Site Design Consultants
Civil Engineers • Land Planners

March 25, 2024

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

Re: Keith Rosenthal
10 Creemer Road,
Section 108.02, Block 2, Lot 60

Dear Chairman Carthy and Members of the Planning Board;

We are in receipt of the memorandum from David Sessions, KSCJ to the Town of North Castle Conservation Board, for the Rosenthal project. Please find attached a copy of the Revised Plan Set in addition to a comment-by-comment response to each of the review items in your comment letters.

KSCJ Memorandum dated March 15, 2024:

1. *To ensure plantings associated with any required wetland mitigation plan will thrive, the proposed, "Invasive Species Monitoring and Control Program" indicated on the submitted plan entitled "Wetland Enhancement/Restoration Plan" (Sheet 1 of 1) shall continue for a duration of five (5) years instead of the proposed three (3) years, post-construction. Proposed language shall be revised.*

   Response: The referenced plan has been updated to show a five year duration for maintenance and monitoring.

2. *The planting schedule and planting plan shall be further coordinated:*

   a. *Please indicate on the submitted plan entitled "Wetland Enhancement/Restoration Plan" (Sheet 1 of 1) locations of proposed seed mix and if the rain garden will include trees, shrubs, and herbaceous plant material.*

   Response: As shown on the revised plan, the rain garden will include shrubs and herbaceous plantings. Three trees around the perimeter of the rain garden were shown on the previous plan and remain. The plan also shows a planted fringe along the pond edge, which will filter and slow runoff from the maintained lawn area and provide additional habitat so that any additional "no-mow" area is not necessary.

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(914) 962-4488 (203) 431-9504 Fax (914) 962-7386

b. *A cost estimate for all proposed plants quantifying the cost of each plant from nursery to installation with a one (1) year guarantee shall be provided for review.*

Response: The cost estimate for the purchase and installation of the proposed plantings is $6,300, which includes the wholesale purchase of the plant materials and a 2.5 markup for delivery and installation.

3. *The applicant will discharge from the rain garden to the adjacent freshwater wetlands, immediately downgradient of the rain garden. As previously noted in the memorandum to the North Castle Planning Board, dated October 5, 2023, the applicant should show a diffuser, level spreader, etc., required to dissipate energy and disperse flow at the discharge point. The means chosen to dissipate energy and disperse flow shall be shown on the plan and a typical detail shall also be provided on the plan.*

Response: A vegetated level spreader has been added following the stone dissipater outlet from the rain garden outlet. A detail of both are provided on the detail sheet.

4. *As previously noted in the memorandum to the North Castle Planning Board, dated October 5, 2023, the applicant shall include a temporary sediment pond, more specific construction fencing, and additional information regarding soil stabilization on their plans. Also noted in the October 5, 2023 memorandum are the following comments:*

a. *The applicant has previously prepared an erosion and sediment control plan for the project. The plan should include construction fencing along the disturbance limits in the vicinity of the proposed spa addition and the proposed rain garden, both located adjacent to or within the wetland buffer. Please re-submit the erosion and sediment control plan with this information provided.*

Response: Previously a combination of construction and silt fence were shown. We are now showing them as separate.

b. *Areas adjacent to the spa and the rain garden shall only be disturbed during the growing season when restoration of the disturbances can be immediately revegetated. Disturbances to both areas should have a time limit while no vegetation is present, please provide a time limit on plans as such. The applicant shall also detail the means of stabilization for the rain garden embankment, please provide additional details as such.*

Response: Please see note 6 under the General Erosion Control Notes. Erosion blankets have been added to stabilize the rain garden embankment as well as slopes adjacent to the addition and spa. A detail has been provided.

c. *The most significant disturbance occurring on-site will be in the vicinity of the proposed building additions and motor court. This area will also be used for*

R

construction staging. There is minimal protection to control erosion and protect downstream wetlands from siltation. The applicant shall examine a more specific stabilization plan for this area and provide a time limit for the proposed duration of exposed soils. When soil is exposed within this area, a temporary sediment pond shall be available to control runoff and discharge. The applicant shall include a temporary sediment pond on the plan and a typical detail shall also be provided.

Response: Please see note 6 in the General Erosion Control Notes addressing stabilization and time limitations. A temporary sediment basin has been added between the cottage and the spa where the natural flow of runoff occurs. A detail has also been provided.

Eclosed please find:

- Mitigation Plan dated 10-01-21, last revised 3-25-24
- Rosenthal Site Plan set, dated 10-01-21, last revised 3-22-24

Sincerely,

Joseph C. Riina, P.E.

cc: Conservation Board

A. Kaufman, AICP, Director of Planning

K. Rosenthal

JCR / dmd / Enc. / sdc 21-28

NOTE:

1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY DANIEL T. MERRITTS, L.S, DATED 12/03/20, LAST REVISED 12/21/20. 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\21-28 KEITH ROSENTHAL - 10 CREEMER ROAD ARMONK\ENGINEERING\CAD\C3D-21-28 KEITH ROSENTHAL - 10 CREEMER ROAD ARMONK\DWG\21-28 ROSENTHAL SITE PLAN - 7-11-22.DWG 9/25/2023 5:53:12 PM

SITE DATA:

OWNER / DEVELOPER:	KEITH ROSENTHAL
STREET ADDRESS	10 CREEMER ROAD ARMONK, NY 10504
PROJECT LOCATION:	10 CREEMER ROAD ARMONK, NY 10504
EXISTING TOWN ZONING:	R-2A SINGLE FAMILY RESIDENTIAL
TOWN TAX MAP DATA:	SECTION 108.02, BLOCK 2, LOT 60
SITE AREA :	5.66 ACRES (246,467 SF)
SEWAGE FACILITIES:	ONSITE WASTEWATER TREATMENT SYSTEM
WATER FACILITIES:	DRILLED WELL
FIRE DISTRICT:	#2
SCHOOL DISTRICT:	BYRAM HILLS
WATERSHED:	LONG ISLAND SOUND

ZONING SCHEDULE:

ZONING DISTRICT:	R-2A, ONE FAMILY RESIDENCE DISTRICT (2 acres)		
DIMENSIONAL REGULATIONS:	REQUIRED	PROVIDED	VARIANCE REQUIRED
MINIMUM SIZE OF LOT:			
MINIMUM LOT AREA:	2 AC.	5.66 AC.	NONE
MINIMUM LOT FRONTAGE:	150 FT.	371 FT.	NONE
MINIMUM LOT WIDTH:	150 FT.	370 FT.	NONE
MINIMUM LOT DEPTH:	150 FT.	482 FT.	NONE
MINIMUM DWELLING SIZE:	1,400 S.F.	7,657 S.F.	NONE
MINIMUM YARD DIMENSIONS:			
PRINCIPAL BUILDING:			
FRONT YARD SETBACK:	50 FT.	286 FT.	NONE
ONE SIDE YARD SETBACK:	30 FT.	62 FT.	NONE
COMBINED SIDE YARD SETBACK:	60 FT.	232 FT.	NONE
REAR YARD SETBACK:	50 FT.	156 FT.	NONE
MAXIMUM BUILDING HEIGHT:			
PRINCIPAL BUILDING - STORIES:	--	2 STORIES	NONE
PRINCIPAL BUILDING - FEET:	30 FEET	> 30 FEET	NONE
MAXIMUM BUILDING COVERAGE:			
PRINCIPAL BUILDING :	8% OF LOT AREA	3.1% OF LOT AREA	NONE

LIST OF DRAWINGS:

WETLAND 100' ADJACENT AREA DISTURBANCE		
TYPE OF DISTURBANCE	AMOUNT OF DISTURBANCE	PROPOSED MITIGATION
RAIN GARDEN AND DRAINAGE	5,390 SF	SEE MITIGATION PLAN
SEPTIC TANK AND PIPING	660 SF	
ADDITION TO RESIDENCE	350 SF	

EARTHWORK: CUT 315 CY - FILL 755 CY = NET 440 FILL

SITE PLAN NOTES:

1) THE WETLAND DELINEATION WAS DONE BY STEVE MARINO, PLS OF TIM MILLER ASSOCIATESIN APRIL 21, 2022 AND WAS SURVEYED BY T.C. MERRITTS LAND SURVEYORS MAY 5, 2022.
2) THE WETLAND DELEGATION WAS CONFORMED BY SARA PAWLICZAK BIOLOGIST NYS DEC, DECEMBER 5, 2022.

APPROVED BY THE TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION
DATED:____________________

________________________________Date: ________________________
CHRISTOPHER CARTHY, CAHIRMAN,
TOWN OF NORTH CASTLE PLANNING BOARD
ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION:
________________________________Date: ________________________
JOSEPH M. CERMELE, PE
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEERS

0 15 30 60
SCALE: 1"=30'-0"

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Engineer:
STATE OF NEW YORK • JOSEPH CARLO RIINA • LICENSED PROFESSIONAL ENGINEER • NO. 064431
Joseph C. Riina, P.E.
NYS Lic. No. 64431

Revisions:

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2	2-14-22	HD Department
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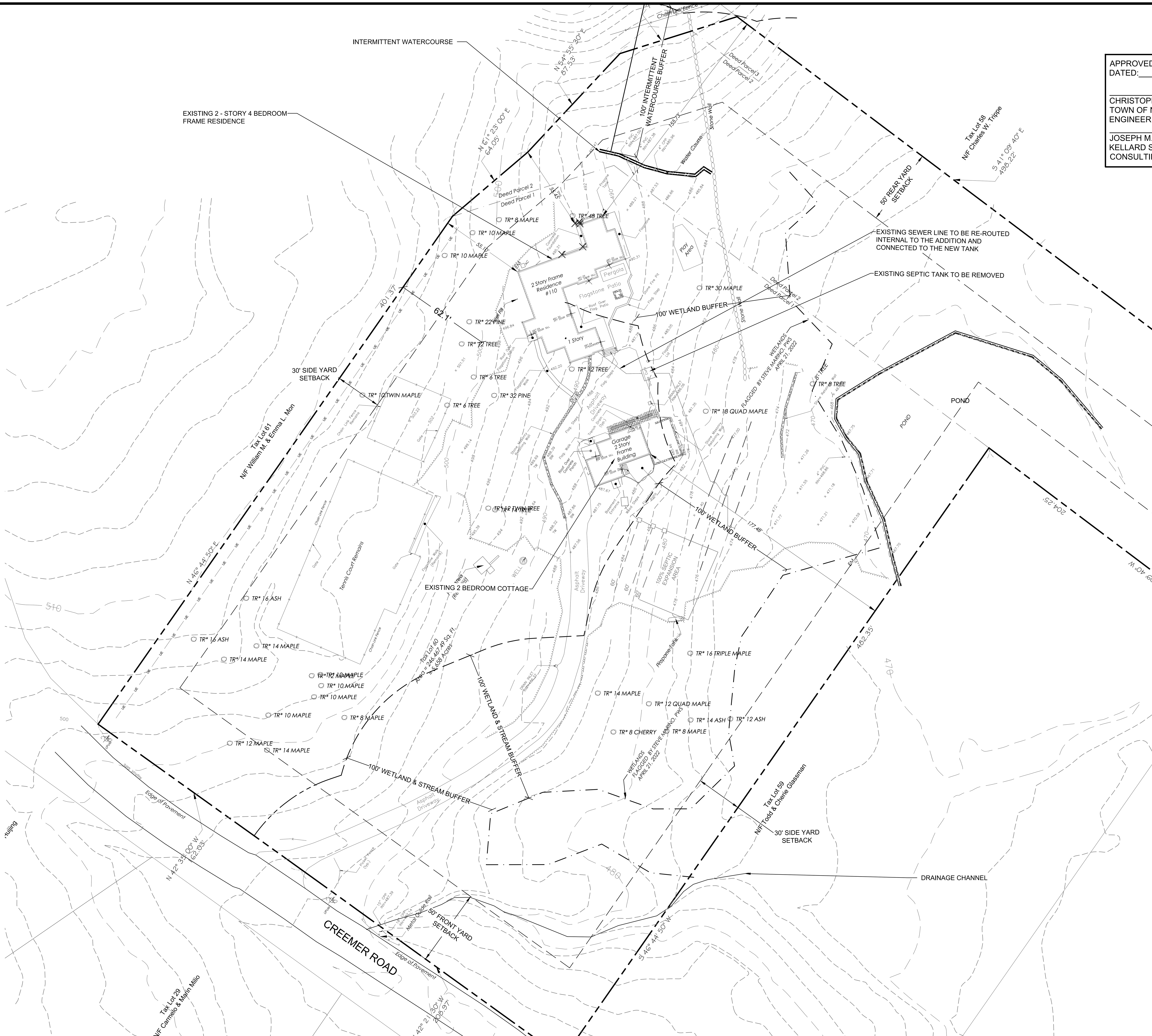
SCALE: 1" = 30'
DRAWN BY: CS
DATE: 10/01/21

