

LOCATION MAP N.T.S.

GENERAL NOTES

- EXISTING FEATURES SHOWN HEREON ARE TAKEN FROM: SURVEY MAP ENTITLED "TOPOGRAPHY OF PROPERTY PREPARED FOR DAVID GRABER, SITUATE IN THE TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK, DATED SEPTEMBER 4, 2012 AND LAST REVISED FEBRUARY 3, 2017 PREPARED BY TC MERRITT'S LAND SURVEYORS."
 - THIS SITE PLAN IS NOT A SURVEY.
- CONSTRUCTION NOTES:
- THE CONTRACTOR SHALL LOCATE AND VERIFY IN THE FIELD ALL UTILITIES: SEWER, WATER, GAS, ELECTRICAL, ETC. PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL CALL CODE 753 (FORMERLY CODE 53) PRIOR TO THE START OF CONSTRUCTION.
 - THE INSTALLATION OF WATER AND SEWER SHALL BE INSPECTED UNDER THE DIRECTION OF A N.Y. STATE LICENSED PROFESSIONAL ENGINEER.
 - EROSION AND SEDIMENT CONTROL MEASURES, SHALL BE REQUIRED AS INDICATED ON THIS PLAN OR THE EROSION CONTROL PLAN OR AS DIRECTED BY THE GOVERNING AGENCY, IN ACCORDANCE WITH THE CURRENT EDITION OF "NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROLS" (BLUE BOOK).
 - AS BUILT PLANS IF REQUIRED, SHALL BE CERTIFIED BY A N.Y. STATE LICENSED SURVEYOR OR PROFESSIONAL ENGINEER.
 - ALL PROPERTY DISTURBED IN THE RIGHT-OF-WAY OR ON PRIVATE LANDS, SHALL BE RESTORED TO ACCEPTABLE CONDITIONS, AS REQUIRED BY THE GOVERNING AGENCY.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICATIONS AND PERMITS REQUIRED FOR CONSTRUCTION.
 - THE ROAD AND UTILITIES SHALL BE STAKED IN THE FIELD BY A NEW YORK STATE LICENSED SURVEYOR OR ENGINEER.
 - UNDERGROUND UTILITIES: GAS, ELECTRIC, CABLE, TELEPHONE, ETC. SHALL BE AS REQUIRED BY THE GOVERNING AGENCY AND THE APPROPRIATE UTILITY COMPANY.
 - ALL PROPOSED OR DISTURBED SLOPES, 1H:2V OR GREATER SHALL BE STABILIZED WITH AN EROSION CONTROL BLANKET.
 - IN LIEU OF BLASTING, ROCK RIPPING WILL BE USED WHEREVER POSSIBLE. IF BLASTING IS REQUIRED, BLASTING WILL OCCUR IN ACCORDANCE WITH REGULATIONS AND STANDARDS PRESCRIBED BY THE GOVERNING AGENCY. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY PERMITS IF BLASTING IS REQUIRED.
 - NO REPRESENTATION OF THE SUB-SURFACE SOIL CONDITIONS ON THIS SITE ARE MADE OR IMPLIED. IT IS THE DEVELOPER/CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL IMPROVEMENTS ARE PLACED ON SOIL WITH A SUITABLE BEARING CAPACITY.
 - OVERNIGHT EXCAVATIONS WILL NOT BE PERMITTED.

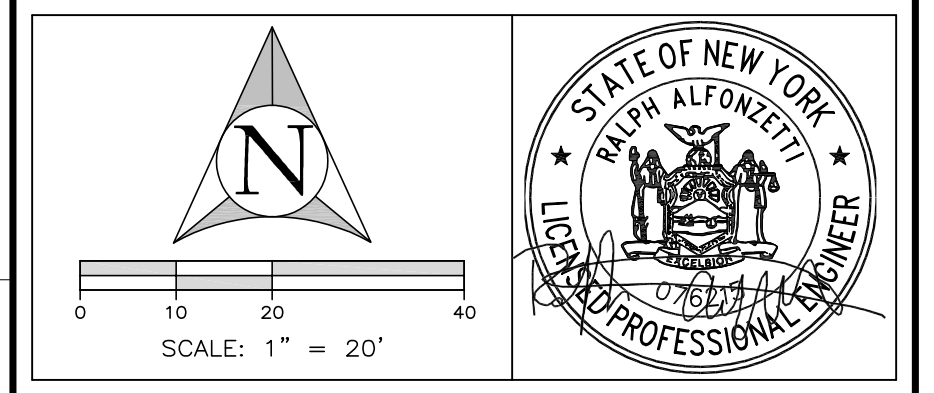
FIRE DISTRICT: ARMONK FD
 SCHOOL DISTRICT: BYRAM HILLS

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATED: _____

DATE: _____
 CHRISTOPHER CARTHY, CHAIRMAN
 TOWN OF NORTH CASTLE PLANNING BOARD

ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION: _____

DATE: _____
 JOSEPH M. CERMELE P.E.
 KELLARD SESSIONS CONSULTING
 CONSULTING TOWN ENGINEERS



CONSTRUCTION SEQUENCE:
 THE PROPOSED IMPROVEMENTS ARE TO BE CONSTRUCTED IN ONE PHASE. THE CONSTRUCTION WILL BE IN A SEQUENCE THAT WILL MINIMIZE THE POTENTIAL FOR EROSION. CONSTRUCTION IS SCHEDULED TO BEGIN IN THE SUMMER OF 2024. THE GENERAL SEQUENCE OF CONSTRUCTION IS AS FOLLOWS:

- SURVEY AND STAKE LIMITS OF DISTURBANCE AND EROSION CONTROL INSTALLATION.
- INSTALL EROSION CONTROLS (ANTI-TRACKING PAD, HAY BALES, SILT FENCE, SOIL STOCKPILE) AS SHOWN ON THE EROSION CONTROL PLAN AND PER THE RESPECTIVE EROSION CONTROL DETAILS. CORDON OFF THE SEPTIC SYSTEM AREA AND PROPOSED INFILTRATION SYSTEM AREA.
- TREES TO BE REMOVED SHALL BE CUT AT THIS TIME. STUMPS SHALL BE REMOVED.
- STRIP TOPSOIL AND ROUGH GRADING. NOTE THAT DISTURBED SOIL THAT WILL NOT BE WORKED FOR A PERIOD GREATER THAN 14 DAYS MUST BE STABILIZED. STABILIZATION MUST BE INITIATED BY THE END OF THE NEXT BUSINESS DAY AND COMPLETED WITHIN SEVEN (7) DAYS.
- EXCAVATE FOR PROPOSED HOUSE. HOUSE FRAMING AND SUPERSTRUCTURE IS CONSTRUCTED.
- EXCAVATE FOR SUBSURFACE UTILITIES: WATER SERVICE, ELECTRIC/TELEPHONE/CABLE LINE, SUBSURFACE INFILTRATION SYSTEM, DRAINAGE SYSTEM, RAIN GARDEN AND SEPTIC SYSTEM.
- INSTALL SUBSURFACE UTILITIES.
- PROTECT INFILTRATION SYSTEM FROM SEDIMENT UNTIL FINAL STABILIZATION.
- FINAL GRADING, SEEDING, SODDING, AND OTHER SOIL STABILIZING LANDSCAPING FOR FINAL SITE STABILIZATION.
- REMOVE EROSION CONTROL: SILT FENCE, HAY BALES AND ANTI-TRACKING PAD (DISCARD) EROSION CONTROL DEVICES IN AN APPROPRIATE MANNER.

PERCOLATION TEST DATA

P1	32 MIN./IN*
P2	1.7 MIN./IN.

*40 MIN./IN. PERCOLATION RATE USED IN DESIGN.

DEEP TEST HOLE DESCRIPTIONS

DT1	0"-10" TOPSOIL
	10"-86" BROWN SANDY, SILTY LOAM
DT2	0"-10" TOPSOIL
	10"-72" BROWN SANDY LOAM WITH COBBLES

TREE LEGEND

	EXISTING TREE
	TREE TO BE REMOVED
	EXISTING TREE TO BE PROTECTED

ZONING CONFORMANCE TABLE

ZONING DISTRICT	ONE FAMILY RESIDENCE DISTRICT ZONE 'R-2A'	
	REQUIRED OR ALLOWED	PROPOSED
MINIMUM LOT SIZE	2 ACRES	2.1 ACRES
FRONTAGE	150 FT.	424.4 FT.
LOT WIDTH	150 FT.	420.1 FT.
LOT DEPTH	150 FT.	241.7 FT.
FRONT YARD SETBACK	50 FT.	62.9 FT.
SIDE YARD SETBACK	30 FT.	155.2 FT.
REAR YARD SETBACK	50 FT.	123.0 FT.
MAXIMUM BUILDING HEIGHT	30 FT.	≤30 FT.
MAXIMUM BUILDING COVERAGE	8%	2.5%
MINIMUM DWELLING UNIT SIZE	1,400 S.F.	≥1,400 S.F.

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ALFONZETTI ENGINEERING, P.C.
 14 SMITH AVE, MT. KISCO, N.Y. 10549
 914-666-9800 INFO@ALFONZETTIENG.COM

SITE DATA

OWNER/APPLICANT:
 34 CREEMER LLC

SITE ADDRESS:
 34 CREEMER ROAD,
 ARMONK, NY 10504

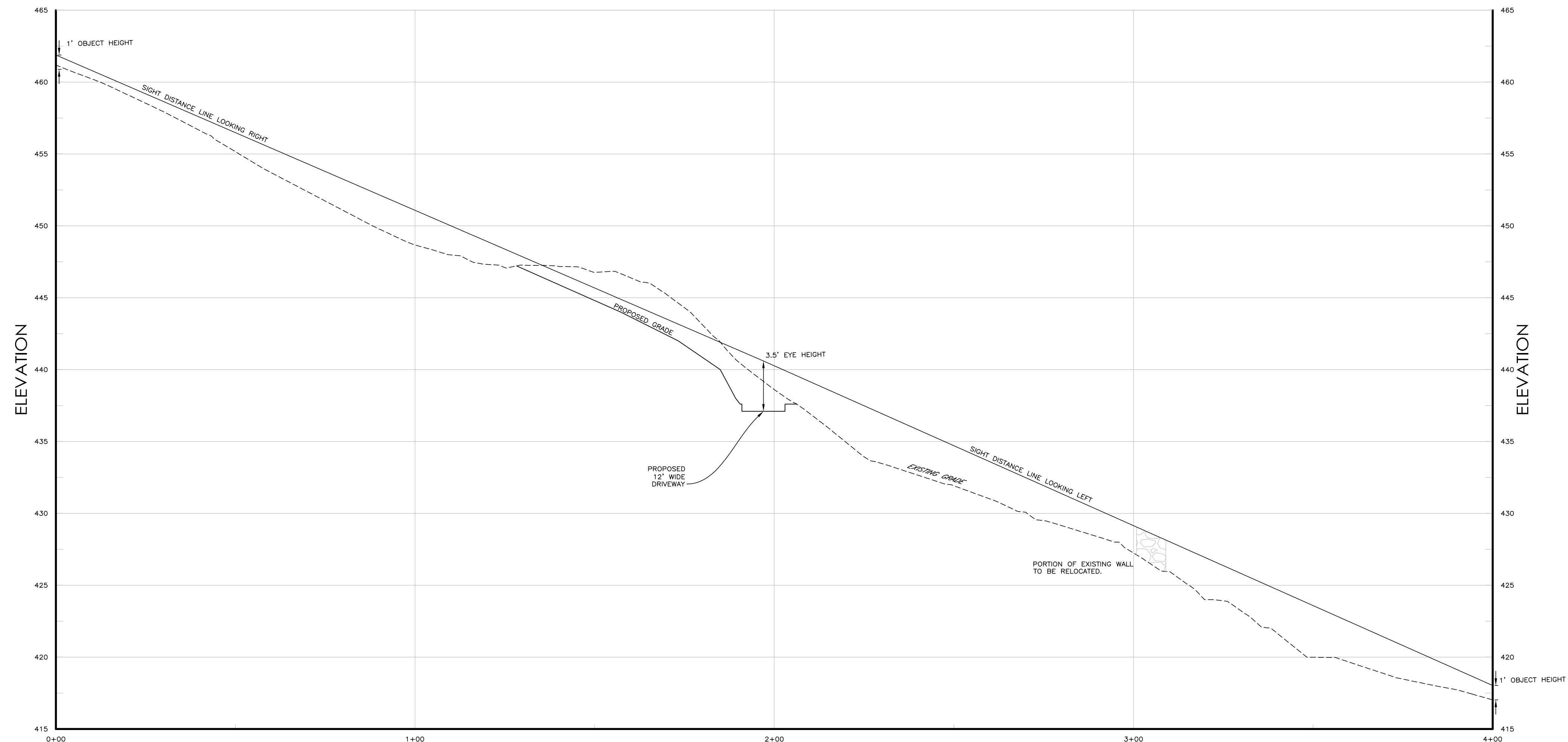
TAX MAP #: 108.04-2-14
 LOT AREA: 2.1465 ACRES

ZONING: R-2A
 REVISIONS: APRIL 24, 2024
 REVISIONS: MARCH 5, 2024
 REVISIONS: JULY 20, 2023

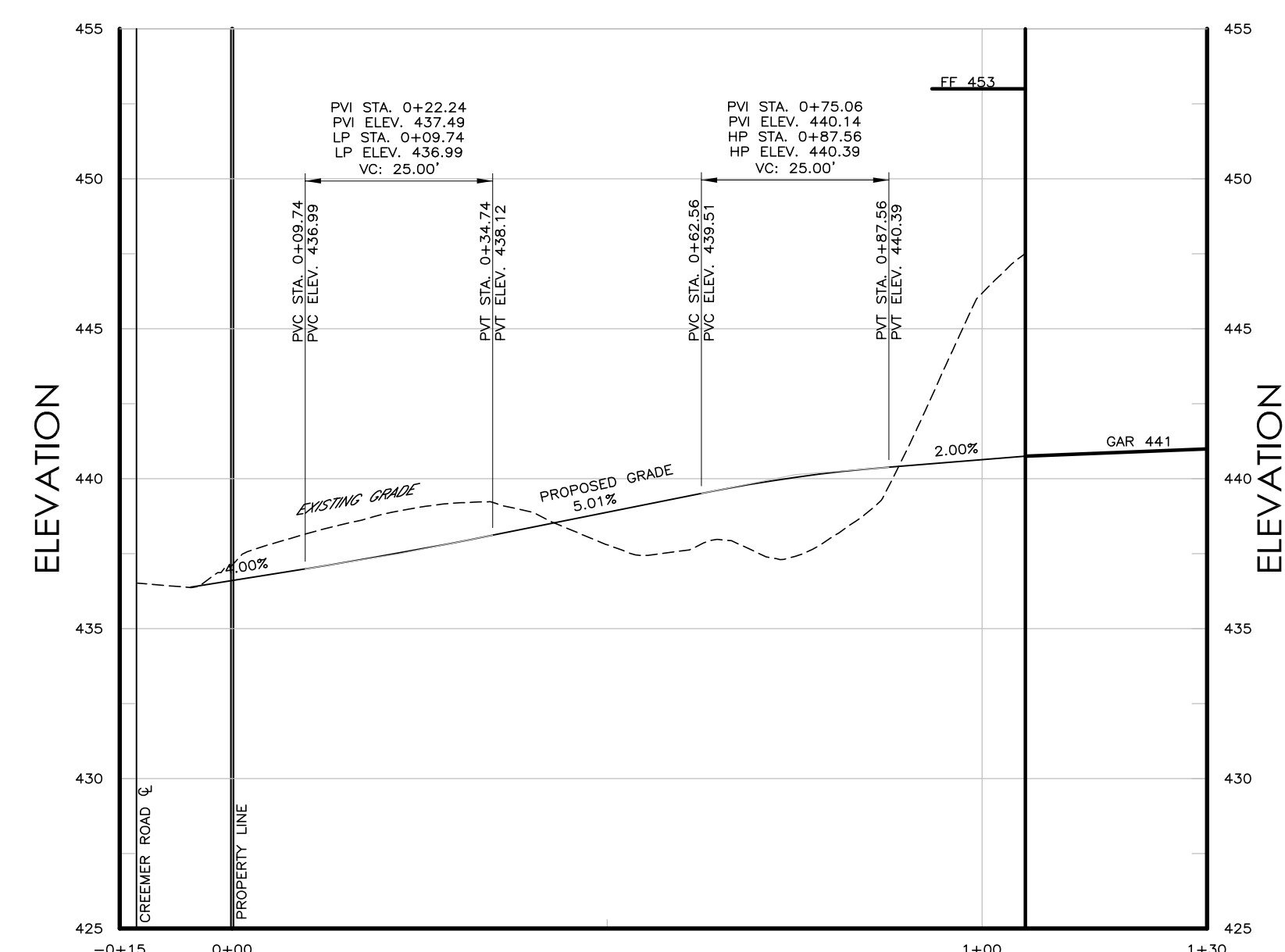
DRAWING: **SITE PLAN**
 MAY 22, 2023

PROJECT:
34 CREEMER ROAD
 TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK

