Site Design Consultants
Civil Engineers • Land Planners

April 18, 2022

VIA DIGITAL SUBMISSION

Town of North Castle
17 Bedford Road
Armonk, New York 10504-1898

Attn: Adam Kaufman, Director of Planning

Re: RPRC Application
Todd Kosakowski residence
7 Meadow Lark Lane, Bedford

Dear Mr. Kaufman:

Enclosed please find the following items for review at the May 4th RPRC meeting:

- RPRC Application
- Floor Area Calculations Worksheet
- Gross Land Coverage Calculations Worksheet
- Stormwater Management Plan dated March 2022
- Architect's house plans
- Site Design Consultant's site plans

We are submitting a digital copy only. Please let us know if you need any additional information. Thank you.

Yours truly,

Joseph C. Riina, P.E.

JR / dmd / enc / sdc 21-47

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

TOWN OF NORTH CASTLE

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

RESIDENTIAL PROJECT
REVIEW COMMITTEE
Adam R. Kaufman AICP, Chair

Telephone: (914) 273-3000 x 43
Fax: (914) 273-3554
www.nortcastleny.com

RESIDENTIAL PROJECT REVIEW COMMITTEE (RPRC) APPLICATION

Section I- PROJECT

ADDRESS: 7 Meadow Lark Lane, Bedford, New York 10506

Section III- DESCRIPTION OF WORK:

Addition of new 3-car garage with studio above at existing residence.

Section III- CONTACT INFORMATION:

APPLICANT: Joseph C. Riina, P.E. Site Design Consultants

ADDRESS: 251-F Underhill Avenue, Yorktown Heights, New York 10598

PHONE: 914-962-4488 MOBILE: EMAIL: jriina@sitedesignconsultants.com

PROPERTY OWNER:
Todd Kosakowski

ADDRESS: 7 Meadow Lark Lane, Bedford, New York 10506

PHONE: 914-804-9618 MOBILE: EMAIL: bnytkoz1@gmail.com

PROFESSIONAL:: same as applicant

ADDRESS:

PHONE: MOBILE:

EMAIL:

Section IV- PROPERTY INFORMATION:

Zone: R-2A single family Tax ID (lot designation) 102.1 - 2 - 26

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

RPRC COMPLETENESS REVIEW FORM

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

Project Name on Plan: Todd Kosakowski

☒ Initial Submittal ☐ Revised Preliminary

Street Location: 7 Meadow Lark Lane, Bedford, New York 10506

Zoning District: R-2A Property Acreage: 1.351 Tax Map Parcel ID: 102.01-2-26

Date: 04-15-22

DEPARTMENTAL USE ONLY

Date Filed: _____ Staff Name: _____

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

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

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

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

☐ 4. A locator map at a convenient scale

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

☐ 6. Existing topography and proposed grade elevations

☐ 7. Location of drives

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

☐	9. Description of method of water supply and sewage disposal and location of such facilities
☐	10. The name and address of the applicant, property owner(s) if other than the applicant and of the planner, engineer, architect, surveyor and/or other professionals engaged to work
☐	11. Submission of a Zoning Conformance Table depicting the plan's compliance with the minimum requirements of the Zoning District
☐	12. If a tree removal permit is being sought, submission of a plan depicting the location and graphical removal status of all Town-regulated trees within the proposed area of disturbance. In addition, the tree plan shall be accompanied by a tree inventory includes a unique ID number, the species, size, health condition and removal status of each tree.
☐	13. If a wetlands permit is being sought, identification of the wetland and the 100-foot wetland buffer.

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

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

TOWN OF NORTH CASTLE
WESTCHESTER COUNTY
17 Bedford Road
Armonk, New York 10504-1898

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

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

GROSS LAND COVERAGE CALCULATIONS WORKSHEET

Application Name or Identifying Title: Kosakowski Date: 04/15/2022

Tax Map Designation or Proposed Lot No.: 102.1-2-26

Gross Lot Coverage

1.	Total lot Area (Net Lot Area for Lots Created After 12/13/06):	58,851 S.F.
2.	**Maximum** permitted gross land coverage (per Section 355-26.C(1)(a)):	9,350 S.F.
3.	**BONUS** maximum gross land cover (per Section 355-26.C(1)(b)):	1,376.20 S.F.
	Distance principal home is beyond minimum front yard setback 22.8 FT. x 10 = 228 FEET.	
4.	**TOTAL Maximum Permitted gross land coverage** = Sum of lines 2 and 3	10,726.20
5.	Amount of lot area covered by **principal building:** 1,473 S.F. existing + _____ proposed =	1,473 S.F.
6.	Amount of lot area covered by **accessory buildings:** 166 S.F. existing + _____ proposed =	166 S.F.
7.	Amount of lot area covered by **decks:** 1,294 S.F. existing + _____ proposed =	1,294 S.F.
8.	Amount of lot area covered by **porches:** 229 S.F. existing + _____ proposed =	229 S.F.
9.	Amount of lot area covered by **driveway, parking areas and walkways:** 2,758 S.F. existing + _____ proposed =	2,758 S.F.
10.	Amount of lot area covered by **terraces:** 133 S.F. existing + _____ proposed =	133 S.F.
11.	Amount of lot area covered by **tennis court, pool and mechanical equip:** 1,513 S.F. existing + _____ proposed =	1,513 S.F.
12.	Amount of lot area covered by **all other structures:** 30 S.F. existing + _____ proposed =	30 S.F.
13.	Proposed **gross land coverage:** Total of Lines 5 – 12 =	7,596 S.F. < 10,726.20 S.F.

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

STATE OF NEW YORK
JOSEPH CARLO FINA
NO. 64491
LICENSED PROFESSIONAL ENGINEER

Signature and Seal of Professional Preparing Worksheet

04/15/22
Date

TOWN OF NORTH CASTLE

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

PLANNING DEPARTMENT
Adam R. Kaufman, AICP
Director of Planning

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FLOOR AREA CALCULATIONS WORKSHEET

Application Name or Identifying Title: Kosakowski Date: 03/08/2022

Tax Map Designation or Proposed Lot No.: 102.1-2-26

Floor Area

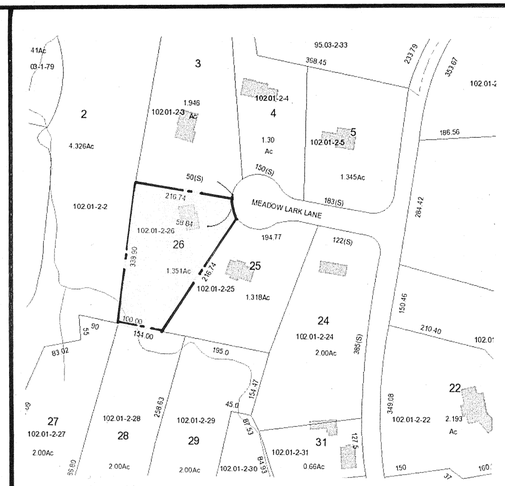
1.	Total Lot Area (Net Lot Area for Lots Created After 12/13/06):	58,851 S.F.
2.	**Maximum** permitted floor area (per Section 355-26.B(4)): 7,227 S.F. + 917 S.F. = 8,644 S.F.	8,644 S.F.
3.	Amount of floor area contained within ~~first floor~~: (LOWER LEVEL) 770 S.F. existing + _____ proposed =	770 S.F.
4.	Amount of floor area contained within ~~second floor~~: (UPPER LEVEL) 1,810 S.F. existing + 1,333 S.F. proposed =	3,143 S.F.
5.	Amount of floor area contained within garage: 737 S.F. existing + 975 S.F. proposed =	1,912 S.F.
6.	Amount of floor area contained within porches capable of being enclosed: _____ existing + _____ proposed =	0 S.F.
7.	Amount of floor area contained within basement (if applicable – see definition): _____ existing + _____ proposed =	N/A
8.	Amount of floor area contained within attic (if applicable – see definition): _____ existing + _____ proposed =	N/A
9.	Amount of floor area contained within all accessory buildings: (SHED) 160 S.F. existing + _____ proposed =	160 S.F.
10.	Proposed **floor area:** Total of Lines 3 – 9 =	5,985 S.F. < 8,644 S.F.

If Line 10 is less than or equal to Line 2, your proposal **complies** with the Town's maximum floor area regulations and the project may proceed to the Residential Project Review Committee for review. If Line 10 is greater than Line 2 your proposal does not comply with the Town's regulations.

Signature and Seal of Professional Preparing Worksheet

REGISTERED ARCHITECT SAMUEL E. GARDNER 079889 STATE OF NEW YORK

Date 4/11/2022



ADJACENT PROPERTY MAP

LOCATION MAP

ARCHITECTURAL LIST OF DRAWINGS

- A-1 TITLE SHEET: PROPOSED SITE PLAN; ZONING CONFORMANCE TABLE; LOCATION MAP; ADJACENT PROPERTY MAP & DRAWING LIST
- A-2 GROUND LEVEL PLAN – EXISTING & NEW
- A-3 FIRST FLOOR PLAN (UPPER) – EXISTING & NEW
- A-4 FRONT & SIDE EXTERIOR ELEVATIONS
- A-5 REAR & SIDE ELEVATIONS; BUILDING SECTION THRU GARAGE
- A-6 BUILDING SECTION THRU HOUSE

ZONING CONFORMANCE TABLE:

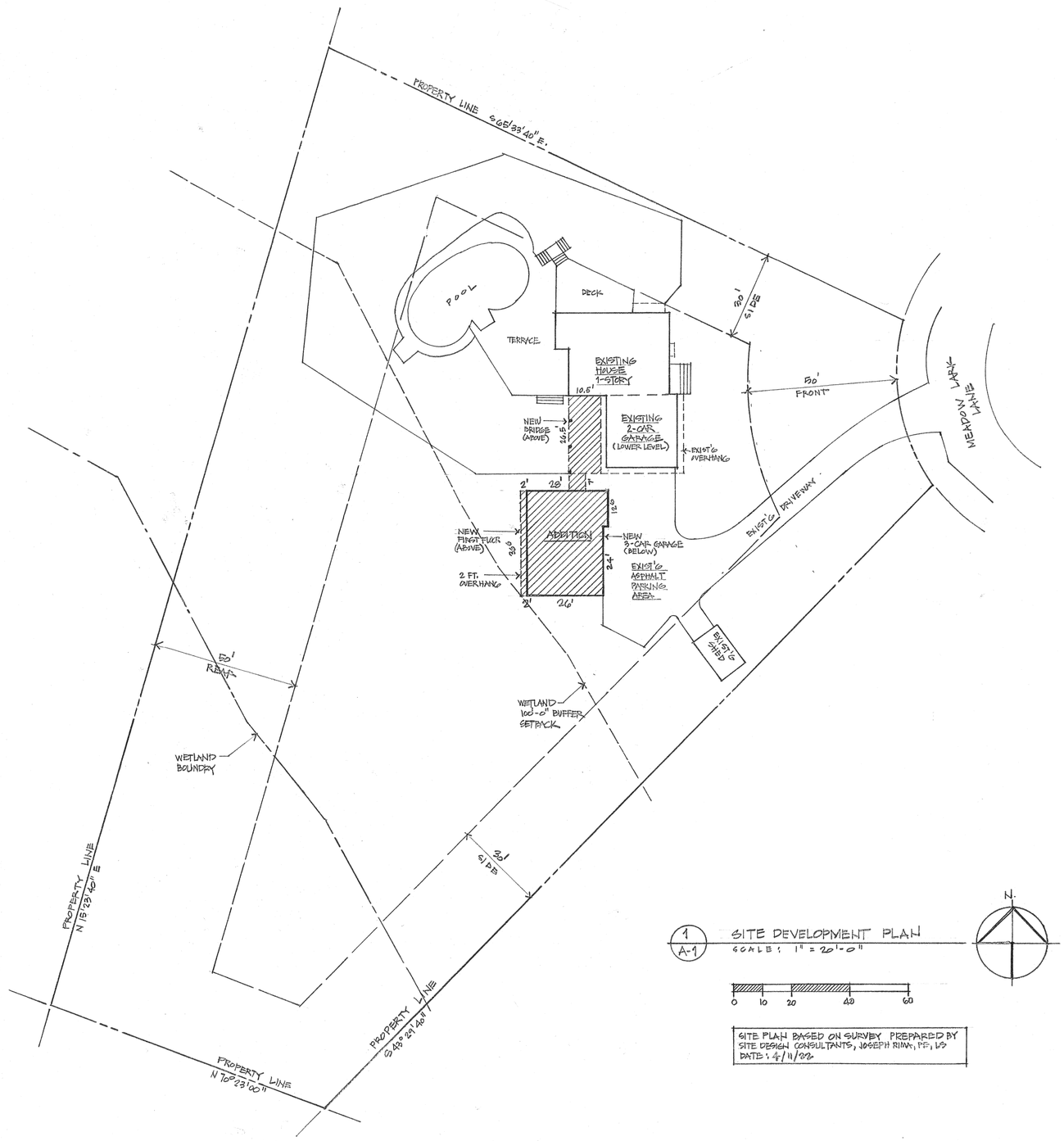
OWNER:	TODD KOSAKOWSKI
ADDRESS:	7 MEADOW LARK LANE, BEDFORD, NY 10506
PROJECT LOCATION:	7 MEADOW LARK LAND, TOWN OF NOTH CASTLE, NY
ZONE:	R-2A, RESIDENTIAL, SINGLE FAMILY
TOWN TAX MAP DATA:	SECTION 102.01, BLOCK 2; LOT 26
SCHOOL DISTRICT:	BYRAM HILLS CENTRAL
PROPERTY AREA:	1.351 ACRES (58,851 SF)
SEWAGE FACILITIES:	SUBSURFACE SEWAGE DISPOSAL SYSTEM
WATER FACILITIES:	DRILLED WELL

PROPOSED WORK:

- 1-STORY ADDITION AT REAR OF EXIST'G HOUSE (NO BASEMENT)
- 2-STORY ATTACHED GARAGE W/ CAR STORAGE AT LOWER LEVEL & 2 BEDROOMS AT UPPER LEVEL

ZONING SCHEDULE:

ZONING DISTRICT: R-2A, SINGLE FAMILY RESIDENTIAL			
DIMENSIONAL REGULATIONS	REQUIRED	PROVIDED	VARIANCE REQ'D
MINIMUM SIZE OF LOT: ▪ LOT AREA ▪ LOT FRONTAGE ▪ LOT WIDTH ▪ LOT DEPTH	 2.0 AC 150 FT 150 FT 150 FT	 1.35 AC 58.84FT 180 FT 245 FT	 NONE NONE	
MINIMUM YARD DIMENSIONS: ▪ FRONT YARD SETBACK ▪ REAR YARD SETBACK ▪ ONE SIDE YARD SETBACK	 50 FT 50 FT 30 FT	 72.8 FT 107 FT 31.9 FT	 NONE NONE NONE	
MAXIMUM HEIGHT: ▪ PRINCIPAL BUILDING (FT)	30 FT	22.5 FT	NONE	
MAXIMUM PERMITTED GFA (1-FAMILY): (SECTION 355-26) ▪ PRINCIPAL BUILDING COVERAGE (SF)	8% OF LOT AREA	2.5% OF LOT AREA	NONE	
MINIMUM BUILDING SIZE:	1,400 SF	1,640 SF (EXISTING & SHED) 2,614 SF (HOUSE+SHED+GARAGE)	NONE	



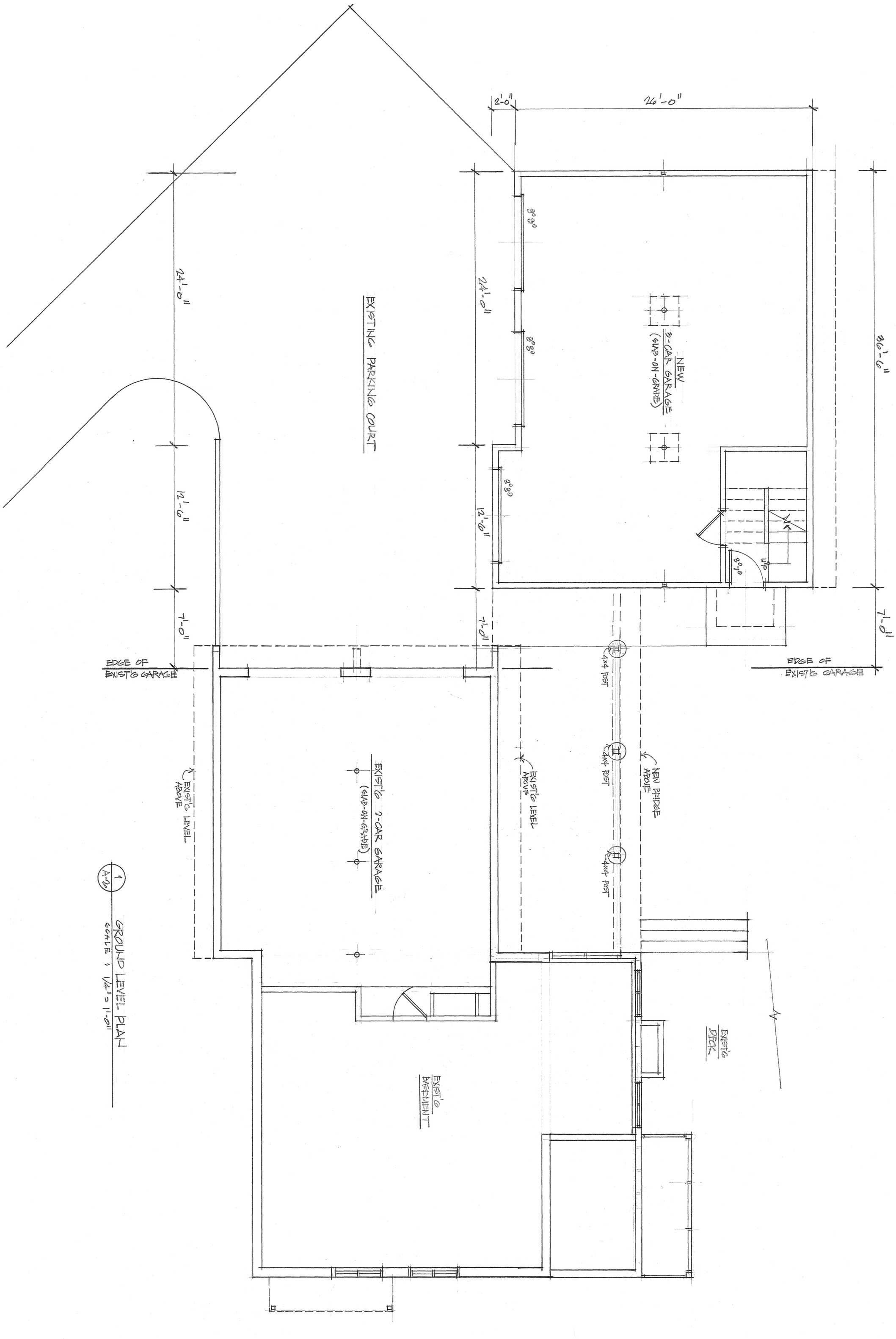
Samuel E. Gardner, AIA
350 Ridgefield Road, Wilton, CT 06897 (203) 216-4297