SITE PLAN

SITE PLAN
PREPARED FOR
KEITH ROSENTHAL
10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 1 of 6



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Revisions:

SCALE: 1" = 30'
DRAWN BY: CS
DATE: 10/01/21

EXISTING CONDITIONS PLAN

SITE PLAN
PREPARED FOR
KEITH ROSENTHAL
10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 2 of 6

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 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 except for the areas adjacent to the driveway, spa, and rain garden which shall only be disturbed during growing season and immediately vegetated. 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 all of the volume of seed mix prior to laying net, or as recommended by the manufacturer.
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 NYSDEC GP-0-20-001 and Town of North Castle Code.

MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROL STRUCTURES:

N.Y.S.D.E.C. GP-0-20-001 EXPOSURE RESTRICTIONS - States that any exposed earthwork shall be stabilized in accordance with the guidelines of this plan.

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 silt fence. 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	–––	INSP.	INSP.	INSP.	CLEAN/ REPLACE	REMOVE
PROTECTION	–––	INSP.	INSP.	CLEAN	REPLACE	REMOVE
C. ENTRANCE	–––	INSP.	INSP.	INSP.	CLEAN/ REPLACE	REMOVE

MAINTENANCE OF PERMANENT CONTROL STRUCTURES DURING CONSTRUCTION:

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

MAINTENANCE OF CONTROLS AFTER CONSTRUCTION:

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

DEBRIS AND LITTER REMOVAL:

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

STRUCTURAL REPAIR/REPLACEMENT:

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

EROSION CONTROL:

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

SEDIMENT REMOVAL:

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

CONSTRUCTION SEQUENCE:

Refer to the Plan Set for all plans and details which relate to 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. Septic system may be constructed at any point after step 7.
9. Begin construction of the house addition.
10. Upon completion of foundation, backfill to grade and immediately stabilize areas that will not receive traffic or disturbance within seven (7) days.
11. 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.
12. During building and site construction maintain and re-establish as required erosion control and stabilization measures as required by the site plan and details.
13. Installation of proposed raingarden.
14. 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.

Winter Stabilization Notes:

If construction activities are expected to extend into or occur during the winter season the contractor shall anticipate proper stabilization and sequencing. Construction shall be sequenced such that wherever possible areas of disturbance that can be completed and permanently stabilized shall be done by applying and establishing permanent vegetative cover before the first frost. Areas subject to temporary disturbance that will not be worked for an extended period of time shall be treated with temporary seed, mulch, and/or erosion blankets.

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TOPSOIL:

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

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

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

PERMANENT VEGETATIVE COVER:

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

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

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

TEMPORARY VEGETATIVE COVER:

SITE PREPARATION:

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

SEED SPECIES:

MIXTURE	LBS./ACRE
Rapidly germinating annual ryegrass (or approved equal)	20
Perennial ryegrass	20
Cereal oats	36

SEEDING:
Same as permanent vegetative cover

TREES TO BE REMOVED

LOCATION	TYPE	SIZE	QUANTITY
HOUSE ADDITION			
	UNKNOWN	6"	2
	UNKNOWN	12"	2
	PINE	22"	1
	PINE	32"	1
RAIN GARDEN			
	MAPLE	8"	1
	CHERRY	8"	1
	MAPLE	12"	1
	*ASH	12"	1
SEPTIC SYSTEM			
	MAPLE	12"	1
	TOTAL		10

*NOT INCLUDED IN COUNT

APPROVED BY THE TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION
DATED:____________________

______________________________Date: ______________________
CHRISTOPHER CARTHY, CAHIRMAN,
TOWN OF NORTH CASTLE PLANNING BOARD
ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION:
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PROJECT # 21-28

Engineer:
STATE OF NEW YORK
JOSEPH CARLO RIINA
NO. 064431
LICENSED PROFESSIONAL ENGINEER
Joseph C. Riina, P.E.
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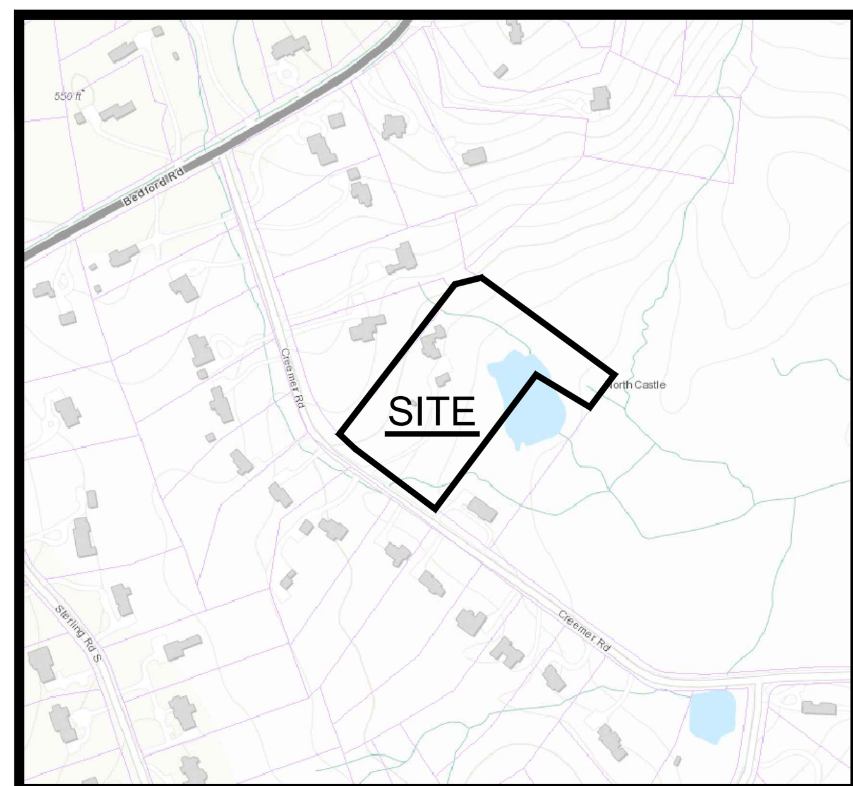
SCALE: 1" = 20'
DRAWN BY: CS
DATE: 10/01/21

EROSION AND SEDIMENT CONTROL PLAN

SITE PLAN
PREPARED FOR
KEITH ROSENTHAL
10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 4 of 6

F:\2021\21-28 KEITH ROSENTHAL - 10 CREEMER ROAD ARMONK\ENGINEERING\CAD\C3D-21-28 KEITH ROSENTHAL - 10 CREEMER ROAD ARMONK\DWG\21-28 ROSENTHAL SITE PLAN - 7-11-22.DWG 9/25/2023 5:53:12 PM



LOCATION MAP
NOT TO SCALE

SITE DATA:

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WATER FACILITIES:	DRILLED WELL
WATERSHED:	LONG ISLAND SOUND

LIST OF DRAWINGS:

Table 1
Separation Distances from Wastewater Sources

Wastewater Sources	Drilled Well or Section Line (g) (ft.)	Stream, Lake, Watercourse (b) or Wetland (ft.)	Dwelling (ft.)	Property Line (ft.)	Drainage Ditch/Rain Garden (h)(ft.)	Inground Pool (ft.)
House Sewer	25 CIP 50 Other	25	3	10	10	10
Septic Tank	50	50	10 (h)	10	10	20
Effluent Line/Force Main	50	50	10	10	10	10
Distribution Box/Junction Box	100	100	20 (d)	10	20	20
Absorption Fields (f)	100 (a)	100	20 (d)	10	20	35
Seepage Pit	150 (a)	100	20 (d)	10	20	50
Dry Well(d)						
Roof + Footings	50	25	20	10	10	20
Roads + Driveway	100	25	20	10	10	20

(a) Wells located in general path of an OWTS must be located 200 feet or more away. All public water supply wells must be 200 feet or more away.
(b) Mean high water mark of defined stream or lake.
(c) Drywells are not allowed above OWTS (drywells, Storm water infiltrator units or other subsurface storm water infiltration units)
(d) For slab on grade foundations with no drains, distance can be reduced in half
(e) For all systems involving placement of fill, separation distances are measured from the toe of slope of the fill.
(f) Closest part of OWTS shall be located at least ten (10) feet from any water service line (i.e. – PWS main, water service connection, well)
(g) Recommended
(h) Septic tanks are not permitted beneath raised decks and require a minimum of five (5) separation from deck piers (sonotubes)

Additional Separation Distances from Absorption Area to:

Piped Drainage	25 ft.
Open Channel Drainage	50 ft.
Curtain Drain (upgrade from OWTS)	15 ft.
Curtain Drain (downgrade from OWTS)	50 ft.
Catch Basin	50 ft.
Driveway	5 ft.
Storm Water Basin	100 ft. (high water elevation)
Above Ground Pool	10 ft.
Deck with Pilings/sonotube	10 ft.
Slab on Grade Foundation	10 ft.
Roof and Footing Drain Discharge Pipe	10 ft.

DESIGN BASIS CALCULATIONS FOR 100% EXPANSION:

4 BEDROOM RESIDENCE @ 110 GAL/BDRM = 440 GAL

2 BEDROOM COTTAGE @ 110 GAL/BDRM = 220 GAL x 1.25 (25% INCREASE) = 275 GAL

TOTAL DESIGN FLOW = 715 GAL.