SHEET: 01 OF 03



SIGHT DISTANCE PROFILE
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'



PROPOSED DRIVEWAY PROFILE
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'



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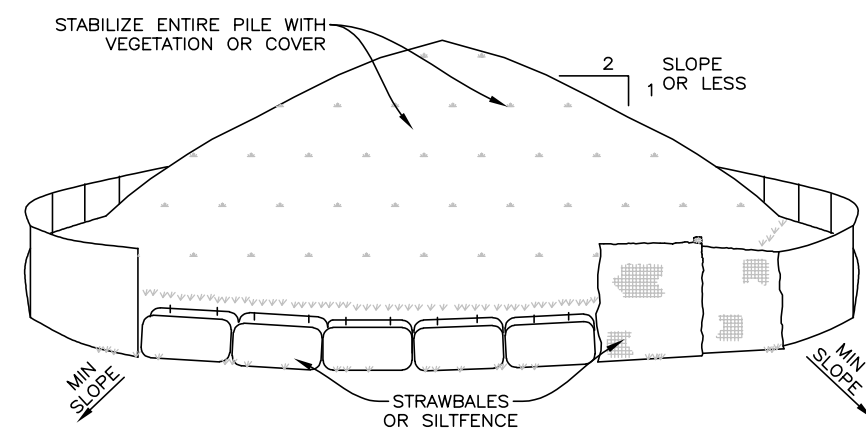
APPROVED BY TOWN OF NORTH CASTLE
 PLANNING BOARD RESOLUTION,
 DATED: _____

_____, DATE: _____
 CHRISTOPHER CARTHY, CHAIRMAN
 TOWN OF NORTH CASTLE PLANNING BOARD

ENGINEERING PLANS REVIEWED FOR
 CONFORMANCE TO RESOLUTION:
 _____, DATE: _____

JOSEPH M. CERMELE, P.E.
 KELLARD SESSIONS CONSULTING
 CONSULTING TOWN ENGINEERS

SITE DATA	
OWNER/APPLICANT: 34 CREEMER LLC	
SITE ADDRESS: 34 CREEMER ROAD, ARMONK, NY 10504	
TAX MAP #: 108.04-2-14	
LOT AREA: 2.1465 ACRES	
ZONING: R-2A	
REVISOR: APRIL 24, 2024	REVISOR: MARCH 5, 2024
REVISOR: JULY 20, 2023	REVISOR: JULY 20, 2023
DRAWING: SIGHT DISTANCE & DRIVEWAY PROFILES MAY 22, 2023	SHEET: 02 OF 03
PROJECT: 34 CREEMER ROAD TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK	



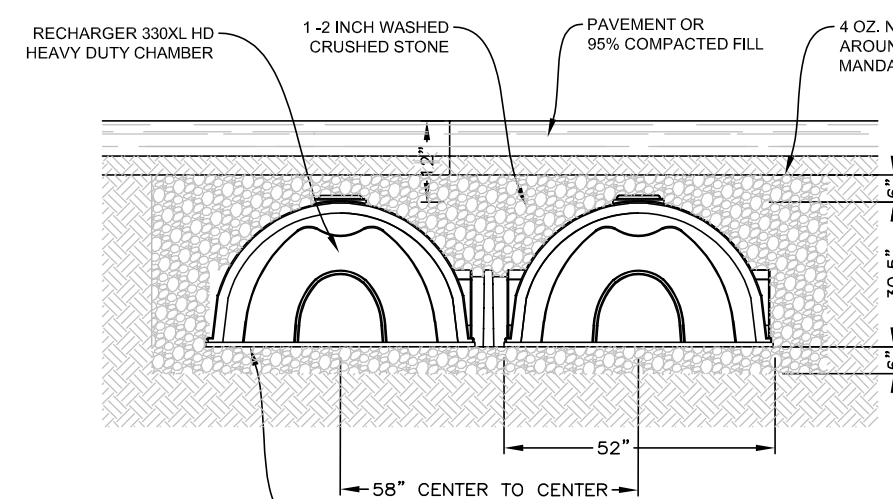
TO BE USED WHERE TOPSOIL PRESERVATION IS NECESSARY FOR REGRADING AND VEGETATING DISTURBED AREAS. TOPSOIL IS APPLIED TO SUBSOILS THAT ARE DROUGHTY (HAVING LOW AVAILABLE MOISTURE FOR PLANTS), STONY, SALTY, HAVE LOW FERTILITY OR ARE EXTREMELY ACID. IT IS ALSO USED TO BACKFILL AROUND SHRUB AND TREE TRANSPLANTS. PRESERVATION OF EXISTING TOPSOIL IS BENEFICIAL FOR ALL TYPES OF LAWN OR ORNAMENTAL PLANTINGS.

TEMPORARY STOCKPILE STABILIZATION MEASURES INCLUDE VEGETATIVE COVER, MULCH, NON-VEGETATIVE COVER, AND PERIPHERAL SEDIMENT TRAPPING BARRIERS. THE STABILIZATION MEASURE(S) SELECTED SHOULD BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, AND REQUIRED DURATION OF USE.

INSTALLATION 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.

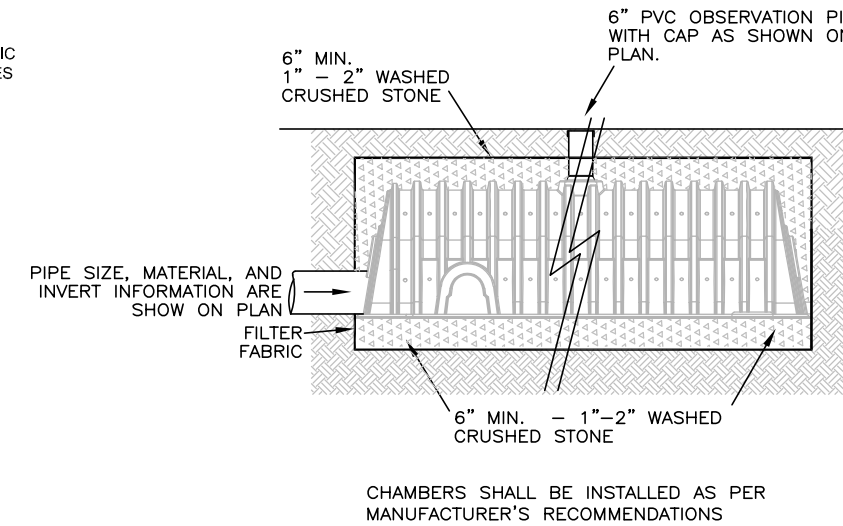
TEMPORARY MATERIAL STOCKPILE
N.T.S.



GENERAL NOTES
RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 11.32 CF/FT PER DESIGN UNIT.
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. USE RECHARGER 330XL HD HEAVY DUTY FOR TRAFFIC AND/OR H-25 APPLICATIONS.

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

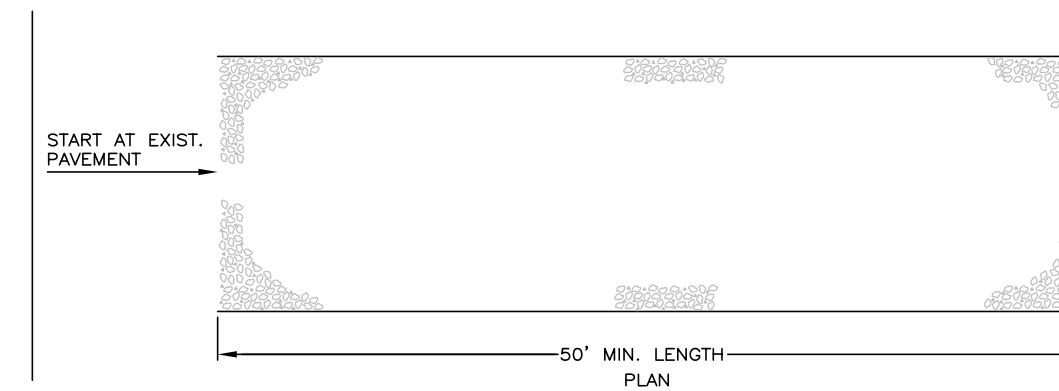
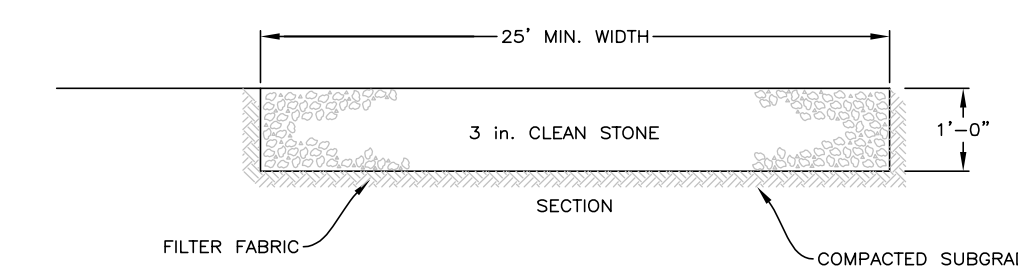
CHAMBERS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS
STORMWATER CHAMBER CROSS SECTION
N.T.S.



CHAMBERS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS

GENERAL NOTES
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STORMWATER CHAMBER
INSTALLATION
N.T.S.

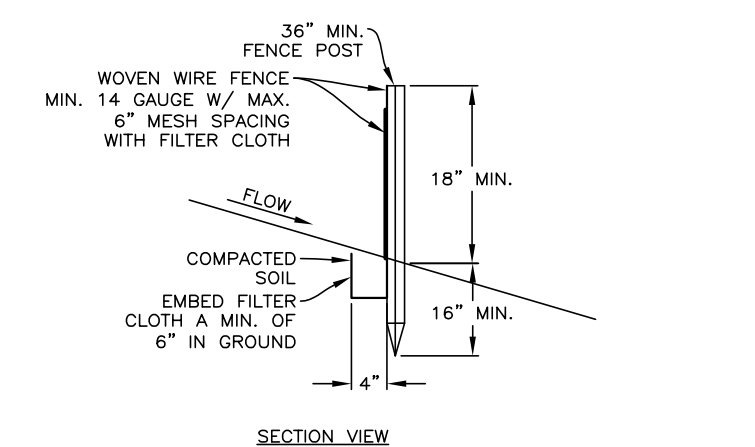
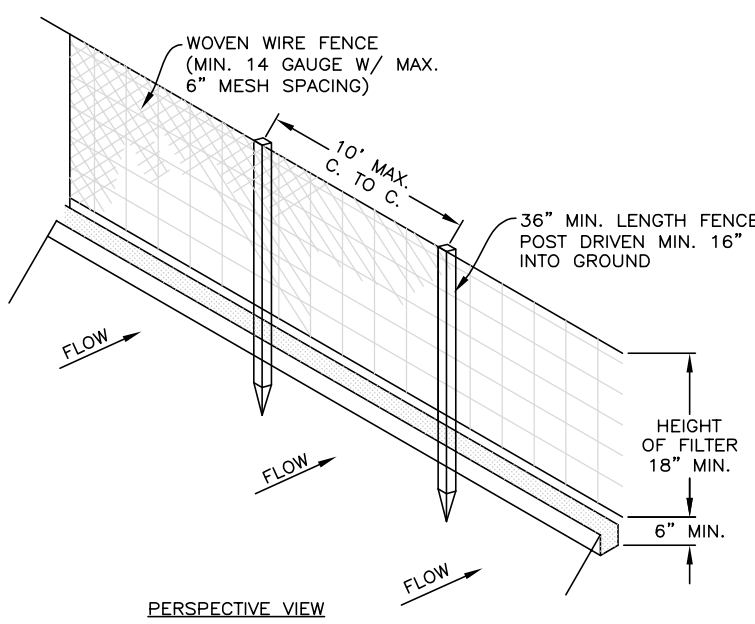


TO BE PROVIDED AT ALL POINTS OF EQUIPMENT INGRESS OR EGRESS ONTO PUBLIC RIGHTS-OF-WAY.

INSTALLATION NOTES

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

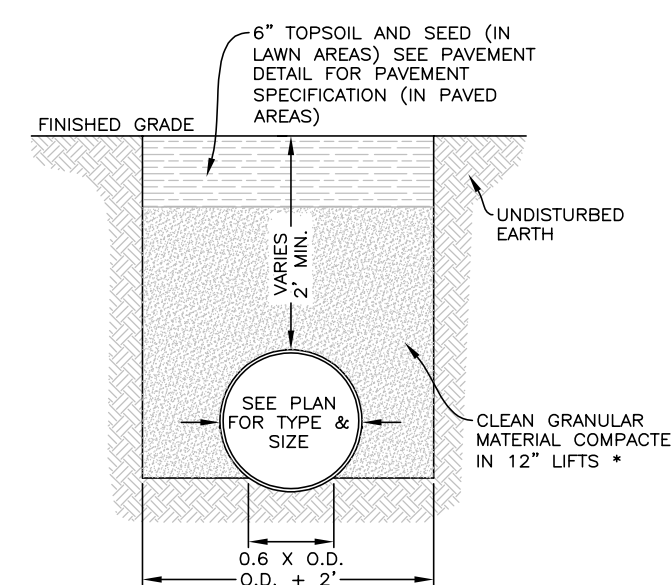
STABILIZED CONSTRUCTION ENTRANCE
(ANTI-TRACKING PAD)
N.T.S.