Date: 4/11/2022 Revision: _____

Drawing Title: Title Sheet with Site Plan, Zoning Data General Notes, Location Map, Index of Drawings

Kosakowski Residence:
Addition & New 3-Car Garage & Studio
7 Meadow Lark Lane, Bedford, (Town of North Castle) NY 10506

A-1



1 / A-2 GROUND LEVEL PLAN

SCALE: 1/4" = 1'-0"

A-2

Kosakowski Residence:

Addition & New 3-Car Garage & Studio

7 Meadow Lark Lane, Bedford, (Town of North Castle) NY 10506

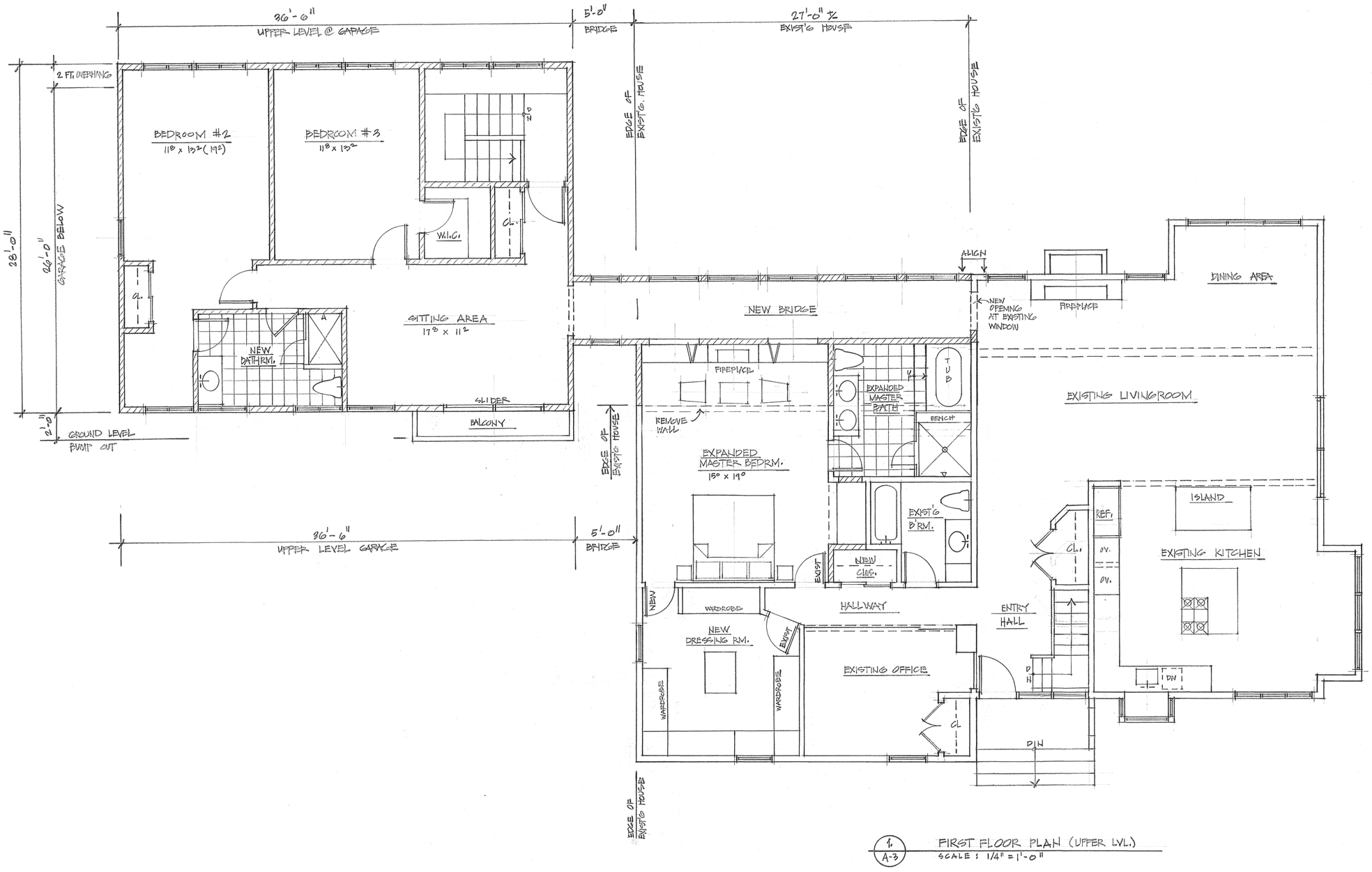
Date: 4/11/2022 Revision: _____

Drawing Title: Proposed Basement/Lower Level
Showing New 3-Car Garage

Samuel E. Gardner, AIA

390 Ridgefield Road, Wilton, CT 06897 (203) 216-4297

REGISTERED ARCHITECT
SAMUEL E. GARDNER
079889
STATE OF NEW YORK



1/4 A-3 FIRST FLOOR PLAN (UPPER LVL.)
SCALE : 1/4" = 1'-0"

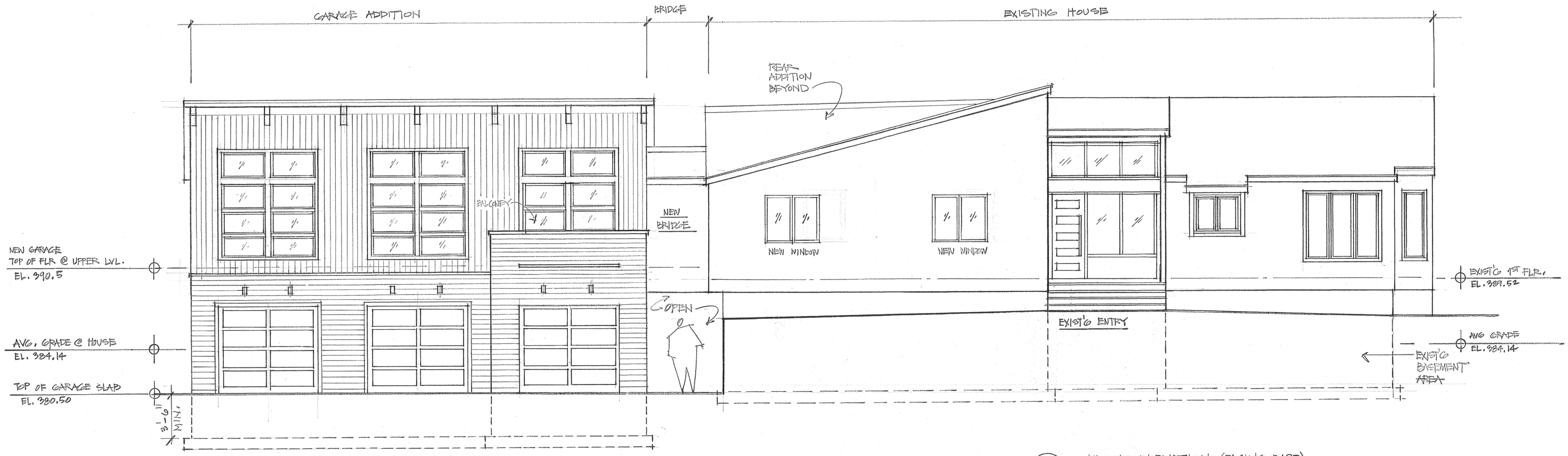
Samuel E. Gardner, AIA
390 Ridgefield Road, Wilton, CT 06897 (203) 216-4297

Date: 4/28/2022 Revision: _____

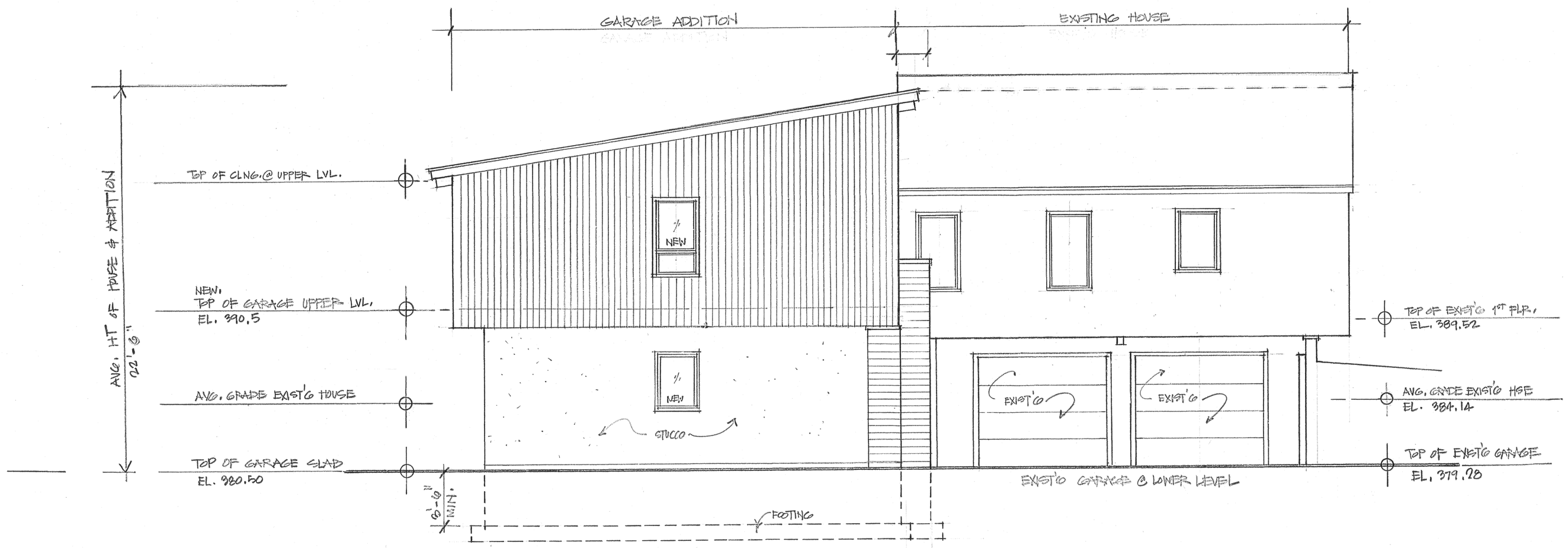
Drawing Title: Proposed First Floor/Upper Level
Showing Addition & Garage Studio

Kosakowski Residence:
Addition & New 3-Car Garage & Studio
7 Meadow Lark Lane, Bedford, (Town of North Castle) NY 10506

A-3



1 / A-4 FRONT ELEVATION (FACING EAST)
SCALE : 1/4" = 1'-0"



2 / A-4 SIDE ELEVATION (FACING SOUTH)
SCALE : 1/4" = 1'-0"

REGISTERED ARCHITECT SAMUEL E. GARDNER NEW YORK

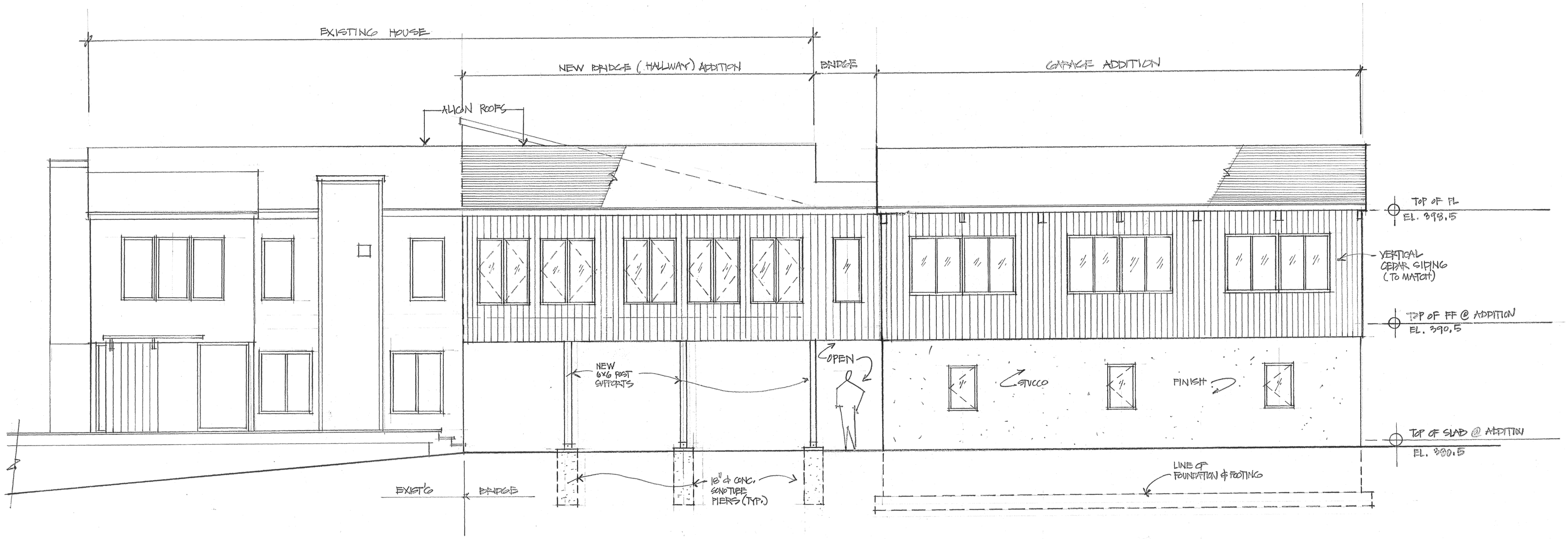
Samuel E. Gardner, AIA
330 Ridgefield Road, Wilton, CT 06897 (203) 216-4297

Date: 4/11/2022 Revision: _____

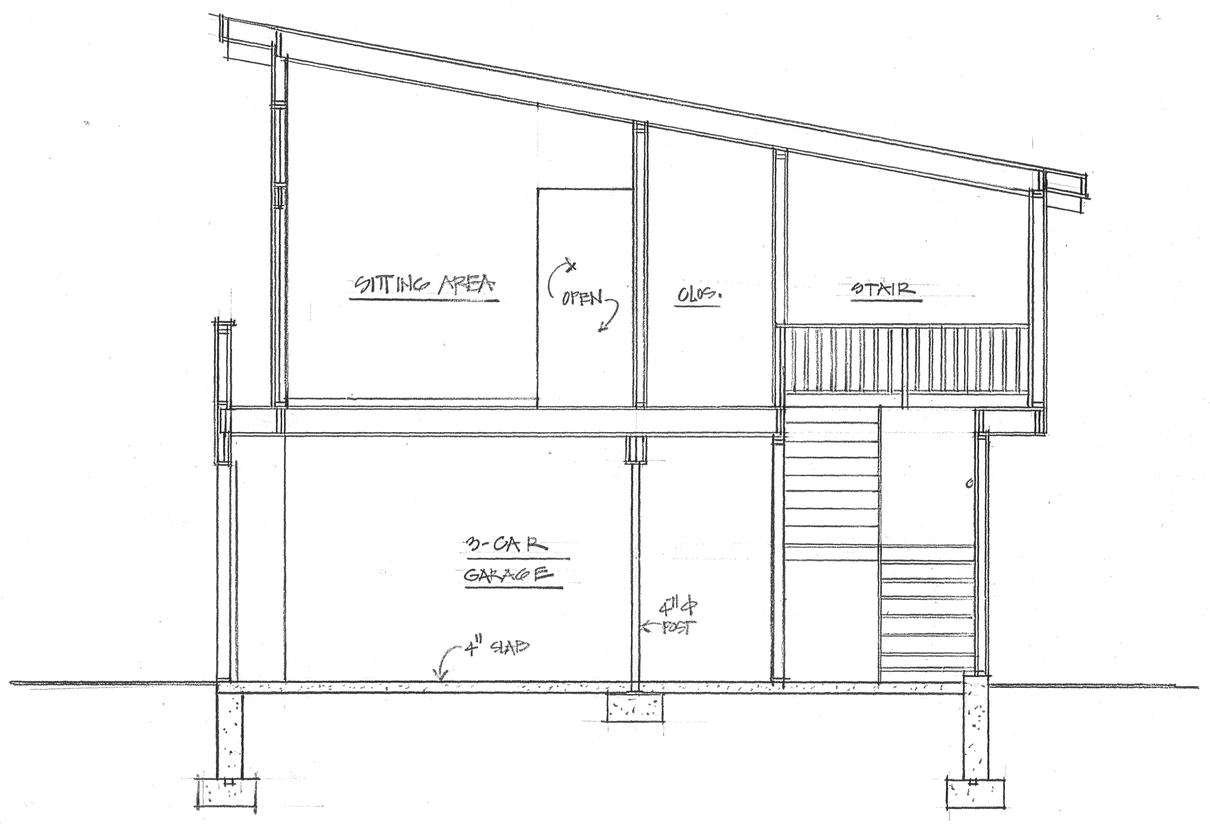
Drawing Title: Front & Side Elevation

Kosakowski Residence:
Addition & New 3-Car Garage & Studio
7 Meadow Lark Lane, Bedford, (Town of North Castle) NY 10506