LENGTH OF FIELDS FOR EXPANSION:

PERCOLATION DESIGN RATE: 1-5 MIN/IN
APPLICATION RATE: 1.2 GPD/SF
L = (715 GPD / 1.2 GPD/SF)/ 2 SF/LF = 298 LF REQUIRED

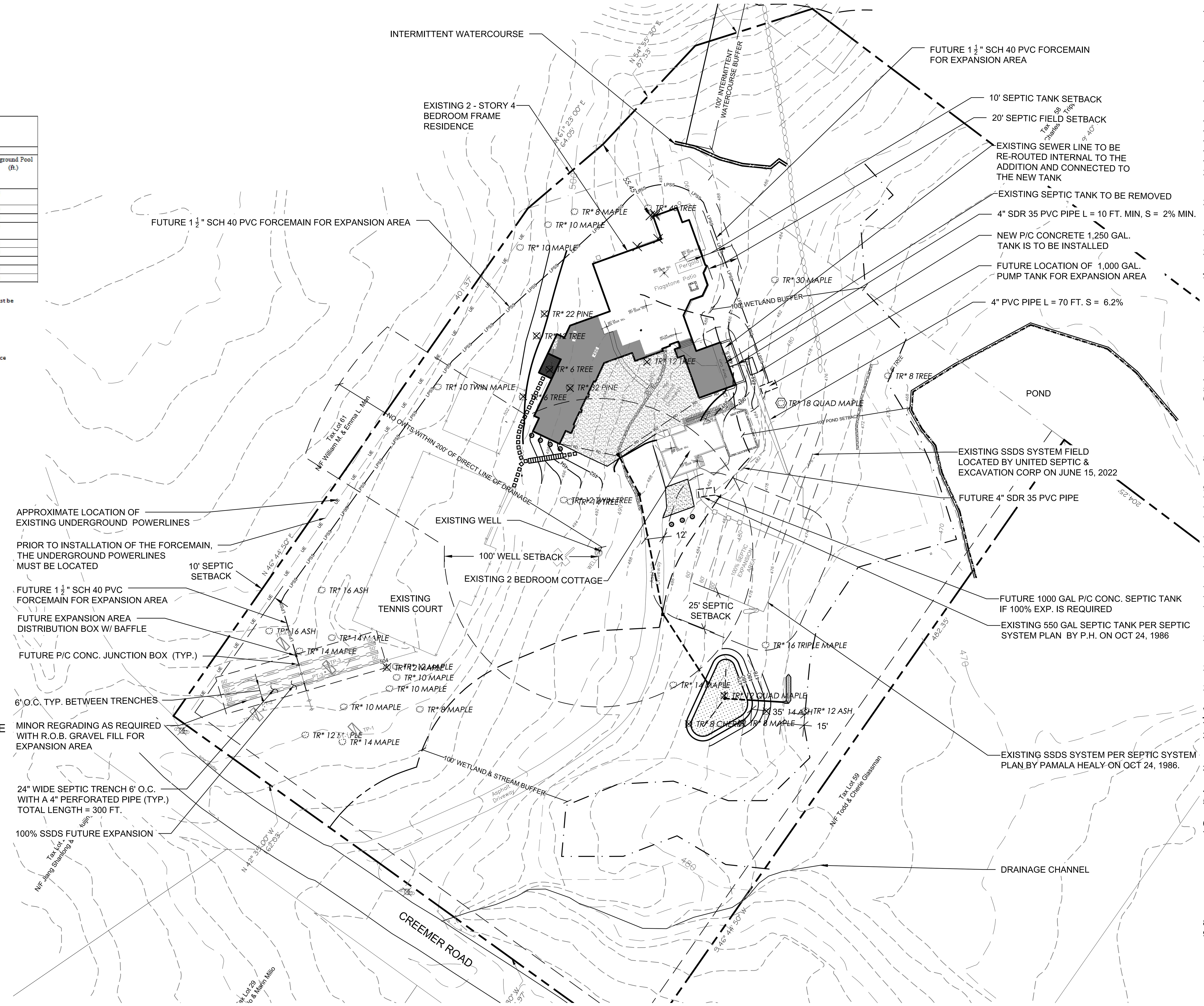
*ALL NEW PLUMBING FIXTURES SHALL BE WATER SAVING MODELS AND ALL EXISTING PLUMBING FIXTURES WILL BE REPLACED WITH WATER SAVING MODELS AT THE TIME THE 100% EXPANSION AREA IS REQUIRED.

SOILS CLASSIFICATIONS

TYPE	NAME	DESCRIPTION	HYDROLOGICAL GROUP
Ce	CATDEN	MUCK	B/D
CsD	CHATFIELD-CHARTON	VERY ROCKY	B
NcA	NATCHAUG	MUCK	B/D
PnB	PAXTON	FINE SANDY LOAM	C
PnC	PAXTON	FINE SANDY LOAM	C
Sh	SUN	LOAM	C/D
W	WATER	-	-

NOTE:

1. *THIS IS NOT A SURVEY.* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY DANIEL T. MERRITTS, L.S, DATED 12/03/20, LAST REVISED 12/21/20. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.



GENERAL NOTES:

1. A written permit and/or approval issued by the WCHD to construct an individual sewerage system shall terminate and therefore be null and void unless construction is undertaken within one (1) year of the date of issuance.
2. If for any reason the approved construction plan cannot be followed, a revised plan must be prepared, submitted and approved by the WCHD.
3. All construction to be in accordance with these plans and last revised set of WCHD Rules and Regulations
4. All SSTS and wells shall be located in the exact location as shown on this plan unless otherwise authorized by the WCHD.
5. Existing wells and SDS shown on this map were installed prior to approval date and are not part of this approval.
6. All laundry and kitchen wastes shall be discharged into the SSTS.
7. No cellar, roof or footing drains shall be discharged into the SSTS or within 25' of any well.
8. The WCHD shall be notified WITHIN 24 HOURS prior to the backfilling of any completed SSTS so that a final inspection can be made. Upon completion of any backfilling, the area shall be covered with a minimum of 4" of topsoil, seeded and mulched.
9. Prior to commencement of operation, a Certificate of Compliance must be applied for and received from WCHD.
10. The proposed SSDS shall be isolated and protected against damage by erosion, storage of earth or materials, displacement,compaction or other adverse physical change in the characteristics of the soil or in the drainage of area
11. Proposed septic area to be kept free of traffic and debris during house construction and install adequate drainage to prevent erosion after septic is installed.
12. Any modifications or deviations from this plan must be approved by the Design Engineer and WCHD prior to construction.
13. The Engineer shall not be held responsible or held accountable for the integrity of any structures constructed or under construction prior to the approval of the plans.
14. All conditions, locations, and dimensions shall be field verified and the Engineer shall be immediately notified of any discrepancies.
15. All written dimensions on the drawings shall take precedence over any scaled dimensions.
16. The Design Engineer shall supervise the construction of the SSTS and make an open works inspection.
17. The Design Engineer disclaims any liability for damage or loss incurred during or after construction.
18. The Contractor must have a valid license from the WCHD.
19. Contractor to verify all substructures encountered during construction.
20. The Contractor shall supervise and direct the work using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the contract.
21. The Contractor shall be responsible to the owner for the acts and omissions of his employees, subcontractors, and their agents and employees, and any other persons performing any of the work under a contract with the Contractor.
22. Unauthorized alterations or additions to this drawing is a violation of Section 7209 (2) of the New York State Education Law.
23. Survey and topographical information shown hereon prepared by surveyor: DANIEL T. MERRITS

SEPTIC CONSTRUCTION REQUIREMENTS:

1. The construction of the septic system shall meet all requirements of the latest publications and amendments of "The Westchester County Health Department Rules and Regulations for The Design and Construction of Residential Subsurface Sewage Treatment Systems and Drilled Wells in Westchester County" and "The Rules and Regulations of The New York State Department of Health" as set form in 10 NYCRR, Part 75, Appendix75-A.
2. The Westchester County Health Department approval expires one year from the date on the approval stamp and is required to be renewed on or before the expiration date. The approval is revocable for cause or may be amended or modified when considered necessary by the department.
3. All work performed including new installations, repairs, relocations, etc. shall have all current required permits or approvals.
4. No regrading in OWTS area except as shown on this plan.
5. Boulders, if any on surface of ground shall be cleared away prior to construction of the OWTS.
6. The house sewer to tank connection shall be a minimum 4" diameter at a minimum slope of 2.0%. The pipe shall be cast iron, ductile iron, or sewer grade PVC. All materials shall comply to the NYS Uniform Fire Prevention and Building Code(9NYCRR). The house trap shall have a cleanout and fresh air intake having a minimum diameter of one-half.
7. If cover exceeds 2 ft over any installed tank or chamber, a manhole and collar to grade is required for access. Minimum requirement of 6-12" of cover over all tanks and chambers.
8. Absorption Fields to be constructed of 4" perforated PVC pipe or equal, encased in crushed stone over pipe with standard precast junction boxes at influent connection and 4" solid PVC pipe running from septic tank outlet to and between junction boxes.
9. Minimum Trench Depth = 18", Trench Width = 24".
10. Total depth of stone in trench = 12" (washed gravel 3/4" to 1 1/2").
11. Maximum backfill over trench - 14".
12. All septic field laterals shall be of equal length (60' max. w/o dosing and 100' max. if dosed) and parallel to contours at a slope rate of 1/32" per foot or 0.25%.
13. All pipes connecting to tank and boxes shall be cut flush with the inside wall of box.
14. PVC pipe to meet minimum standards of ASTM D-2729.
15. Absorption trenches shall not be installed or backfilled in wet, frozen, frost or snow covered soils.
16. Backfill material for the trenches shall contain no particles with any dimension greater than 4". Backfill septic material must be inspected and approved by the WCHD before installation.
17. No laterals shall be placed beneath a driveway or paved areas.
18. End caps to be placed at end of all 4" perforated P.V.C. pipe in absorption fields.
19. Run of bank sand and gravel and impervious material to be inspected and approved by the Design Engineer prior to installation of the proposed system. Fill shall contain no particles greater than 4" in diameter. Fill shall be placed over expansion area where shown as required by WCHD.
20. Fill stabilization may not be achieved by mechanical compaction Only by a natural settling, for a period required by W.C.H.D. which may include a freeze-thaw cycle. Percolation tests must be done in stabilized fill and must meet the design rate.
21. Prior to submission of Certificate of Compliance to WCHD, fill section must be stabilized with grass seed and hay cover.
22. Spa pool drainage and filter backwash will not discharge to any SSTA.

WCHD NOTES:

1. The design professional shall supervise the construction of the OWTS and make an open works inspection.
2. Within 24-hours of the completion of the OWTS, the design professional must notify the Westchester County Department of Health that the OWTS is ready for inspection by submitting a completed request for an open works inspection on the appropriate form to the Department.
3. There are DEC wetlands on site nor within 200' of OWTS. There are streams, ponds etc. with in 200' of SSTS. There are no reservior/reservior stems or controlled lake with in 500' of OWTS.
4. There is19,100 sqft of proposed disturbance.
5. There are no existing or proposed wells within 100 feet of the proposed OWTS nor within 200 feet in the line of drainage.
6. There are no existing OWTS within 200 ft of well unless otherwise shown on this plan.
7. Estimated construction and completion date: May 2023 to May 2024.
   a) Within 24 hours of the completion of the OWTS, the design professional must notify the Westchester County Department of Health (WCDH) that the OWTS is ready for inspection by submitting a completed request for an open works inspection on the appropriate form to WCDH.
   b) That no backfilling of a completed OWTS can occur until after it has been inspected and accepted by the Westchester County Department of Health.
   c) After backfilling the OWTS, the area shall be covered with a minimum of 4 inches of clean top soil, seeded and mulched.
8. There shall be no trees within 10' of the OWTS.
9. Prior to any excavation, all underground utilities must be located. Call 1-800-962-7962.