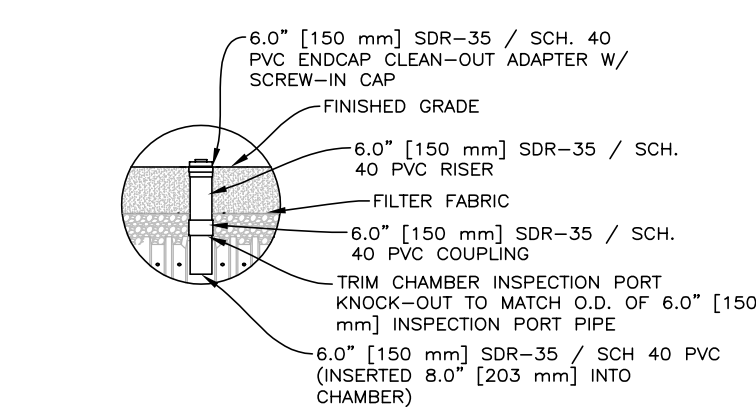
CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH TIES OR STAPLES. POST SHALL BE STEEL, EITHER "1" OR "1 1/2" 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.

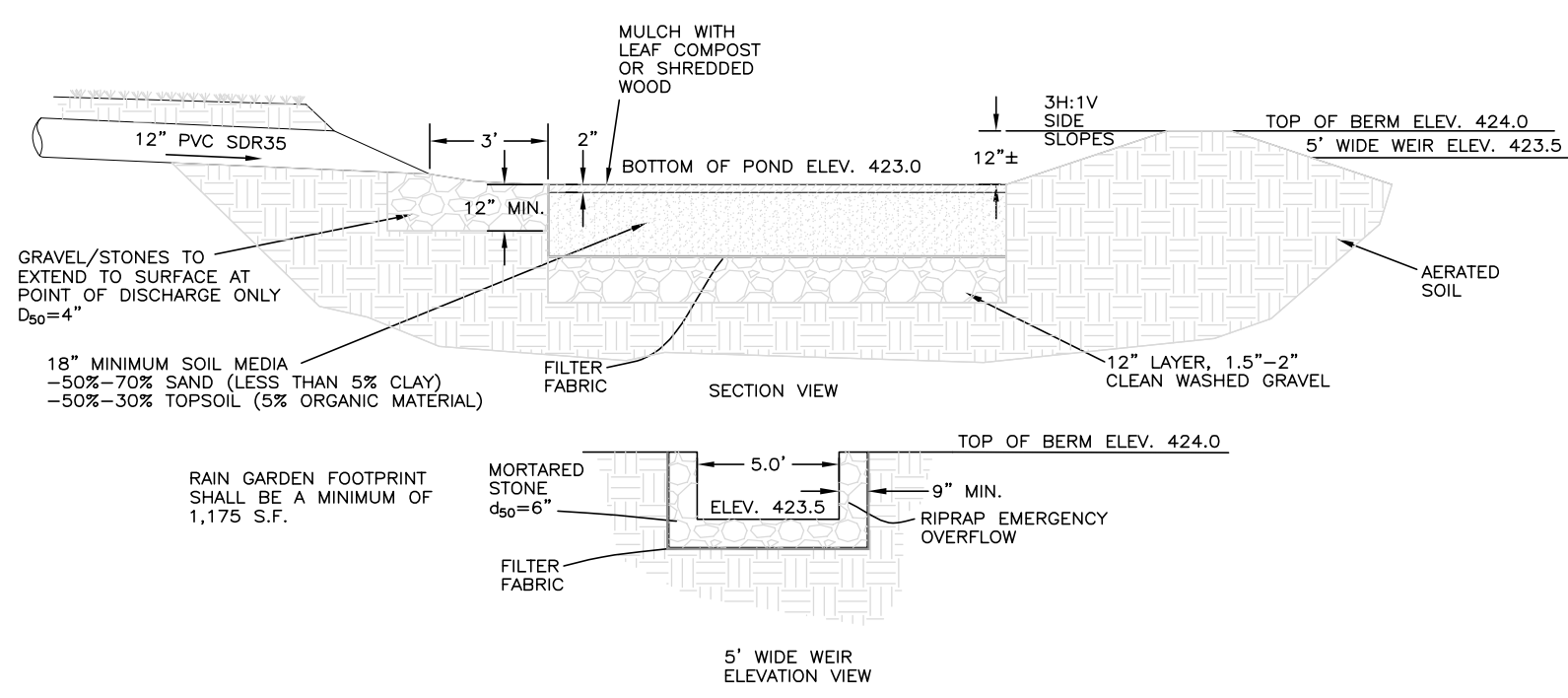
SILT FENCE
N.T.S.



DRAIN PIPE
TRENCH DETAIL
N.T.S.

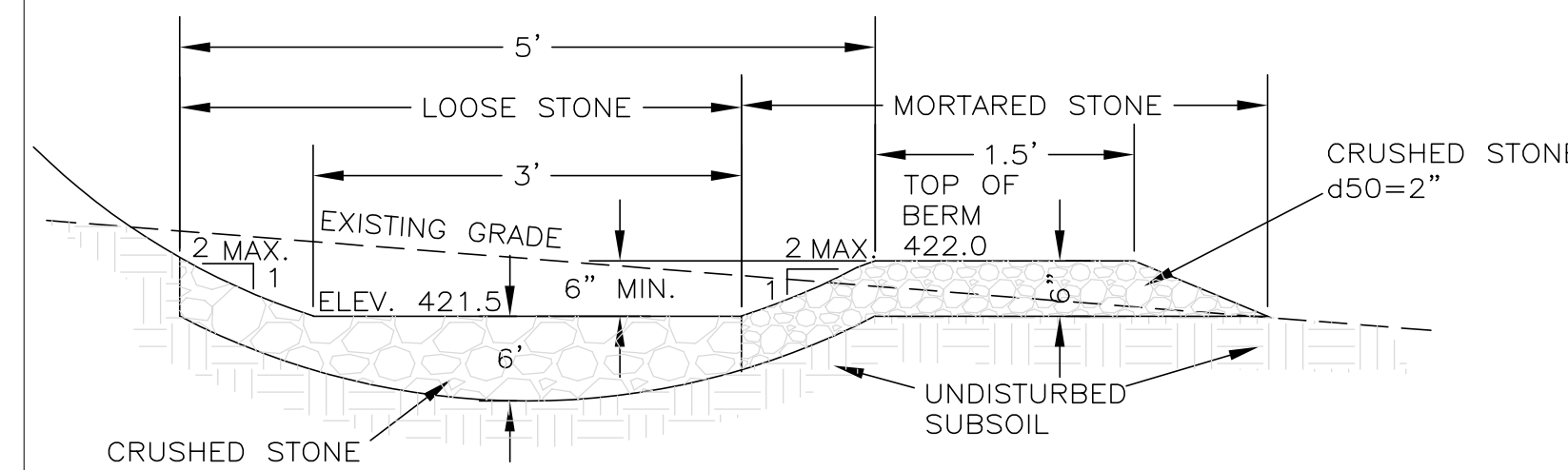


'CULTEC' CHAMBERS INSPECTION
PORT NON-TRAFFIC APPLICATION
N.T.S.



SEE LANDSCAPE ARCHITECT'S PLAN FOR PLANT SCHEDULE IN RAIN GARDEN.

RAIN GARDEN DETAILS
N.T.S.



LEVEL SPREADER
N.T.S.

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION, DATE: _____

CHRISTOPHER CARTHY, CHAIRMAN
TOWN OF NORTH CASTLE PLANNING BOARD

ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION, DATE: _____

JOSEPH M. CERMELE, P.E.
KELLARD SESSIONS CONSULTING CONSULTING TOWN ENGINEERS

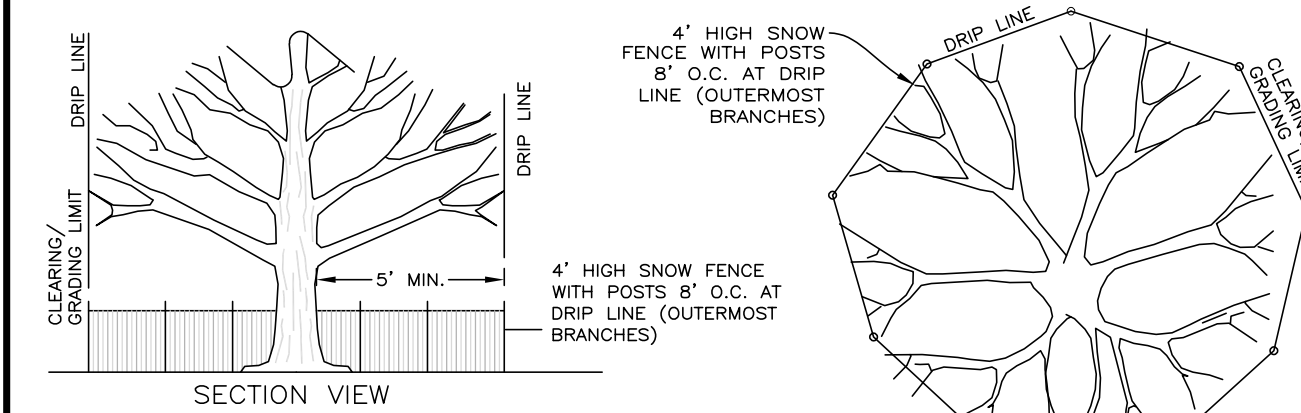


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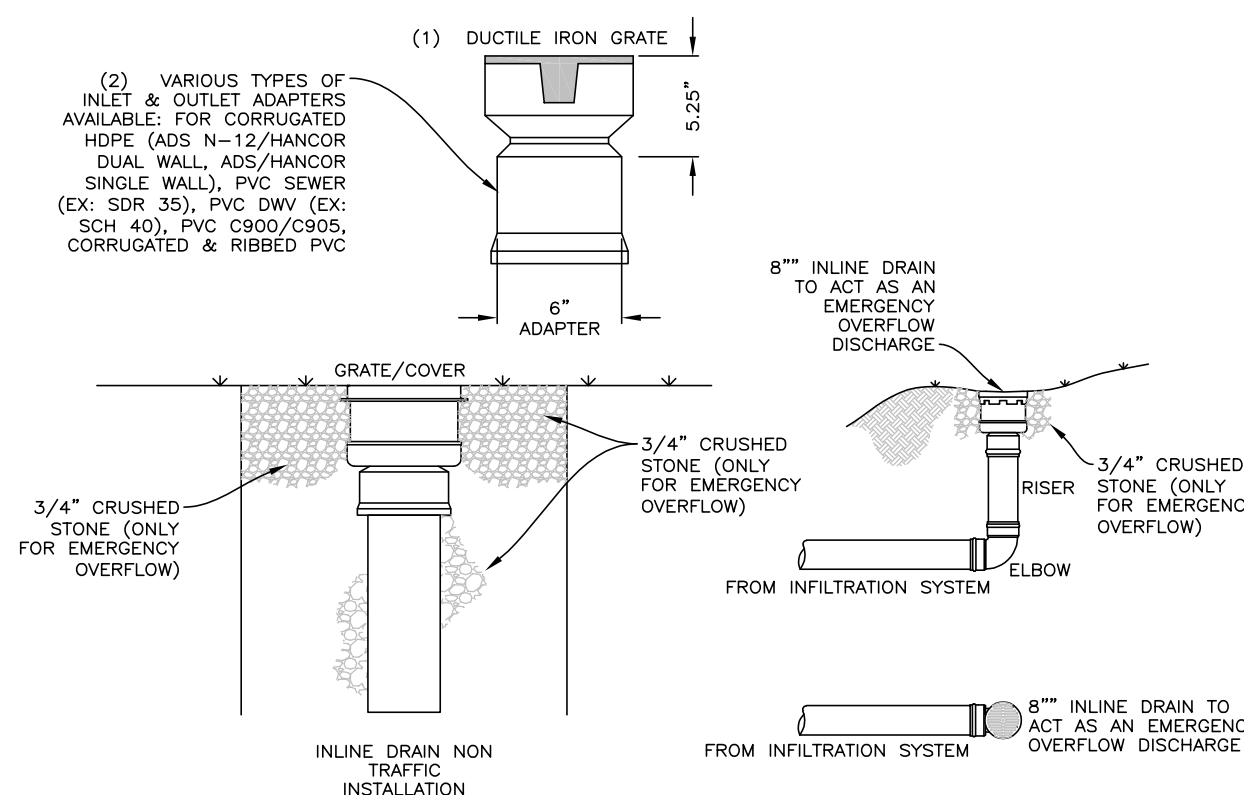
ALFONZETTI ENGINEERING, P.C.
14 SMITH AVE, MT. KISCO, N.Y. 10549
914-666-9800 INFO@ALFONZETTIENG.COM

SITE DATA	
OWNER/APPLICANT: 34 CREEMER LLC	
SITE ADDRESS: 34 CREEMER ROAD, ARMOCK, NY 10504	
TAX MAP #: 108.04-2-14	
LOT AREA: 2.1465 ACRES	
ZONING: R-2A	REVISED: APRIL 24, 2024 REVISED: MARCH 5, 2024 REVISED: JULY 20, 2023
DRAWING: SITE DETAILS MAY 22, 2023	SHEET 03 OF 03
PROJECT: 34 CREEMER ROAD TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK	

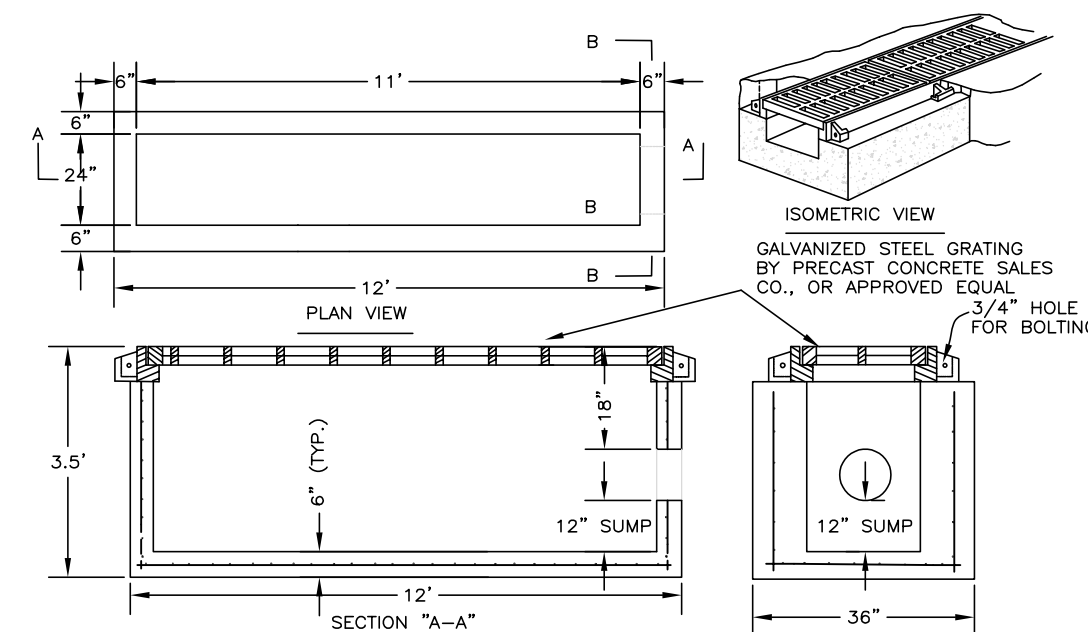


NOTES: CONSTRUCTION EQUIPMENT, OR VEHICLES SHALL NOT BE PARKED OR OPERATED UNDER THE CANOPY OF A PROTECTED TREE. EXCAVATION OR STOCKPILING UNDER PROTECTED TREES IS NOT ACCEPTABLE. BOARDS OR FENCES SHALL NOT BE NAILED TO PROTECTED TREES.