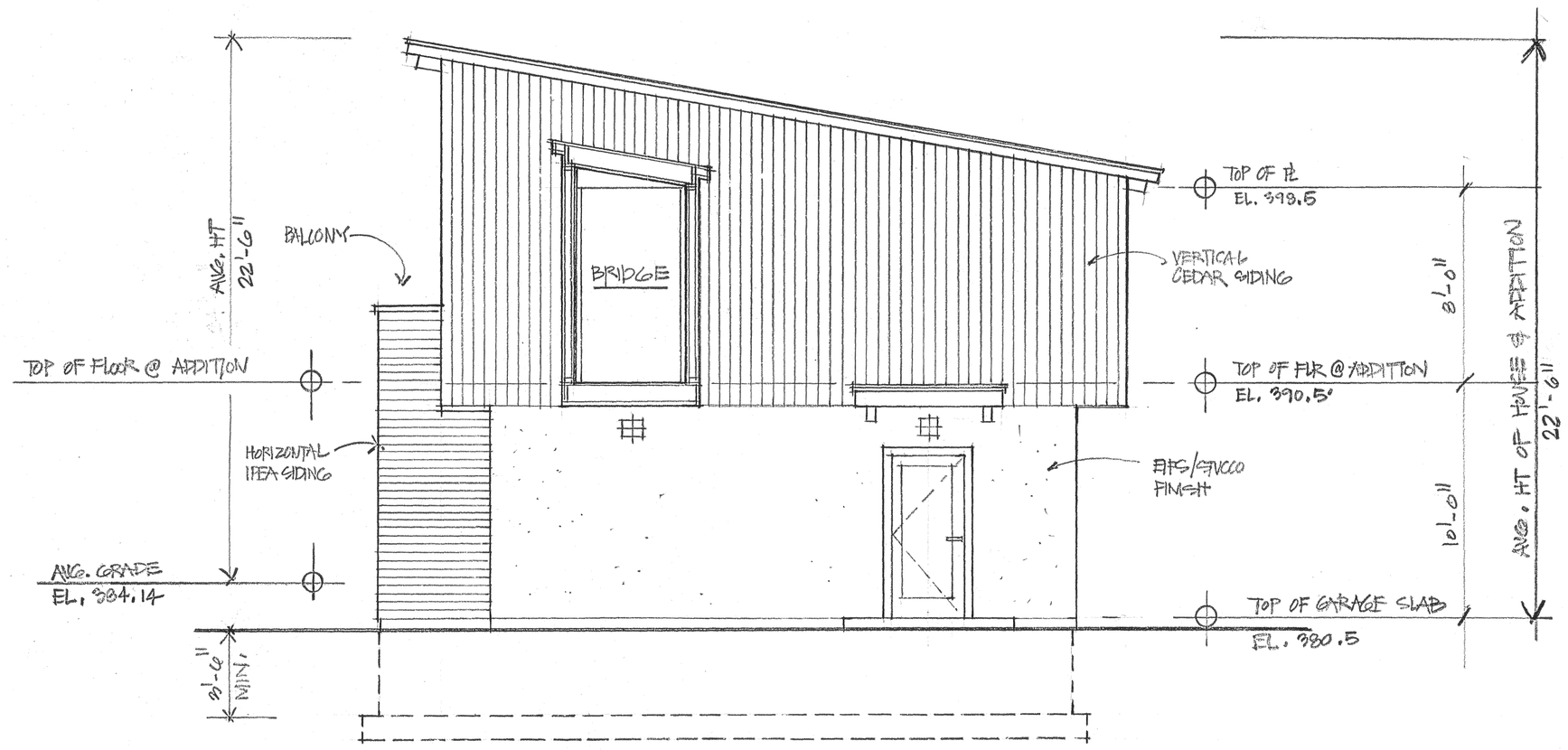
A-4



1 A-5 REAR ELEVATION (FACING WEST)
SCALE: 1/4" = 1'-0"



3 A-5 SECTION THRU GARAGE
SCALE: 1/4" = 1'-0"



2 A-5 SIDE ELEVATION (FACING NORTH)
SCALE: 1/4" = 1'-0"

Samuel E. Gardner, AIA
390 Ridgefield Road, Wilton, CT 06897 (203) 216-4297

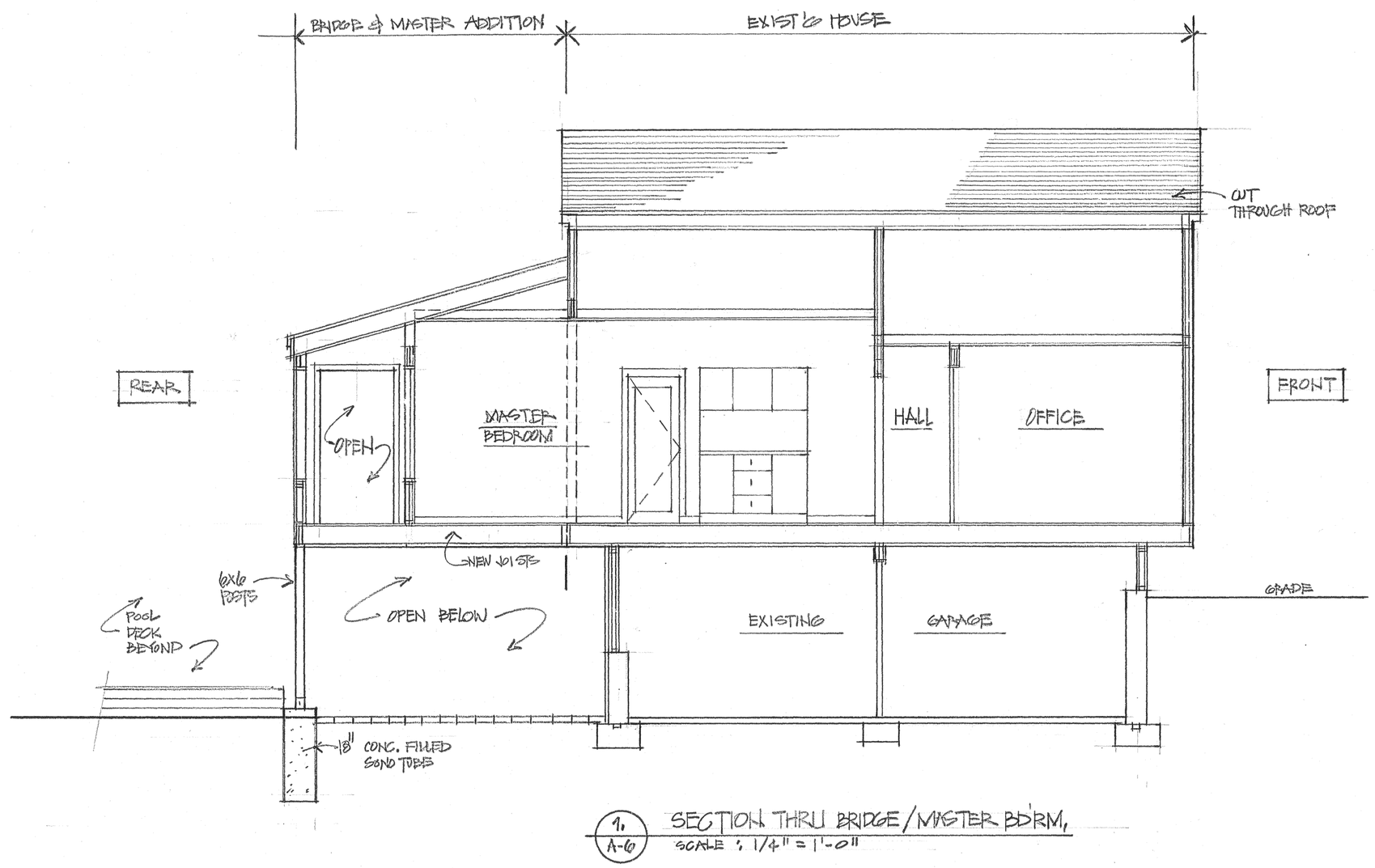
Revision:

Date: 4/6/2022

Drawing Title: Rear & Side Elevation

Kosakowski Residence:
Addition & New 3-Car Garage & Studio
7 Meadow Lark Lane, Bedford, (Town of North Castle) NY 10506

A-5



1/A-6 SECTION THRU BRIDGE/MASTER BD'RM,
SCALE : 1/4" = 1'-0"

Samuel E. Gardner, AIA
390 Ridgefield Road, Wilton, CT 06897 (203) 216-4297

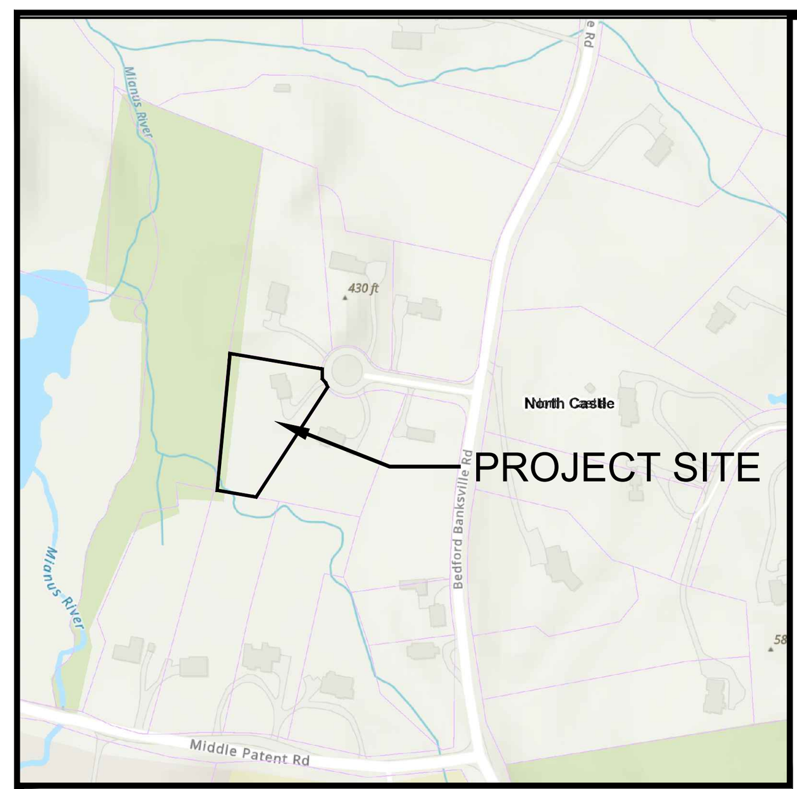
Revision: _____

Date: 4/19/2022

Drawing Title: Building Section & 3D Rendering

Kosakowski Residence:
Addition & New 3-Car Garage & Studio
7 Meadow Lark Lane, Bedford, (Town of North Castle) NY 10506

A-6



LOCATION MAP
NOT TO SCALE

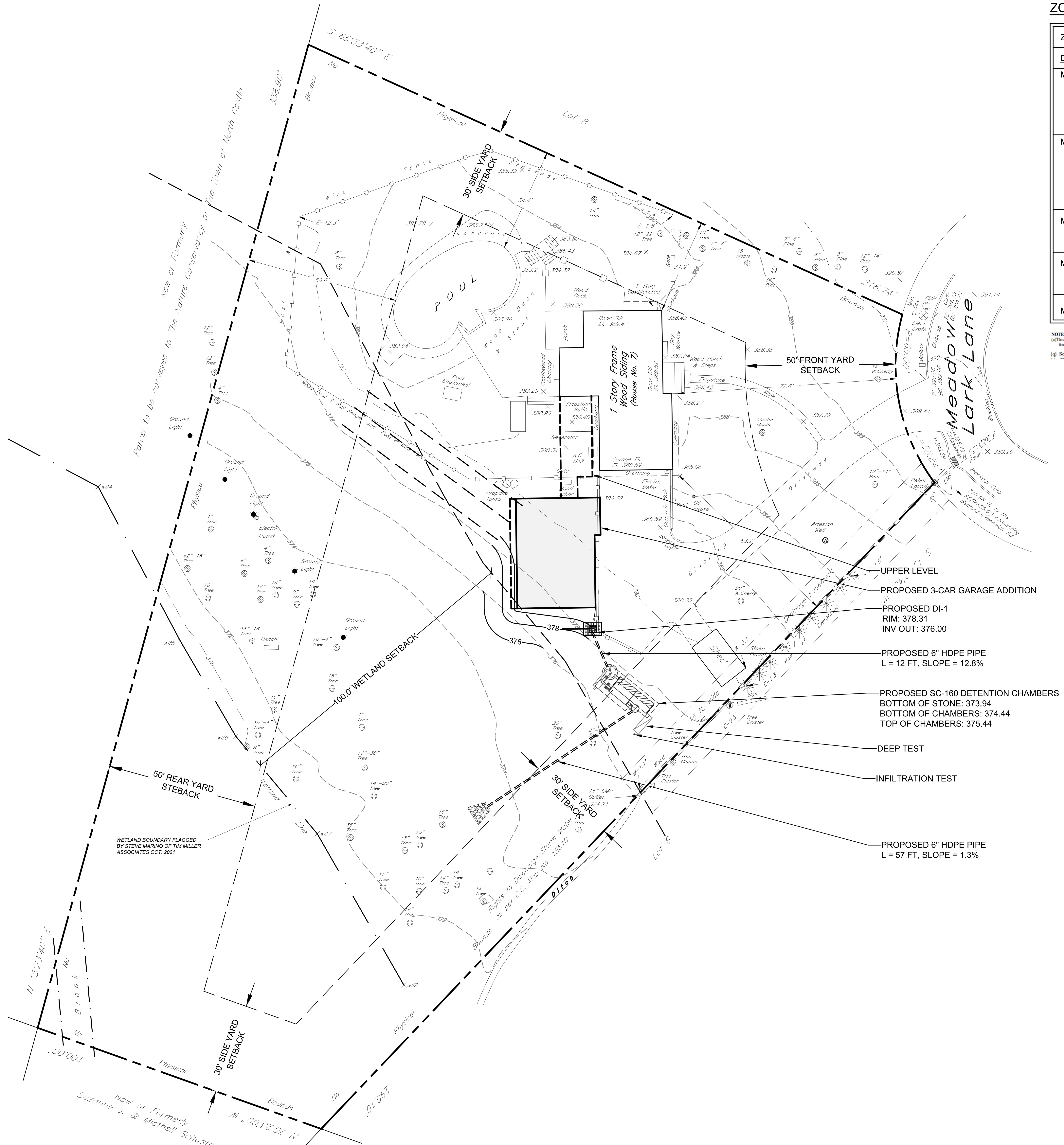
SITE DATA:

OWNER / DEVELOPER:	TODD KOSAKOWSKI
STREET ADDRESS	7 MEADOW LARK LANE BEDFORD, NY 10506
PROJECT LOCATION:	7 MEADOW LARK LANE TOWN OF NORTH CASTLE
EXISTING TOWN ZONING:	R-2A SINGLE FAMILY
TOWN TAX MAP DATA:	SECTION 102.01, BLOCK 2, LOT 26
SITE AREA :	1.351 ACRES (58,851 SF)
SEWAGE FACILITIES:	SUBSURFACE SEWAGE DISPOSAL
WATER FACILITIES:	DRILLED WELL

ZONING SCHEDULE:

ZONING DISTRICT:	R-2A, SINGLE FAMILY RESIDENTIAL		
DIMENSIONAL REGULATIONS:	REQUIRED	PROVIDED	VARIANCE REQUIRED
MINIMUM SIZE OF LOT:			
LOT AREA:	2.0 AC.	1.35 AC.	NONE
LOT FRONTAGE:	150 FT. (a)	58.84 FT.	NONE
LOT WIDTH:	150 FT.	180 FT.	NONE
LOT DEPTH:	150 FT.	245 FT.	NONE
MINIMUM YARD DIMENSIONS:			
PRINCIPAL BUILDING:			
FRONT YARD SETBACK:	50 FT.	72.8 FT.	NONE
REAR YARD SETBACK:	50 FT.	107 FT.	NONE
ONE SIDE YARD SETBACK:	30 FT.	31.9 FT.	NONE
MAXIMUM HEIGHT:			
PRINCIPAL BUILDING - FEET:	30 FEET (q)	22.5 FEET	NONE
MAXIMUM % OF LOT TO BE OCCUPIED:			
PRINCIPAL BUILDING COVERAGE:	8% OF LOT AREA	2.5 % OF LOT AREA	NONE
MINIMUM BUILDING SIZE:	1,400 SF	1,640 SF (EXISTING HOUSE + SHED) 2,614 SF (HOUSE + SHED + GARAGE)	NONE

NOTES:
(a) This requirement may be modified by the Planning Board with respect to any lot abutting a turnaround terminating a dead-end street, provided that a minimum frontage of 25 feet is provided.
(q) See § 355-25 regarding increased height provisions for the R-1A through R-4A Districts.