MINIMUM RESTRICTIVE DISTANCES TO WELL:

1. Property Line 10 feet
2. Sewage System Tankage 50 feet
3. Foundation 10 feet
4. Swimming Pools 10 feet
5. Watercourse or Waterbody 50 feet
6. Absorption Trench 100 feet; 200 feet general path of drainage
7. Seepage Pit 150 feet; 200 feet general path of drainage
8. Tri-gallery, 4x4 150 feet; 200 feet general path of drainage
9. Flow Diffusor 100 feet; 200 feet general path of drainage

HEALTH DEPARTMENT SEPTIC SCHEDULE FOR 100% EXPANSION AREA

S.S.T.A. AREA (S.F.)	LOT AREA (S.F.)	TEST HOLE NO.	DEEP TEST PIT DESCRIPTION	TOTAL DEPTH	DEPTH TO WATER	DEPTH TO ROCK	PERCENT SLOPE AREA	PERC TEST NO.	PERC. RATE (MIN/IN)	DESIGN DATA: MIN. DESIGN RATE	APPLICATION RATE (GPD/SF)	NO. OF BEDROOMS	DESIGN FLOW RATE	TANK SIZE	REQD. TRENCH LENGTH	PROVIDED TRENCH LENGTH	LENGTH PER TRENCH	BANK RUN FILL DEPTH	BANK RUN FILL VOLUME	CURTAIN DRAIN DEPTH	CURTAIN DRAIN LENGTH	REMARKS
		TP-#1	6" T.SOIL, 6"-84" FINE MED SANDY LOAM, NO ROCK, NO GROUNDWATER	7'-0"	——	——		PT-1	1.2 MIN.													
2,500 S.F.	246,467 S.F.	TP-#2	6" T.SOIL, 6"-84" FINE MED SANDY LOAM, NO ROCK, NO GROUNDWATER	7'-0"	——	——	5.8 %	PT-2	3 MIN.	1-5 MIN.	1.2	4 BDRM + 2 BDRM	715 GPD	1,250 GAL MAIN RES. + 1,000 GAL FUTURE FOR THE COTTAGE	298 LF	300 LF	50 LF	0-1 FT MINOR GRADING	<100 CY	——	——	DOSING REQ'D.
		TP-#3	6" T.SOIL, 6"-84" FINE MED SANDY LOAM, NO ROCK, NO GROUNDWATER	7'-0"	——	——		PT-3	3 MIN.													
		TP-#4	12" T.SOIL, 12"-84" FINE SANDY LOAM, NO ROCK, NO GROUNDWATER	7'-0"	——	——																

SEPTIC DESIGN AREA:	SLOPE
EXISTING EXPANSION SYSTEM AREA	10.0%
PROPOSED EXPANSION SYSTEM AREA	5.8%

0 20 40 80
SCALE: 1"=40'-0"

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PROJECT # 21-28

Engineer:
STATE OF NEW YORK · JOSEPH CARLO RIINA · NO. 064431 · LICENSED PROFESSIONAL ENGINEER
Joseph C. Riina, P.E.
NYS Lic. No. 64431

Revisions:

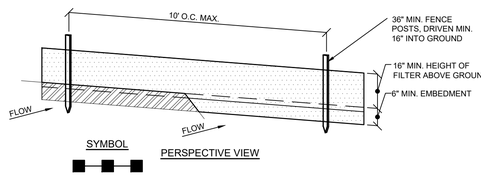
No.	Date	Comments:
1	1-7-21	HD Department
2	2-14-22	HD Department
3	3-4-22	HD Department
4	3-12-22	Plan updates
5	6-3-22	Plan updates
6	7-11-22	Plan updates
7	10-28-22	Town Comments
8	1-12-23	HD Department
9	4-3-23	HD Department
10	4-24-23	HD Department
11	9-25-23	Town Comments
12	3-22-24	Town Comments

SCALE: 1" = 40'
DRAWN BY: CS
DATE: 10/01/21

OWTS TANK RELOCATION & 100% EXPANSION DESIGN

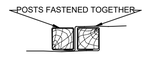
SITE PLAN
PREPARED FOR
KEITH ROSENTHAL
10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 3 of 6

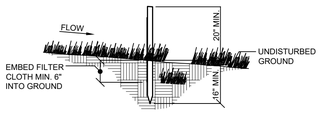


SYMBOL

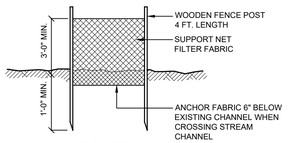
PERSPECTIVE VIEW



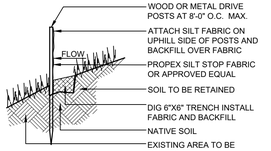
PLAN VIEW: JOINING SECTIONS



SECTION



ELEVATION



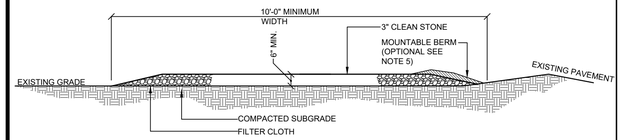
SECTION

NOTES:

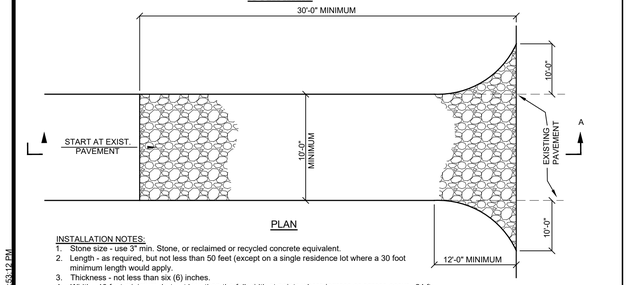
1. Filter cloth to be fastened securely to post: steel either t or u type or 2" hardwood posts at top and mid section.
2. When two sections of filter cloth adjoin each other they shall be overlapped by 6 inches and folded. Filter cloth shall be mirafi 100x, stabilinka t140n or approved equal
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.
4. Excavate 4 inch trench along the lower perimeter of the site.
5. Unroll a section at a time and position the post against the back (downstream) wall of the trench (net side away from direction of flow).
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.

E-1 SILT FENCE DETAIL

NOT TO SCALE



SECTION A-A



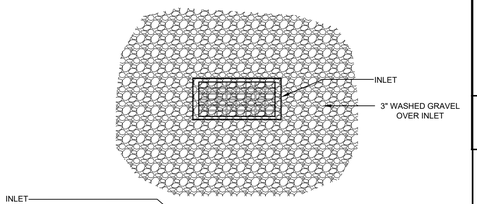
PLAN

INSTALLATION NOTES:

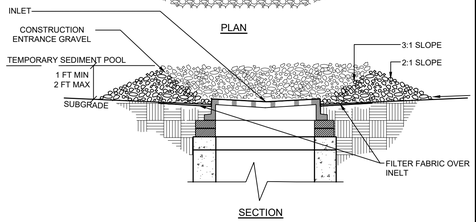
1. Stone size - use 3" min. Stone, or reclaimed or recycled concrete equivalent.
2. Length - as required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply.
3. Thickness - not less than six (6) inches.
4. Width - 10 foot minimum, but not less than 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

E-2 STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



PLAN

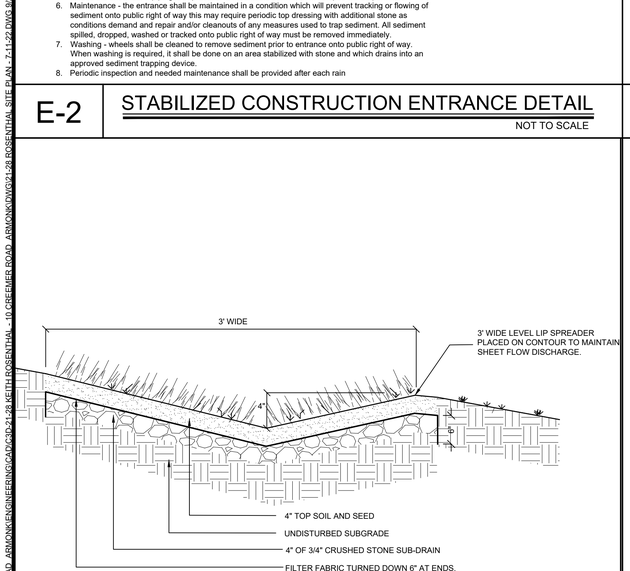


SECTION

SYMBOL

E-3 INLET PROTECTION DETAIL

NOT TO SCALE

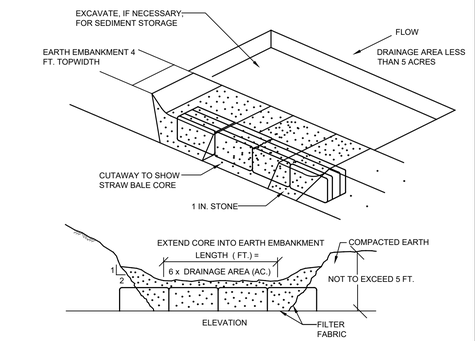


NOTES:

1. The foundation area shall be cleared of trees, stumps,sod, loose rock, or other objectionable materials.
2. The cross section shall be evacuated to the neat lines and grades shown on the plans. Over excavated areas shall be backfilled with moist soil compacted to the density of the surrounding material.
3. Filter and bedding shall be placed to line and grade in the manner specified.
4. No abrupt deviations from design grade or horizontal alignment shall be permitted.
5. Construction operations shall be done in such a manner that erosion, air and water pollution will be minimized and held within legal limits. All disturbed areas shall be vegetated or otherwise protected against soil erosion.

SW-3 GRASS LEVEL-LIP SPREADER DETAIL

NOT TO SCALE

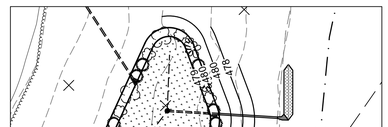


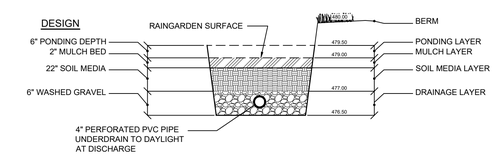
INSTALLATION NOTES:

1. Area under embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. The pool area shall be cleared as well.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over sized stones, rocks, organic material and other questionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
4. The structure shall be inspected after each rain and repairs made as needed.
5. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
6. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
7. All cut and fill slopes shall be 1 : 2 or flatter.

