NATHANIEL J. HOLT, PE

dan@holtengineering.net

October 24, 2023

Town of North Castle
Planning Board
17 Bedford Road
Armonk, NY 10504

Attn: Christopher Carthy, Chairman

RE: Hugh Harris
9 Sterling Road North
Application for Site Plan and Wetland Permit Approval

Dear Chairman Carthy and Members of the Planning Board:

During its regularly scheduled meeting of July 18, 2023 the Conservation Board voted to recommend approval for a wetland permit for the above referenced application. As you will recall the Conservation Board had previously voted against the application; however, at that time it had not received the "Functional Analysis" prepared by Mary Coleman Jaehnig. Wherein Ms. Jaehnig's analysis determined that the wetland area associated with the Harris property was not that of a "High Quality Functional Wetlands".

Considering the Conservation Board's recommendation, we would respectfully request that this matter be placed on the Planning Board's Agenda for the next available meeting date. In consideration of that request please find attached the following:

- Recommendation of Approval issued by the Conservation Board, dated August 3, 2023
- A copy of the Wetland Functional Analysis prepared by Mary Coleman Jaehnig, dated September 28, 2021.
- Mitigation Plans, Sheets 1 and 2 dated last revised Augst 17, 2023 as prepared by Yost Designs
- Site Plans, Sheets 1- 4 inclusive, as prepared by this office and dated last revised March 25, 2023.
- OWTS Construction Plans as Approved by the Westchester County Department of Health

Very truly yours<

Nathaniel J. Holt, PE
Holt Engineering & Consulting, PA

encl

592 Route 22 ⬥Pawling, NY 12564 ⬥PHONE: (914) 760-1800
540 N.W. University Boulevard, Suite 105 ⬥Port Saint Lucie, FL 34986 ⬥PHONE: (772) 204-9550 ⬥FAX: (772) 204-9553

encl

TOWN OF
NORTH CASTLE
CONSERVATION
BOARD

17 BEDFORD ROAD
ARMONK, NY 10504
TEL: 914 273 0346
FAX: 914 273 3554
www.northcastleny.com

DATE: August 3, 2023

MEMO TO: Christopher Carthy, Chairman
& Planning Board members

FROM: Jane Black, Chair
John Krupa, Co-Chairman

RE: **Wetland Permit Approval**
9 Sterling Road N.
Sec. 108.02, Blk.1, Lot 58

The applicant is proposing a new pool, patio and legalization of previously constructed retaining walls. Associated improvements include construction of a stormwater mitigation system and relocation of the existing septic system to accommodate the proposed pool layout. The property is +/-2.0 acres in size and is located in the R-2A Zoning District.

At its July 18, 2023, meeting, the project was approved. A motion was made by Adam Barnett and was seconded by Vincent Giordano. Craig Benedict abstained. The approval was made with the following conditions:

1) In general, the species chosen for the mitigation/planting plan are appropriate. However, Hamemelis Virgina (witch hazel) is a FAC- To FACU plant species, and may not do well planted within the wetland proper. It is recommended that an alternative native species more adaptable to wet soils be chosen for the wetland proper.

2) A project Long-term Wetland and Maintenance Plan, dated December 23, 2000, was reviewed and found by this office to be acceptable. Please remove the reference to "4 Ledgewood" within the report. A wetland/wetland buffer monitoring and maintenance shall be established, which should detail the completion of the mitigation plantings, as well as to ensure the maintenance of the plantings for a period of five (5) years.

Please also refer to the memorandum, prepared by David Sessions, RLA, AICP, dated July 13, 2023, for any additional information.

JM/JB/JK

cc: H. Harris
B. Yost
D. Holt
A. Kaufman, Town Planner
A. Simon, Town Clerk
R. Baroni, Town Attorney
J. Berra, Town Board Liaison
Conservation Board

PFIZER – JÄHNIG
ENVIRONMENTAL CONSULTING

September 28, 2021
Wetland Functional Assessment
9 Sterling Road North
Armonk, New York

Setting:
The northwestern portion of the property located at 9 Sterling Road North is a locally regulated wetland as shown by the flagging of Evans Associates on September 18, 2019. The wetland is located on a hillside and is a headwater to a tributary to the Byram River. An intermittent watercourse is contained within the wetland and originates just northwest of the existing dwelling.

The watercourse and wetland is located on the lower flank of a slope that starts near Route 22, approximately 2000 feet to the east and ends 1000 feet to the west as the flow enters the Byram River tributary. The hillside wetland is fed by both subsoil seepage and stormwater runoff from Sterling Road North.