LEGEND

- EXISTING GRADING
- EXISTING SPOT GRADE
- PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- EXISTING STONE WALL
- EXISTING STONE WALLS TO BE REMOVED
- PROPOSED RIP RAP AT PIPE END
- PROPOSED PERMANENT SWALE
- FD PROPOSED FOOTING DRAIN
- RD PROPOSED ROOF DRAIN
- PROPOSED HOUSE AND DRIVE
- PROPOSED RETAINING WALLS
- SS PROPOSED SOIL STOCKPILES
- PROPOSED SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED LIMIT OF DISTURBANCE
- EXISTING TREE TO BE REMOVED

0 10 20 40
SCALE: 1"=20'-0"

SAFE DIG
Before You Dig, Drill or Blast!
CALL US TOLL FREE 811 or 1-800-962-7962
NY Industrial Code Rule 753 requires no less than two working days notice, but not more than ten days notice.
www.digsafelynewyork.com

NOTE:
1. THIS IS NOT A SURVEY. ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY HENRY KOSAKOWSKI, DATED 10/24/2016. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

PROJECT # 21-47

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: NYS Lic. No. 64431

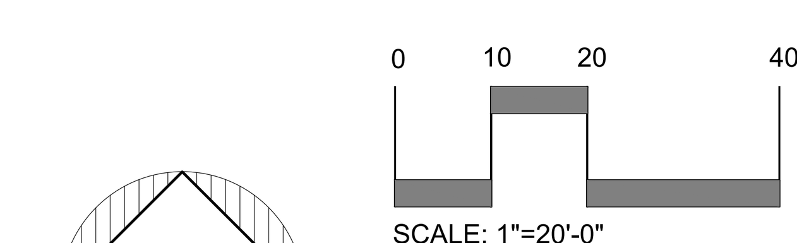
Revisions:		
No.	Date	Comments:
----	----	----

SCALE: 1" = 20'
DRAWN BY: JR
DATE: 4/11/22

SITE PLAN

PROPOSED SITE PLAN
PREPARED FOR
TODD KOSAKOWSKI
7 MEADOW LARK LANE
Town of North Castle Westchester County, NY

Sheet 1 of 5



SAFE DIG

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PROJECT # 21-47

Engineer:

Joseph Carlo Riina, P.E.
NYS Lic. No. 64431

Revisions:

No.	Date	Comments:
----	----	----

SCALE: 1" = 20'

DRAWN BY: JR

DATE: 4/11/22

EXISTING CONDTIONS

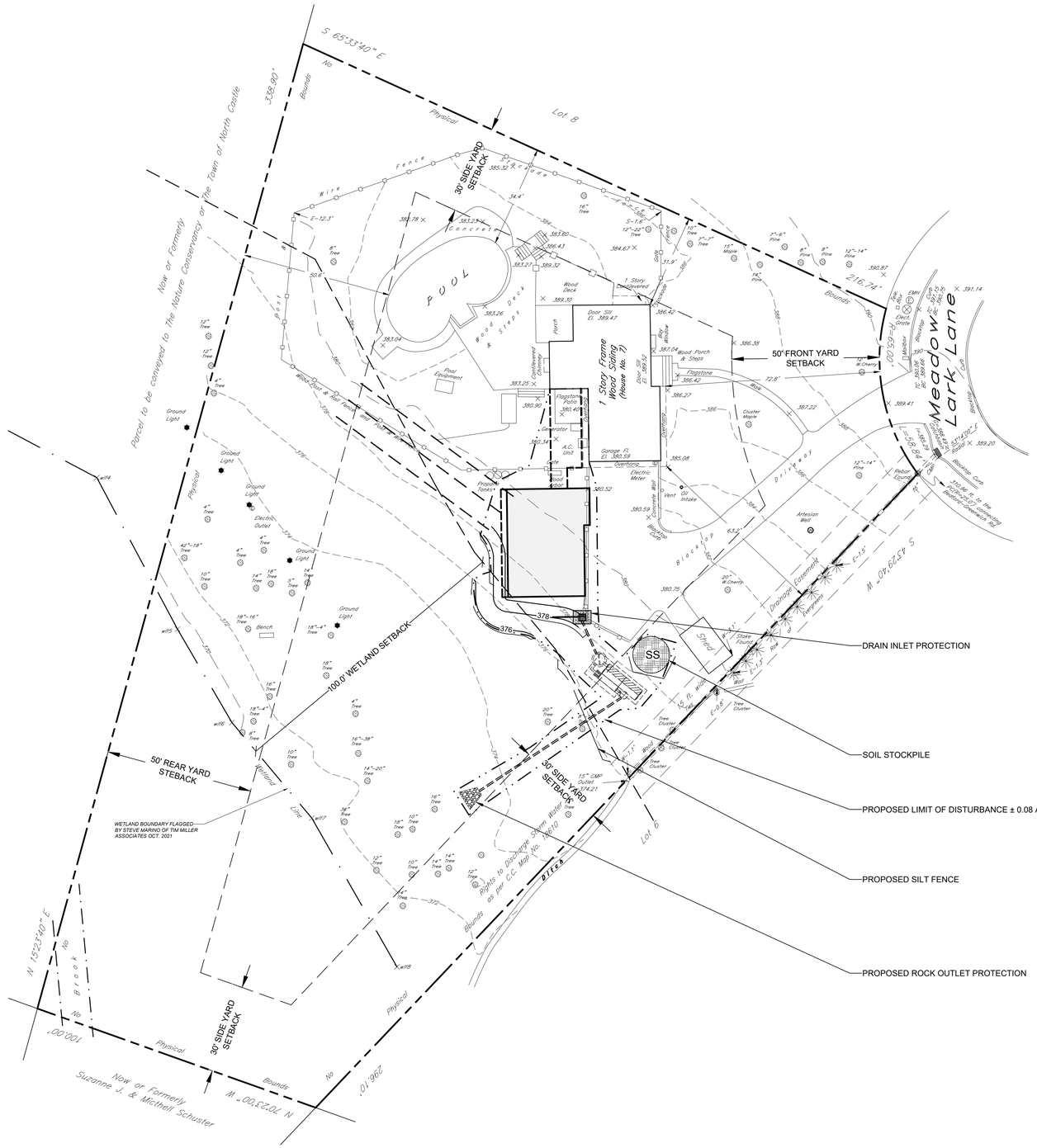
PROPOSED SITE PLAN
PREPARED FOR

TODD KOSAKOWSKI

7 MEADOW LARK LANE

Town of North Castle — Westchester County, NY

Sheet 2 of 5



LEGEND

- 222 — EXISTING GRADING
- ×222.8 — EXISTING SPOT GRADE
- 200 — PROPOSED GRADING
- PROPERTY LINE / RIGHT OF WAY
- EXISTING STONE WALL
- EXISTING STONE WALLS TO BE REMOVED
- PROPOSED RIP RAP AT PIPE END
- PROPOSED PERMANENT SWALE
- FD — PROPOSED FOOTING DRAIN
- RD — PROPOSED ROOF DRAIN
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- SS SS — PROPOSED SOIL STOCKPILES
- PROPOSED SILT FENCE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED LIMIT OF DISTURBANCE
- EXISTING TREE TO BE REMOVED

0 10 20 40

SCALE: 1"=20'-0"

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1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY HENRY KOSAKOWSKI, DATED 10/24/2016. 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\21-47 TODD KOSOKOWSKI\7 MEADOW LARK LANE BEDFORD\ENGINEERING\CAD\CSD\21-47 TODD KOSOKOWSKI\7 MEADOW LARK LANE BEDFORD\DWG\21-47 KOSOKOWSKI SITE PLAN.DWG 12/11/2021 2:33:51 PM

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

PROJECT # 21-47

Engineer: JOSEPH GARLO RIINA, LICENSED PROFESSIONAL ENGINEER, No. 64431, STATE OF NEW YORK
Joseph G. Riina, P.E.
NYS Lic. No. 64431

Revisions:

No.	Date	Comments:
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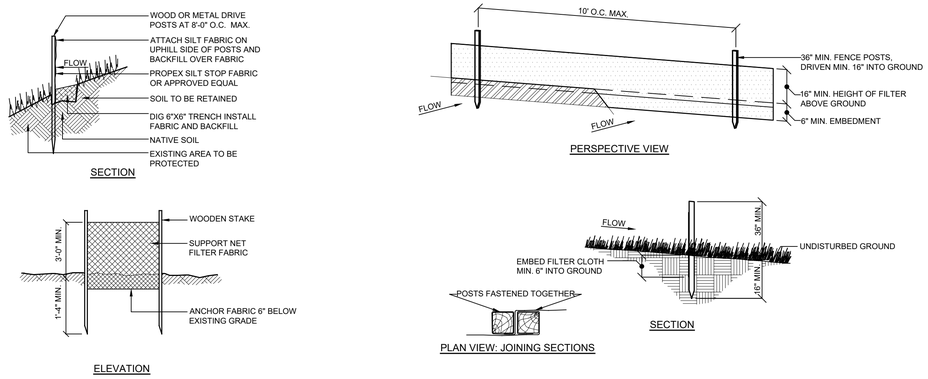
SCALE: 1" = 20'
DRAWN BY: JR
DATE: 4/11/22

EROSION PLAN

PROPOSED SITE PLAN
PREPARED FOR
TODD KOSAKOWSKI
7 MEADOW LARK LANE
Town of North Castle Westchester County, NY

Sheet 3 of 5



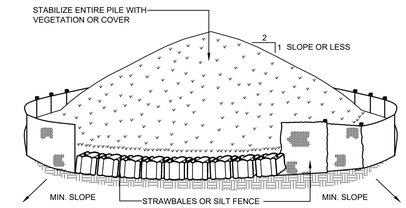
NOTES:

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-1 SILT FENCE DETAIL

NOT TO SCALE



SYMBOL

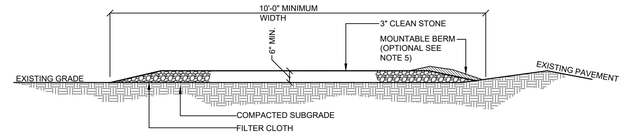
SS

NOTES:

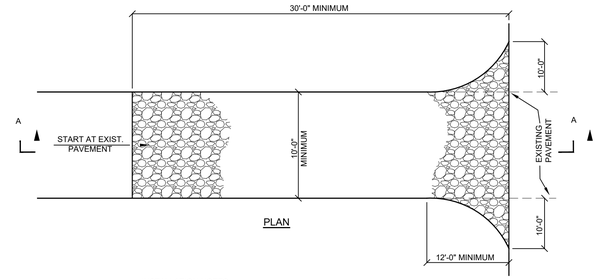
1. Area chosen for stockpiling operations shall be dry and stable.
2. Maximum slope of stockpile shall be 1:2.
3. Upon completion of soil stockpiling, each pile shall be surrounded with either silt fencing or strawbales, then stabilized with vegetation or covered.
4. See detail for installation of silt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

E-2 SOIL STOCKPILE DETAIL

NOT TO SCALE



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-4 STABILIZED CONSTRUCTION ENTRANCE 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.

CONSTRUCTION SEQUENCE:

1. A licensed surveyor must define infrastructure locations, limits of disturbance, stormwater basin limits, and grades in the field prior to start of any construction. Limits of disturbance shall be marked with the installation of construction fence or approved equal.
2. Install all perimeter erosion control measures, construction entrance as shown on the Erosion and Sediment Control Plan and the associated Details.
3. Cut and clear trees within work area. Timbered trees, wood chips, and stumps shall be removed off-site. Strip site and place topsoil in stockpile locations shown on the plan.
4. Start construction of project access points, set-up staging areas as shown on Erosion and Sediment Control Plan.
5. Begin rough grading the site.
6. Rough grade of foundation for additions. Soil shall be stockpiled as shown and stabilized the next day if they are to be left alone for over seven days.
7. Begin excavation of building foundations, wall, and utilities. Protect open excavations. Where applicable, place fill on the up-slopes and side edges of fill area. Fill should be pushed in place and stabilized with tracking perpendicular to the slope. Place soil stockpiles in locations shown on the Erosion and Sediment Control Plans and associated Details.
8. Begin construction of the house addition.
9. Upon completion of foundation, backfill to grade and immediately stabilize areas that will not receive traffic or disturbance within seven (7) days.
10. Begin the excavation and installation of utilities and drainage system. Protect trenches and open excavations from erosion. All drainage inlets shall be protected from sediment entering. There shall be no direct unfiltered discharge into the stormwater systems. The stormwater outlet shall be blocked until all upstream areas have been permanently stabilized.
11. During building and site construction maintain and re-establish as required erosion control and stabilization measures as required by the site plan and details.
12. Topsoil, rake, seed and mulch all disturbed areas. Once all proposed disturbances are completed, begin full stabilization of the site. Once the site has been stabilized, remove all temporary erosion control measures. This shall be done during optimum weather conditions to avoid sediment transport. A site shall be considered stabilized when it has a minimum uniform 80% perennial vegetation cover or other permanent non vegetative cover with a density sufficient to resist accelerated surface erosion. Once final stabilization has been achieved, unblock piping to infiltrators in order to allow flow to enter.

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.

NOTE:

1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY NAME OF SURVEYOR, DATED XX/XX/XX, LAST REVISED XX/XX/XX. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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PROJECT # 21-47

Engineer: STATE OF NEW YORK JOSEPH CARLO RINA LICENSED PROFESSIONAL ENGINEER P.E. Joseph C. Rina, P.E. N.Y.S Lic. No. 64431

Revisions:

No.	Date	Comments:
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SCALE: 1" = 20'

DRAWN BY: JR

DATE: 4/11/22

EROSION DETAILS

PROPOSED SITE PLAN
PREPARED FOR
TODD KOSAKOWSKI
7 MEADOW LARK LANE
Town of North Castle Westchester County, NY

Sheet 4 of 5

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

Advanced Drainage Systems, Inc.

SiteASSIST™ FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

21-47 KOSOKOWSKI

NORTH CASTLE, NY

SC-160LP STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-160LP.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "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 1.5".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN/IN. 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.

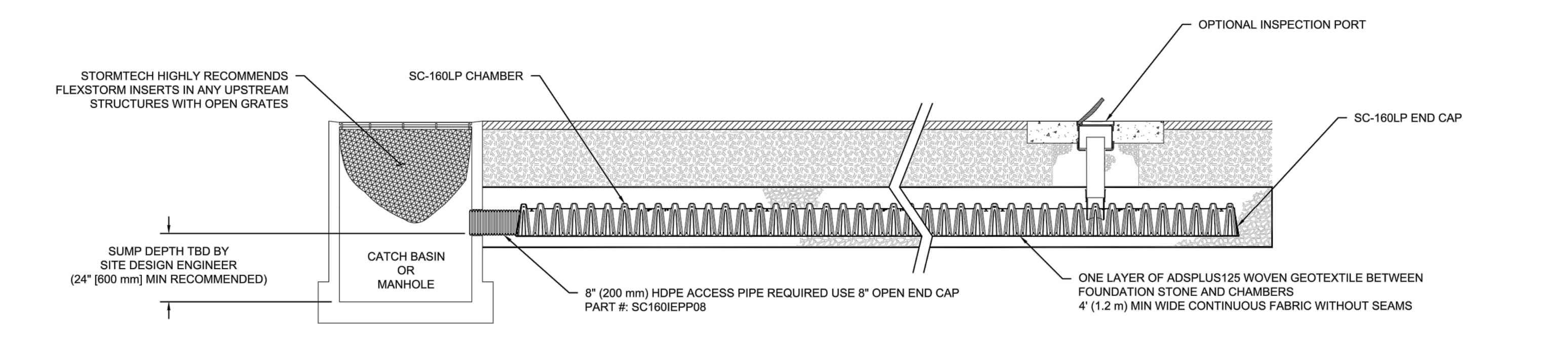
IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-160LP SYSTEM

1. STORMTECH SC-160LP CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-160LP CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
3. FOUNDATION STONE AND EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE; AASHTO M43 #3,357, 4, 467, 5, 56, OR 57.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. THE DEPTH OF FOUNDATION STONE SHALL BE DETERMINED BASED ON THE SUBGRADE BEARING CAPACITY PROVIDED BY THE SITE DESIGN ENGINEER.
6. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES CONCERNING CHAMBER FOUNDATION DESIGN AND SUBGRADE BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
7. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
8. CHAMBERS SHALL BE INSTALLED "TOE TO TOE". NO ADDITIONAL SPACING BETWEEN ROWS IS REQUIRED.
9. 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.
10. 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. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-160LP 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-160LP CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-106LP CONSTRUCTION GUIDE".
2. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

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



SC-160LP ISOLATOR ROW PLUS DETAIL
NTS

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

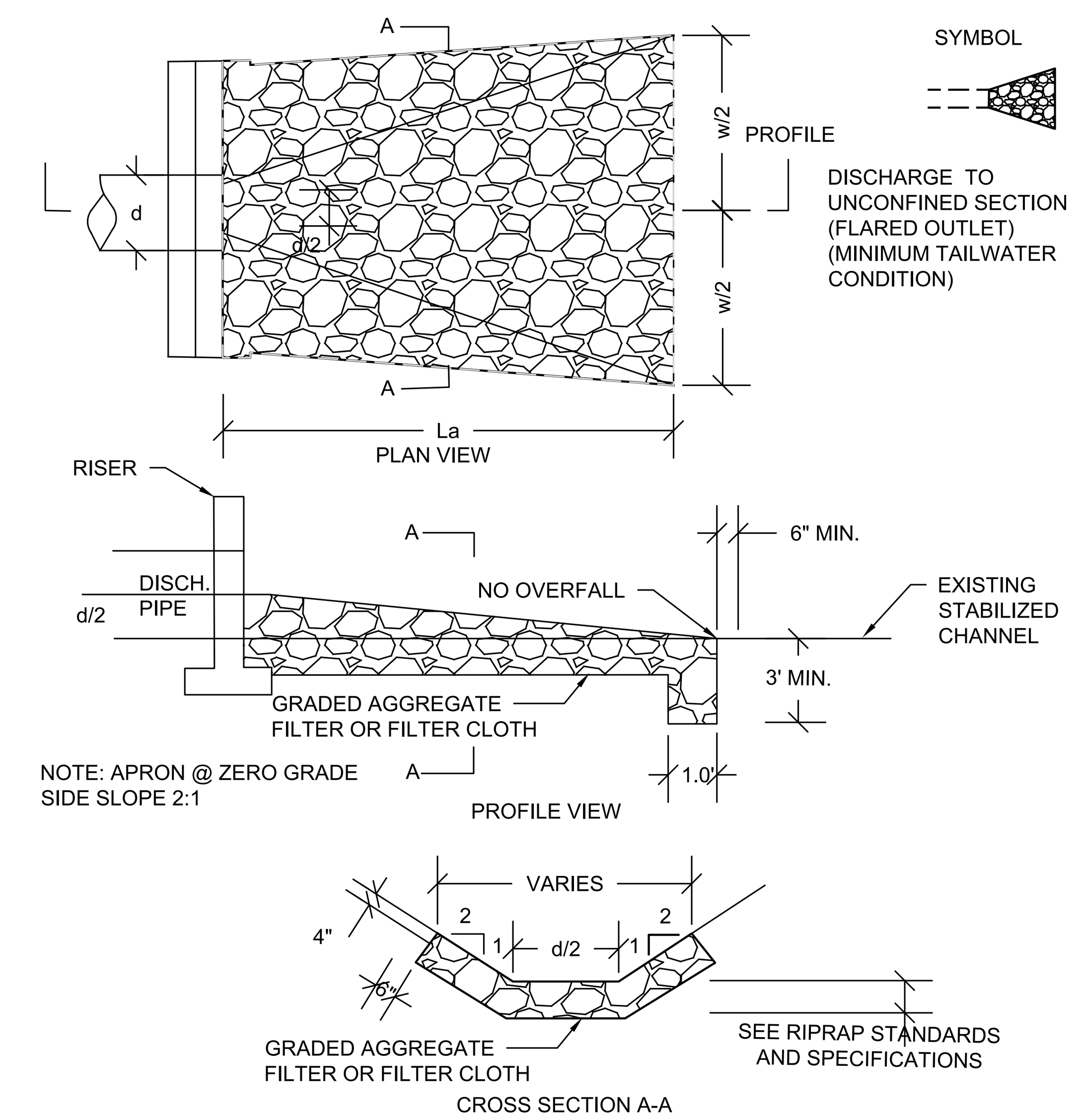
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

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.