E-5 STONE OUTLET SEDIMENT TRAP DETAIL

NOT TO SCALE





SOIL MEDIA SPECIFICATIONS:

THE SOIL FOR RAIN GARDEN AREAS SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER OBJECTS LARGER THAN 50 MM IN DIAMETER. THE RAIN GARDEN SOIL SHALL BE VISIBLY FREE OF NOXIOS WEEDS. RAIN GARDEN SOIL SHALL BE A WELL BLENDED MIXTURE OF THREE(3) PARTS SAND AND ONE(1) PART TOPSOIL BY VOLUME. SAND SHALL MEET THE REQUIREMENTS OF DOT §703-07 CONCRETE SAND. TOPSOIL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF §713-01 TOPSOIL FOR TOPSOIL TYPE A, EXCEPT AS FOLLOWS:

- ALL TOPSOIL SHALL BE SAMPLED AND TESTED, REGARDLESS OF THE SOURCE
- SAMPLING OF TOPSOIL, AMENDED TOPSOIL, AND THE RAIN GARDEN SOIL SHALL BE DONE BY THE CONTRACTOR/ SUPPLIER. SAMPLING PROTOCOLS SHALL BE IN ACCORDANCE WITH §713-01 TOPSOIL

THE RAIN GARDEN SOIL SHALL HAVE A PH RANGE OF 5.2 TO 7.6, AND AN ORGANIC CONTENT OF 3-7%. SOIL AMENDEMENTS TO INCREASE ORGANIC CONTENT SHALL BE PEAT MOSS IN ACCORDANCE WITH §713-15 ORGANIC MATTER.

PLANT SPECIFICATIONS:

Suggested Shrubs List
WITCH HAZEL(Hamemelis virginiana)
WINTERBERRY(Ilex verticillata)
ARROWWOOD (Viburnum dentatum)
BROOK-SIDE ALDER (Alnus serrulata)
RED-OISER DOGWOOD (Cornus stolonifera)
SWEET PEPPERBUSH (Clethra alnifolia)

Suggested Herbaceous Plant List
CINNAMON FERN (Osmunda cinnamomea)
CUTLEAF CONEFLOWER (Rudbeckia laciniata)
WOOLGRASS (Scirpus cyperinus)
NEW ENGLAND ASTER (Aster novea-angliae)
FOX SEDGE (Carex culpinoidea)
SPOTTED JOE-PYE WEED (Eupatorium maculatum)
SWITCH GRASS (Panicum virgatum)
GREAT BLUE LOBELIA (Lobelia siphatica)
WILD BERGAMOT (Monarda fisulosa)
RED MILKWEED (Asclepias incarnata)

DRAINAGE LAYER SPECIFICATIONS:

POROSITY - 0.40

NOTE:

1. All shrubs shall be placed 5' O.C., and herbacious plants shall be spaced 18" O.C.
2. The upland side of the rain garden shall be protected from upgradient subsurface conditions with the installation of either a 12" thick clay barrier or placement of 6 mil polyethylene sheeting along the excavated side-walls of the drainage layers.

PLANTING SOIL SPECIFICATIONS:

- CLASSIFICATION	SM OR ML-UNIFIED SOIL CLASSIFICATION SYSTEM
- PERMEABILITY	1.0 FEET PER DAY OR 0.5% INCHES PER HOUR
- PH RANGE	5.2 TO 7.0%
- ORGANIC MATTER	1.5 TO 4.0%
- MAGNESIUM	35 LBS / ACRE PER MIN.
- PHOSPHORUS	75 LBS / ACRE PER MIN.
- POTASSIUM	85 LBS / ACRE PER MIN.
- SOLUBLE SALTS	≤ 500 PPM
- CLAY	UP TO 5%
- SILT	UP TO 30%
- SAND	UP TO 70%

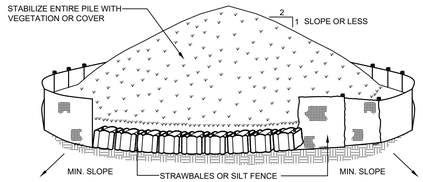
RAINGARDEN WORKSHEET

DA:	RAIN GARDEN	WQv (cf)	Nsm	Dsm (ft)	Vsm	Ndl	Ddl (ft)	Vdl	Dp (ft)	Af Required (sf)
1	1	914	0.2	2	433.2	0.4	0.5	216.6	0.5	830.91

Af Provided (sf)	Volume Provided (cf)	RRv provided		Total Area(ac):	Impervious Area(ac):
1083	1191.3	476.52	0.011	0.1465	0.1465

SW-1 RAIN GARDENS DETAIL

NOT TO SCALE



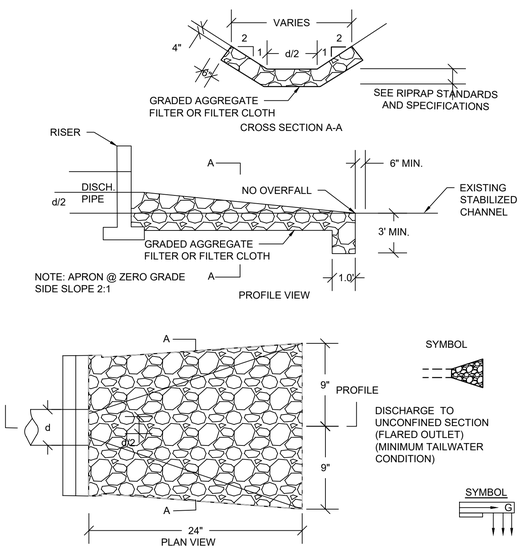
SYMBOL

NOTES:

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

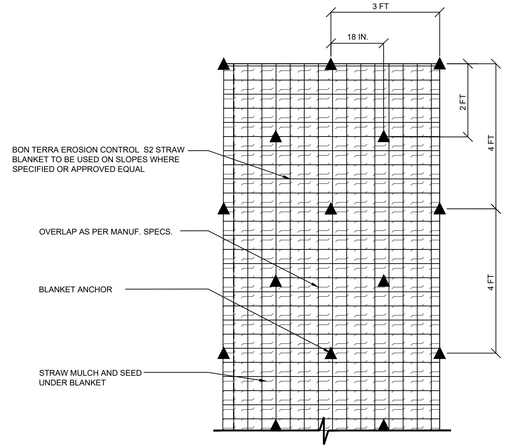
SW-2 RIP-RAP DETAIL

NOT TO SCALE

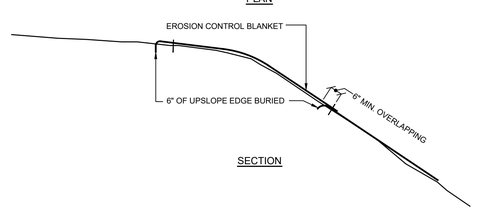


APPROVED BY THE TOWN OF NORTH CASTLE PLANNING BOARD RESOLUTION
DATED:_____

_____ Date: _____
CHRISTOPHER CARTHY, CAHIRMAN,
TOWN OF NORTH CASTLE PLANNING BOARD
ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION:
_____ Date: _____
JOSEPH M. CERMELE, PE
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEERS



PLAN



SECTION

SYMBOL

EB

NOTES:

1. Erosion blankets shall be used to stabilize all graded and / or disturbed slopes exceeding a slope of 1v : 2h.
2. Anchor pattern: 2.5 anchors / sy for : 2.5h : 1v < slopes < 1h : 1v).
3. U - shaped wire staples, metal geotextile pins, triangular wooden or plastic stakes can be used to anchor blanket to the ground surface.

E-6 EROSION BLANKET AND ANCHOR DETAIL

NOT TO SCALE

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 # 21-28

STATE OF NEW YORK JOSEPH CARLO RINA LICENSED PROFESSIONAL ENGINEER

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

Revisions:

No.	Date	Comments:
1	1-7-22	HD Department
2	2-14-22	HD Department
3	3-4-22	HD Department
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7	10-26-22	Town Comments
8	1-12-23	HD Department
9	4-3-23	HD Department
10	9-25-23	Town Comments
11	3-22-24	Town Comments
12		

