				
54”				
60”				
66”				
72”				
78”				
84”				
[redacted]				

WAS GROUNDWATER ENCOUNTERED? YES/NO

INDICATE LEVEL AT WHICH GROUND WATER IS ENCOUNTERED _____Ft/In

INDICATED LEVEL FOR WHICH WATER LEVEL RISES AFTER BEING ENCOUNTRED _____Ft/In

DEEP TEST MADE BY [redacted] DATE OF DEEP TESTS [redacted]

WCDOH PERSONNEL PRESENT: [redacted]

DESIGN

Soil Rate Used [redacted] Min/1” Drop: S.D. Usable Area Provided_____

No. of Bedrooms_____ Septic Tank Capacity_____ Gals. Masonry_____ Metal _____

Absorption Area Prov. by _____ L.F. x 24”_____ width trench. Other_____

Name_____ Signature_____

Address_____ Seal

_____

Westchester County Health Department

Soil Rate Approved_____ Sq. Ft./Gal Checked by_____

S.D. 27.6
1/22

SITE DESIGN CONSULTANTS - STORMWATER INFILTRATION TESTS

Job# [redacted]
Date [redacted] Day _____ AM PM

Owner [redacted] Location [redacted]

General Observations _____

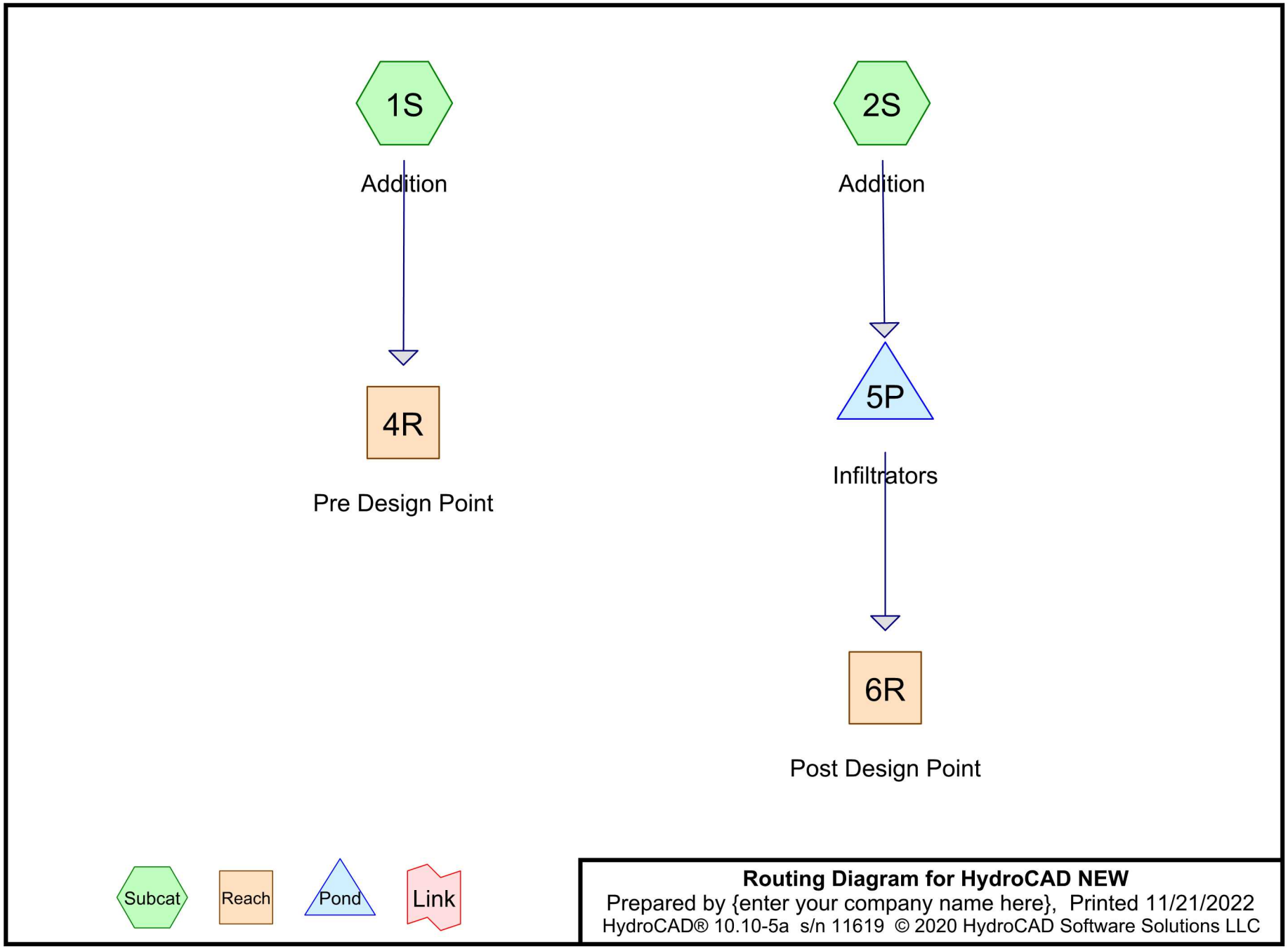
Who was Present: [redacted]

Weather [redacted] Weather Previous [redacted]

Lot # [redacted] Approx. Temp. [redacted]

HOLE #		CLOCK TIME			PERCOLATION			
					Depth to Water From Ground Surface		Water Level in Inches	
Test Number	Run No.	Start	Stop	Elapse Time Hour	Start Inches	Stop Inches	Drop in Inches	Soil Rate in/hr. drop
[redacted]	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
D= [redacted]	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	5							
[redacted]	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	5							
	1							
	2							
	3							
	4							
	5							

Notes:
1) Fill the pipe to 2' from the bottom
2) Measure the drop in water level in one hour or time to drain all the water.
3) Refill to 2' and rerun the test for a total of 4 times
4) D= Depth to the bottom of the pipe from the ground surface (deduct the pipe sticking out above the ground)



Routing Diagram for HydroCAD NEW

Prepared by {enter your company name here}, Printed 11/21/2022

Project Notes

Rainfall events imported from "NRCS-Rain.txt" for 7139 NY Westchester
Rainfall events imported from "NRCS-Rain.txt" for 7139 NY Westchester

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25-Year	Type III 24-hr		Default	24.00	1	6.49	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.727	61	>75% Grass cover, Good, HSG B (1S, 2S)
0.944	98	Paved parking, HSG B (1S, 2S)
1.672	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.672	HSG B	1S, 2S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.672		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.727	0.000	0.000	0.000	0.727	>75% Grass cover, Good	1S, 2S
0.000	0.944	0.000	0.000	0.000	0.944	Paved parking	1S, 2S
0.000	**1.672**	**0.000**	**0.000**	**0.000**	**1.672**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	5P	296.25	295.00	49.0	0.0255	0.012	0.0	4.0	0.0

Time span=0.00-20.00 hrs, dt=0.05 hrs, 401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Addition Runoff Area=36,411 sf 38.90% Impervious Runoff Depth>3.46"
Tc=5.0 min CN=75 Runoff=3.63 cfs 0.241 af

Subcatchment 2S: Addition Runoff Area=36,411 sf 74.09% Impervious Runoff Depth>4.82"
Tc=5.0 min CN=88 Runoff=4.83 cfs 0.336 af

Reach 4R: Pre Design Point Inflow=3.63 cfs 0.241 af
Outflow=3.63 cfs 0.241 af

Reach 6R: Post Design Point Inflow=2.82 cfs 0.336 af
Outflow=2.82 cfs 0.336 af

Pond 5P: Infiltrators Peak Elev=296.33' Storage=0.019 af Inflow=4.83 cfs 0.336 af
Outflow=2.82 cfs 0.336 af