21-47 KOSOKOWSKI, NORTH CASTLE, NY — DRAWN: CS — CHECKED: N/A
StormTech® Chamber System — 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473
SHEET 4 OF 6

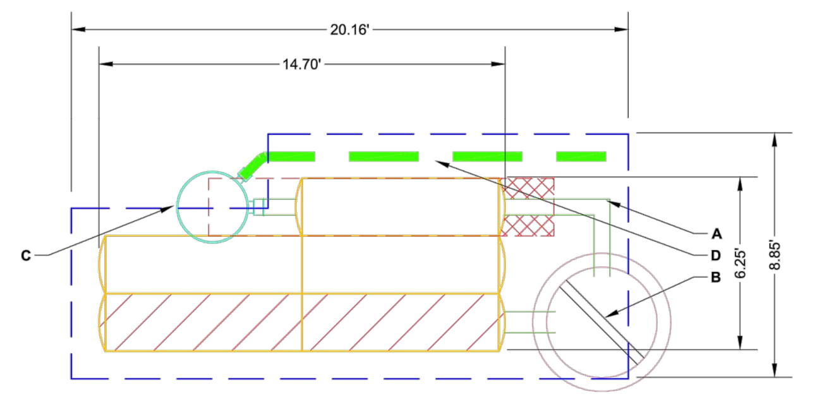


D-1 RIPRAP OUTLET DETAIL

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS	
5	STORMTECH SC-160LP CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	11.50
6	STORMTECH SC-160LP END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	3.17
6	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	2.67
6	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	2.67
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	2.67
148	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	2.00
		TOP OF SC-160LP CHAMBER:	1.50
		8" ISOLATOR ROW PLUS INVERT:	0.58
		6" x 6" BOTTOM MANIFOLD INVERT:	0.56
159	SYSTEM AREA (SF)	6" BOTTOM CONNECTION INVERT:	0.56
58.0	SYSTEM PERIMETER (ft)	BOTTOM OF SC-160LP CHAMBER:	0.50
		UNDERDRAIN INVERT:	0.00
		BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
MANIFOLD	A	6" x 6" BOTTOM MANIFOLD, MOLDED FITTINGS	0.66"	
CONCRETE STRUCTURE W/WEIR	B	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		0.4 CFS IN
NYLOPLAST (OUTLET)	C	30" DIAMETER (DESIGN BY ENGINEER)		0.4 CFS OUT
UNDERDRAIN	D	4" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		



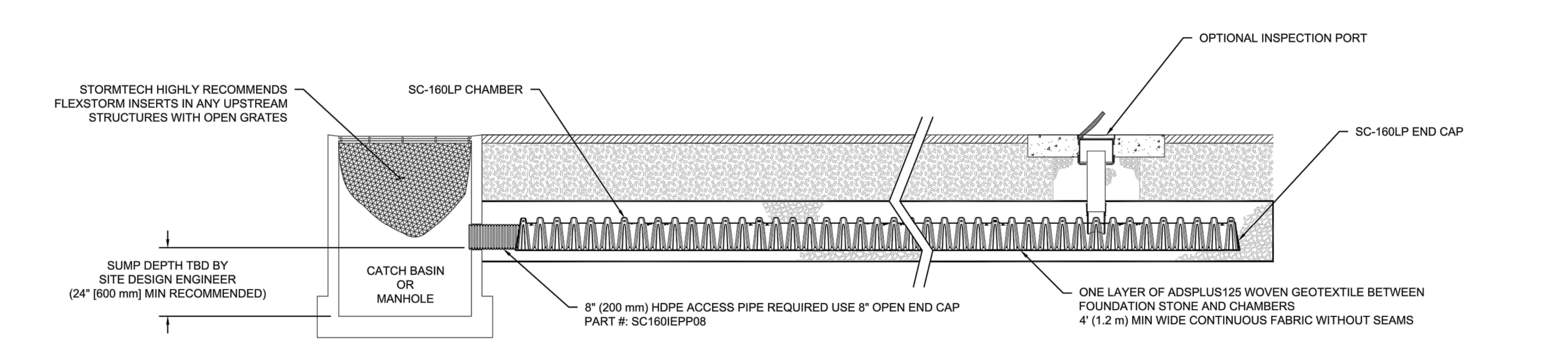
ISOLATOR ROW PLUS (SEE DETAIL)

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.

21-47 KOSOKOWSKI, NORTH CASTLE, NY — DRAWN: CS — CHECKED: N/A
StormTech® Chamber System — 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473
SHEET 2 OF 6



SC-160LP ISOLATOR ROW PLUS DETAIL
NTS

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.

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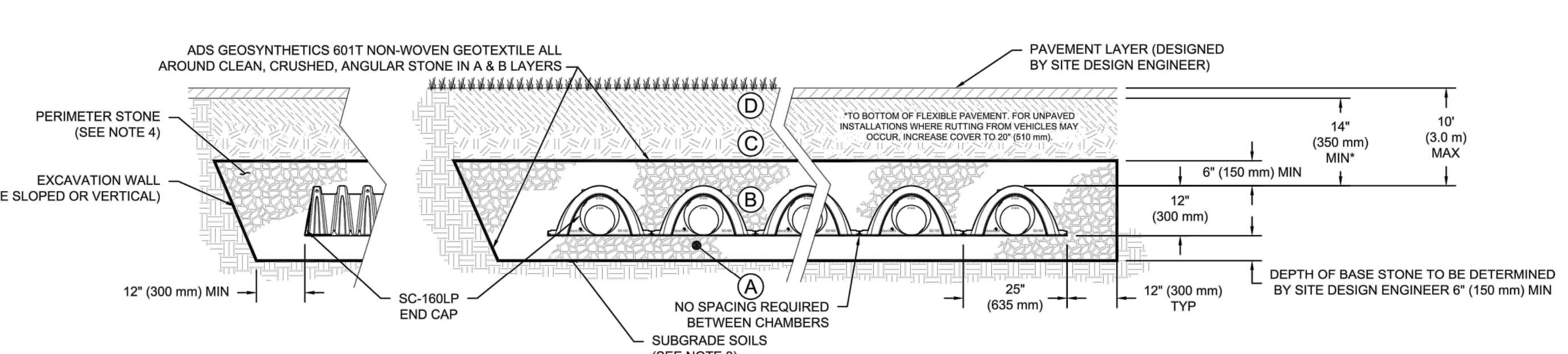
SHEET 4 OF 6

ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP 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 14" (355 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 F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. 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.
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 1.5"
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN/IN. 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.

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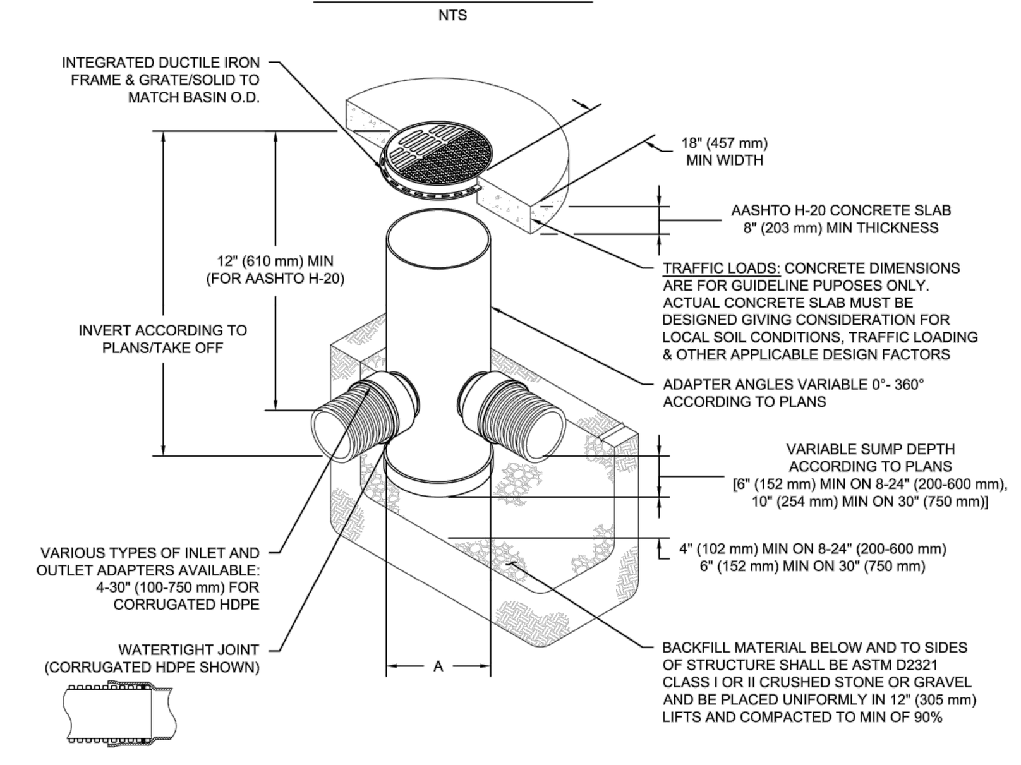
SHEET 3 OF 6

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

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PROJECT # 21-47

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 Carlo Riina, P.E. NYS Lic. No. 64431

Revisions:		
No.	Date	Comments:
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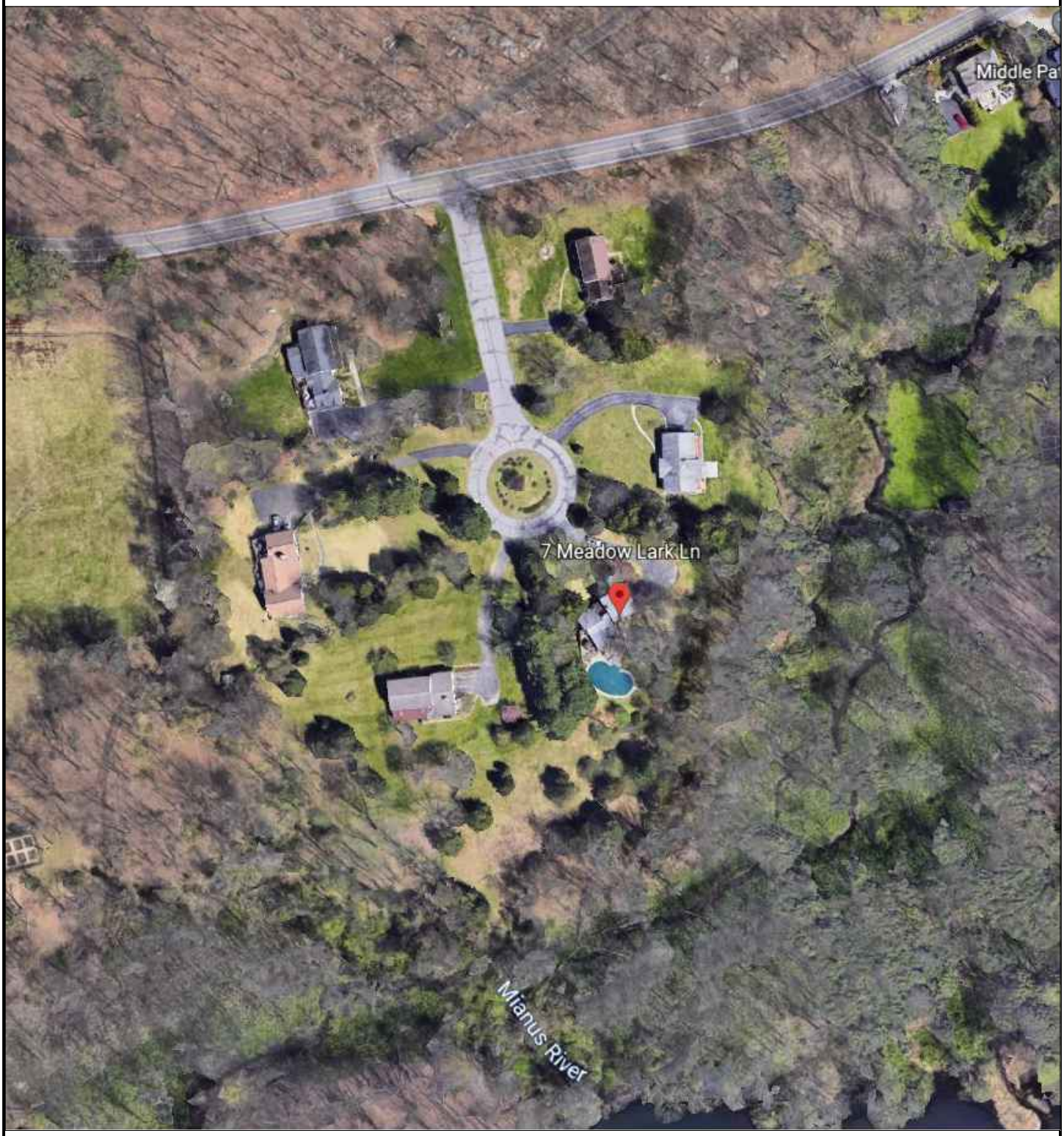
SCALE: 1" = 20'
DRAWN BY: JR
DATE: 4/11/22

DRAINAGE DETAILS

PROPOSED SITE PLAN
PREPARED FOR
TODD KOSAKOWSKI
7 MEADOW LARK LANE
Town of North Castle — Westchester County, NY

Sheet 5 of 5



NOTE:
1. Map Source: Google Earth.

FIG 4.1 AERIAL PHOTO

TODD KOSAKOWSKI

Town of North Castle Westchester County, New York

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www.sitedesignconsultants.com

NOT TO SCALE
DATE:1/7/2022

STORMWATER MANAGEMENT PLAN

Prepared for

Kosakowski Residence
7 Meadow Lark Lane
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

March 2022

STORMWATER MANAGEMENT PLAN

Prepared for

Todd Kosakowski
7 Meadow Lark Lane
Town of North Castle, NY

Property Owner: Todd Kosakowski
7 Meadow Lark Lane
North Castle, NY 10504
914-804-9618

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

March 2022

Table of Contents

Appendices

1.0 Project Description

The subject property is located at 7 Meadow Lark Lane in the Town of North Castle, New York. The existing lot has an area of 1.351 acres and is zoned R-2A. 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 local wetland located south of the property. The site is serviced by an on-site septic system and has a drilled well for water supply.

It is proposed to expand the current residence by adding to the existing home. The existing driveway will remain, and a new 3-car garage will be constructed keeping the current entry point from Bedford-Banksville Road. A stormwater management system is proposed to capture and treat runoff from the new impervious surfaces which will exceed 500 sf, and adjoining areas from the 90% storm event and retain the 25 year storm event.

The total disturbance proposed for the site will be 0.08 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.

2.0 Site Hydrology

The proposed improvements will not significantly change the surface runoff patterns. The site has little grade change sloping downward from front of the property to the back. Currently, the surface runoff pattern starts by the northeast of the property by the cul-de-sac and travels through the site, across the driveway to a low point south of property where a local wetland can be found. The majority of this area is lawn with a small amount impervious surface from the existing driveway.

Under the proposed condition the general direction of the surface runoff will not be altered. It is proposed that all 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.

3.0 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 Riverhead loam, which has a hydrologic classification of "A". 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 less than one acre, the filing of a Notice of Intent with the NYS DEC for compliance with General Permit 0-20-001 is not required. Therefore, the project only needs to comply with the provisions of the Town of North Castle Code 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 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.

Water Quality Volume (WQv)

The Treatment volumes are determined as prescribed by the standard methods as outlined in the NYS DEC SMDM. This Water Quality Volume WQv requirement is normally based on the 90% rainfall event. This equates to 90% of the average rainfall for the specific region. With the design provided, this entire volume will be captured and retained for an extended period of 24-hours for pollutants to settle out of the contained runoff. The volumes to be treated have been calculated as shown in the following table.