SCALE: AS NOTED

DRAWN BY: CS

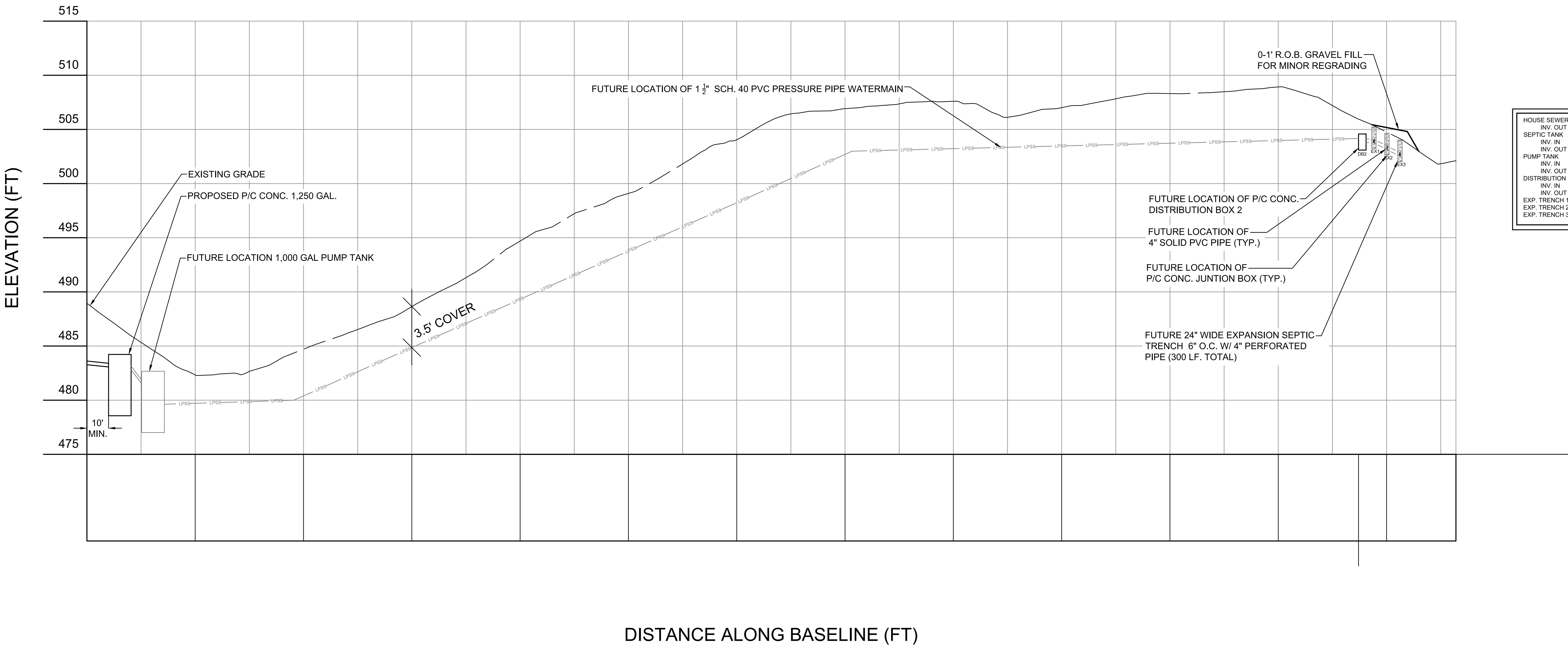
DATE: 10/01/21

EROSION AND STORMWATER DETAILS

SITE PLAN
PREPARED FOR
KEITH ROSENTHAL

10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 5 of 6

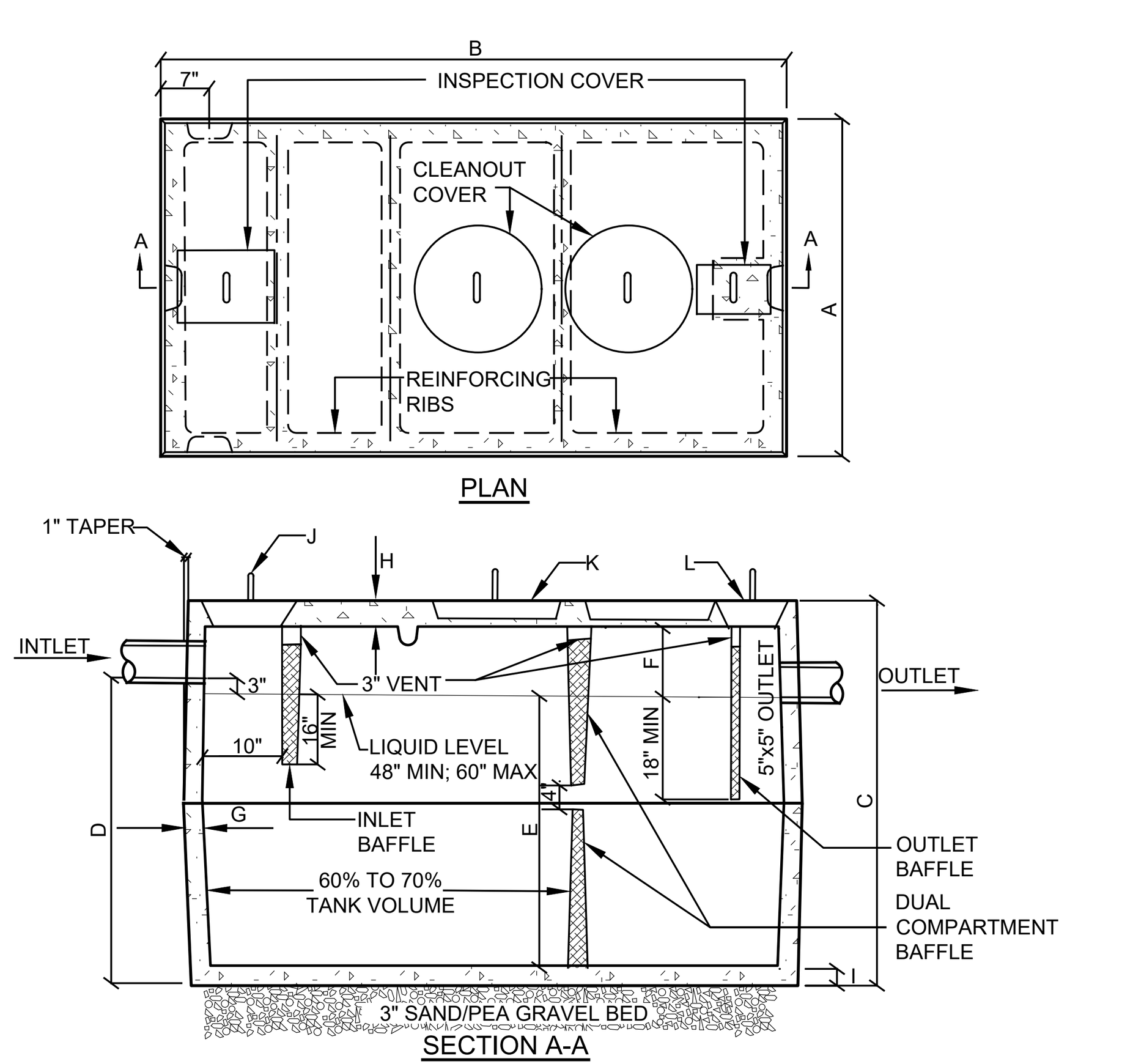


HOUSE SEWER
INV. OUT = 483.27'
SEPTIC TANK
INV. IN = 483.07'
INV. OUT = 482.81'
PUMP TANK
INV. IN = 481.52'
INV. OUT = 481.47'
DISTRIBUTION BOX 1
INV. IN = 503.96'
INV. OUT = 503.80'
EXP. TRENCH 1 INV. IN = 503.74'
EXP. TRENCH 2 INV. IN = 503.14'
EXP. TRENCH 3 INV. IN = 502.52'

Septic Profile

S-1 SEPTIC SYSTEM 100% EXPANSION PROFILE DETAIL

SCALE 1" = 30'



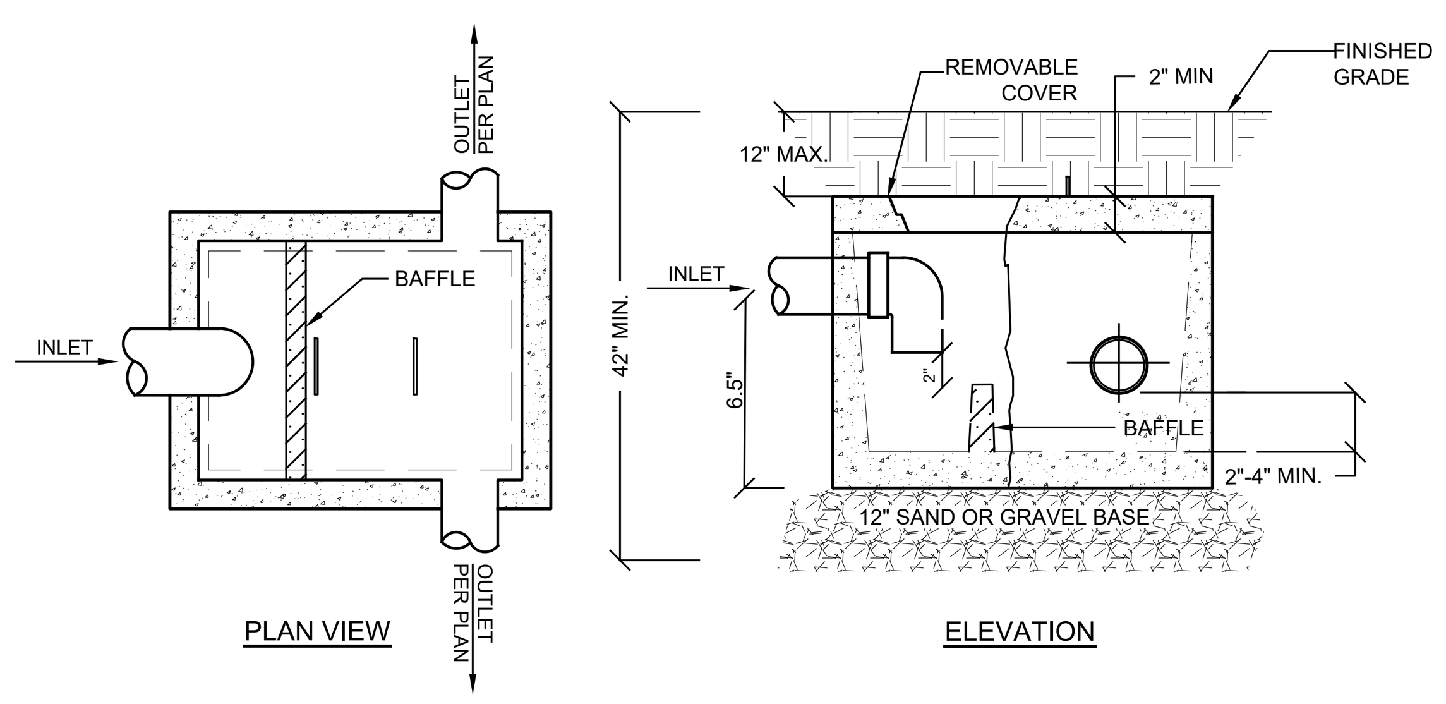
SEPTIC TANK SPECIFICATIONS & CAPACITIES											
LIQUID CAPACITY	A	B	C	D	E	F	G	H	I	J	K
~~1,000 Gal.~~	~~58"~~	~~102"~~	~~67"~~	~~55"~~	~~48"~~	~~12"~~	~~3"~~	~~5"~~	~~4"~~	~~6"x9"~~	~~20"Ø~~	~~10"x14"~~
1,250 Gal.	60"	120"	67"	56"	48"	12"	3"	5"	4"	6"x9"	20"Ø	10"x14"
~~1,500 Gal.~~	~~65"~~	~~120"~~	~~67"~~	~~56"~~	~~48"~~	~~12"~~	~~3"~~	~~5"~~	~~4"~~	~~6"x9"~~	~~20"Ø~~	~~10"x14"~~
~~2,000 Gal.~~	~~78"~~	~~144"~~	~~67"~~	~~56"~~	~~48"~~	~~12"~~	~~3"~~	~~5"~~	~~4"~~	~~6"x9"~~	~~20"Ø~~	~~10"x14"~~

NOTE: Add 4" to H for H-20 Loading

NOTES:
1. The minimum required fill cover above the septic tank shall be 6 to 12 inches with a maximum cover depth of 24 inches. When required fill cover exceeds 24 inches, manhole extensions with steel frames and covers shall be installed and extended to finished grade. If the septic tank is rated for H-20 vehicle loading, the manholes, frames and covers shall be H-20 rated also.
2. The dual compartment baffle is required on all septic tanks with a length "B" equal to or greater than 10 feet.
3. For installations that require an overflow tank, a tank the same size as the septic tank shall be used. Dual compartment baffles are not required on overflow tanks regardless of the size.
4. All pipes connecting to the tank shall be cut flush with the inside wall.
5. Septic tank has a top loading capacity of 300 psf
6. Tank shall be manufactured by Mid Hudson Concrete Products, Inc.