Total Runoff Area = 1.672 ac Runoff Volume = 0.577 af Average Runoff Depth = 4.14"
43.51% Pervious = 0.727 ac 56.49% Impervious = 0.944 ac

Summary for Subcatchment 1S: Addition

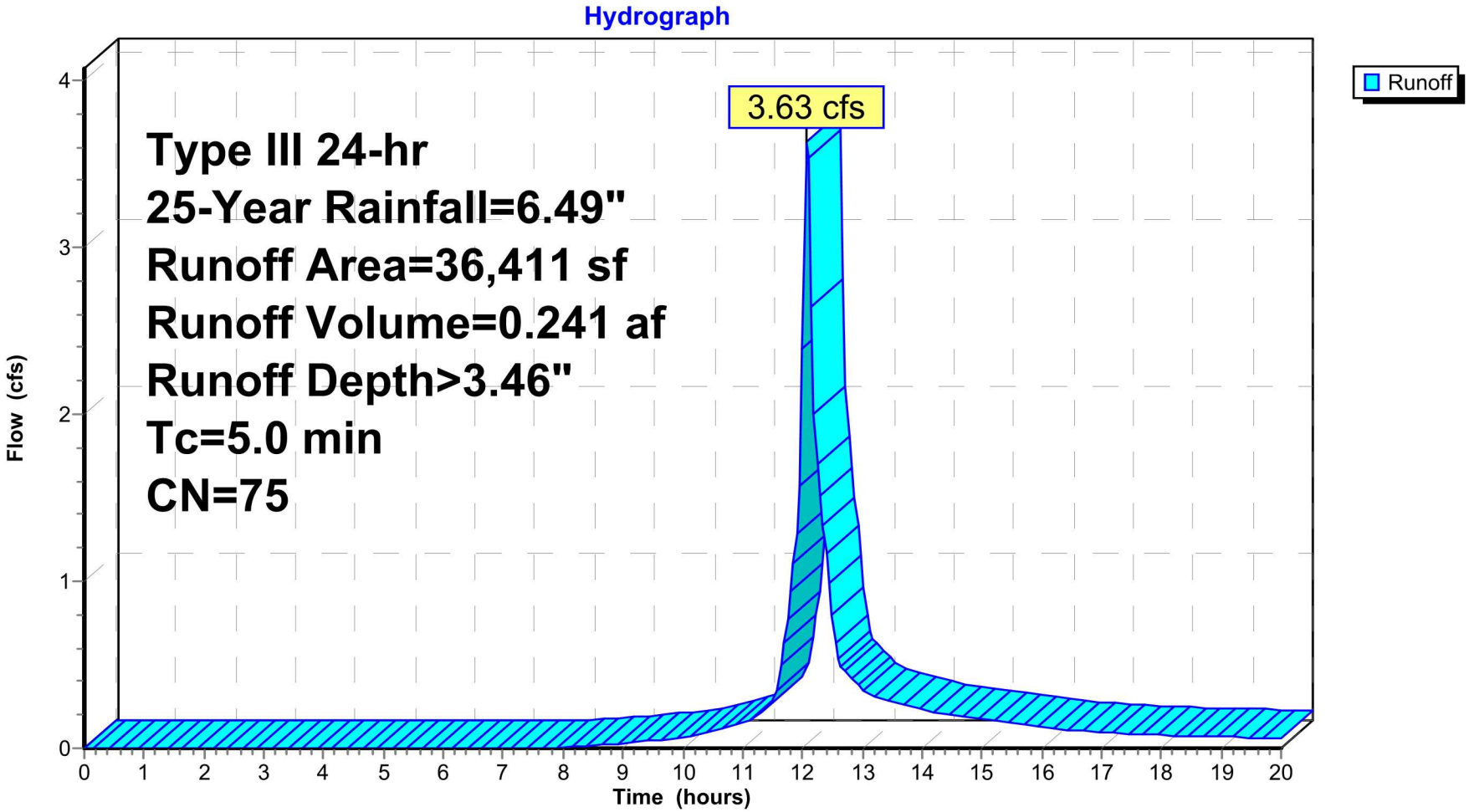
Runoff = 3.63 cfs @ 12.08 hrs, Volume= 0.241 af, Depth> 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.49"

Area (sf)	CN	Description
14,164	98	Paved parking, HSG B
22,247	61	>75% Grass cover, Good, HSG B
36,411	75	Weighted Average
22,247		61.10% Pervious Area
14,164		38.90% Impervious Area

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

Subcatchment 1S: Addition



Summary for Subcatchment 2S: Addition

Runoff = 4.83 cfs @ 12.07 hrs, Volume= 0.336 af, Depth> 4.82"

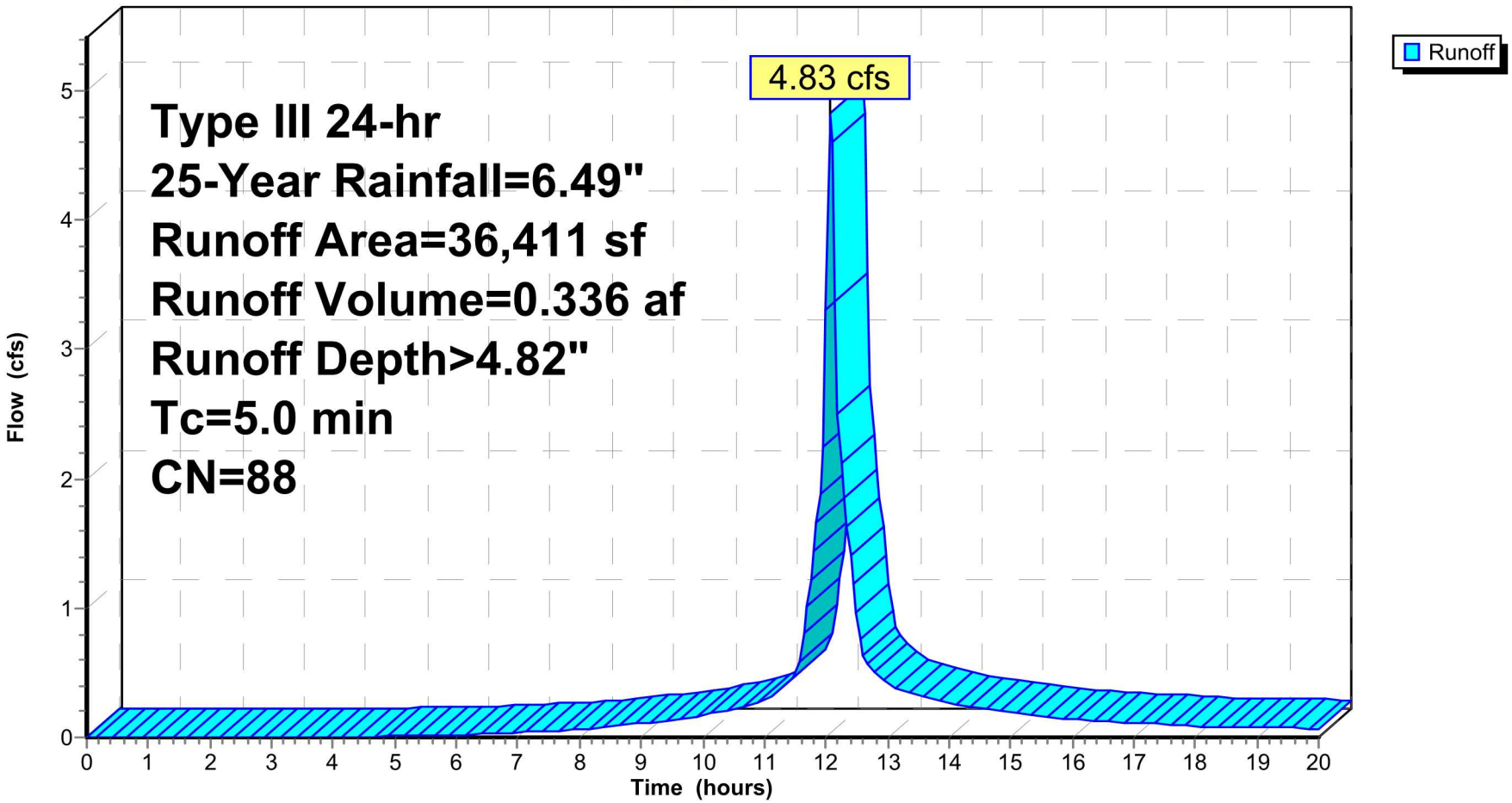
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=6.49"