Water Quality Volume

Drainage Area	WQv based on 90% Rainfall Event	Volume Provided Treatment	Treatment Provided
DA-1	108 cf	148 cf	SC-160LP Chambers

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.

For the portion of the site analyzed, runoff leaves the site via one path. The chosen design point contains the flow from the area to be developed toward a low point on the south of the property. This area was called DA-1, and consists of the 3-car garage addition to the existing house. The tributary area is 974 sf of which all is lawn with a runoff coefficient Cn of 49.

Under the proposed condition DA-1, which includes the proposed addition has a total impervious area of 974 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 90% storm event. The area which the Stormtech units are to be placed meet the minimum criteria for infiltration. Soil testing in this location found sandy well drained soils to a depth of 84".

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	0.03	0.00	0.03	-100%

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	N/A

25% is required.	
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:

Todd Kosakowski
7 Meadow Lark Lame
North Castle, NY 10504
(914)-804-9618

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.

March 8, 2022

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

Figures

F:\2021\21-47 TODD KOSOKOWSKI-7 MEADOW LARK LANE BEDFORD\ENGINEERING\CAD\C3D-21-47 TODD KOSOKOWSKI-7 MEADOW LARK LANE BEDFORD\DWG\21-47 KOSAKOWSKI F

FIG 5.1 PRE DEVELOPMENT CONDITION WATERSHED

PREPARED FOR

TODD KOSAKOWSKI

Town of North Castle

Westchester County, New York

Site Design Consultants

Civil Engineers • Land Planners

251 F Underhill Avenue Yorktown Heights, NY 10598
(914) 962-4488 - Fax (914) 962-7386
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DATE: 1/7/2022

FIG 5.1 POST DEVELOPMENT CONDITION WATERSHED

PREPARED FOR

TODD KOSAKOWSKI

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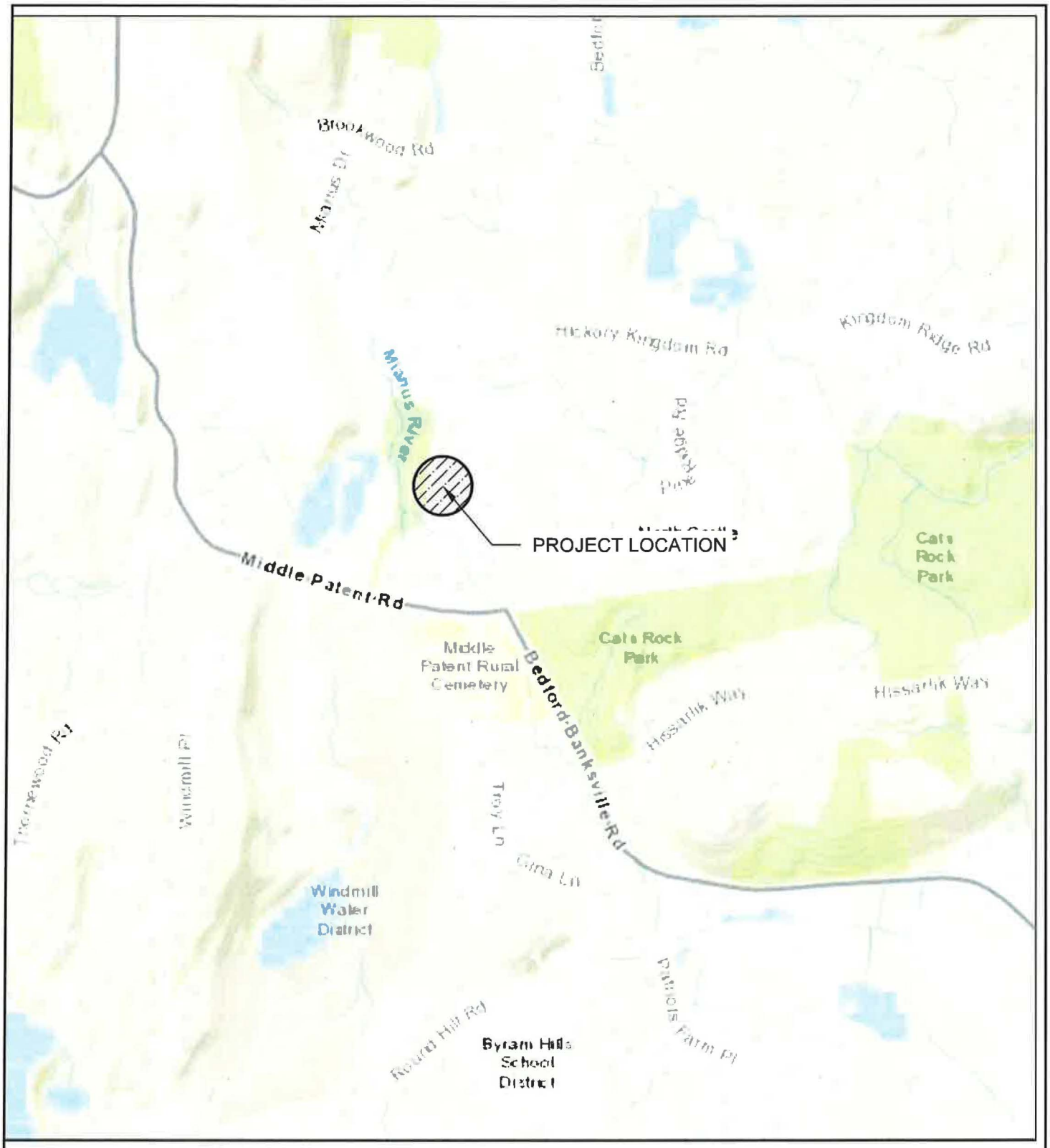
DATE: 1/7/2022



NOTE:

1. Map Source: USGS 7.5 Minute Series Topographis Quadrangle Map(1:2,000 scale) for Armonk, Westchester County, New York

FIG 1.1 LOCATION MAP

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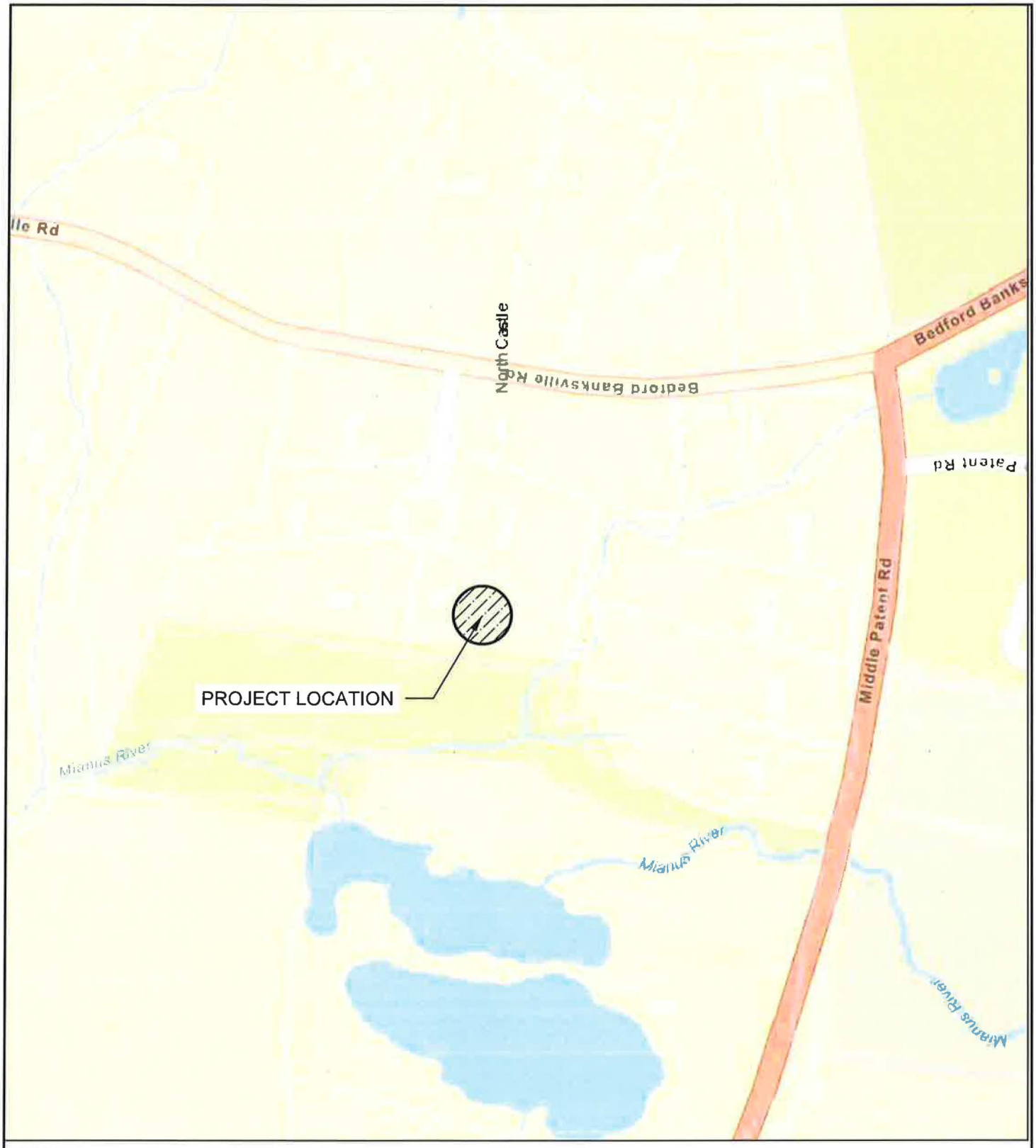
NOT TO SCALE
DATE: 7/14/2021



NOTE:

1. Map Source: GIS Mapping Westchester County for Armonk, Westchester County, New York

FIG 1.2 VICINITY MAP

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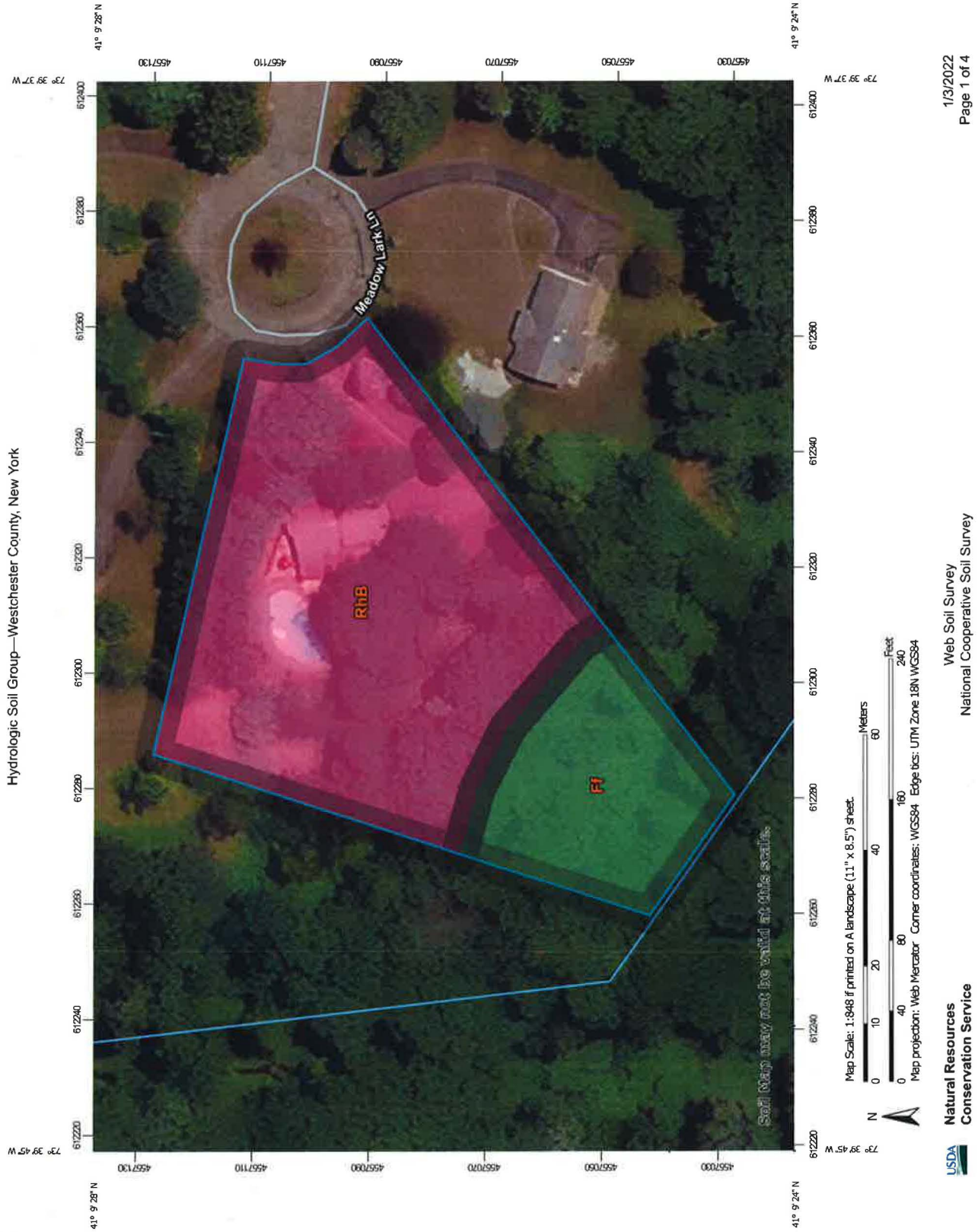
DATE:1/7/2022



1/3/2022
Page 1 of 4

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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DATE:1/7/2022

Hydrologic Soil Group—Westchester County, New York

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detaile 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 Mercat projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as th 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 of the version date(s) listed below.

Soil Survey Area: Westchester County, New York
Survey Area Data: Version 17, Sep 1, 2021

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

Date(s) aerial images were photographed: Dec 31, 2009—Oct 16, 2017

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

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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DATE: 1/7/2022

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ff	Fluvaquents-Udifluvents complex, frequently flooded	A/D	0.3	24.1%
RhB	Riverhead loam, 3 to 8 percent slopes	A	1.1	75.9%
Totals for Area of Interest			**1.4**	**100.0%**

Description

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

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

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

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

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

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

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

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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Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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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DATE:1/7/2022

Appendix A

List of Approvals and Applications:

Town of North Castle Building Permit – approvals pending

Appendix B

Town of North Castle Code 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.
[Amended 8-14-2013 by L.L. No. 7-2013]

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

Stormwater Runoff Calculations
and Stormwater Runoff Management Practices Sizing Calculations

Hydrologic Analysis

User Inputs

Chamber Model:	SC-160LP
Outlet Control Structure:	Yes
Project Name:	21-47 Kosakowski
Engineer:	Carla Santana
Project Location:	New York
Measurement Type:	Imperial
Required Storage Volume:	108 cubic ft.
Stone Porosity:	40%
Stone Foundation Depth:	6 in.
Stone Above Chambers:	6 in.
Average Cover Over Chambers:	14 in.
Design Constraint Dimensions:	(30 ft. x 20 ft.)

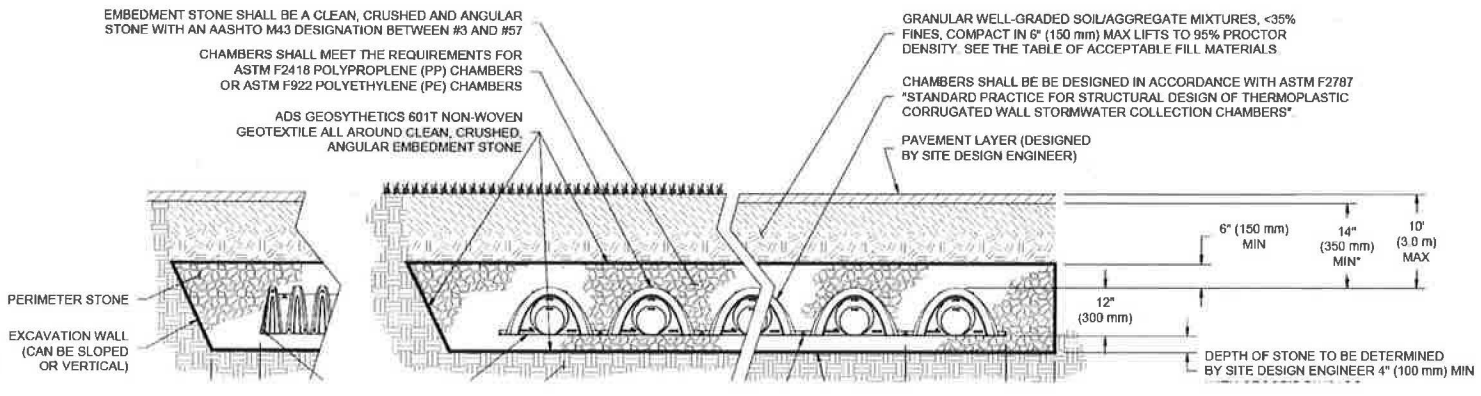
Results

System Volume and Bed Size

Installed Storage Volume:	147.97 cubic ft.
Storage Volume Per Chamber:	6.85 cubic ft.
Number Of Chambers Required:	5
Number Of End Caps Required:	6
Chamber Rows:	3
Maximum Length:	20.16 ft.
Maximum Width:	8.85 ft.
Approx. Bed Size Required:	159.28 square ft.