TREE PROTECTION DETAIL
N.T.S.



EMERGENCY OVERFLOW
DISCHARGE
N.T.S.



NOTE: TRENCH DRAIN SHALL BE PROVIDED BY PRECAST CONCRETE SALES CO. OR APPROVED EQUAL. CONCRETE TO TEST 4000 PSI @ 28 DAYS. STRUCTURE SHALL BE H-20 LOAD RATED.

TRENCH DRAIN DETAIL
N.T.S.

GENERAL NOTES:

1. TOPOGRAPHY, BOUNDARY LINE INFORMATION, TREE LOCATIONS, HOUSE AND DRAINAGE INFORMATION FROM PLAN BY ALFONZETTI ENGINEERING P.C. DATED MAY 22, 2023
2. CONTRACTOR RESPONSIBLE FOR LOCATION OF UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OR PLANTING OPERATIONS
3. THIS PLAN IS FOR PERMITTING ONLY AND NOT FOR CONSTRUCTION
4. SEE SHEET M.2 FOR PLANT NOTES, LISTS AND RAIN GARDEN PLANTING PLAN
5. WETLAND MITIGATION PLAN FOR PLANTING AND TREE PROTECTION ONLY. FOR GRADING, DRAINAGE, UTILITIES, ENGINEERING AND OTHER ACTIVITIES, REFER TO PROPOSED SITE PLAN DATED MAY 22, 2023 PREPARED BY ALFONZETTI ENGINEERING, P.C.



WETLAND AND REGULATED AREA DISTURBANCE TABLE 34 CREEMER ROAD - 2.146 ACRE PARCEL			
AREA	SQ. FT.	ACRES	% OF TOTAL AREA (2.146 Ac)
TOTAL WETLAND	1,389.00	0.032	1.49
TOTAL WETLAND 100' REGULATED AREA	48,276.00	30.000	51.63
TOTAL WETLAND DISTURBANCE	0.00	30.000	0
TOTAL WETLAND 100' REGULATED AREA DISTURBANCE	15,780.00	0.362	16.8
TOTAL WETLAND 100' REGULATED BUFFER MITIGATION AREA	31,791.00	0.730	34.0
IMPERVIOUS AREA	6,648.00	0.153	0.073
PERVIOUS AREA	86,832.00	1.990	0.948

* LOCALLY REGULATED WETLANDS ONLY - NO WETLAND OR 10' REGULATED BUFFER DISTURBANCE PROPOSED IN NYS WETLAND K-24

LEGEND

SEED MIX A	TREE - EXISTING
SEED MIX B	TREE - TO BE REMOVED
SEED MIX C	TREE PROTECTION FENCE
100' WETLAND REGULATED AREA	TREE - PROPOSED
PROPOSED DISTURBANCE LIMIT	SHRUB - PROPOSED
	FERN/FORB - PROPOSED

APPROVED BY TOWN OF NORTH CASTLE PLANNING BOARD:
RESOLUTION, DATED _____ DATE: _____
CHRISTOPHER CATHY, CHAIRMAN
TOWN OF NORTH CASTLE PLANNING BOARD
ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION:
DATE: _____
JOSEPH M. CORMEIL, P.E.
KELLARD SESSIONS CONSULTING, P.C.
CONSULTING TOWN ENGINEER

DATE	SHEET	REVISION NOTES
05/01/18	M.1	CROSS REFERENCE NOTE 5
06/20/18	M.1	ADD 10 TREES
09/20/18	M.1	REVISE DIST. TABLE FOR IMPERVIOUS/PERVIOUS CALCULATION, UPDATE NOTE 5
07/28/23	M.1	REVISE HOUSE AREA PLANTINGS & NOTE 5



SCALE: 1" = 20'

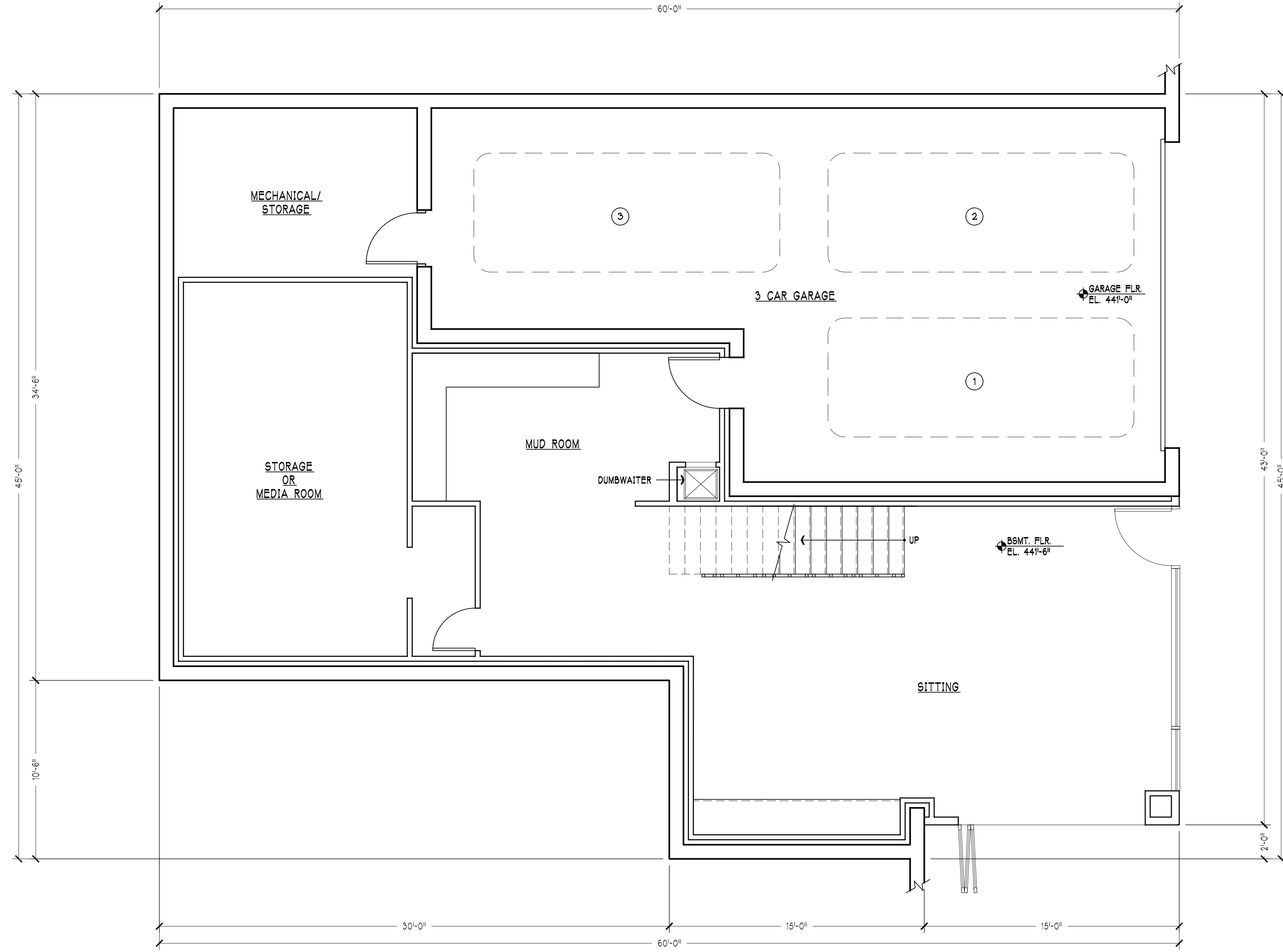
WETLAND MITIGATION & LANDSCAPE PLAN

34 CREEMER ROAD
NORTH CASTLE, NY

Date: **04-04-18**

Sheet No.: **M.1**

JAY FAIN & ASSOCIATES, LLC
Environmental Consulting Services
118 Broad Hill Road, Fairfield, CT 06424
203-254-3156 • Fax: 203-254-3167



1 BASEMENT FL. PLAN
SCALE: 1/4"=1'-0"

Date: 04/10/2024

Project No.

Drawn by: JAM

Scale: As Noted

Architect:

TERENCE P. LENNON
2A Hardscrabble Rd.
North Salem, New York 10560
(914) 276-2500

Project:

PROPOSED RESIDENCE

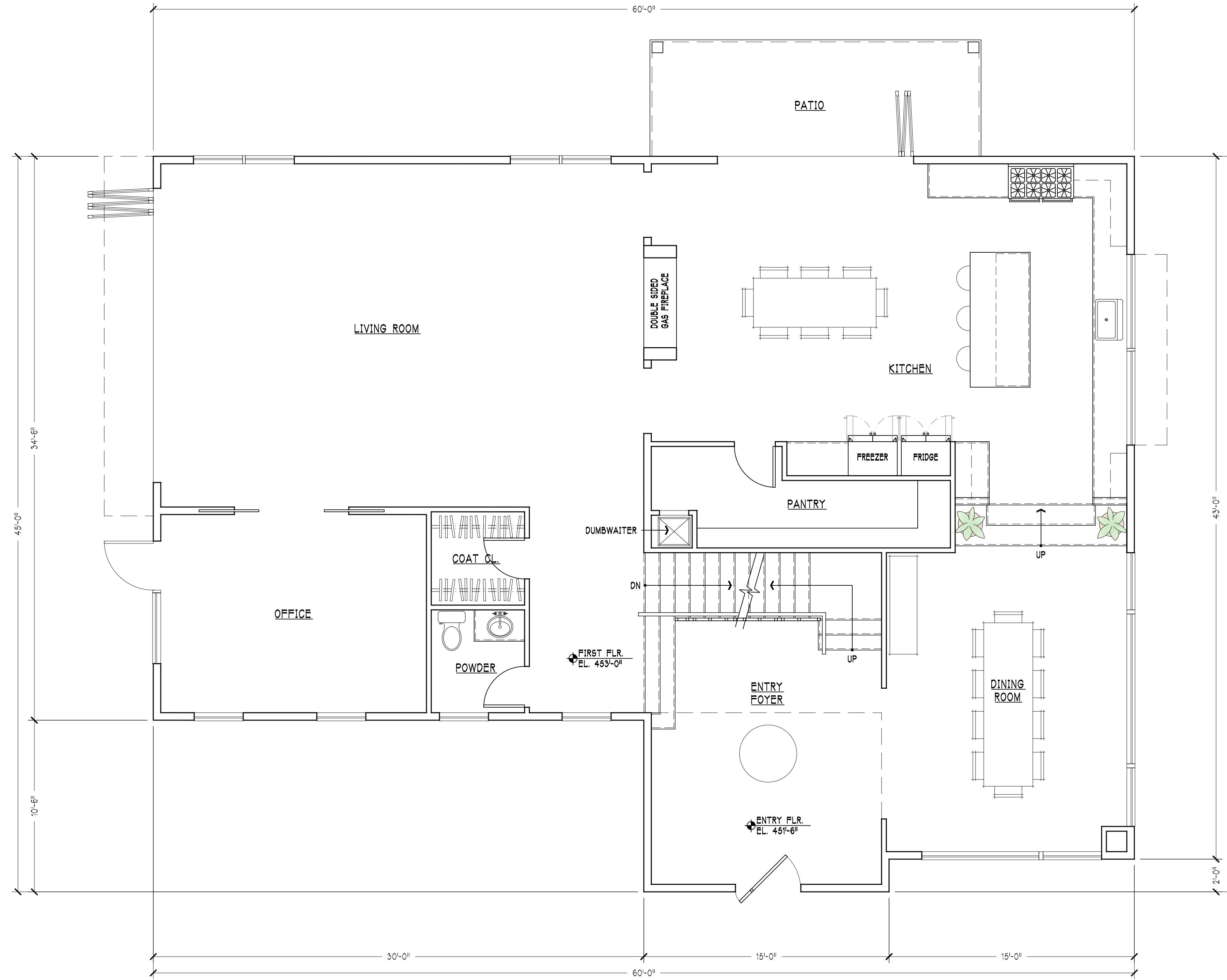
34 CREEMER ROAD
ARMONK, NY

Drawing Title:

**PROPOSED BASEMENT
FLOOR PLAN**

Revisions:

A-100



1 FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"

Date: 04/10/2024

Project No.

Drawn by: JAM

Scale: As Noted

Architect:

TERENCE P. LENNON
2A Hardscrabble Rd.
North Salem, New York 10560
(914) 276-2500

Project:

PROPOSED RESIDENCE

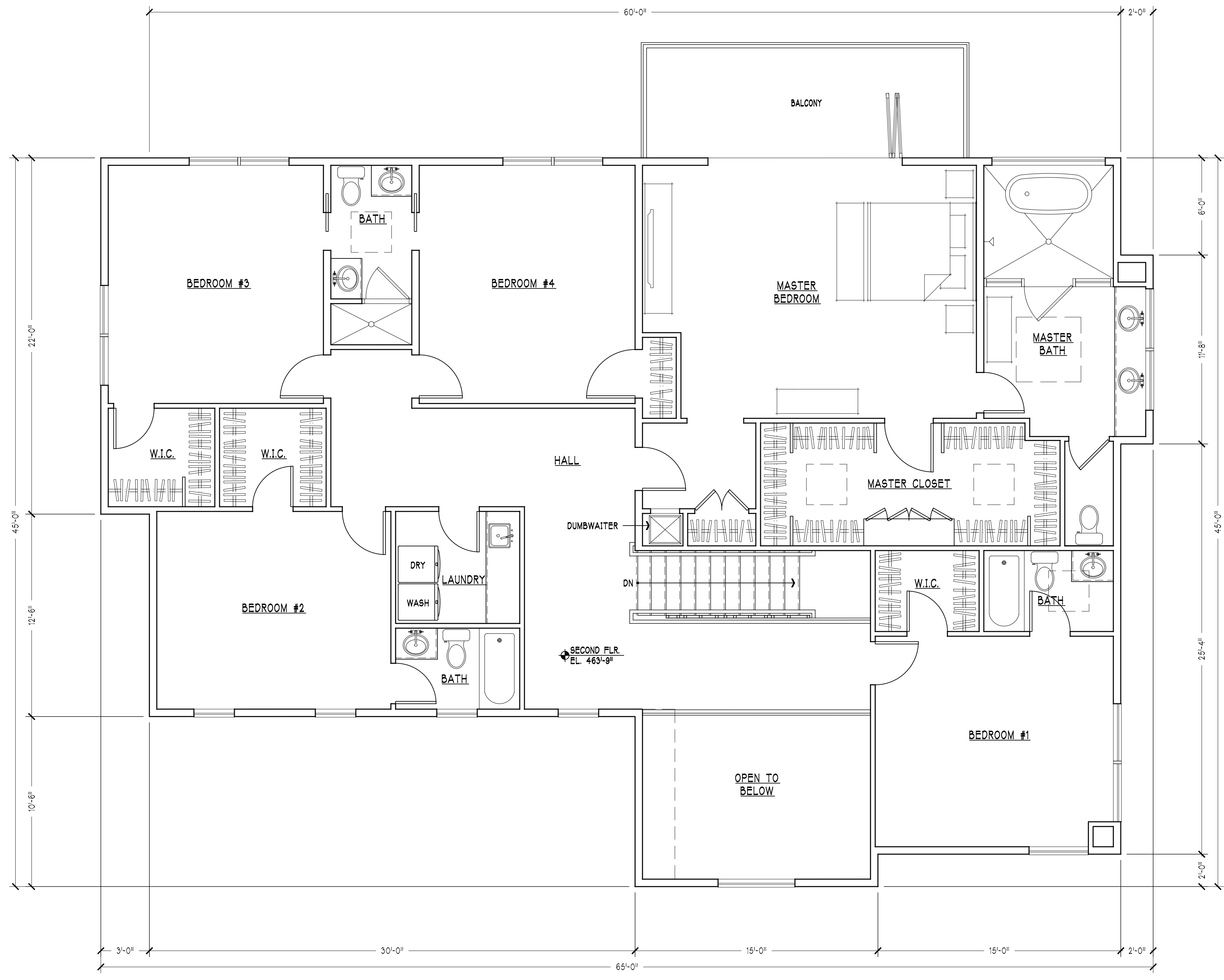
34 CREAMER ROAD
ARMONK, NY

Drawing Title:

PROPOSED FIRST
FLOOR PLAN

Revisions:

A-101

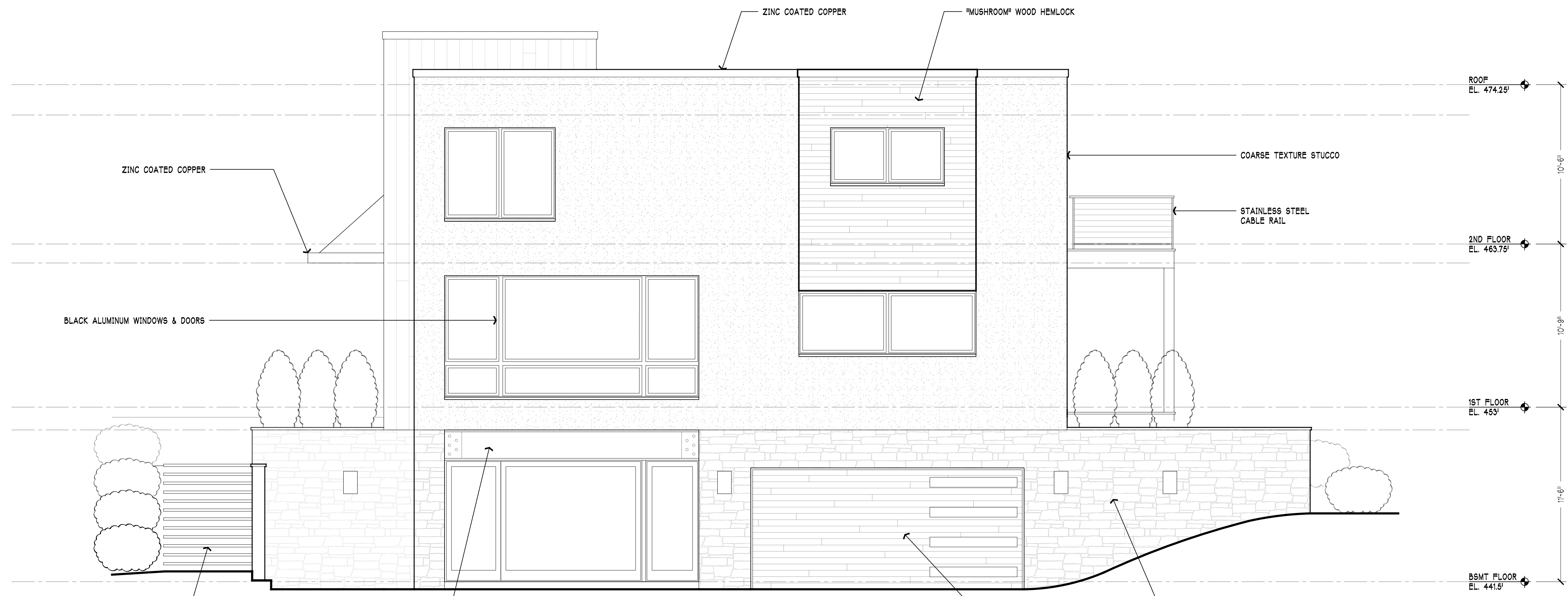


1 SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"

Date: 04/10/2024 Project No.: Drawn by: JAM Scale: As Noted		Architect: TERENCE P. LENNON 2A Hardscrabble Rd. North Salem, New York 10560 (914) 276-2500	Project: PROPOSED RESIDENCE 34 CREEMER ROAD ARMONK, NY	Drawing Title: PROPOSED SECOND FLOOR PLAN	Revisions:
A-102					



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



2 RIGHT SIDE ELEVATION
SCALE: 1/4"=1'-0"

Revisions:

Drawing Title:
**PROPOSED FRONT &
RIGHT ELEVATIONS**

Project:
PROPOSED RESIDENCE

34 CREEMER ROAD
ARMONK, NY

Architect:
TERENCE P. LENNON

2A Hardscrabble Rd.
North Salem, New York 10560
(914) 276-2500

Date: 04/10/2024

Project No.

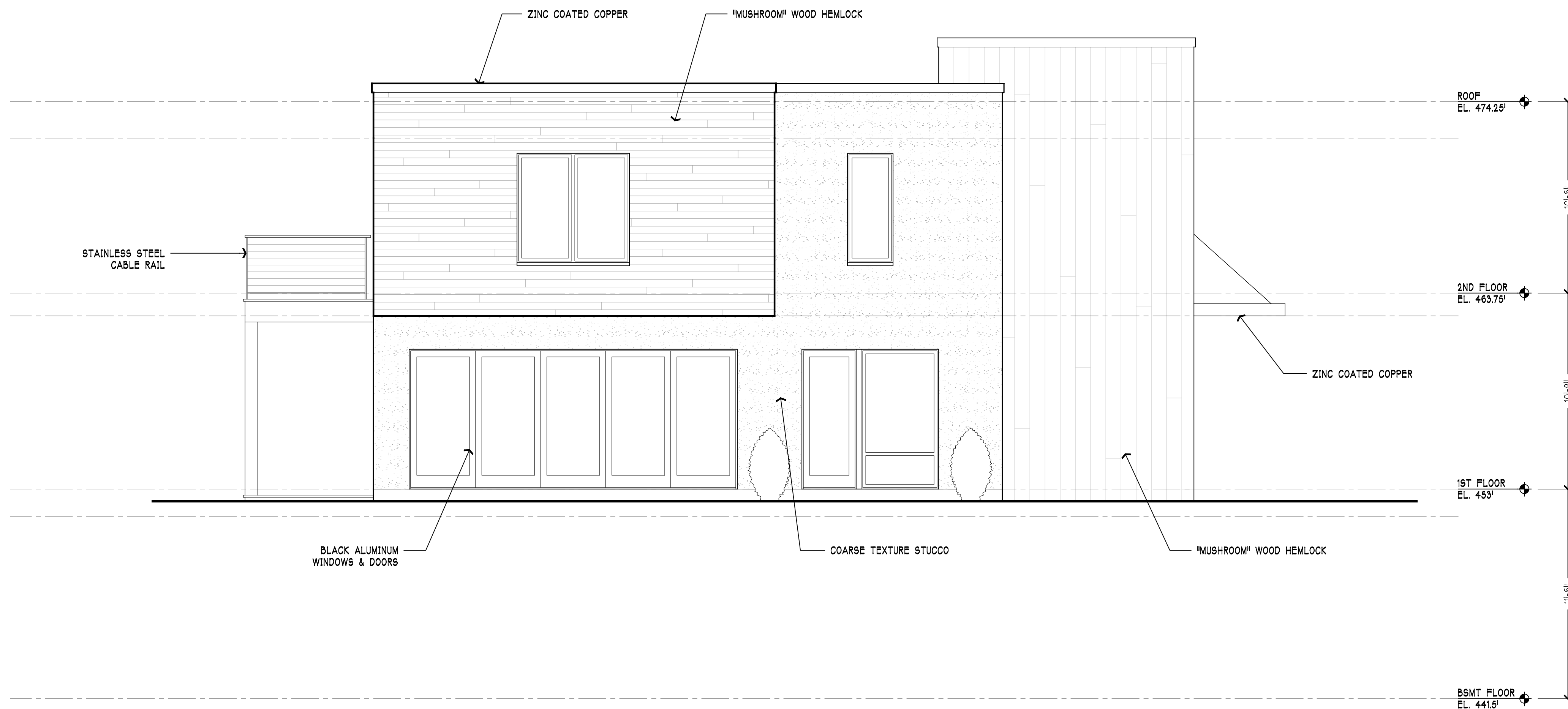
Drawn by: JAM

Scale: As Noted

A-200



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



2 LEFT SIDE ELEVATION
SCALE: 1/4"=1'-0"

Revisions:

Drawing Title:
**PROPOSED REAR &
LEFT ELEVATIONS**

Project:
PROPOSED RESIDENCE

34 CREAMER ROAD
ARMONK, NY

Architect:
TERENCE P. LENNON

2A Hardscrabble Rd.
North Salem, New York 10560
(914) 276-2500

Date: 04/10/2024

Project No.

Drawn by: JAM

Scale: As Noted

A-201











ALFONZETTI ENGINEERING, P.C.
14 Smith Avenue, Mount Kisco, N.Y. 10549

(914) 666-9800

Info@AlfonzettiEng.com

Stormwater Pollution Prevention Plan

for

34 Creemer Road
Town of North Castle

April 6, 2018
Revised: April 24, 2024

ALFONZETTI ENGINEERING, P.C.
14 Smith Avenue, Mount Kisco, N.Y. 10549

(914) 666-9800

Info@AlfonzettiEng.com

PROJECT: 34 Creemer Road
Town of North Castle, NY

SCOPE: Stormwater Pollution Prevention Plan

DATE: April 6, 2018
Revised: April 24, 2024

Introduction:

The subject site is located at 34 Creemer Road, in the Town of North Castle, New York. The site consists of a wooded lot. The applicant is proposing a single family residential dwelling with driveway, landscaping, and similar improvements. The change in surface cover and addition of impervious surface warrants this drainage assessment.

The subject property has the tax map identification: Section 108.04, Block 2, Lot 14 and the total lot area is 2.14 acres. The site is located in an area tributary to the Byram River Basin, within the Inland Long Island Sound Watershed. The disturbed area is 34,893 square feet.

Discussion:

To ensure no off-site flooding occurs as a result of the proposed construction, the existing runoff volume and the proposed runoff volume were calculated and compared for the drainage study areas. The runoff volumes were computed using HydroCad. The runoff from the increase in impervious area is proposed to be captured in a subsurface infiltration system and a rain garden system.

The soils in the area of disturbance are classified as CrC, Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky, hydrologic group 'B', CsD, Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky, hydrologic group 'B', and Sh, Sun loam, hydrologic group 'C/D', according to the USDA (United States Department of Agriculture), NRCS (Natural Resources Conservation Service).

Existing Watershed 1 consists of the existing wood and grass area of the lot.

Proposed Watershed 1 consists of the existing wood and grass area of the lot outside of the proposed new impervious area and includes the proposed walkway.

Proposed Watershed 2 consists of the proposed house, pool & pool patio, and back patio. This results in an increase impervious area of 3,657 s.f.

Proposed Watershed 3 consists of the proposed asphalt driveway and area of the proposed rain garden and results in an increase in impervious area of 2,325 s.f.

Curve number calculations for the drainage study area are shown in the appendix of this report. The results are shown below:

Watershed	Tributary Area	Area (sf)	Curve Number
EXWS1	Woods/Lawn	93,503	61
PRWS1	Woods/Lawn, Walkway	85,471	61
PRWS2	House, Pool & Patios	3,657	98
PRWS3	Driveway and Rain garden	4,375	90

Using the curve number, and a 100-year design storm event of 9.2", the existing and proposed conditions were entered using a HydroCad model.

To ensure no off-site flooding occurs as a result of the proposed construction, a subsurface infiltration system and rain garden are proposed to capture the required storage volume for both watersheds.

The infiltration system for Proposed Watershed 2 is located in the lawn area. The infiltration system consists of thirteen (13) 'Cultec' stormwater chambers, model '330XLHD', or approved equal, surrounded by crushed stone and filter fabric.

The infiltration system for Proposed Watershed 3 is located in the southwestern corner of the property and has a minimum footprint of 1,175 s.f.

The proposed rain garden will also contribute to water quality for the site as pollutants carried in typical runoff will be filtered and treated through the rain garden media and through the uptake of the plantings within the rain garden.

Using the dimensions of the chambers, a stone void ratio of 33%, and a design percolation rate of 1.5 inch/hour for the proposed stormwater chambers and 10 inch/hour for the proposed rain garden, the peak flow comparison is shown below.

Peak Flow Comparison:

Drainage Point	Storm Event	Existing Peak Runoff (cfs)	Proposed Peak Runoff (cfs)	Net Change (cfs)
DP1	100 Year	14.71	13.5	-1.2

Calculations and additional information are shown in the appendix of this report. Details are shown on the site plan.

Silt Fence – Silt Fencing consists of a fabric barrier between supporting stakes or posts usually made of wood. The fabric is proposed to capture suspended sediments from construction runoff and also decreases the velocity of the runoff to protect off-site areas. The proposed location of the silt fence is shown on the plans along with details for installing the silt fence.

Haybales – Haybales are used in a variety of erosion control devices. At the top of an excavation, haybales are used to spread out concentrated flow to prevent erosion. Haybales are used in conjunction with silt fence to add additional protection to sensitive areas such as wetlands and water bodies. Haybales are also used in conjunction with Silt Fence to protect surrounding areas from soil stockpile erosion. The proposed location of the haybales is shown on the plans along with details.

Anti-Tracking Pad – An Anti-Tracking Pad shall be installed at the construction entrance. The purpose of the Anti-Tracking Pad shall be to dislodge mud, dirt, and debris from construction vehicles prior to these vehicles leaving the construction site. This will ensure the existing roadways are kept clear of sediment. Locations and details of the Anti-Tracking Pad are shown on the plans.

Maintenance:

A maintenance chart is below showing typical maintenance schedule of temporary erosion control devices during construction. The maintenance of the erosion control devices is the responsibility of the contractor.

Temporary Erosion Control device maintenance schedule is as follows:

Device	Weekly	Monthly	Bi-annually	Annually	Prior to Significant Rainfall	After Significant Rainfall
Silt fence		Inspect		Inspect	Inspect	Inspect/clean
Anti-tracking pad	Inspect		Restore			Inspect
Haybales		Inspect		Replace	Inspect	Inspect/clean

The contractor will be responsible for installing, constructing, inspecting, repairing, replacing, and maintaining the erosion and sediment control and post construction stormwater practices included in the SWPPP.