S-2 PRECAST CONCRETE SEPTIC TANK DETAIL AND OVERFLOW TANK DETAIL

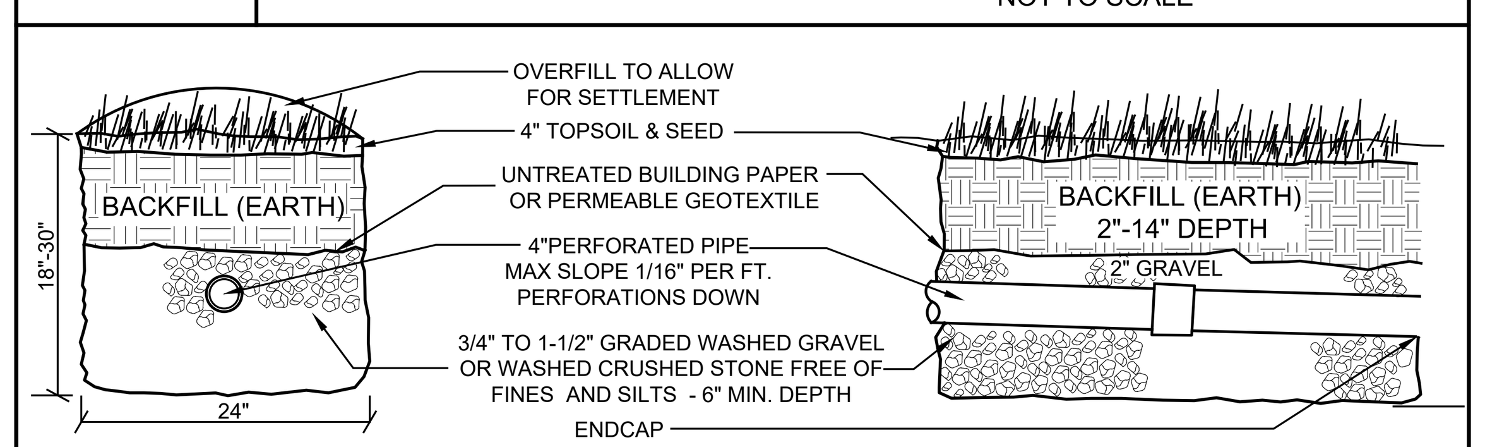
NOT TO SCALE



NOTES:
1. A distribution box evenly distributes wastewater effluent to subsurface absorption areas or seepage pits.
2. Distribution boxes shall be waterproof and constructed of concrete and the concrete shall have a minimum compressive strength of 2,500 pounds per square inch at 28 day set.
3. For accessibility, it is necessary that the distribution box be located and have a removable cover not more than twelve (12) inches below grade. Where, due to site conditions, a distribution box must be greater than twelve (12) inches below the surface, an extension collar shall be installed to within twelve (12) inches of the surface.
4. All outlets from the distribution box shall be at the same level to insure the even distribution of flow.
5. To minimize frost action and reduce the possibility of movement after the distribution box has been installed, distribution boxes must be set on a bed of sand or pea gravel at twelve (12) inches thick. In addition, the bottom of the box must be set level and supported solidly to below the frost line and the footing is to extend to 42 inches below ground level.
6. All distribution boxes shall be equipped with a 90 degree elbow facing down on the inlet pipe and a baffle.
7. The drop between the inlet and outlet inverts shall be at least two (2) inches.
8. There shall be a minimum two (2) inch clearance between the inverts of the outlets and the bottom of the box to prevent short circuiting and reduce solids carry-over.
9. Speed leveler devices on the outlets are recommended to ensure equal flow to each lateral.
10. Distribution boxes should be inspected periodically to ensure equal flow to all absorption lines and to check for solids leaving the septic tank.
11. Tight joint pipe from the septic tank, discharge line from dose chamber, or forcemain from pump chamber to inlet side of distribution box.
12. Tight joint pipe between all boxes.
13. Outlet pipes to be cut flushwith inside of distribution box

S-3 DISTRIBUTION BOX DETAIL

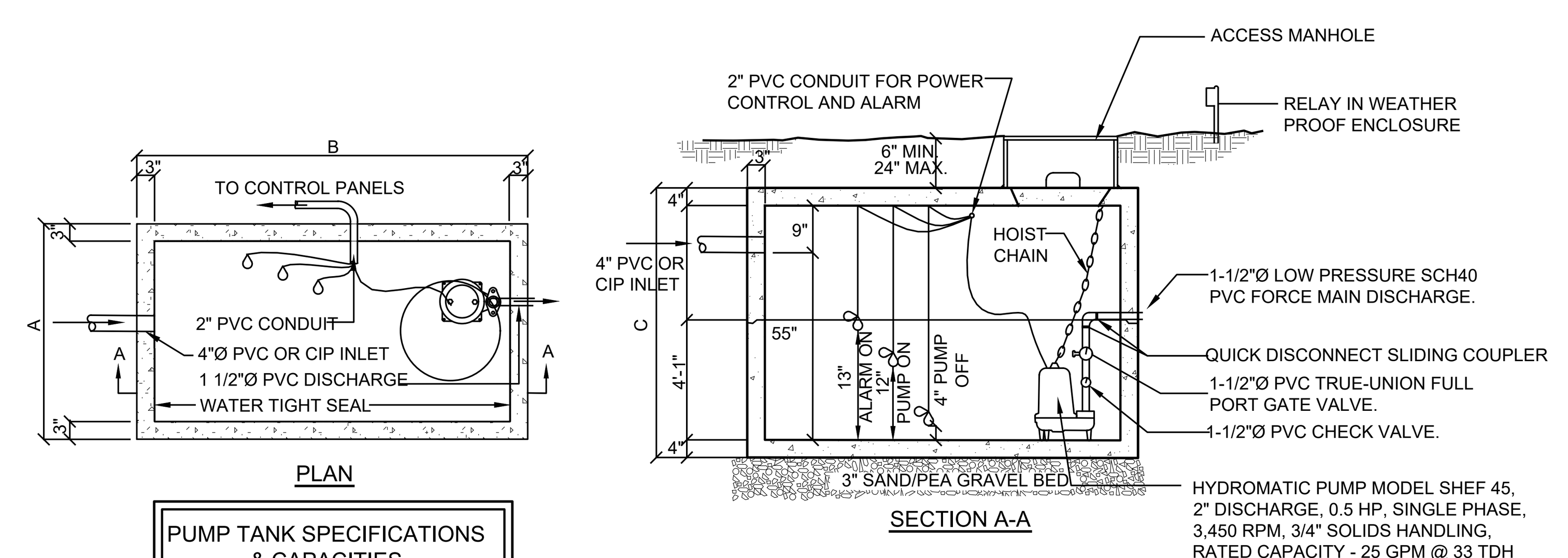
NOT TO SCALE



NOTES:
1. Ends of all trenches are to be capped.
2. Minimum 5' of soil between the bottom of absorption trench and presence of groundwater table and/or creviced rock.
3. Maximum slope, 4 inch gravity distribution lines (1/16" per ft) 0.5% maximum.
4. Maximum slope, when dosing is provided (1/32" per ft) 0.25% maximum.

S-4 PERFORATED PIPE TRENCH DETAIL

NOT TO SCALE



PUMP TANK SPECIFICATIONS & CAPACITIES			
LIQUID CAPACITY	A	B	C
1000 Gal.	58"	102"	68"

PUMP CALCULATIONS:
TOTAL FLOW : 715 GAL. /DAY
LENGTH OF FIELDS: 276 L.F. W/24" TRENCHES
RATE OF PUMPING: 0.5 GAL./L.F.

HEAD LOSS CALCULATION:
TOTAL HEAD LOSS = STATIC LOSS + FRICTION LOSS + MINOR LOSS
FROM DESIGN CALCULATIONS:
TDH = 29' + 4' = 33'

VOLUME TO BE PUMPED TO SYSTEM:
REQUIRED VOLUME = 0.5 GAL. / L.F. X 276 L.F.
= 138 GAL.
= 138 GAL./7.48 GAL./C.F. = 18.45 C.F.
BACKFLOW VOLUME = 3.14 X .0625^2 X 325 L.F. = 3.98
TOTAL VOLUME PUMPED = 18.45 + 3.98 = 22.43 CF
PUMP CHAMBER INTERIOR DIMENSIONS:
= 8.0' X 4.33' = 34.67 S.F PER FOOT OF HEIGHT

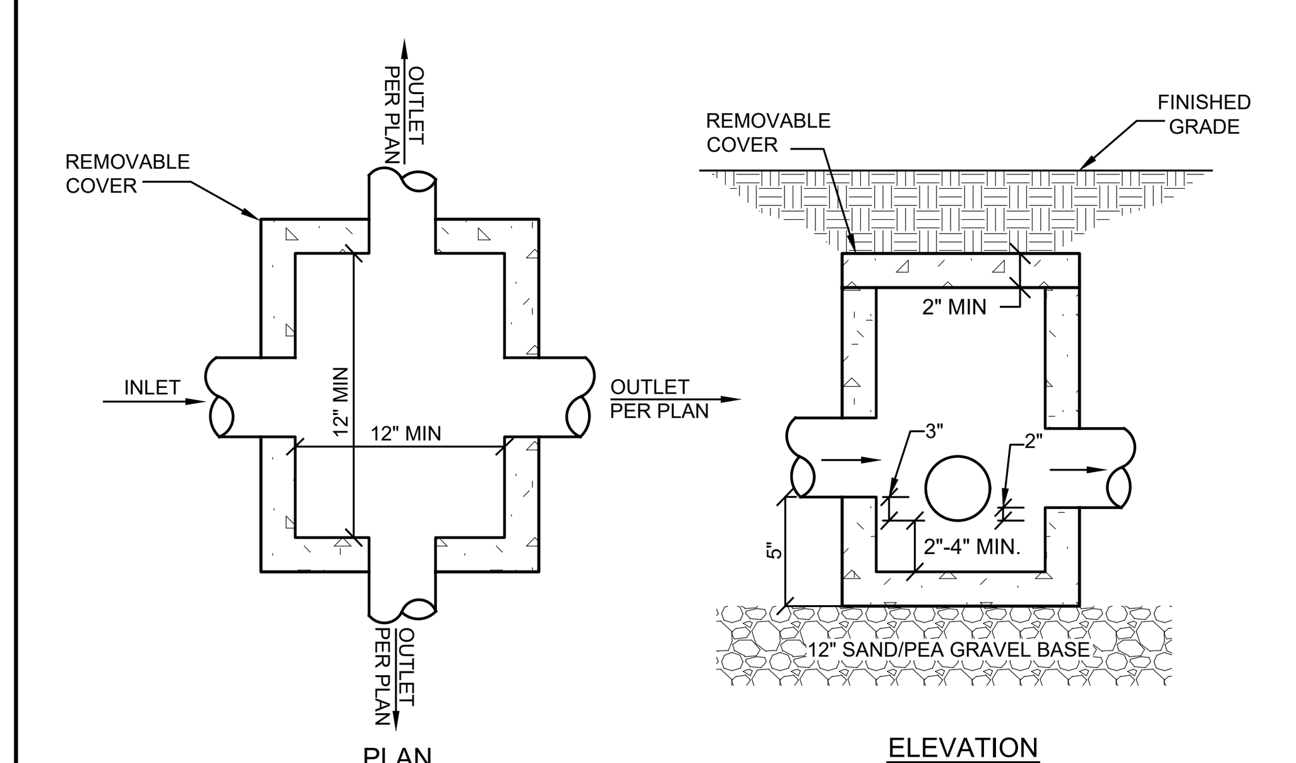
THEREFORE, REQUIRED DISTANCE BETWEEN ON/OFF FLOAT SWITCH:
= 22.43C.F./ 34.67 S.F. PER FOOT
= 0.65' OR 8"

PUMP CHAMBER STORAGE VOLUME:
= 34.67 S.F. X 3.5' X 7.48 GAL/CF = 907 GAL. > 715 GAL.

NOTES:
1. The minimum required fill cover above the pump chamber shall be 6 to 12 inches with a maximum cover depth of 24 inches. When required fill cover exceeds 24 inches, manhole extensions with steel frames and covers shall be installed and extended to finished grade. If the pump chamber is rated for H-20 vehicle loading, the manholes, frames and covers shall be H-20 rated also.
2. Pump shall be Hydromatic pump Model SHEF 45, 2" discharge, 0.5 HP, single phase, 3,450 RPM, 3/4" solids handling, rated capacity of 25 GPM @ 33 Ft TDH.
3. The Contractor shall provide one (1) spare pump of equal size to be maintained on site at all times.
4. Pump chamber as manufactured by Mid Hudson Concrete Products Inc.
5. Pump settings may vary for tanks whose dimensions differ from those shown above. Contractor shall notify engineer of any change.
4. All pipes connecting to the chamber shall be cut flush with the inside wall.
5. Contractor shall supply and install control / alarm panel within building basement or other approved location.
6. Electrical Underwriters Certificate is required for all installations.