Wetland Description:
The wetland is scrub/shrub (open with a shrub and diverse groundcover) and becomes forested in the southwestern corner and along the northern property line. Minor rills are located on the hillside. The forested wetland supports red maple, ash spp., birch spp., with spicebush, arrowwood vibernum and winterberry in the shrub story. The scrub/shrub portion supports silky dogwood, highbush blueberry, shrub willow, sensitive fern, lurid sedge, foxtail sedge, asters, jewelweed, brambles, blue vervain, and rush spp., and dead trees. Invasive species such as phragmites, multiflora rose, Japanese barberry, wild grape, bitter dock, and purple loosestrife have taken hold on the edges and within the wetland.

17 FAIRVIEW AVE. **RIDGEFIELD, CT 06877** **TEL. (203) 431-8113**
MaryJaehnigSoils@gmail.com

The wetland soil is relatively thin sandy loam and developed in glacial till over bedrock. The moderate slopes result in active changes to surface flow and rill development.

Wetland Buffer Description:
The wetland buffer has been disturbed during earlier site development. Soils have been regraded with areas of compacted fill. The vegetation present is a mix of early colonizer and mostly invasive species as groundcover. The invasive vegetation noted on the disturbed soils include bitter dock, purple loosestrife, goldenrod spp., creeping thistle, wild grape, multiflora rose, and phragmites. The buffer area is open and vulnerable to the spread of the invasive species.

Wetland Functions and Values:
The functional assessment uses 'A Rapid Procedure for Assessing Wetland Functional Capacity' by Dennis W. Magee and Garrett G. Hollands', 1998, based on Hydrogeomorphic (HGM) Classification.

The class for this wetland is a small slope wetland connected downstream to other systems. Features were noted and inventoried in the wetland to determine the value of each function.

1) Modification of Groundwater Discharge.
High Value, due to observed outlet, intersection of water table with topography despite component of stormwater road runoff.

2)Modification of Groundwater Recharge.
Low to no value, lacks capacity for long term storage of water necessary for significant recharge, fast transit time, no underlying glacial stratified drift deposits.

3)Storm and Flood Storage.
Low, Vegetation provides roughness which slows down runoff but water passes relatively quickly through the slope to downstream receiving waters.

4)Modification of Streamflow.
Moderate, the wetland is a source of groundwater discharge as well as surface runoff to downstream systems and helps provide stable base flow during dry times.

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5)Modification of Water Quality.
Low, residence time is low, long term storage is low, modification to water by physical and chemical treatment of solids is therefore low.

6)Export of Detritus.
Moderate, the wetland flushes detritus due to short residence time. This function is modified lower due to small size and moderate vegetation density.

7)Contribution to Abundance and Diversity of Wetland Vegetation.
Low, due to unpredictable hydrology, small size, introduction of invasives.

8)Contribution to Abundance and Diversity of Wetland Fauna.
Low, lack of open water, disturbed buffer plant community, lack of predictable hydrology.

Conclusions:
The highest values of the wetland involve discharge of groundwater to the surface and regulation of the base line flow of downstream watercourses. Export of detritus is also high and the detritus produced and carried downstream provides nutrients to benthic communities off site.

The degradation of the buffer and resulting invasive species with lack of shrub and tree layers is hurting the values for wetland flora and fauna. The compacted buffer fill also adds additional runoff to the wetland. Untreated road runoff enters the wetland during storm events.

A comprehensive planting plan to introduce native species in tree, shrub and ground layers would enhance the wildlife potential of both buffer and wetland, slow velocity of surface runoff to lessen erosion in the wetland and buffer. A restoration planting plan should include removal of some invasives, particularly the phragmites, in the buffer and wetland.