Permanent Stormwater Management devices:

- The subsurface infiltration system consisting of the ‘Cultec’ rechargers shall be inspected and cleaned as per the manufacturer’s recommendations that are included in the appendix of this report.

- Rain garden maintenance may include the occasional replacement of plants, mulching, weeding and thinning to maintain desired appearance. Weeding and watering are essential the first year and can be minimized with the use of a weed free mulch layer. Once the rain garden has matured, the garden area should be free of bare area except where stepping stones are located. Inspect for sediment accumulations or heavy organic matter where runoff enters the garden and remove as necessary. The top few inches of planting soil should be removed and replaced when water ponds for more than 48 hours. Clear any blockages, as they may cause diversion of flow around the rain garden. Make sure all appropriate elevations have been maintained, no settlement has occurred and low spots have been created.
- The maintenance of the permanent stormwater management devices is the responsibility of the homeowner.

Construction Sequence:

The proposed improvements are to be constructed in one phase. The construction will be in a sequence that will minimize the potential for erosion. Construction is scheduled to begin in the summer of 2024. The general sequence of construction is as follows:

1. Survey and stake limits of disturbance and erosion control installation.
2. Install erosion controls (anti-tracking pad, hay bales, silt fence, soil stockpile) as shown on the erosion control plan and per the respective erosion control details. Cordon off the septic system area and proposed infiltration system area.
3. Trees to be removed shall be cut at this time. Stumps shall be removed.
4. Strip topsoil and rough grading. Note that disturbed soil that will not be worked for a period greater than 14 days must be stabilized. Stabilization must be initiated by the end of the next business day and completed within seven (7) days.
5. Excavate for proposed house. House framing and superstructure is constructed.
6. Excavate for subsurface utilities: water service, electric/telephone/cable line, subsurface infiltration system, drainage system, rain garden and septic system.
7. Install subsurface utilities.
8. Protect infiltration system from sediment until final stabilization.
9. Final grading, seeding, sodding, and other soil stabilizing landscaping for final site stabilization.

10. Remove erosion control: silt fence, hay bales and anti-tracking pad. Discard erosion control devices in an appropriate manner.

Potential pollutants during construction are sediment laden stormwater runoff. A post construction pollutant can be an increase in stormwater runoff. During construction, the sediment laden runoff will be filtered through the silt fence and other erosion control devices prior to being discharged. After construction is complete, the increase in stormwater runoff will be mitigated through a subsurface infiltration system and rain garden. In addition, the rain garden will contribute to the water quality of the stormwater runoff.

Conclusion:

The proposed subsurface infiltration system and rain garden will mitigate the increase in stormwater runoff, therefore there should be no adverse impacts due to stormwater as a result of the proposed home and asphalt driveway construction.

ALFONZETTI ENGINEERING, P.C.
Ralph Alfonzetti, P.E.



Cultec Infiltrator Information:

Operation & Maintenance

This manual contains guidelines recommended by CULTEC, Inc. and may be used in conjunction with, but not to supersede, local regulations or regulatory authorities. OSHA Guidelines must be followed when inspecting or cleaning any structure.

Introduction

The CULTEC Subsurface Stormwater Management System is a high-density polyethylene (HDPE) chamber system arranged in parallel rows surrounded by washed stone. The CULTEC chambers create arch-shaped voids within the washed stone to provide stormwater detention, retention, infiltration, and reclamation. Filter fabric is placed between the native soil and stone interface to prevent the intrusion of fines into the system. In order to minimize the amount of sediment which may enter the CULTEC system, a sediment collection device (stormwater pretreatment device) is recommended upstream from the CULTEC chamber system. Examples of pretreatment devices include, but are not limited to, an appropriately sized catch basin with sump, pretreatment catchment device, oil grit separator, or baffled distribution box. Manufactured pretreatment devices may also be used in accordance with CULTEC chambers. Installation, operation, and maintenance of these devices shall be in accordance with manufacturer's recommendations. Almost all of the sediment entering the stormwater management system will be collected within the pretreatment device.

Best Management Practices allow for the maintenance of the preliminary collection systems prior to feeding the CULTEC chambers. The pretreatment structures shall be inspected for any debris that will restrict inlet flow rates. Outfall structures, if any, such as outlet control must also be inspected for any obstructions that would restrict outlet flow rates. OSHA Guidelines must be followed when inspecting or cleaning any structure.

Operation and Maintenance Requirements

I. Operation

CULTEC stormwater management systems shall be operated to receive only stormwater run-off in accordance with applicable local regulations. CULTEC subsurface stormwater management chambers operate at peak performance when installed in series with pretreatment. Pretreatment of suspended solids is superior to treatment of solids once they have been introduced into the system. The use of pretreatment is adequate as long as the structure is maintained and the site remains stable with finished impervious surfaces such as parking lots, walkways, and pervious areas are properly maintained. If there is to be an unstable condition, such as improvements to buildings or parking areas, all proper silt control measures shall be implemented according to local regulations.

II. Inspection and Maintenance Options

- A. The CULTEC system may be equipped with an inspection port located on the inlet row. The inspection port is a circular cast box placed in a rectangular concrete collar. When the lid is removed, a 6-inch (150 mm) pipe with a screw-in plug will be exposed. Remove the plug. This will provide access to the CULTEC Chamber row below. From the surface, through this access, the sediment may be measured at this location. A stadia rod may be used to measure the depth of sediment if any in this row. If the depth of sediment is in excess of 3 inches (76 mm), then this row should be cleaned with high pressure water through a culvert cleaning nozzle. This would be carried out through an upstream manhole or through the CULTEC StormFilter Unit (or other pre-treatment device). CCTV inspection of this row can be deployed through this access port to determine if any sediment has accumulated in the inlet row.
- B. If the CULTEC bed is not equipped with an inspection port, then access to the inlet row will be through an upstream manhole or the CULTEC StormFilter.
 1. **Manhole Access**
This inspection should only be carried out by persons trained in confined space entry and sewer inspection services. After the manhole cover has been removed a gas detector must be lowered into the manhole to ensure that there are not high concentrations of toxic gases present. The inspector should be lowered into the manhole with the proper safety equipment as per OSHA requirements. The inspector may be able to observe sediment from this location. If this is not possible, the inspector will need to deploy a CCTV robot to permit viewing of the sediment.

Operation & Maintenance



2. StormFilter Access

Remove the manhole cover to allow access to the unit. Typically a 30-inch (750 mm) pipe is used as a riser from the StormFilter to the surface. As in the case with manhole access, this access point requires a technician trained in confined space entry with proper gas detection equipment. This individual must be equipped with the proper safety equipment for entry into the StormFilter. The technician will be lowered onto the StormFilter unit. The hatch on the unit must be removed. Inside the unit are two filters which may be removed according to StormFilter maintenance guidelines. Once these filters are removed the inspector can enter the StormFilter unit to launch the CCTV camera robot.

- C. The inlet row of the CULTEC system is placed on a polyethylene liner to prevent scouring of the washed stone beneath this row. This also facilitates the flushing of this row with high pressure water through a culvert cleaning nozzle. The nozzle is deployed through a manhole or the StormFilter and extended to the end of the row. The water is turned on and the inlet row is back-flushed into the manhole or StormFilter. This water is to be removed from the manhole or StormFilter using a vacuum truck.

III. Maintenance Guidelines

The following guidelines shall be adhered to for the operation and maintenance of the CULTEC stormwater management system:

- A. The owner shall keep a maintenance log which shall include details of any events which would have an effect on the system's operational capacity.
- B. The operation and maintenance procedure shall be reviewed periodically and changed to meet site conditions.
- C. Maintenance of the stormwater management system shall be performed by qualified workers and shall follow applicable occupational health and safety requirements.
- D. Debris removed from the stormwater management system shall be disposed of in accordance with applicable laws and regulations.

IV. Suggested Maintenance Schedules

A. Minor Maintenance

The following suggested schedule shall be followed for routine maintenance during the regular operation of the stormwater system:

Frequency	Action
Monthly in first year	Check inlets and outlets for clogging and remove any debris as required.
Spring and Fall	Check inlets and outlets for clogging and remove any debris as required.
One year after commissioning and every third year following	Check inlets and outlets for clogging and remove any debris as required.

B. Major Maintenance

The following suggested maintenance schedule shall be followed to maintain the performance of the CULTEC stormwater management chambers. Additional work may be necessary due to insufficient performance and other issues that might be found during the inspection of the stormwater management chambers. (See table on next page)

Major Maintenance *(continued)*

	Frequency	Action
Inlets and Outlets	Every 3 years	<ul style="list-style-type: none"> Obtain documentation that the inlets, outlets and vents have been cleaned and will function as intended.
	Spring and Fall	<ul style="list-style-type: none"> Check inlet and outlets for clogging and remove any debris as required.
CULTEC Stormwater Chambers	2 years after commissioning	<ul style="list-style-type: none"> Inspect the interior of the stormwater management chambers through inspection port for deficiencies using CCTV or comparable technique. Obtain documentation that the stormwater management chambers and feed connectors will function as anticipated.
	9 years after commissioning every 9 years following	<ul style="list-style-type: none"> Clean stormwater management chambers and feed connectors of any debris. Inspect the interior of the stormwater management structures for deficiencies using CCTV or comparable technique. Obtain documentation that the stormwater management chambers and feed connectors have been cleaned and will function as intended.
	45 years after commissioning	<ul style="list-style-type: none"> Clean stormwater management chambers and feed connectors of any debris. Determine the remaining life expectancy of the stormwater management chambers and recommended schedule and actions to rehabilitate the stormwater management chambers as required. Inspect the interior of the stormwater management chambers for deficiencies using CCTV or comparable technique.
	45 to 50 years after commissioning	<ul style="list-style-type: none"> Replace or restore the stormwater management chambers in accordance with the schedule determined at the 45-year inspection. Attain the appropriate approvals as required. Establish a new operation and maintenance schedule.
Surrounding Site	Monthly in 1 st year	<ul style="list-style-type: none"> Check for depressions in areas over and surrounding the stormwater management system.
	Spring and Fall	<ul style="list-style-type: none"> Check for depressions in areas over and surrounding the stormwater management system.
	Yearly	<ul style="list-style-type: none"> Confirm that no unauthorized modifications have been performed to the site.

For additional information concerning the maintenance of CULTEC Subsurface Stormwater Management Chambers, please contact CULTEC, Inc. at 1-800-428-5832.



CULTEC
 Chamber of Choice™

CULTEC, Inc.
 878 Federal Road • P.O. Box 280 • Brookfield, CT 06804
 Phone: 203-775-4416 • Toll Free: 800-4-CULTEC • Fax: 203-775-1462
 Web: www.cultec.com • E-mail: custservice@cultec.com

Deep Test Hole Information: (designations are shown on the plan)

Deep Test Hole 1 (DT1 SW)

0''' – 10''	Topsoil
10'' – 86''	Brown Sandy, Silty Loam

Deep Test Hole 2 (DT2 SW)

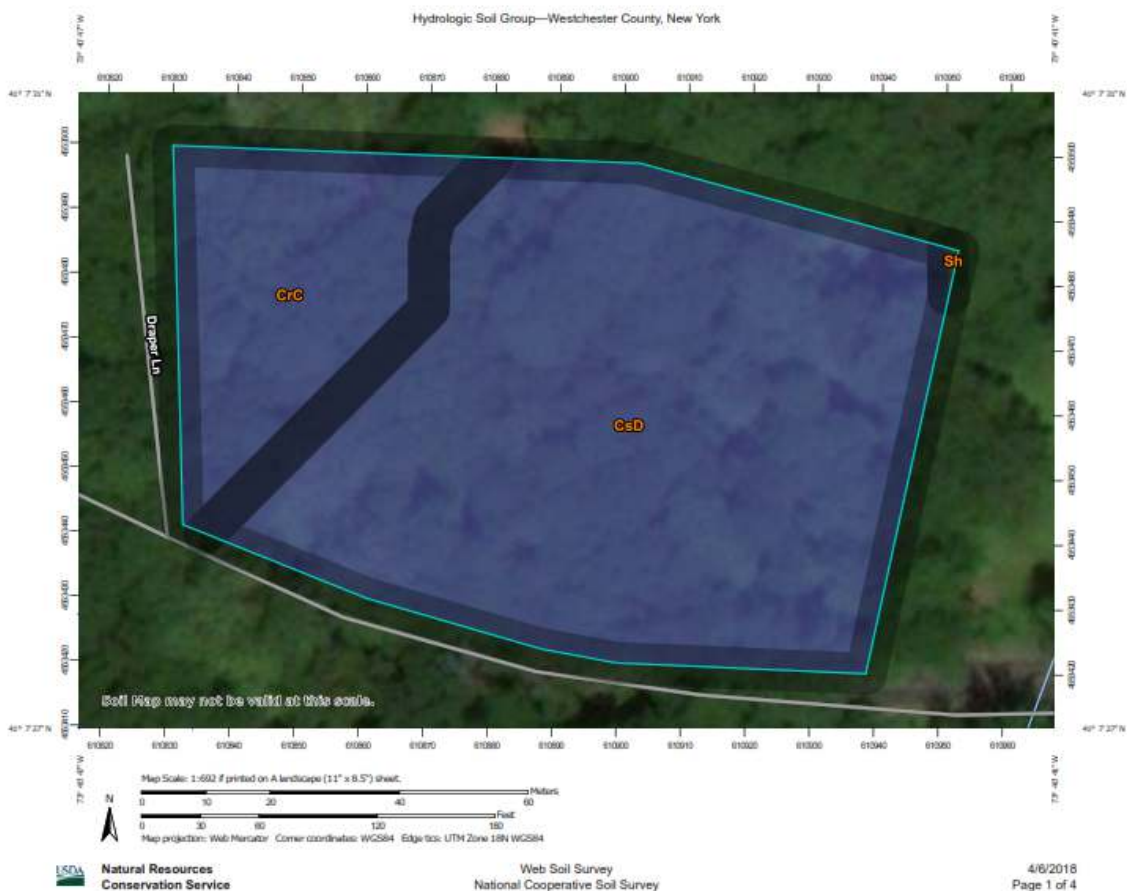
0''' – 10''	Topsoil
10'' – 72''	Brown Sandy Loam with Cobbles

Percolation Test Results:

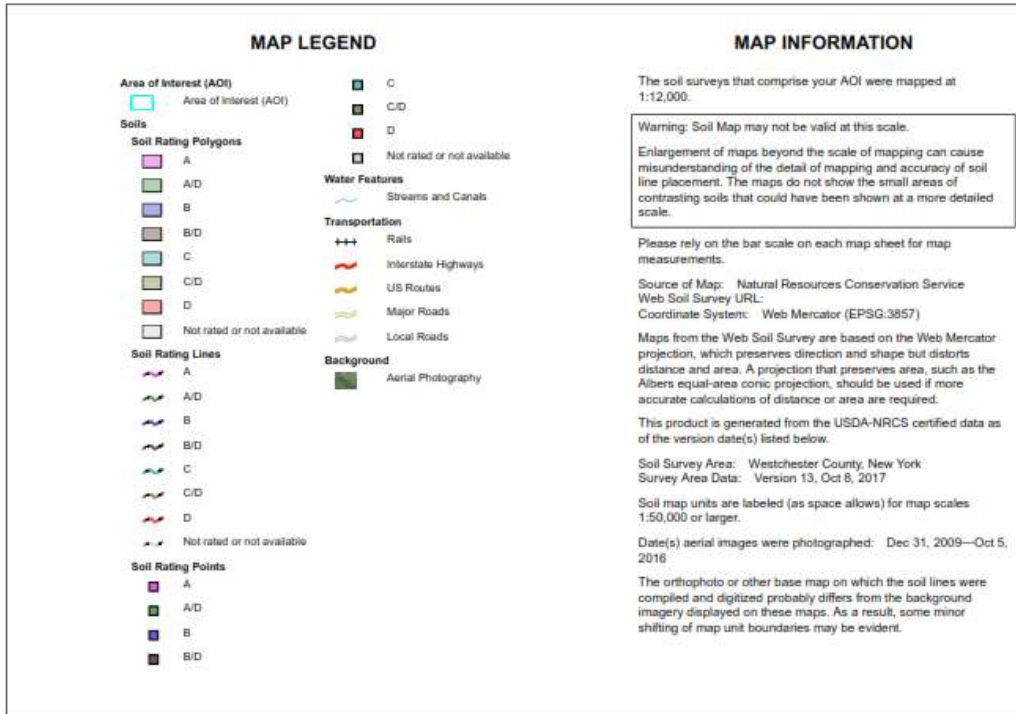
Percolation Test 1 (PT1 SW): 32 minutes/inch, Use 40 minutes/inch (1.5 inch/hour) for design

Percolation Test 2 (PT2 SW): 1.7 minutes/inch observed, Use 6 minutes/inch (10 inch/hour) for design.