S-5 PUMP CHAMBER DETAIL

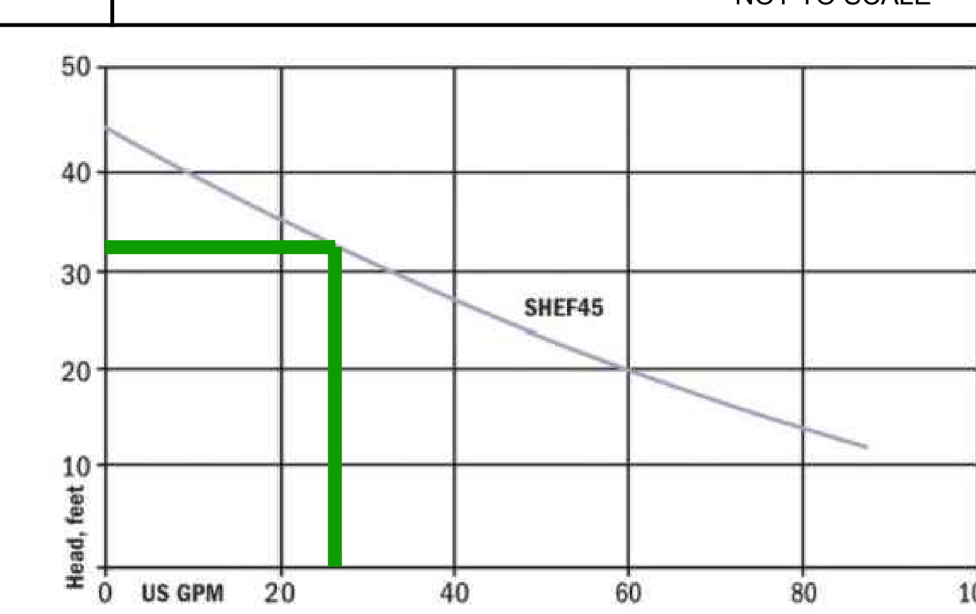
NOT TO SCALE



NOTES:
1. Bottom of junction box must be level and firmly supported below frost line.
2. Junction box footing shall extend to 36" below ground level.
3. Junction boxes shall be placed on single branch distributors.
4. Junction boxes shall be constructed of waterproofed masonry construction.
5. Tight joint pipe shall be used between the septic tank and junction box and between all junction boxes and laterals.
4. All pipes connecting to the junction box shall be cut flush with the inside wall.
5. Maximum cover above junction boxes shall be 12 inches.
6. The clear inside dimension of junction boxes shall be a minimum of 12" x 12".
7. All pipes shall be cut flush with inside of junction box.
8. First foot of pipe from junction box to trenches will be non-perforated.

S-6 JUNCTION BOX DETAIL

NOT TO SCALE



S-7 PUMP CURVE DETAIL

NOT TO SCALE

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

F:\2021\21-28 KEITH ROSENTHAL - 10 CREEMER ROAD ARMONK\ENGINEERING\CAD\C3D-21-28 KEITH ROSENTHAL - 10 CREEMER ROAD ARMONK\DWG\21-28 ROSENTHAL SITE PLAN - 7-11-22.DWG 9/25/2023 5:53:12 PM

PROJECT # 21-28

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Engineer:

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

Revisions:

No.	Date	Comments:
1	1-7-21	HD Department
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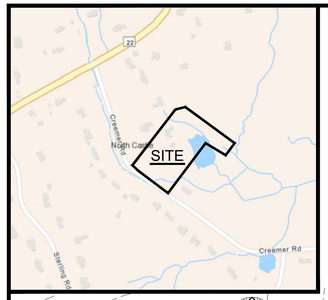
10	4-24-23	HD Department
11	9-25-23	Town Comments
12	3-22-24	Town Comments

SCALE: AS NOTED
DRAWN BY: CS
DATE: 10/01/21

SEPTIC DETAILS

SITE PLAN
PREPARED FOR
KEITH ROSENTHAL
10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 6 of 6



LOCATION MAP
SCALE: 1" = 600 FT.

NOTE:
1. *THIS IS NOT A SURVEY* ALL SURVEY INFORMATION SHOWN ON THIS PLAN HAS BEEN TAKEN FROM SURVEY MAP PREPARED BY DANIEL T. MERRITTS, L.S., DATED 12/03/20, LAST REVISED 12/21/20. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

SITE DATA:

OWNER / DEVELOPER:	KEITH ROSENTHAL
STREET ADDRESS	10 CREEMER ROAD ARMONK, NY 10504
PROJECT LOCATION:	10 CREEMER ROAD ARMONK, NY 10504
EXISTING TOWN ZONING:	R-2A SINGLE FAMILY RESIDENTIAL
TOWN TAX MAP DATA:	SECTION 108.02, BLOCK 2, LOT 60
SITE AREA :	5.66 ACRES (246,467 SF)
SEWAGE FACILITIES:	ONSITE WASTEWATER TREATMENT SYSTEM
WATER FACILITIES:	DRILLED WELL
FIRE DISTRICT:	#2
SCHOOL DISTRICT:	BYRAM HILLS
WATERSHED:	LONG ISLAND SOUND

Invasive Species Monitoring and Control Program

Phragmites australis, Japanese knotweed and multifloral rose are all noted as present within and adjacent to the wetlands on the project site. These invasive species favor areas of disturbed soils and edge areas. This plan will implement an invasive species monitoring and manual control program for the duration of construction and development of the project.

Those areas of the site that are closest to the existing wetlands and watercourses have been disturbed and re-graded over the years. These are the portions of the site that are known to support invasive species which are altering the character of the wetlands and adjacent areas and represent a long term risk to the native vegetative community.

By controlling exotic vegetation, and reducing deer populations due to increased human activity on the site, nearby native plants will have less competition and therefore have more resources available for their own growth. An invasive species monitoring and control program will be implemented at the project site as part of the overall development plan. Species targeted for removal include the following:

Tree-of-heaven (Ailanthus altissima)
Multiflora rose (Rosa multiflora)
Mugwort (Artemisia vulgaris)
Autumn olive (Eleagnus umbellata)
Garlic mustard (Alliaria petiolata)
Purple loosestrife (Lythrum salicara)
Common reed (Phragmites australis)
Oriental bittersweet (Celastrus orbiculatus)
Porcelainberry (Ampelopsis brevipedunculata)
Japanese Barberry (Berberis thunbergii)
Japanese Stilt Grass (Microstegium vimeneum)
Winged Euonymus (Euonymus alatus)

The above listed species and all other invasive non-native plants that are detrimental to the ecology of the project site will be removed during site development to the extent practicable. The goal of this program is to reduce the presence of exotic/invasive species to a threshold of less than ten percent total cover within the areas shown on the Wetland Restoration and Buffer Enhancement Plan (the "Plan"). A qualified biologist/botanist will supervise the removal of invasive species. These species will be removed by hand or small machine, initally without the applciation of herbicides. If it is later determined that herbicides are necessary to complete the eradication of the identified species, an application permit will be applied for prior to site use.

Monitoring and Maintenance Schedule

Following development of the site, a maintenance plan will include the regular inspection of undisturbed areas as shown on the Plan, and removal of these species as necessary. This represents the transitional areas that are most susceptible to opportunistic settling of invasive species. It is anticipated that a schedule of inspections three times a year for the first five years following full project build out (early, mid and late growing season) will be adequate for the identification and removal of the invasive species in this area.

The Town Building Inspector and Wetlands Inspector will be consulted prior to the proposed removal of invasive species within the controlled area. In addition, all activities related to invasive species control, monitoring and assessment of achievement of the 10 percent tolerance threshold for coverage by all invasive species on the project site will be coordinated with the Environmental Site Monitor. These inspections will include the mapping and identification of locations and extent of cover of invasive species, and identify the methods to be used for the subsequent removal. Following treatment, a brief report outlining extent, location and removal method for each species shall be prepared and filed with the Town Planning Office.

WETLAND 100' ADJACENT AREA DISTURBANCE		
TYPE OF DISTURBANCE	AMOUNT OF DISTURBANCE	PROPOSED MITIGATION
RAIN GARDEN AND DRAINAGE	5,390 SF	SEE MITIGATION PLAN
SEPTIC TANK AND PIPING	660 SF	
ADDITION TO RESIDENCE	350 SF	+/- 10,000 SF

EARTHWORK: CUT 315 CY - FILL 755 CY = NET 440 FILL

SITE PLAN NOTES:

1) THE WETLAND DELINEATION WAS DONE BY STEVE MARINO, PLS OF TIM MILLER ASSOCIATESIN APRIL 21, 2022 AND WAS SURVEYED BY T.C. MERRITTS LAND SURVEYORS MAY 5, 2022.
2) THE WETLAND DELEGATION WAS CONFORMED BY SARA PAWLICZAK BIOLOGIST NYS DEC, DECEMBER 5, 2022.

PLANTING SCHEDULE FOR:						
QTY	Symbol	Common Name	Botanical Name	Size	Root type
4	AR	Red Maple	Acer rubrum	1-1/2 - 2"	15 gal
1	QP	Pin Oak	Quercus palustris	1-1/2 - 2"	15 gal
11	IV	Winterberry holly	Ilex verticillata		3 gal
14	CA	Summersweet	Clethra alnifolia		3 gal
12	VD	Arrowwood	Viburnum dentatum		5 gal
5	IG	Inkberry	Ilex glabra		3 gal
25	SA	Green bulrush	Scirpus atrovirens		2" plug
25	CC	Fringed Sedge	Carex crinita		2" plug
50	SA	Lesser Burreed	Sparganium americanum		2" plug
75	JE	Soft Rush	Juncus effusus		2" plug
50	SP	Common three-square	Schoenoplectus pungens		2" plug
4	Seed	Pinelands OBL/FACW Wildlife Shelter and Forage Mix			pounds
3	Seed	Pinelands Rain Garden Mix			pounds

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

_____Date: _____
CHRISTOPHER CARTHY, CAHIRMAN,
TOWN OF NORTH CASTLE PLANNING BOARD
ENGINEERING PLANS REVIEWED FOR CONFORMANCE TO RESOLUTION:
_____Date: _____
JOSEPH M. CERMELE, PE
KELLARD SESSIONS CONSULTING
CONSULTING TOWN ENGINEERS

Tim Miller Associates, Inc.
Environmental and Planning Services
10 North Street, Cold Spring, NY
845 265 4400

0 15 30 60
SCALE: 1"=30'-0"

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PROJECT # 21-28

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5	6-3-22	Plan updates
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7	1-12-23	HD Department
8	3-6-24	Additional trees
9	3-25-24	Plan garden plantings
10		

SCALE: 1" = 30'
DRAWN BY: CS
DATE: 10/01/21

WETLAND ENHANCEMENT/ RESTORATION PLAN

SITE PLAN
PREPARED FOR
KEITH ROSENTHAL
10 CREEMER ROAD
Town of North Castle Westchester County, New York

Sheet 1 of 1