Submitted by,

Mary Jaehnig

soil scientist

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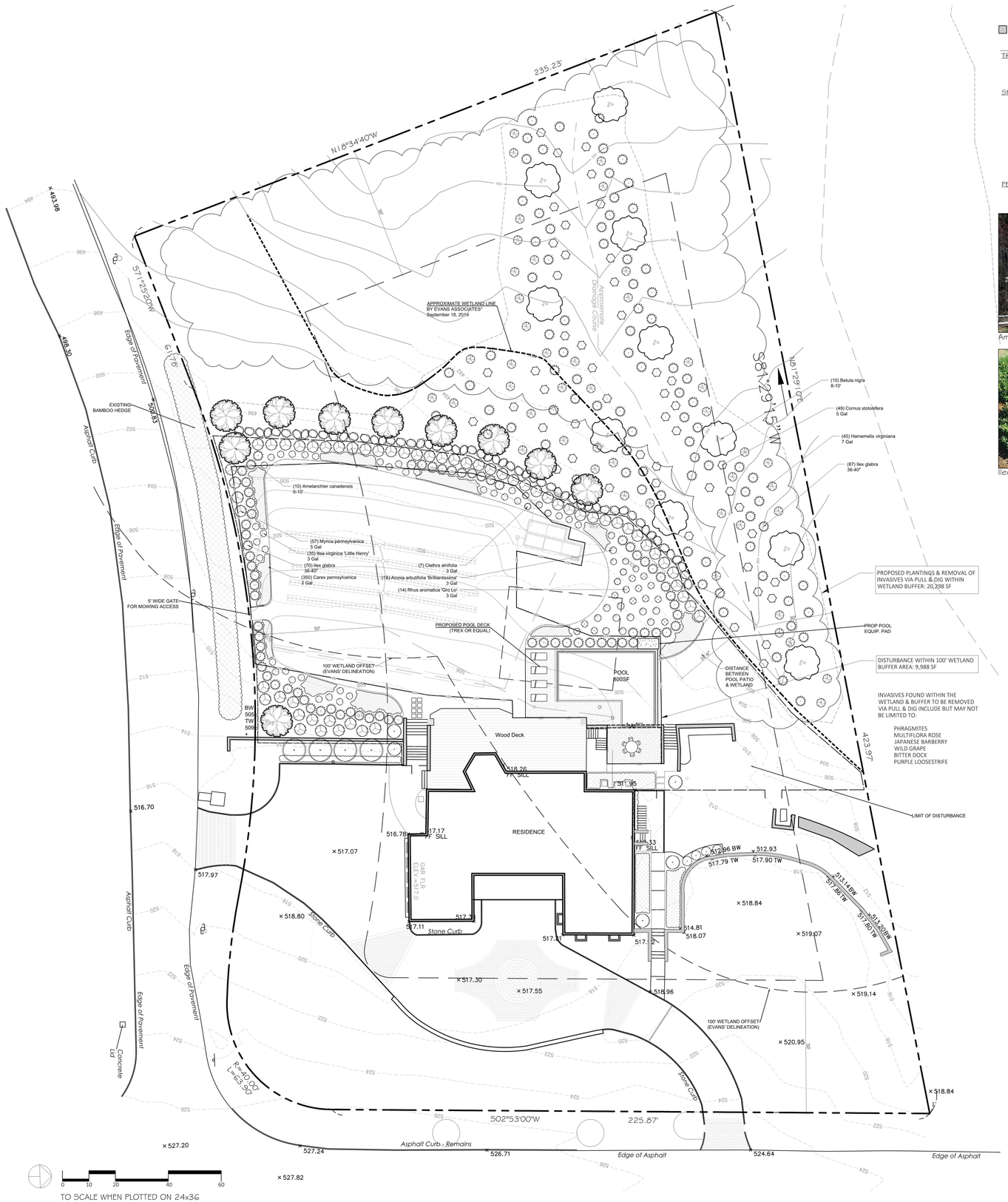


TO SCALE WHEN PLOTTED ON 24x36

PROGRESS SET NOT FOR CONSTRUCTION

PLANTING SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
TREES				
13	Amelanchier canadensis	Serviceberry	8-10'	
10	Betula nigra	River Birch	8-10'	Container Root
SHRUBS				
16	Aronia arbutifolia 'Brilliantissima'	Red Chokeberry	3 Gallon	
7	Clethra alnifolia	Sweet Pepperbush	3 Gallon	
49	Cornus stolonifera	Red Osier Dogwood	5 Gallon	
45	Hamemelis virginiana	Witch-Hazel	7 Gallon	
157	Ilex glabra	Inkberry	36-40"	
35	Itea virginica 'Little Henry'	Virginia Sweetspire	3 Gallon	
57	Myrica pennsylvanica	Northern Bayberry	5 Gallon	
14	Rhus aromatica 'Gro Lo'	Fragrant Sumac	1 Gallon	
PERENNIALS				
385	Carex pennsylvanica	Pennsylvania Sedge	2 Gallon	18" o.c.

PROPOSED PLANTING IMAGES


Hamemelis virginiana


Itea virginica 'Little Henry'


Amelanchier canadensis


Betula nigra


Rhus armoatica 'Gro Low'


Aronia arbutifolia 'Brilliantissima'


Clethra alnifolia


Ilex glabra


Hamemelis virginiana


Myrica pennsylvanica


Carex pennsylvanica

PLANTING NOTES

1. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED; INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT. LAYOUT TO BE APPROVED BY LA PRIOR TO INSTALLATION.

3. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES.

4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.

5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISIONS SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE FOR TREES AND SHRUBS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.

6. INSOFAR AS IT IS PRACTICABLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT, IRRIGATE & CARE FOR STOCK NOT PLANTED.

7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI 260 (REV. 1980) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.

8. ALL PLANTS SHALL BE PLANTED IN AMENDED TOP SOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACK FILLING PROGRESSES. PLANTING MIX TO BE AS SHOWN ON PLANTING DETAILS. LARGE PLANTING AREAS TO INCORPORATE FERTILIZER AND SOIL CONDITIONERS AS STATED IN PLANTING SPECIFICATIONS.

9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL ONLY.