Soil Information:



Hydrologic Soil Group—Westchester County, New York

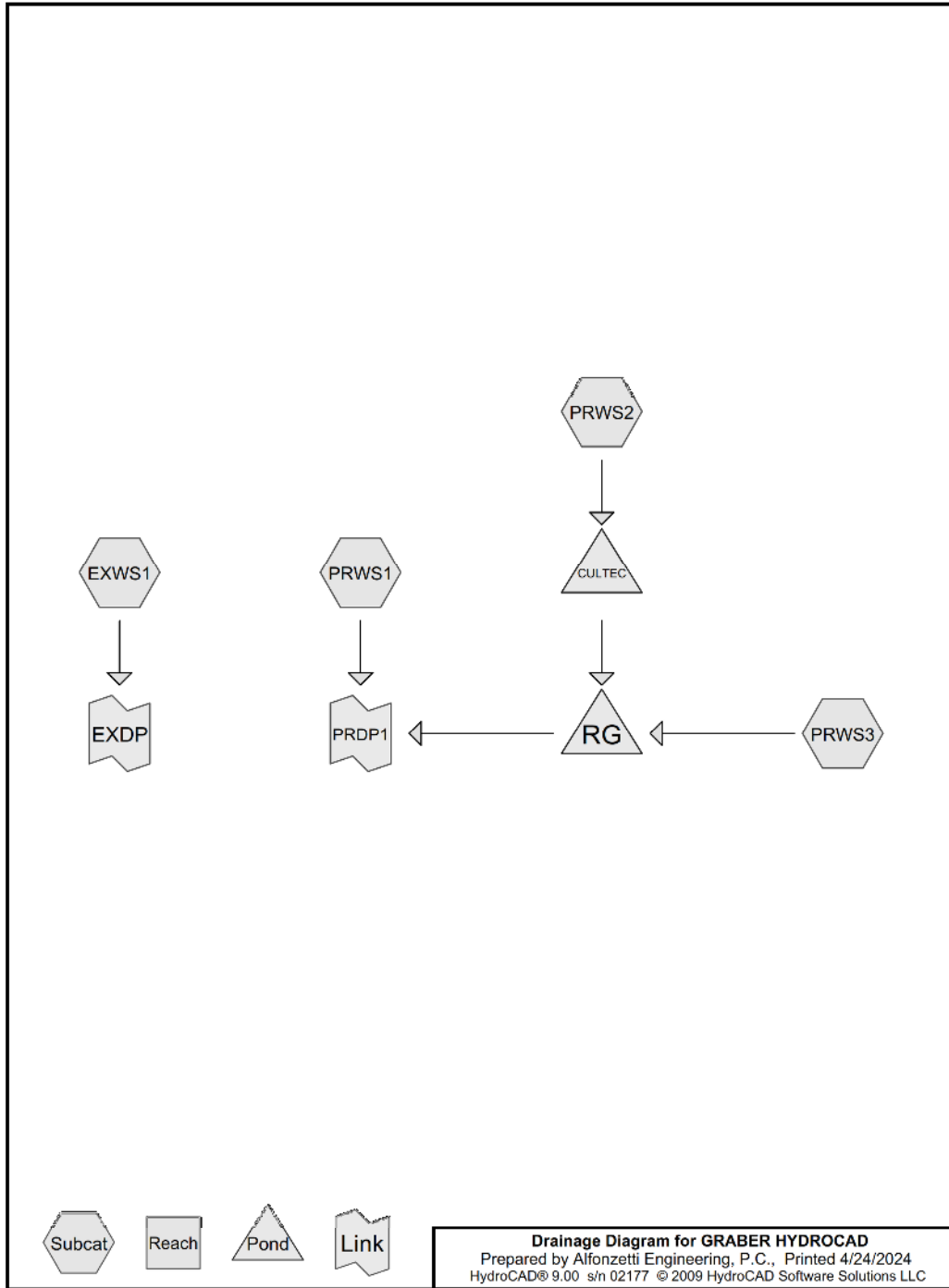


Hydrologic Soil Group—Westchester County, New York

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	0.4	21.7%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	B	1.6	78.2%
Sh	Sun loam	C/D	0.0	0.1%
Totals for Area of Interest			2.0	100.0%

HydroCad Report:



GRABER HYDROCAD

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Printed 4/24/2024

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.445	58	Woods/grass comb., Good, HSG B (EXWS1, PRWS1)
0.654	79	Woods/grass comb., Good, HSG D (EXWS1, PRWS1)
0.047	80	>75% Grass cover, Good, HSG D (PRWS3)
0.054	98	HOUSE (PRWS2)
0.003	98	PATIO (PRWS2)
0.013	98	POOL (PRWS2)
0.013	98	POOL PATIO (PRWS2)
0.053	98	Paved parking, HSG B (PRWS3)
0.009	98	Unconnected pavement, HSG B (PRWS1)
4.293		TOTAL AREA

GRABER HYDROCAD

Type II 24-hr 100 YEAR Rainfall=9.20"

Prepared by Alfonzetti Engineering, P.C.

Printed 4/24/2024

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EXWS1:	Runoff Area=93,503 sf 0.00% Impervious Runoff Depth=4.38" Flow Length=398' Tc=9.2 min CN=61 Runoff=14.7 cfs 0.784 af
Subcatchment PRWS1:	Runoff Area=85,471 sf 0.47% Impervious Runoff Depth=4.38" Flow Length=398' Tc=9.2 min CN=61 Runoff=13.5 cfs 0.717 af
Subcatchment PRWS2:	Runoff Area=3,657 sf 100.00% Impervious Runoff Depth=8.96" Tc=6.0 min CN=98 Runoff=1.1 cfs 0.063 af
Subcatchment PRWS3:	Runoff Area=4,375 sf 53.14% Impervious Runoff Depth=7.99" Tc=6.0 min CN=90 Runoff=1.2 cfs 0.067 af
Pond CULTEC:	Peak Elev=447.67' Storage=0.023 af Inflow=1.1 cfs 0.063 af Discarded=0.0 cfs 0.044 af Primary=0.6 cfs 0.019 af Outflow=0.6 cfs 0.063 af
Pond RG:	Peak Elev=423.64' Storage=858 cf Inflow=1.7 cfs 0.086 af Discarded=0.4 cfs 0.078 af Primary=0.5 cfs 0.008 af Outflow=0.9 cfs 0.086 af
Link EXDP:	Inflow=14.7 cfs 0.784 af Primary=14.7 cfs 0.784 af
Link PRDP1:	Inflow=13.5 cfs 0.725 af Primary=13.5 cfs 0.725 af

Total Runoff Area = 4.293 ac Runoff Volume = 1.630 af Average Runoff Depth = 4.56"
96.59% Pervious = 4.147 ac 3.41% Impervious = 0.147 ac

GRABER HYDROCAD

Type II 24-hr 100 YEAR Rainfall=9.20"

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Printed 4/24/2024

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Summary for Subcatchment EXWS1:

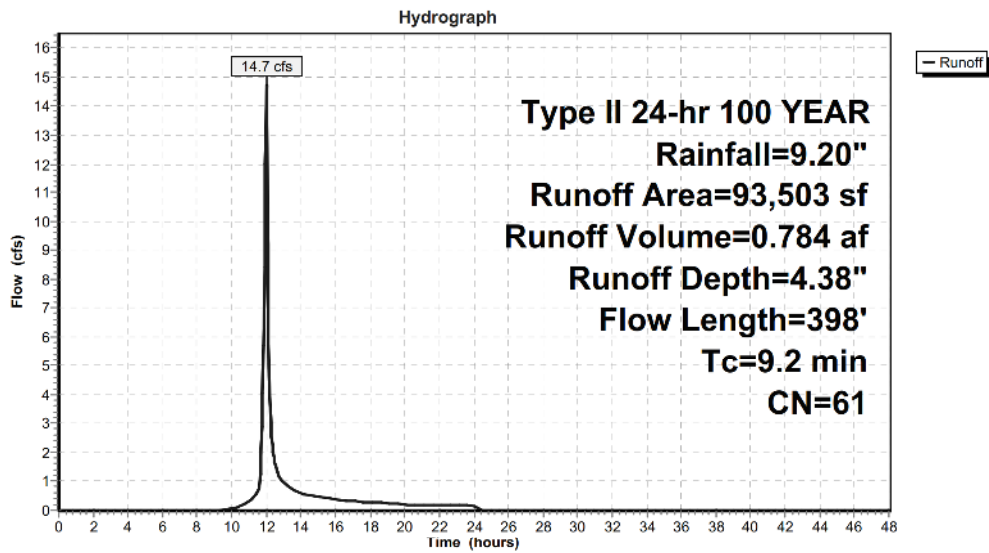
Runoff = 14.7 cfs @ 12.01 hrs, Volume= 0.784 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 YEAR Rainfall=9.20"

Area (sf)	CN	Description
78,229	58	Woods/grass comb., Good, HSG B
15,274	79	Woods/grass comb., Good, HSG D
93,503	61	Weighted Average
93,503		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.3728	0.26		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
2.8	298	0.1230	1.75		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.2	398	Total			

Subcatchment EXWS1:



GRABER HYDROCAD

Type II 24-hr 100 YEAR Rainfall=9.20"

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Summary for Subcatchment PRWS1:

Runoff = 13.5 cfs @ 12.01 hrs, Volume= 0.717 af, Depth= 4.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 YEAR Rainfall=9.20"

Area (sf)	CN	Description
401	98	Unconnected pavement, HSG B
71,846	58	Woods/grass comb., Good, HSG B
13,224	79	Woods/grass comb., Good, HSG D
85,471	61	Weighted Average
85,070		99.53% Pervious Area
401		0.47% Impervious Area
401		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.3728	0.26		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.50"
2.8	298	0.1230	1.75		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
9.2	398	Total			

GRABER HYDROCAD

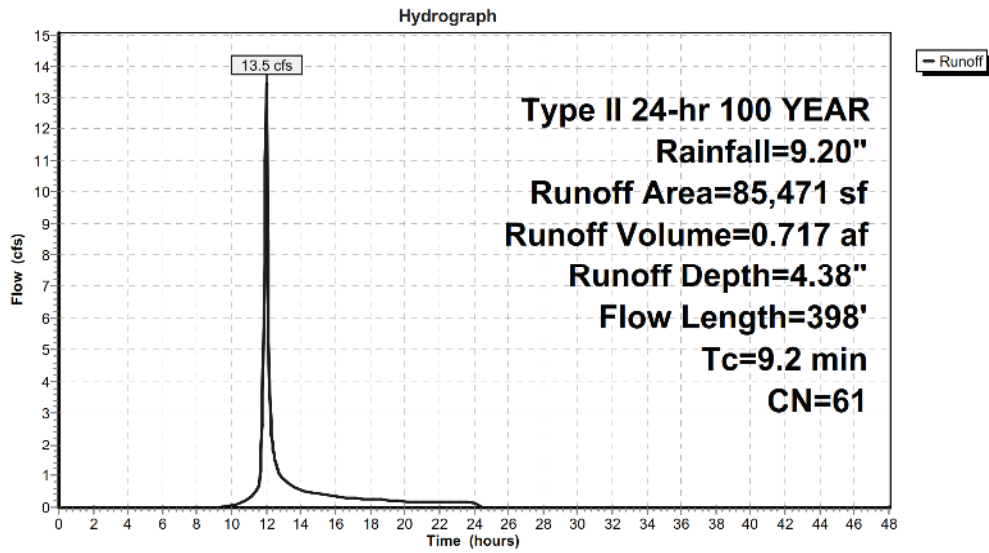
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Type II 24-hr 100 YEAR Rainfall=9.20"

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Subcatchment PRWS1:



GRABER HYDROCAD

Type II 24-hr 100 YEAR Rainfall=9.20"

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Summary for Subcatchment PRWS2:

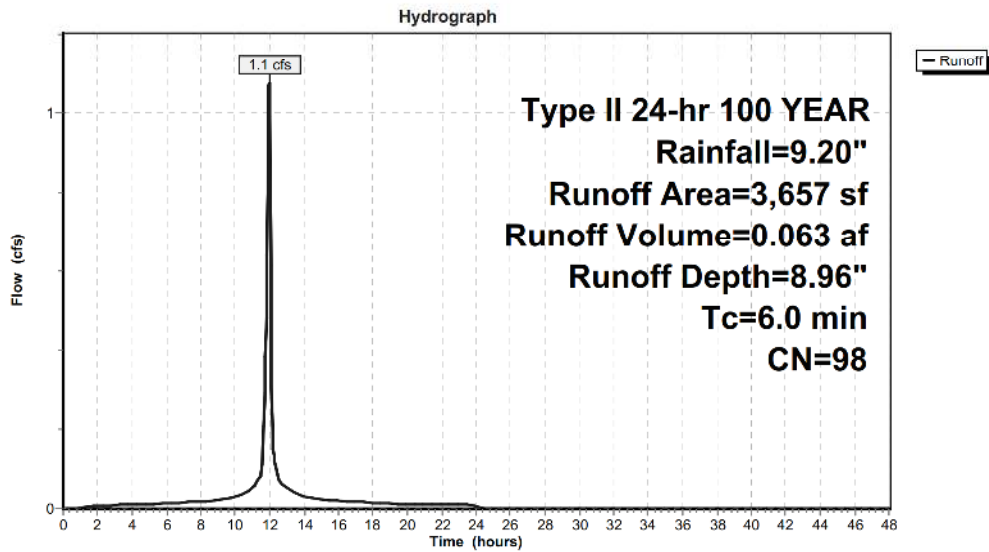
Runoff = 1.1 cfs @ 11.96 hrs, Volume= 0.063 af, Depth= 8.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 YEAR Rainfall=9.20"