Area (sf)	CN	Description
26,976	98	Paved parking, HSG B
9,435	61	>75% Grass cover, Good, HSG B
36,411	88	Weighted Average
9,435		25.91% Pervious Area
26,976		74.09% Impervious Area

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

Subcatchment 2S: Addition

Hydrograph

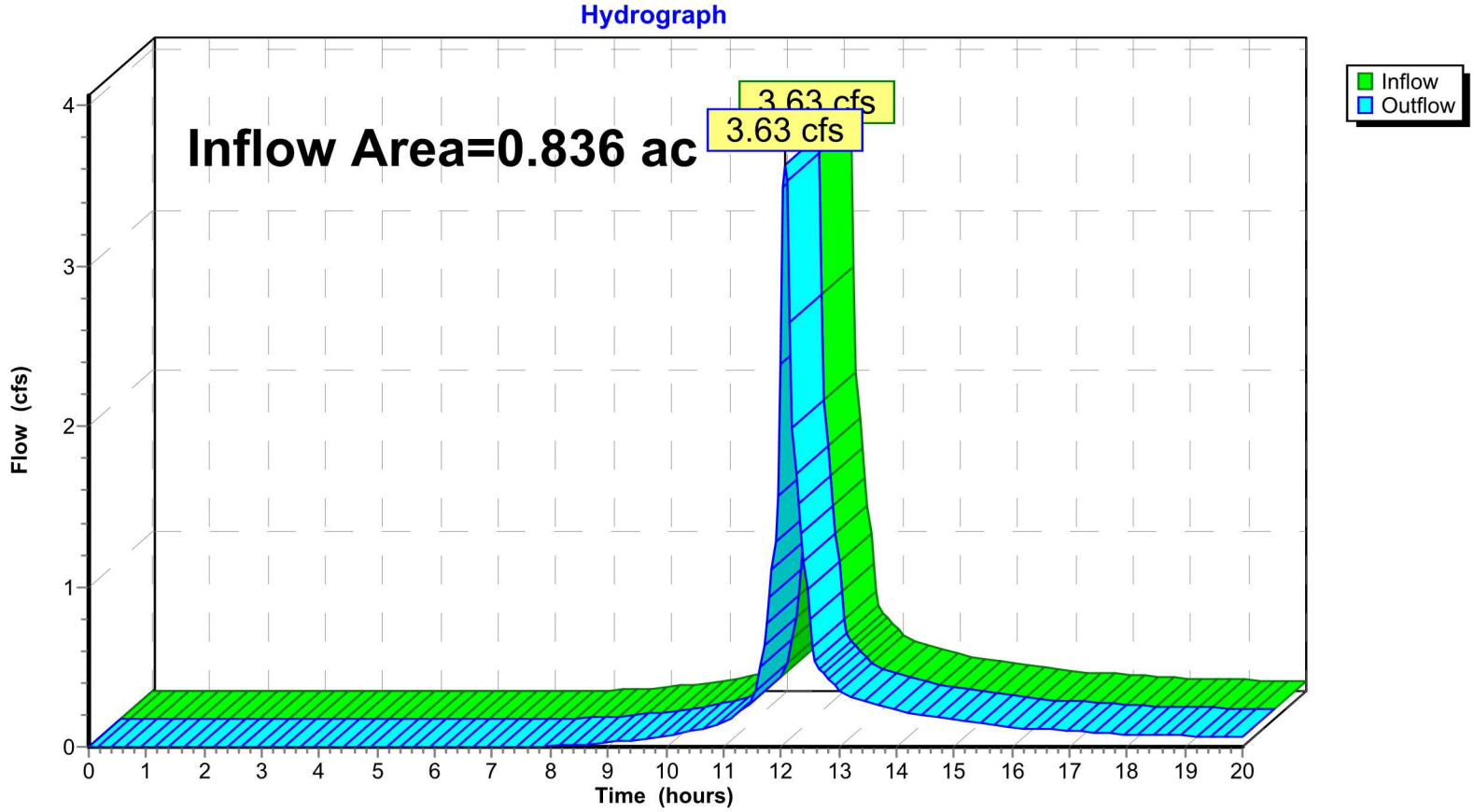


Summary for Reach 4R: Pre Design Point

Inflow Area = 0.836 ac, 38.90% Impervious, Inflow Depth > 3.46" for 25-Year event
Inflow = 3.63 cfs @ 12.08 hrs, Volume= 0.241 af
Outflow = 3.63 cfs @ 12.08 hrs, Volume= 0.241 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Pre Design Point