System Components

Amount Of Stone Required:	10.53 cubic yards
Volume Of Excavation (Not Including Fill):	11.80 cubic yards
Non-woven Geotextile Required (excluding Isolator Row):	57.94 square yards
Non-woven Geotextile Required (Isolator Row):	0 square yards
Total Non-woven Geotextile Required:	57.94 square yards
Woven Geotextile Required (excluding Isolator Row):	5 square yards
Woven Geotextile Required (Isolator Row):	7.84 square yards
Total Woven Geotextile Required:	12.84 square yards



Water Quality Volume Sizing Calculations

Water Quality Volume based on 90% rainfall

WQv = (P) (RV) (A) / 12

P = 1.4"

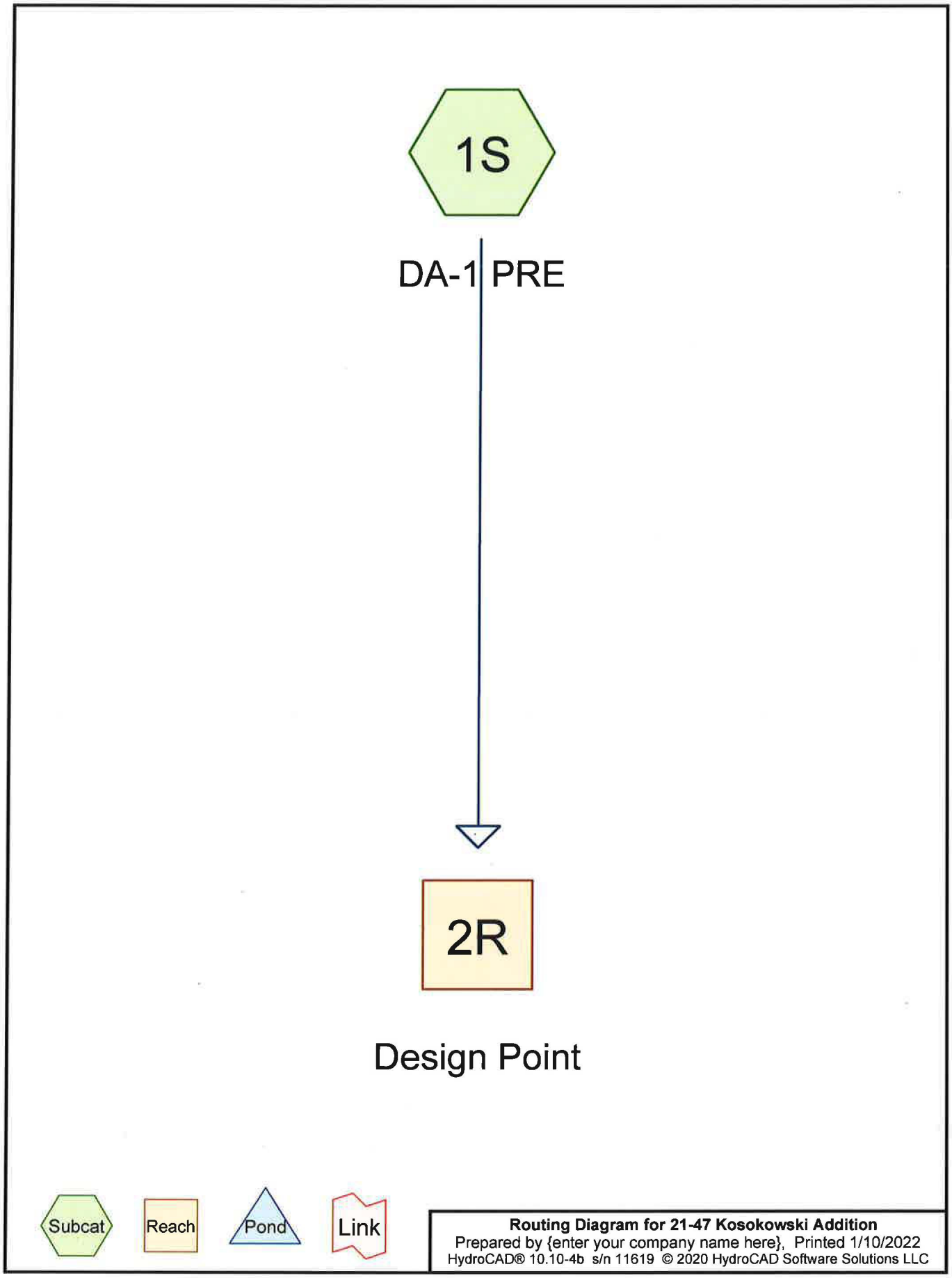
A = 974 SF

RV = 0.05 + 0.009 (I) =

= 0.05 + .009 (100) = 0.95

= (1.4) (.95) (974 SF) / 12 = 108 cf

Storage Volume Provided in chambers = 147 cf.



Routing Diagram for 21-47 Kosokowski Addition
Prepared by {enter your company name here}, Printed 1/10/2022
HydroCAD® 10.10-4b s/n 11619 © 2020 HydroCAD Software Solutions LLC

Project Notes

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	NRCC 24-hr	C	Default	24.00	1	6.49	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.022	49	50-75% Grass cover, Fair, HSG A (1S)
0.022	**49**	**TOTAL AREA**

Soil Listing (selected nodes)

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

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.022	0.000	0.000	0.000	0.000	0.022	50-75% Grass cover, Fair	1S
0.022	**0.000**	**0.000**	**0.000**	**0.000**	**0.022**	**TOTAL AREA**	

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

Subcatchment1S: DA-1 PRE Runoff Area=974 sf 0.00% Impervious Runoff Depth>1.14"
Tc=5.0 min CN=49 Runoff=0.03 cfs 0.002 af

Reach 2R: Design Point Inflow=0.03 cfs 0.002 af
Outflow=0.03 cfs 0.002 af

Total Runoff Area = 0.022 ac Runoff Volume = 0.002 af Average Runoff Depth = 1.14"
100.00% Pervious = 0.022 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: DA-1 PRE

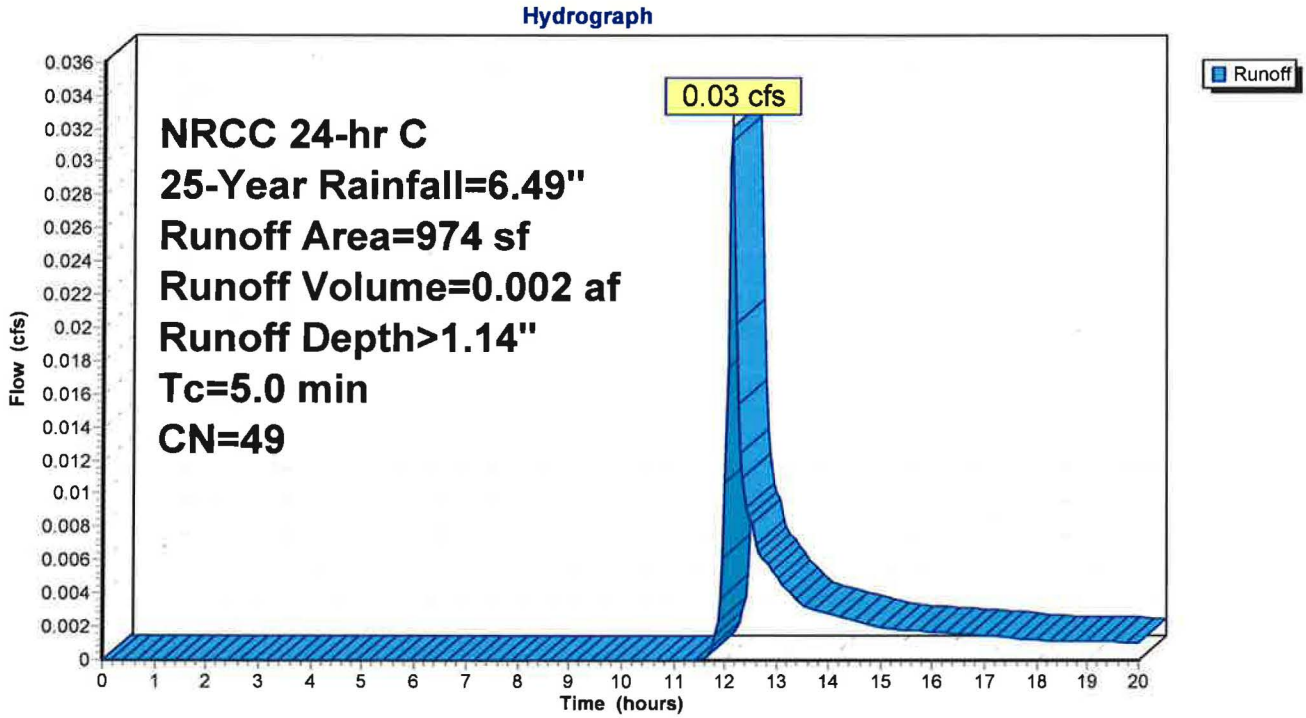
Runoff = 0.03 cfs @ 12.13 hrs, Volume= 0.002 af, Depth> 1.14"

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

Area (sf)	CN	Description
974	49	50-75% Grass cover, Fair, HSG A
974		100.00% Pervious Area

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

Subcatchment 1S: DA-1 PRE

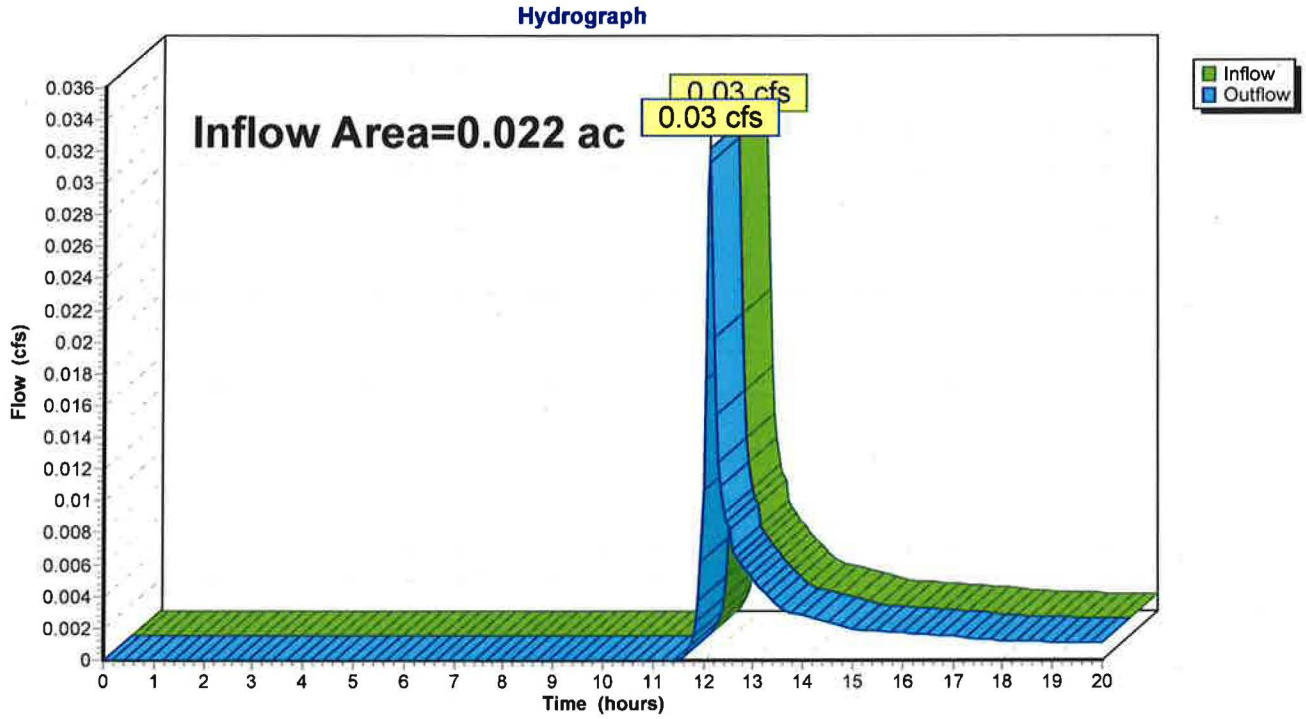


Summary for Reach 2R: Design Point

Inflow Area = 0.022 ac, 0.00% Impervious, Inflow Depth > 1.14" for 25-Year event
Inflow = 0.03 cfs @ 12.13 hrs, Volume= 0.002 af
Outflow = 0.03 cfs @ 12.13 hrs, Volume= 0.002 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 2R: Design Point



Events for Subcatchment 1S: DA-1 PRE

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
25-Year	**6.49**	**0.03**	**0.002**	**1.14**

Events for Reach 2R: Design Point

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
25-Year	**0.03**	**0.03**	**0.00**	**0**

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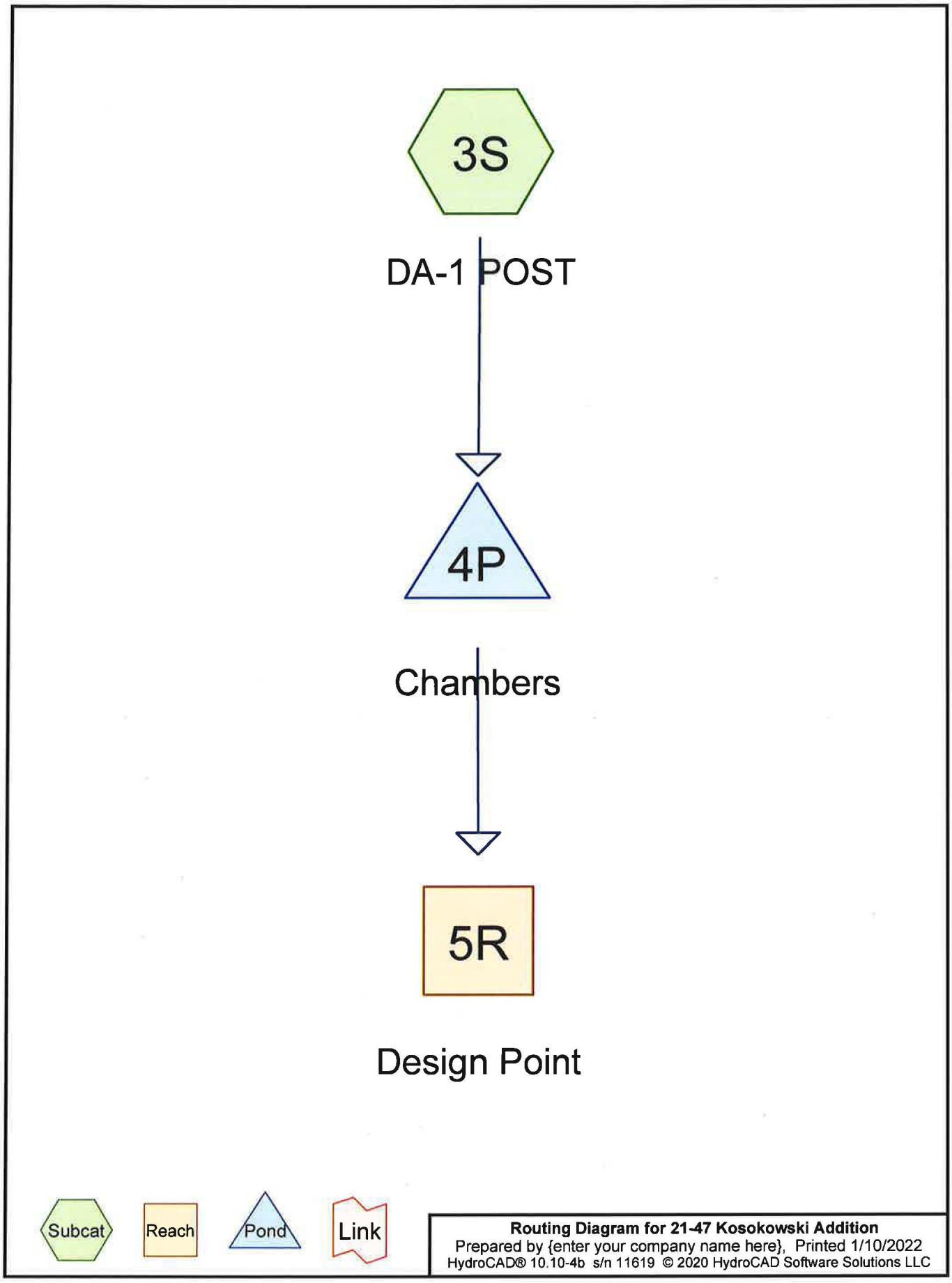

Routing Diagram for 21-47 Kosokowski Addition
Prepared by {enter your company name here}, Printed 1/10/2022
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Project Notes

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	NRCC 24-hr	C	Default	24.00	1	6.49	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.022	98	Paved parking, HSG A (3S)
0.022	**98**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.022	HSG A	3S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.022		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.022	0.000	0.000	0.000	0.000	0.022	Paved parking	3S
0.022	**0.000**	**0.000**	**0.000**	**0.000**	**0.022**	**TOTAL AREA**	

Pipe Listing (selected 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	4P	374.44	373.70	57.0	0.0130	0.012	0.0	1.0	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 3S: DA-1 POST Runoff Area=0.022 ac 100.00% Impervious Runoff Depth>5.90"
Tc=5.0 min CN=98 Runoff=0.15 cfs 0.011 af

Reach 5R: Design Point Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 4P: Chambers Peak Elev=373.95' Storage=0.000 af Inflow=0.15 cfs 0.011 af
Discarded=0.15 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.011 af

Total Runoff Area = 0.022 ac Runoff Volume = 0.011 af Average Runoff Depth = 5.90"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.022 ac