	Area (sf)	CN	Description
*	2,355	98	HOUSE
*	582	98	POOL PATIO
*	576	98	POOL
*	144	98	PATIO
	3,657	98	Weighted Average
	3,657		100.00% Impervious Area

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

Subcatchment PRWS2:



GRABER HYDROCAD

Type II 24-hr 100 YEAR Rainfall=9.20"

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Summary for Subcatchment PRWS3:

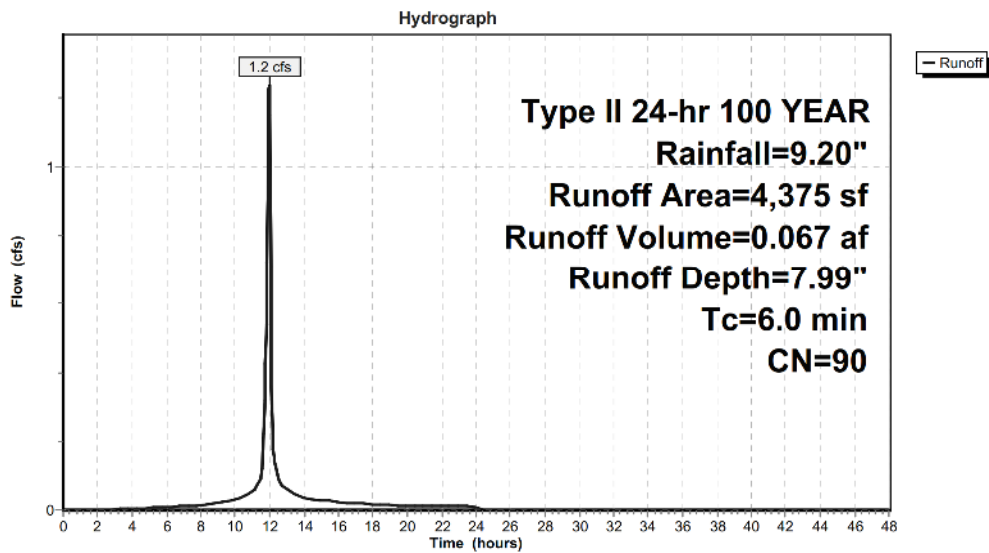
Runoff = 1.2 cfs @ 11.96 hrs, Volume= 0.067 af, Depth= 7.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100 YEAR Rainfall=9.20"

Area (sf)	CN	Description
2,325	98	Paved parking, HSG B
2,050	80	>75% Grass cover, Good, HSG D
4,375	90	Weighted Average
2,050		46.86% Pervious Area
2,325		53.14% Impervious Area

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

Subcatchment PRWS3:



GRABER HYDROCAD

Type II 24-hr 100 YEAR Rainfall=9.20"

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Summary for Pond CULTEC:

Inflow Area = 0.084 ac, 100.00% Impervious, Inflow Depth = 8.96" for 100 YEAR event
 Inflow = 1.1 cfs @ 11.96 hrs, Volume= 0.063 af
 Outflow = 0.6 cfs @ 12.06 hrs, Volume= 0.063 af, Atten= 41%, Lag= 5.7 min
 Discarded = 0.0 cfs @ 8.50 hrs, Volume= 0.044 af
 Primary = 0.6 cfs @ 12.06 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 447.67' @ 12.06 hrs Surf.Area= 0.013 ac Storage= 0.023 af

Plug-Flow detention time= 248.0 min calculated for 0.063 af (100% of inflow)
 Center-of-Mass det. time= 248.0 min (983.3 - 735.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	444.96'	0.010 af	30.50'W x 16.00'L x 3.54'H Field A 0.040 af Overall - 0.014 af Embedded = 0.025 af x 40.0% Voids
#2A	445.46'	0.014 af	Cultec R-330XL x 12 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
#3B	444.96'	0.001 af	6.33'W x 9.00'L x 3.54'H Field B 0.005 af Overall - 0.001 af Embedded = 0.003 af x 40.0% Voids
#4B	445.46'	0.001 af	Cultec R-330XL Inside #3 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		0.027 af	Total Available Storage

Storage Group A created with Chamber Wizard
 Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	444.96'	1.500 in/hr Exfiltration over Surface area
#2	Primary	447.00'	6.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.0 cfs @ 8.50 hrs HW=445.00' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.0 cfs)

Primary OutFlow Max=0.6 cfs @ 12.06 hrs HW=447.66' (Free Discharge)
 ↑**2=Orifice/Grate** (Orifice Controls 0.6 cfs @ 3.09 fps)

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Type II 24-hr 100 YEAR Rainfall=9.20"

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Pond CULTEC: - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf

Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

2 Chambers/Row x 7.00' Long = 14.00' + 12.0" End Stone x 2 = 16.00' Base Length

6 Rows x 52.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.50' Base Width

6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

12 Chambers x 52.2 cf = 625.9 cf Chamber Storage

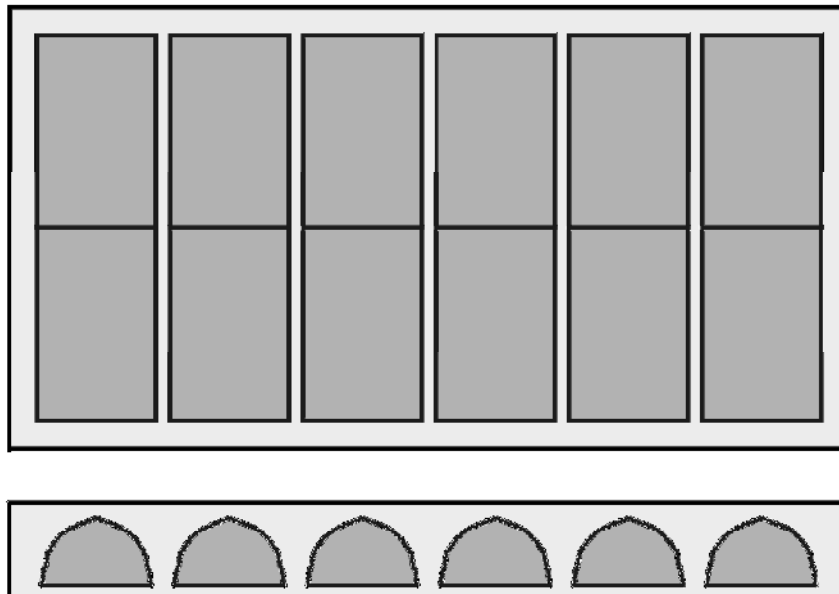
1,728.3 cf Field - 625.9 cf Chambers = 1,102.4 cf Stone x 40.0% Voids = 441.0 cf Stone Storage

Stone + Chamber Storage = 1,066.9 cf = 0.024 af

12 Chambers

64.0 cy Field

40.8 cy Stone



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Pond CULTEC: - Chamber Wizard Field B

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf

Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

1 Chambers/Row x 7.00' Long = 7.00' + 12.0" End Stone x 2 = 9.00' Base Length

1 Rows x 52.0" Wide + 12.0" Side Stone x 2 = 6.33' Base Width

6.0" Base + 30.5" Chamber Height + 6.0" Cover = 3.54' Field Height

1 Chambers x 52.2 cf = 52.2 cf Chamber Storage

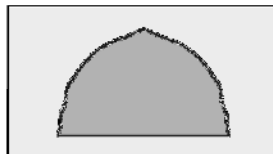
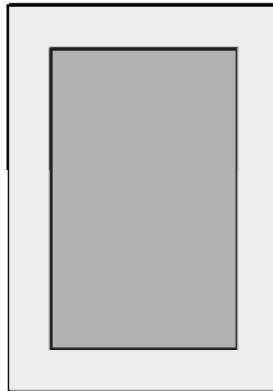
201.9 cf Field - 52.2 cf Chambers = 149.7 cf Stone x 40.0% Voids = 59.9 cf Stone Storage

Stone + Chamber Storage = 112.0 cf = 0.003 af

1 Chambers

7.5 cy Field

5.5 cy Stone



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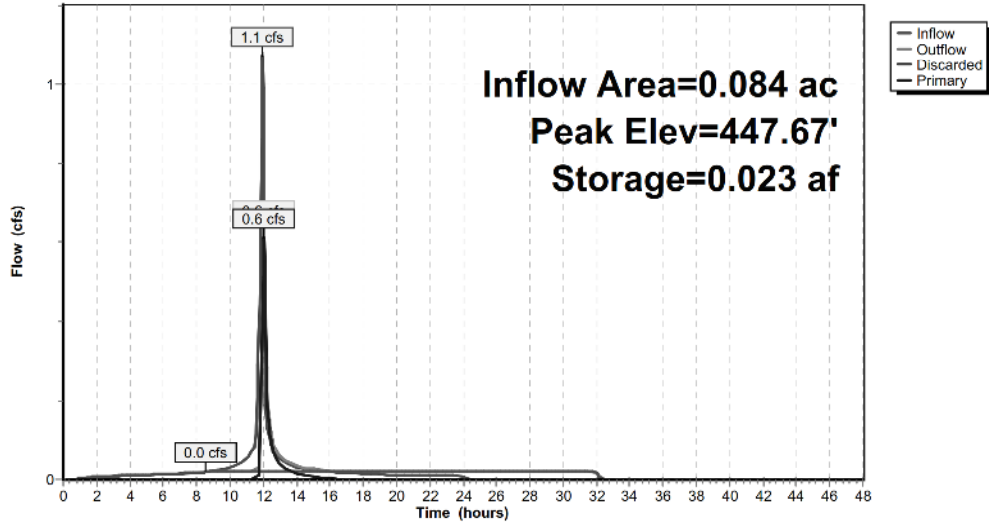
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Type II 24-hr 100 YEAR Rainfall=9.20"

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Pond CULTEC:

Hydrograph



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Type II 24-hr 100 YEAR Rainfall=9.20"

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Summary for Pond RG:

Inflow Area = 0.184 ac, 74.48% Impervious, Inflow Depth = 5.59" for 100 YEAR event
 Inflow = 1.7 cfs @ 12.00 hrs, Volume= 0.086 af
 Outflow = 0.9 cfs @ 12.12 hrs, Volume= 0.086 af, Atten= 48%, Lag= 7.1 min
 Discarded = 0.4 cfs @ 12.12 hrs, Volume= 0.078 af
 Primary = 0.5 cfs @ 12.12 hrs, Volume= 0.008 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 423.64' @ 12.12 hrs Surf.Area= 1,540 sf Storage= 858 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 12.0 min (776.7 - 764.7)

Volume	Invert	Avail.Storage	Storage Description
#1	423.00'	1,465 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
423.00	1,175	0	0
423.50	1,416	648	648
424.00	1,851	817	1,465

Device	Routing	Invert	Outlet Devices
#1	Discarded	423.00'	10.000 in/hr Exfiltration over Surface area
#2	Primary	423.50'	4.0' long x 5.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50
			3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65
			2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.4 cfs @ 12.12 hrs HW=423.64' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.4 cfs)

Primary OutFlow Max=0.5 cfs @ 12.12 hrs HW=423.64' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 0.5 cfs @ 0.86 fps)

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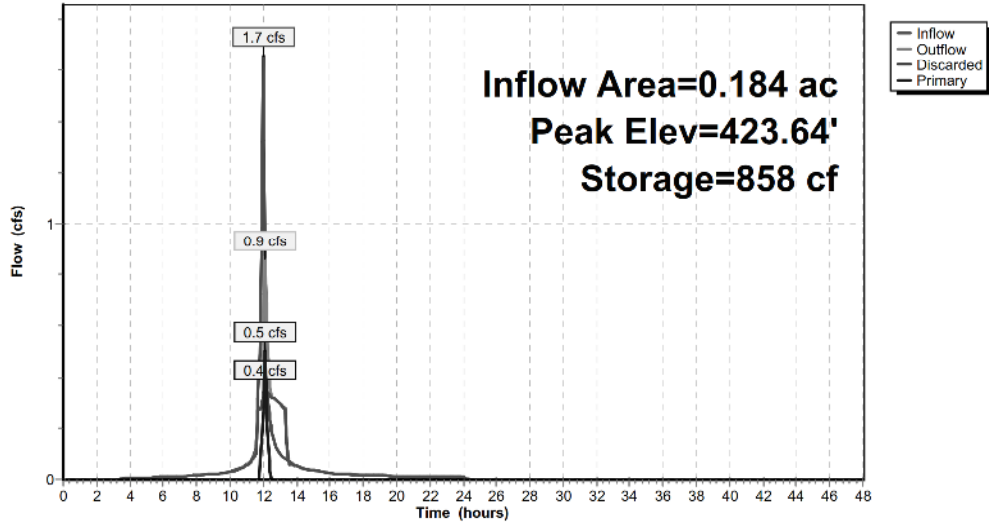
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Type II 24-hr 100 YEAR Rainfall=9.20"

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Pond RG:

Hydrograph



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Type II 24-hr 100 YEAR Rainfall=9.20"

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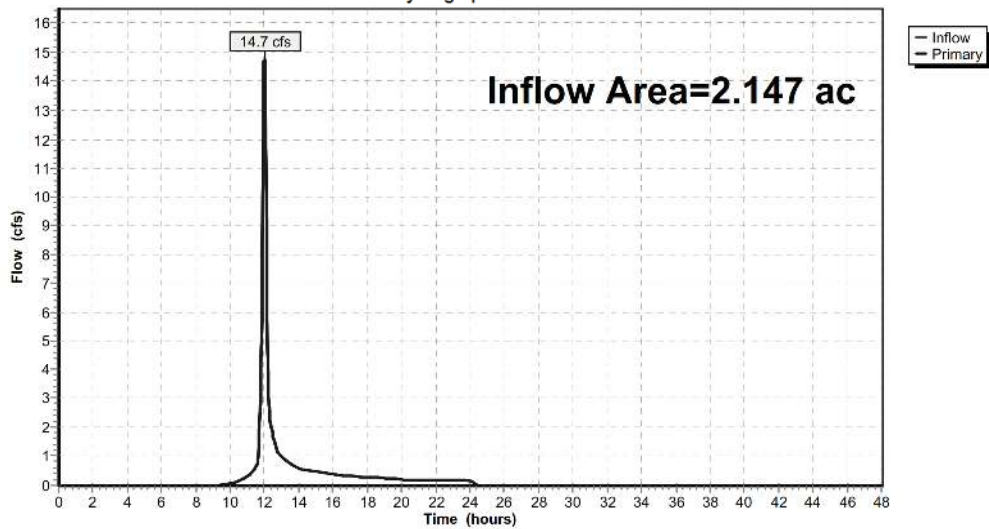
Summary for Link EXDP:

Inflow Area = 2.147 ac, 0.00% Impervious, Inflow Depth = 4.38" for 100 YEAR event
Inflow = 14.7 cfs @ 12.01 hrs, Volume= 0.784 af
Primary = 14.7 cfs @ 12.01 hrs, Volume= 0.784 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link EXDP:

Hydrograph



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Summary for Link PRDP1:

Inflow Area = 2.147 ac, 6.83% Impervious, Inflow Depth = 4.05" for 100 YEAR event
Inflow = 13.5 cfs @ 12.01 hrs, Volume= 0.725 af
Primary = 13.5 cfs @ 12.01 hrs, Volume= 0.725 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Link PRDP1:

Hydrograph