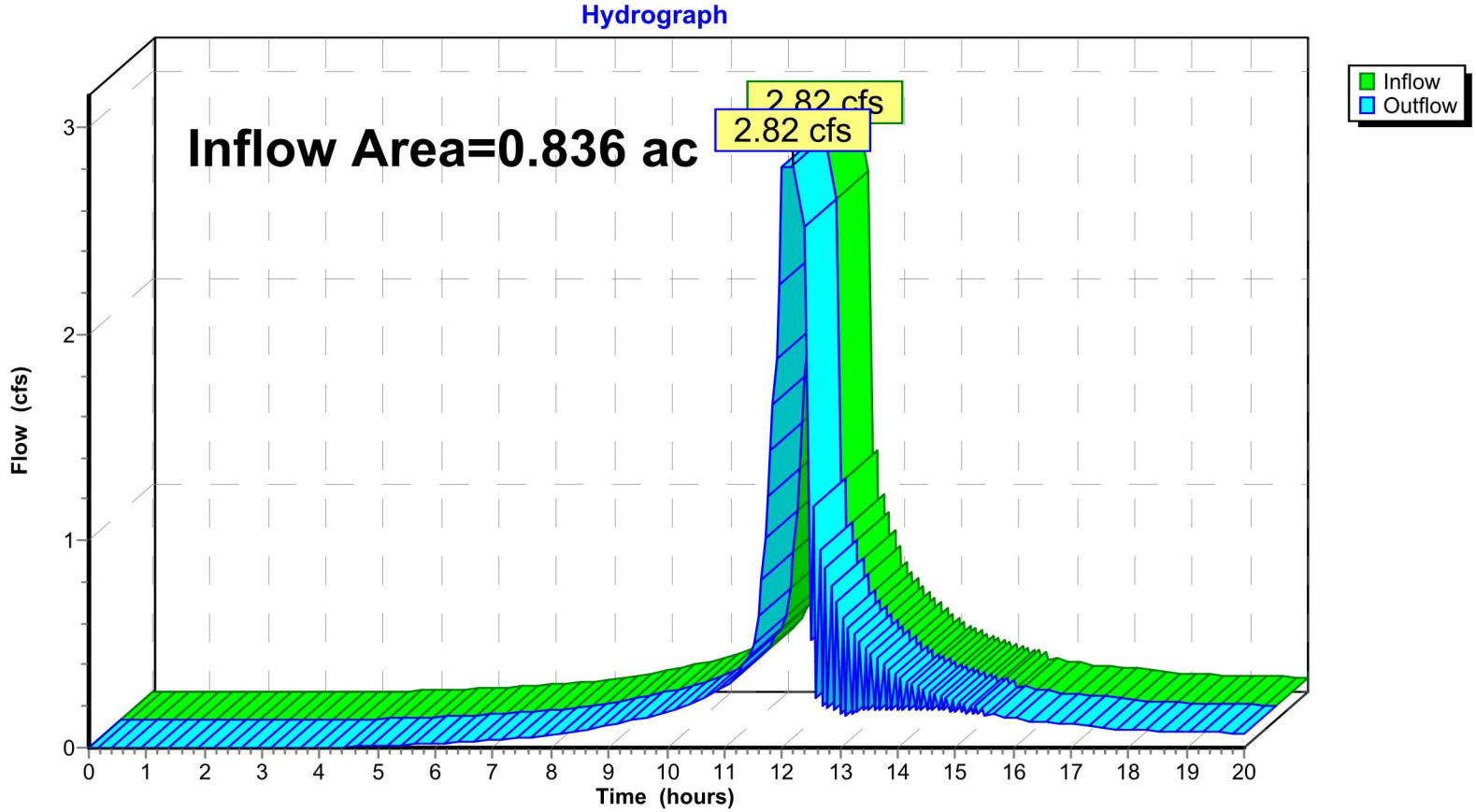


Summary for Reach 6R: Post Design Point

Inflow Area = 0.836 ac, 74.09% Impervious, Inflow Depth > 4.82" for 25-Year event
Inflow = 2.82 cfs @ 12.20 hrs, Volume= 0.336 af
Outflow = 2.82 cfs @ 12.20 hrs, Volume= 0.336 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs

Reach 6R: Post Design Point



Summary for Pond 5P: Infiltrators

Inflow Area = 0.836 ac, 74.09% Impervious, Inflow Depth > 4.82" for 25-Year event
Inflow = 4.83 cfs @ 12.07 hrs, Volume= 0.336 af
Outflow = 2.82 cfs @ 12.20 hrs, Volume= 0.336 af, Atten= 42%, Lag= 7.7 min
Primary = 2.82 cfs @ 12.20 hrs, Volume= 0.336 af

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 296.33' @ 12.19 hrs Surf.Area= 0.012 ac Storage= 0.019 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.9 min (758.9 - 758.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	293.75'	0.011 af	**15.75'W x 32.10'L x 3.50'H Field A** 0.041 af Overall - 0.013 af Embedded = 0.028 af x 40.0% Voids
#2A	294.25'	0.013 af	**ADS_StormTech SC-740 +Cap** x 12 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 12 Chambers in 3 Rows
		0.024 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	293.75'	**240.000 in/hr Exfiltration over Surface area**
#2	Primary	296.25'	**4.0" Round Culvert** L= 49.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 296.25' / 295.00' S= 0.0255 '/' Cc= 0.900 n= 0.012, Flow Area= 0.09 sf

Primary OutFlow Max=2.82 cfs @ 12.20 hrs HW=296.31' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 2.81 cfs @ 0.01 fps)
└**2=Culvert** (Inlet Controls 0.01 cfs @ 0.76 fps)

Pond 5P: Infiltrators - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

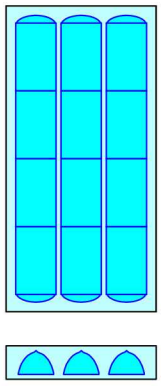
4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length
3 Rows x 51.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 15.75' Base Width
6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

12 Chambers x 45.9 cf = 551.3 cf Chamber Storage

1,769.3 cf Field - 551.3 cf Chambers = 1,218.0 cf Stone x 40.0% Voids = 487.2 cf Stone Storage

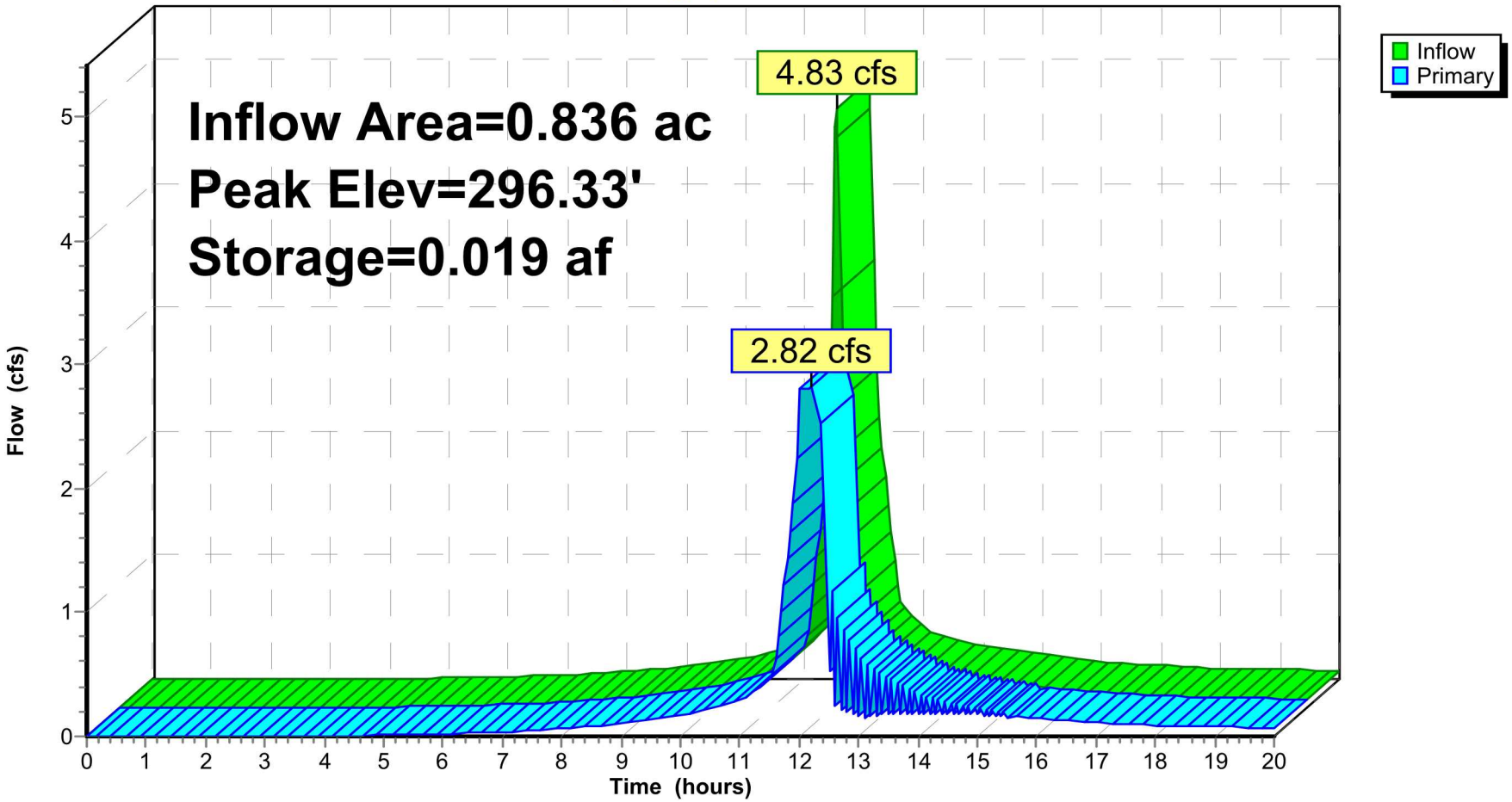
Chamber Storage + Stone Storage = 1,038.5 cf = 0.024 af
Overall Storage Efficiency = 58.7%
Overall System Size = 32.10' x 15.75' x 3.50'