Summary for Subcatchment 3S: DA-1 POST

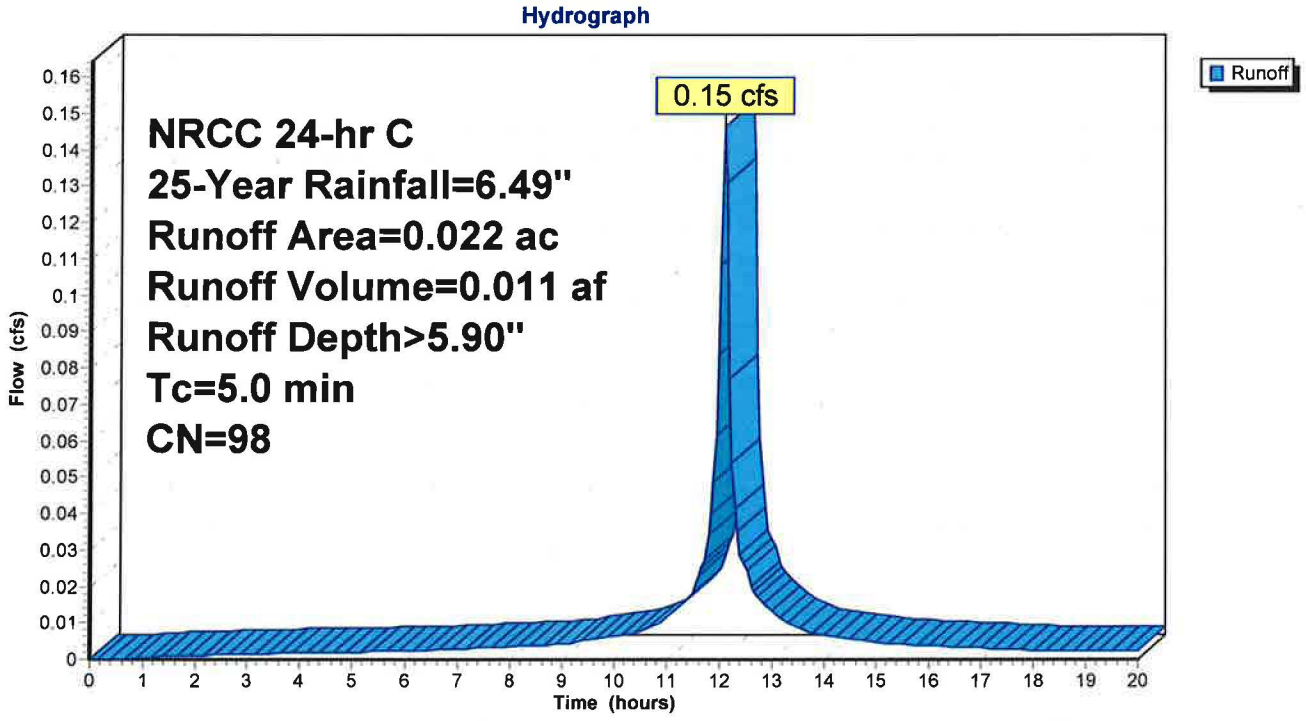
Runoff = 0.15 cfs @ 12.11 hrs, Volume= 0.011 af, Depth> 5.90"

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

Area (ac)	CN	Description
0.022	98	Paved parking, HSG A
0.022		100.00% Impervious Area

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

Subcatchment 3S: DA-1 POST

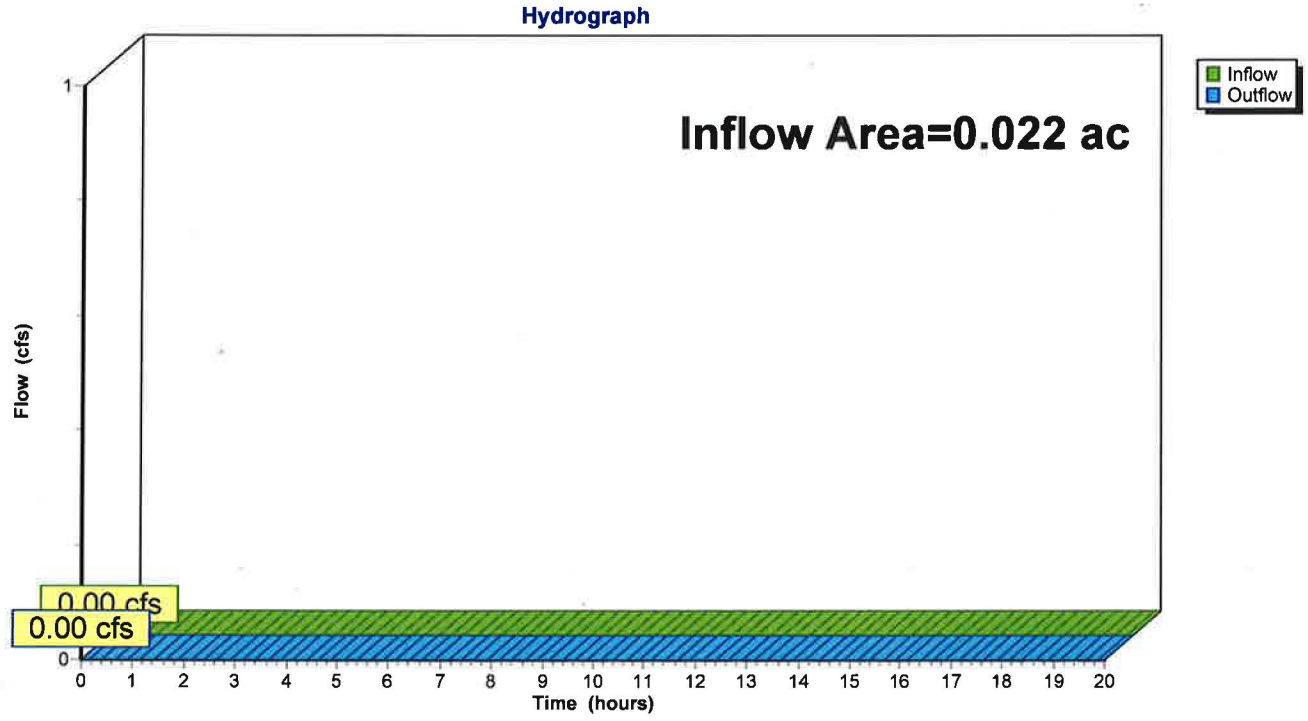


Summary for Reach 5R: Design Point

Inflow Area = 0.022 ac,100.00% Impervious, Inflow Depth = 0.00" for 25-Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 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 5R: Design Point



Summary for Pond 4P: Chambers

Inflow Area =	0.022 ac,100.00% Impervious,	Inflow Depth >	5.90"	for 25-Year event
Inflow =	0.15 cfs @	12.11 hrs, Volume=	0.011 af	
Outflow =	0.15 cfs @	12.11 hrs, Volume=	0.011 af,	Atten= 0%, Lag= 0.1 min
Discarded =	0.15 cfs @	12.11 hrs, Volume=	0.011 af	
Primary =	0.00 cfs @	0.00 hrs, Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 373.95' @ 12.11 hrs Surf.Area= 0.004 ac Storage= 0.000 af

Plug-Flow detention time= 0.0 min calculated for 0.011 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (710.4 - 710.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	373.94'	0.003 af	**4.08'W x 38.07'L x 2.00'H Field A** 0.007 af Overall - 0.001 af Embedded = 0.006 af x 40.0% Voids
#2A	374.44'	0.001 af	**ADS_StormTech SC-160LP +Cap** x 5 Inside #1 Effective Size= 18.0"W x 12.0"H => 0.96 sf x 7.12'L = 6.8 cf Overall Size= 25.0"W x 12.0"H x 7.56'L with 0.44' Overlap
		0.003 af	Total Available Storage

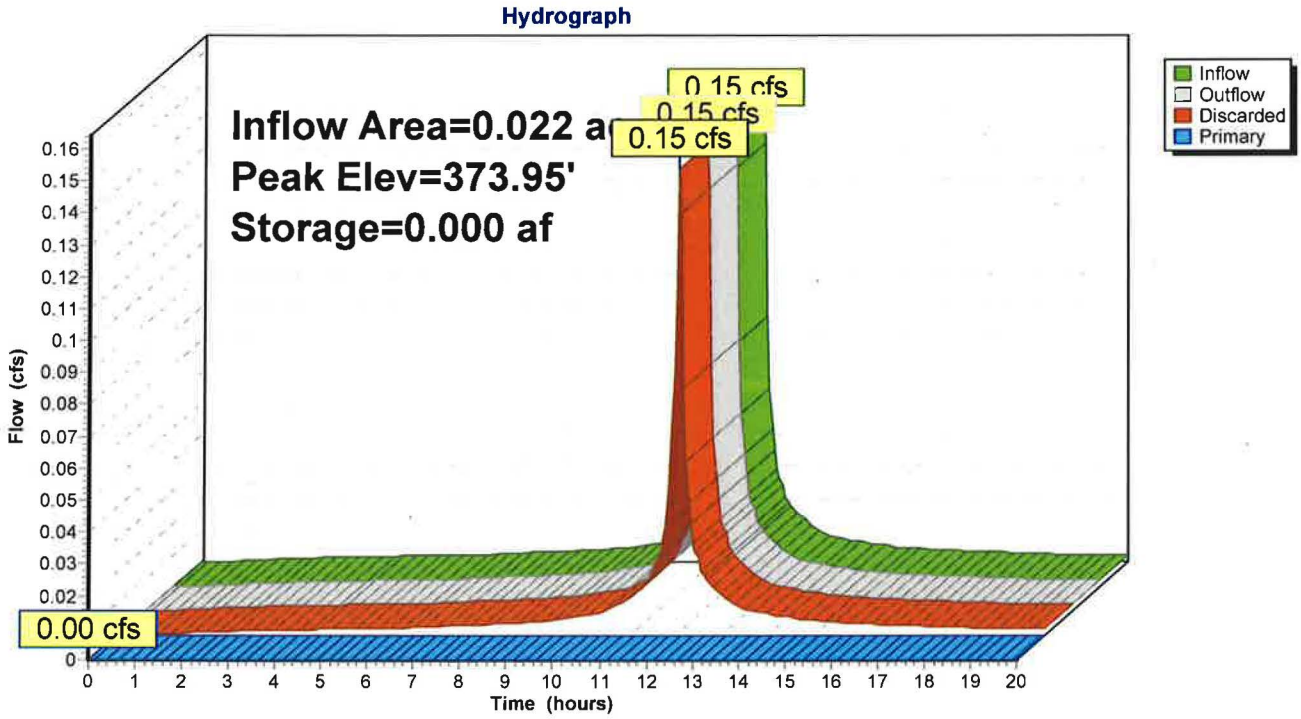
Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	374.44'	**1.0" Round Culvert** L= 57.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 374.44' / 373.70' S= 0.0130 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.01 sf
#2	Discarded	373.94'	**144.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.52 cfs @ 12.11 hrs HW=373.95' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.52 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=373.94' (Free Discharge)
↑—**1=Culvert** (Controls 0.00 cfs)

Pond 4P: Chambers



Events for Subcatchment 3S: DA-1 POST

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
25-Year	**6.49**	**0.15**	**0.011**	**5.90**

Events for Reach 5R: Design Point

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

Events for Pond 4P: Chambers

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
25-Year	**0.15**	**0.15**	**0.15**	**0.00**	**373.95**	**0.000**

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Appendix D

Standard and Specifications for
Erosion and Sediment Control Measures

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS

Definition & Scope

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

Conditions Where Practice Applies

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

Design Criteria

See Figure 2.1 on page 2.31 for details.

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

Thickness: Not less than six (6) inches.

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

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

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

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

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

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

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

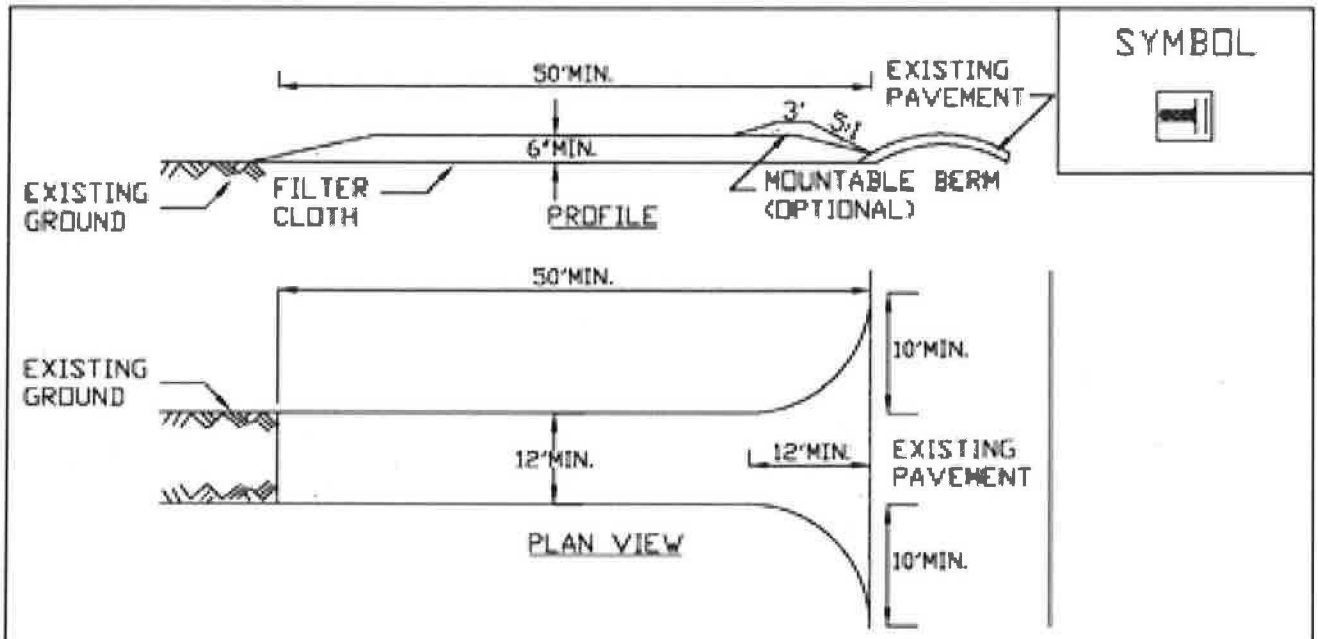
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

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

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

Figure 2.1
Stabilized Construction Access



CONSTRUCTION SPECIFICATIONS

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

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

STABILIZED CONSTRUCTION ACCESS

STANDARD AND SPECIFICATIONS FOR 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.

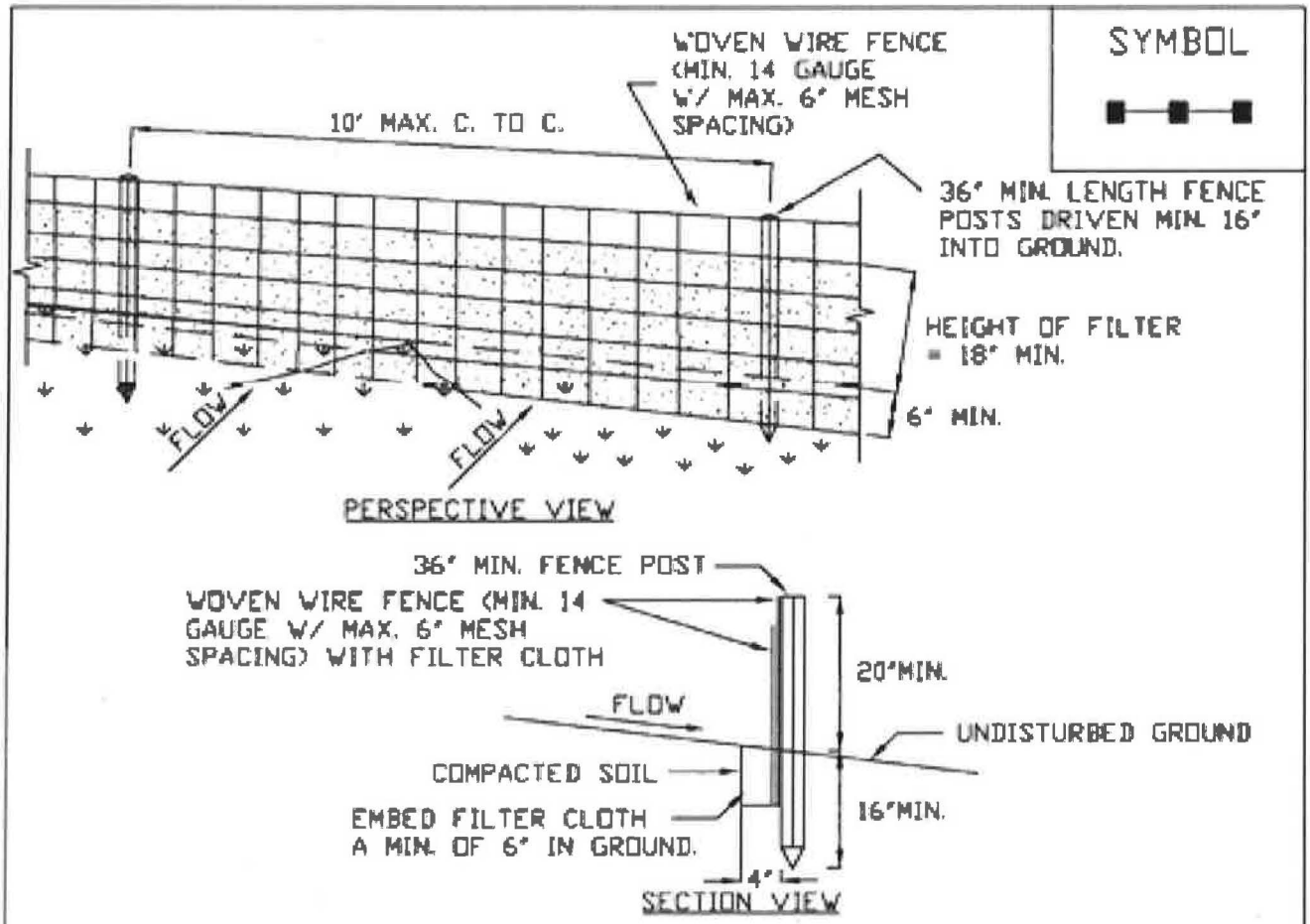
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

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



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL MEET THE MINIMUM REQUIREMENTS SHOWN.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

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

REINFORCED SILT FENCE

Appendix E

Project Plans