12 Chambers
65.5 cy Field
45.1 cy Stone



Pond 5P: Infiltrators

Hydrograph



Events for Subcatchment 1S: Addition

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
25-Year	**6.49**	**3.63**	**0.241**	**3.46**

Events for Subcatchment 2S: Addition

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
25-Year	**6.49**	**4.83**	**0.336**	**4.82**

Events for Reach 4R: Pre Design Point

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
25-Year	**3.63**	**3.63**	**0.00**	**0**

Events for Reach 6R: Post Design Point

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
25-Year	**2.82**	**2.82**	**0.00**	**0**

Events for Pond 5P: Infiltrators

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
25-Year	**4.83**	**2.82**	**296.33**	**0.019**

TABLE OF CONTENTS

Appendix D

Standard and Specifications for Erosion and Sediment Control Measures

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION

Definition & Scope

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

Conditions Where Practice Applies

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

Types of Storm Drain Inlet Practices

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

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

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. Erosion control/temporary stabilization measures must be implemented on the disturbed drainage area tributary to the inlet. The crest elevations of these practices shall provide storage and minimize bypass flow.

Type I – Excavated Drop Inlet Protection

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

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

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

Type II – Fabric Drop Inlet Protection

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

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

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

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

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

Type III – Stone and Block Drop Inlet Protection

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

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

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

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

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

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

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

Type IV – Paved Surface Inlet Protection

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

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

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

Type V - Manufactured Insert Inlet Protection

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

Figure 5.31
Excavated Drop Inlet Protection

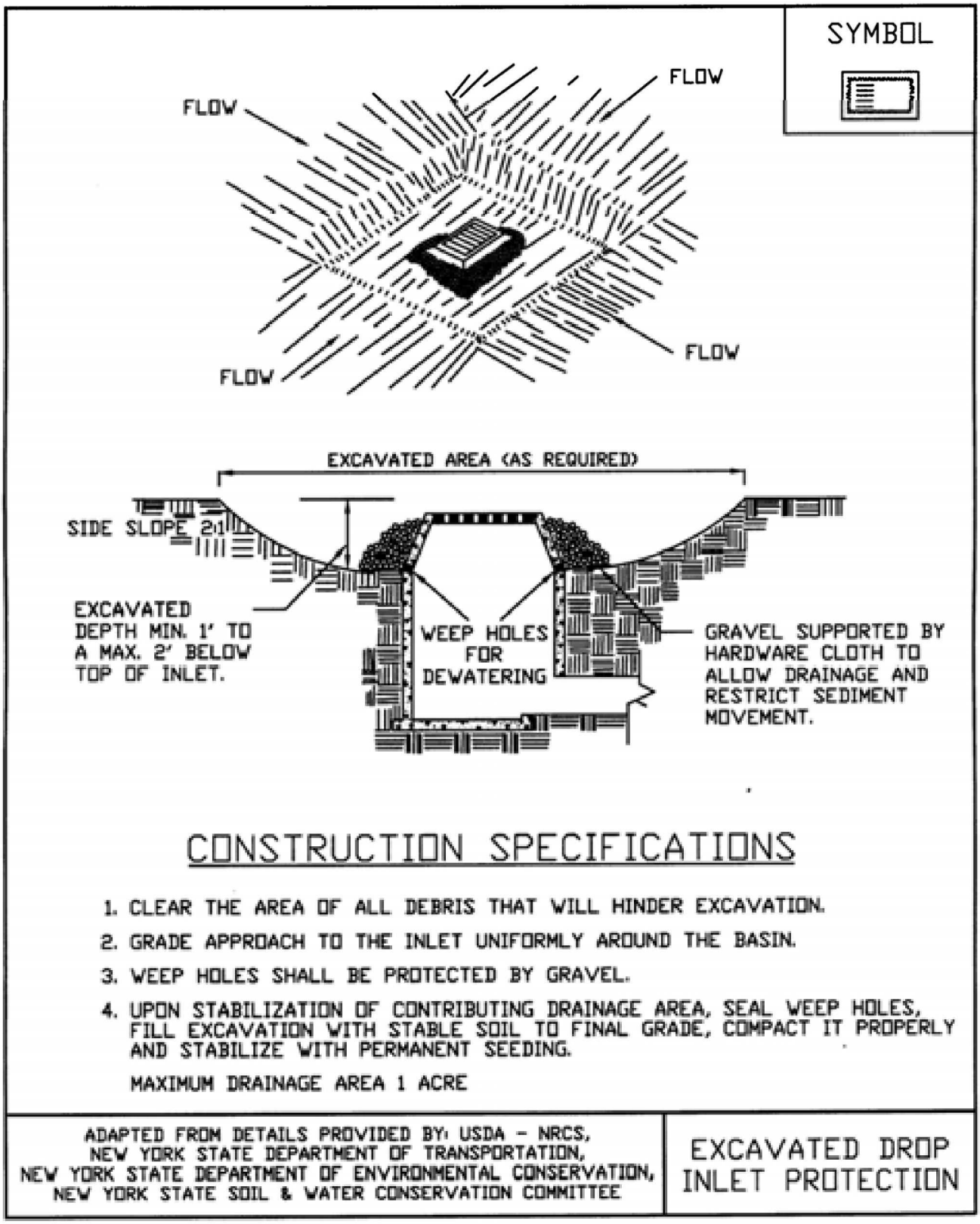


Figure 5.32
Fabric Drop Inlet Protection

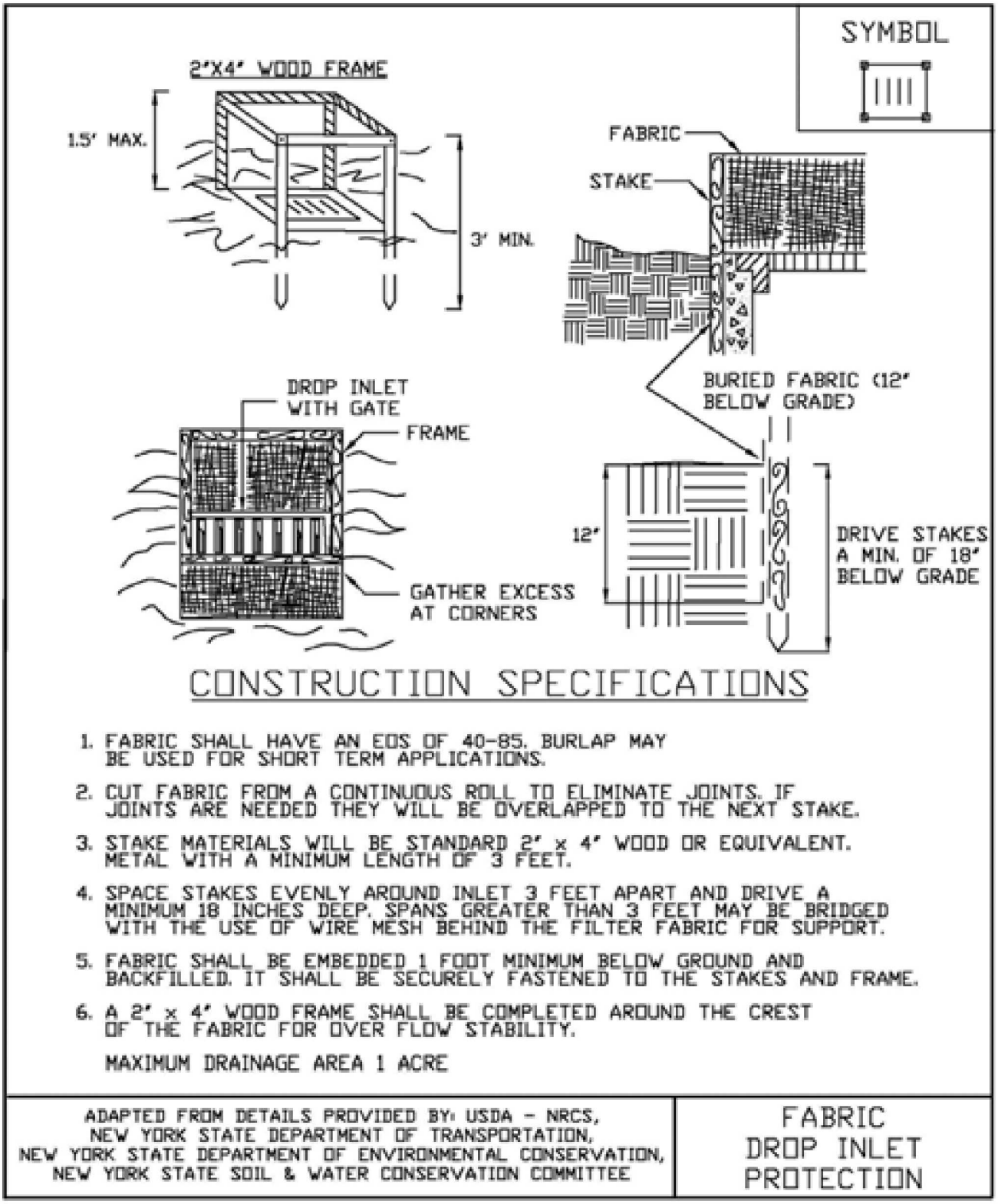
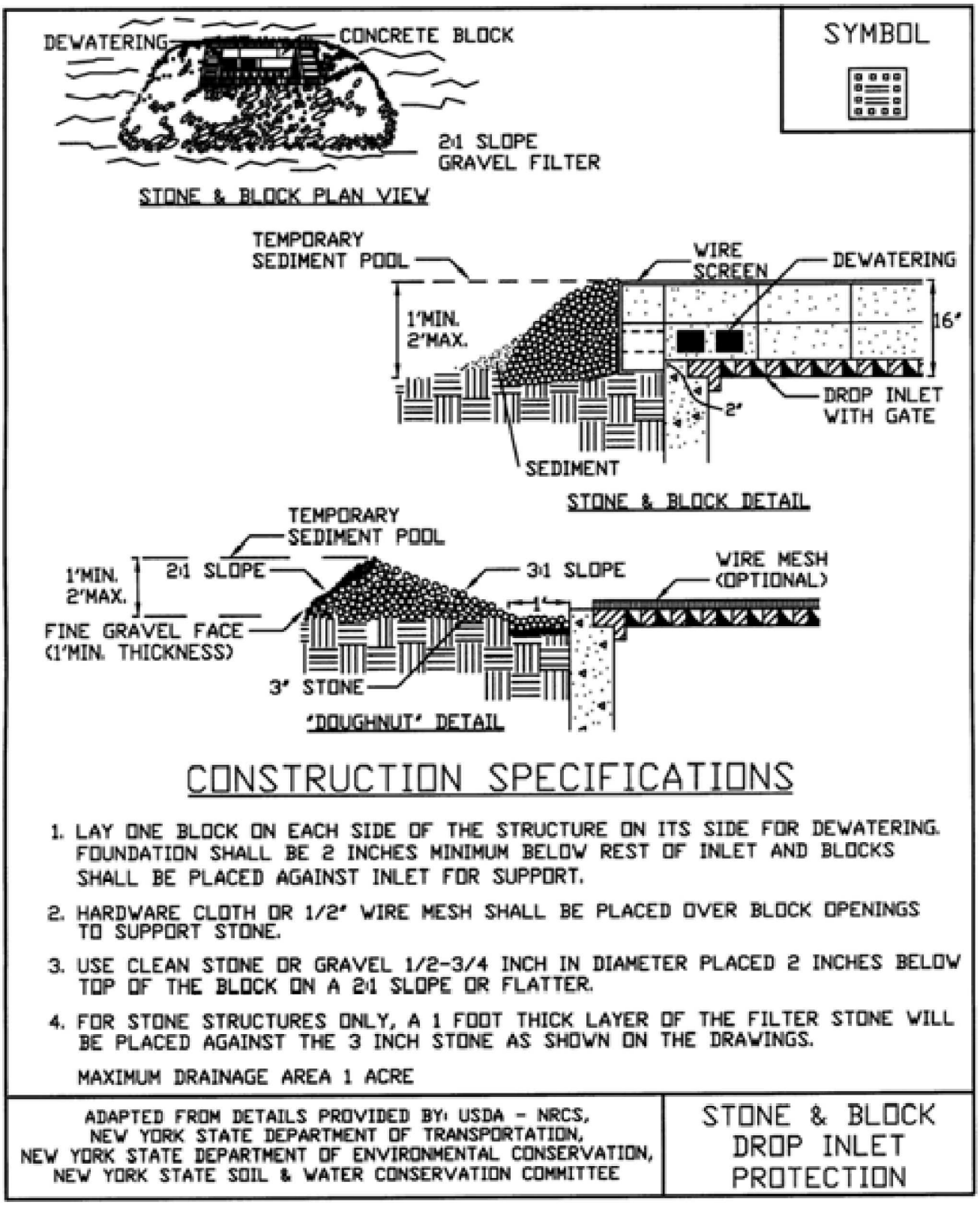


Figure 5.33
Stone & Block Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

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. HARDWARE CLOTH 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 THE 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

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPORTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STONE & BLOCK DROP INLET PROTECTION

STANDARD AND SPECIFICATIONS FOR SILT FENCE

Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.
3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.

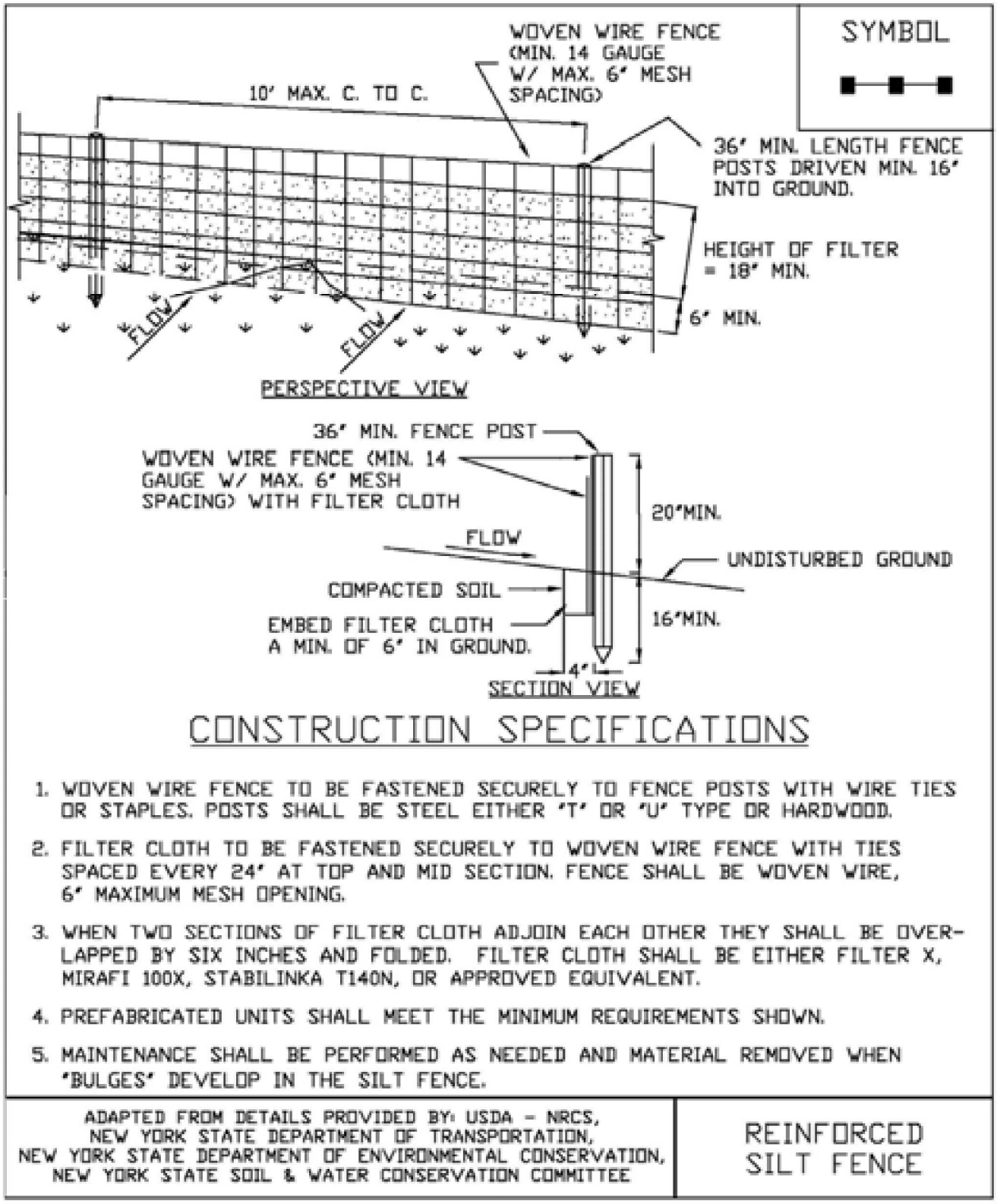
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Super Silt Fence

Reinforced Silt Fence

Figure 5.30
Reinforced Silt Fence



STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS

Definition & Scope

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

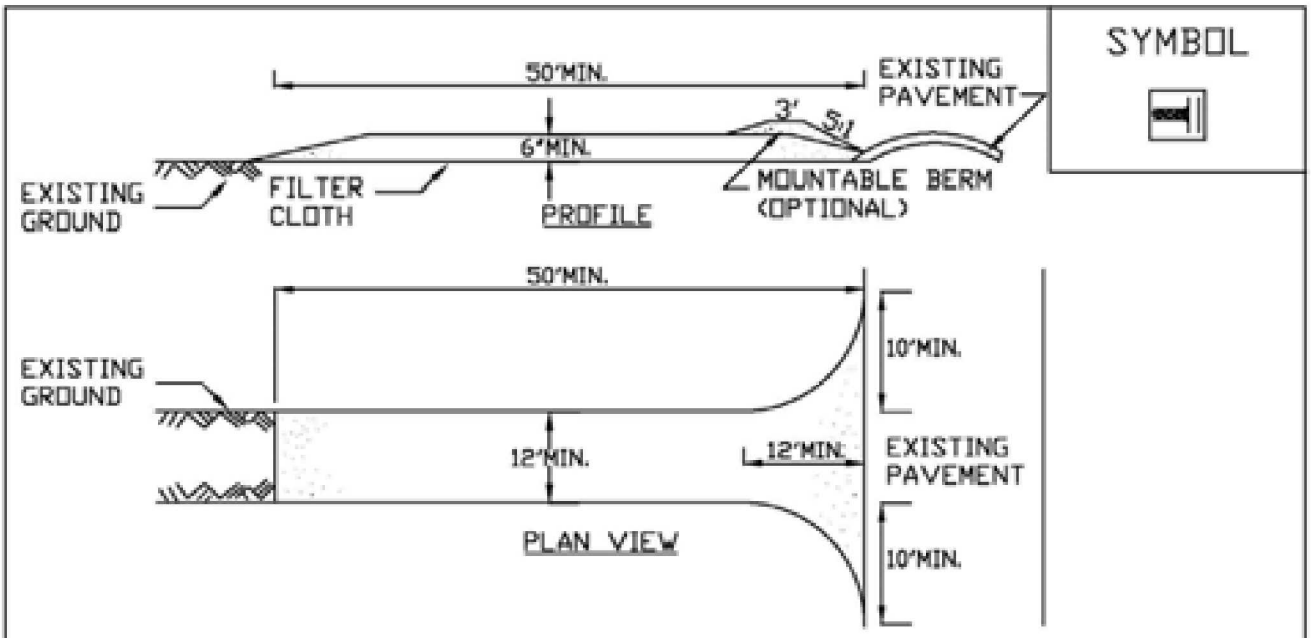
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

Figure 2.1
Stabilized Construction Access



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ACCESS

Appendix E

Project Plans

**TIM
MILLER
ASSOCIATES, INC.**

10 North Street, Cold Spring, NY 10516 (845) 265-4400 265-4418 fax www.timmillerassociates.com

March 14, 2023

Mr. Joseph Riina, P.E.
Site Design Consultants, Inc.
251-F Underhill Avenue
Yorktown Heights, NY 10598

RE: 209 Bedford Banksville Road, Armonk

Dear Mr. Riina:

On February 7, 2023, I conducted a site walk of the subject parcel on Bedford Banksville Road in the Town of North Castle. This was in response to concerns about possible regulated wetlands on the site. NRCS soils mapping shows the potential for hydric soils on or near the subject property.

A watercourse flows through the property from east to west. This watercourse is deeply channelized with dry areas of maintained lawn on either side. While the soils mapping shows areas of Fredon silt loam, a poorly drained hydric soil, in the area of the channel, auger testing did not show the characteristic profile of this soil at or near the surface. Examination of the soils within the cut channel area also exhibited a profile of a drained or fill soil inconsistent with the mapped profile. No wetlands vegetation was observed outside of the channel during the site visit.

A review of historic aerial photos concluded that the channel has been in place since at least 1976 (see attached series of aerial photos). Since the majority of on-site soils surveys in Westchester County were conducted in the 1960's and early '70's, it is likely that prior to 1976 some filling and draining of land for agricultural purposes took place, changing the characteristics of the site and effectively draining the in situ soils. Photos of the site taken in February show the current conditions of the property, and there are no areas observed that would meet either the town or federal definition of "wetlands". The watercourse as it exists does meet both definitions as such and would in my opinion be regulated.

I hope this answers any questions you have about wetlands on this property. Feel free to contact me if additional information is required.

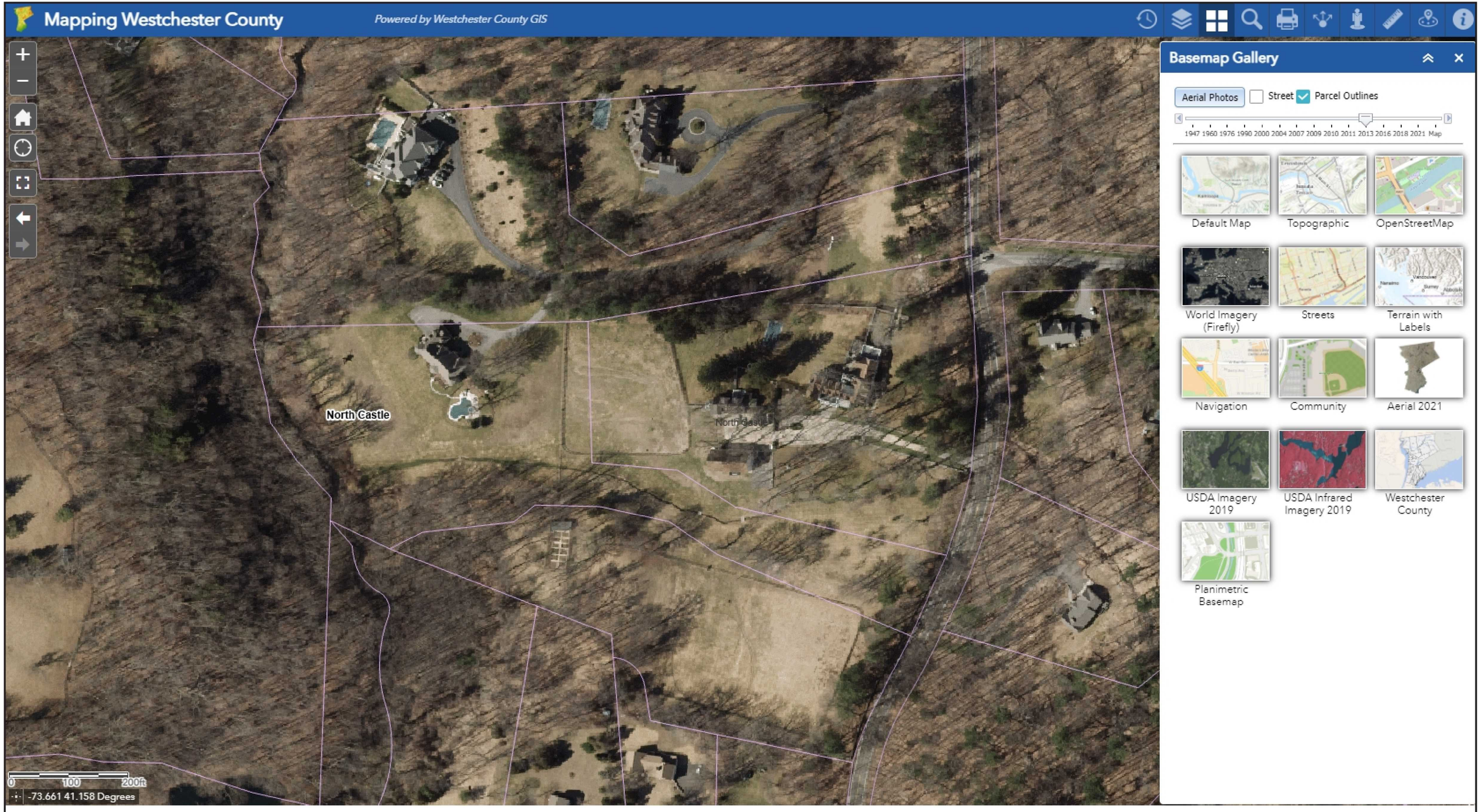
Sincerely,

Steve Marino, PWS
Principal/Senior Wetland Scientist
Tim Miller Associates, Inc.

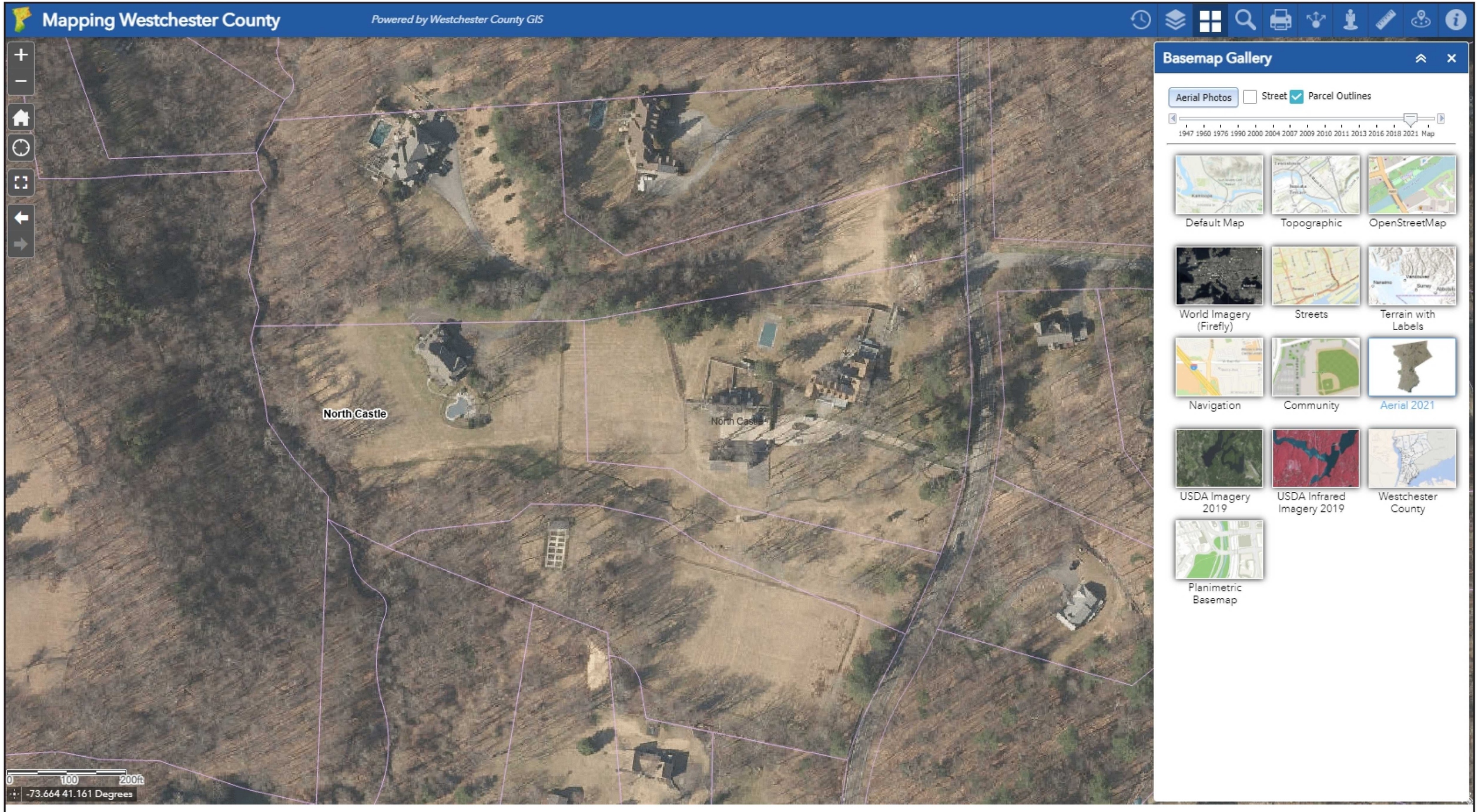
1976 Aerial Photo
Source: Westchester County GIS

1990 Aerial Photo
Source: Westchester County GIS

2000 Aerial Photo
Source: Westchester County GIS



2013 Aerial Photo
Source: Westchester County GIS



2021 Aerial Photo
Source: Westchester County GIS

Soil Map—Westchester County, New York
(Rault Bedford Banksville Road)

Map Scale: 1:1,380 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

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

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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 21, 2022—Oct 27, 2022

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
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	2.6	27.5%
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	1.7	17.4%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	0.5	5.3%
Fr	Fredon silt loam	1.9	19.7%
RhB	Riverhead loam, 3 to 8 percent slopes	0.1	1.5%
RhC	Riverhead loam, 8 to 15 percent slopes	1.3	13.2%
RhD	Riverhead loam, 15 to 25 percent slopes	0.8	8.1%
RhE	Riverhead loam, 25 to 50 percent slopes	0.7	7.3%
Totals for Area of Interest		**9.6**	**100.0%**