10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

11. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND SIDEWALKS.

12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANT IN THE CENTER OF THE PIT.

13. ALL INJURED ROOTS SHALL BE PRUNED UTILIZING CLEAN, SHARP TOOLS TO MAKE CLEAN ENDS BEFORE PLANTING.

14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.

16. ALL PLANTING BEDS SHALL BE MULCHED WITH 2" LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH.

17. ALL DISTURBED AREAS AND NEW PLANTING BEDS TO BE TREATED WITH 4" TOP SOIL & SEEDED IN ACCORDANCE WITH PERMANENT STABILIZATION METHODS.

18. NO HERBICIDES SHALL BE USED WITHIN THE WETLAND BUFFER.

19. ALL PLANTS PLANTED WITHIN WETLAND BUFFER ARE TO BE INSTALLED BY HAND.

WETLAND BUFFER DISTURBANCE & IMPROVEMENTS

WETLAND	WETLAND BUFFER AREA ON PROPERTY	LIMIT OF DISTURBANCE AREA	IMPROVEMENTS WITHIN BUFFER
STREAM	**60,371 SF**	LIMIT OF DISTURBANCE WITHIN 100' WETLAND BUFFER: **9,988 SF**	PROPOSED PLANTINGS + REMOVAL OF INVASIVES VIA PULL & DIG WITHIN WETLAND BUFFER **20,298 SF**
		TOTAL AREA OF IMPROVEMENT REQUIRED FOR 2:1 MITIGATION WITHIN WETLAND BUFFER: **19,976 SF**	TOTAL AREA OF IMPROVEMENT WITHIN WETLAND BUFFER: **20,298 SF**

INVASIVE PLANTS WITHIN WETLAND BUFFER TO BE REMOVED


Phragmites


Japanese Barberry


Multiflora Rose


Wild Grape


Bitter Dock


Purple Loosestrife

YOST DESIGN
LANDSCAPE ARCHITECTURE
178 elizabeth st
pearl river, ny 10965
p 845.365.4595 | f 914.361.4473
yostdesign.com

SURVEYOR:

HARRIS RESIDENCE

9 STERLING ROAD NORTH
ARMONK, NY 10504

DATE: NOVEMBER 4, 2020
DRAWN BY: AVM
JOB NO: 040518
SCALE: 1" =20'
FILENAME: 2022_1101 Harris

REVISIONS:
12/22/2020
4/12/2021
5/05/2021
11/10/2021
07/06/2022
10/31/2022

REGISTERED LANDSCAPE ARCHITECT · BLYTHE YOST · 002369 · STATE OF NEW YORK

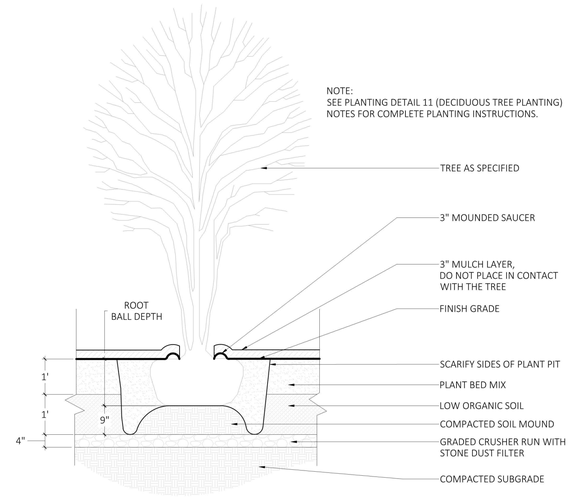
Blythe M Yost ASLA | Registered Landscape Architect NYS # 002369

MITIGATION/ PLANTING PLAN

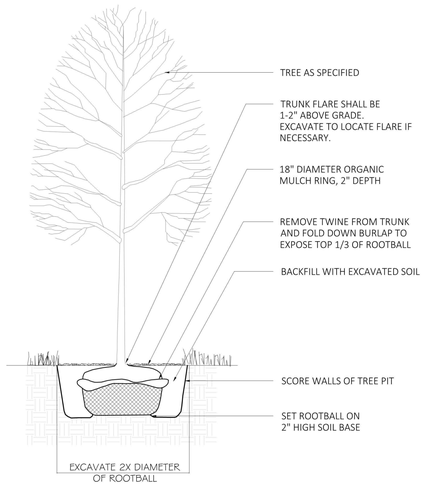
SHEET NO.

L-701

SHEET: 1 of 2



1 L-801 MULTISTEM TREE PLANTING
SCALE: 1/2"=1'



2 L-801 DECIDUOUS TREE PLANTING
SCALE: 1/4"=1'

NOTES:

1. SET TREE PLUMB.

2. DO NOT STAKE UNLESS DIRECTED TO DO SO BY LANDSCAPE ARCHITECT

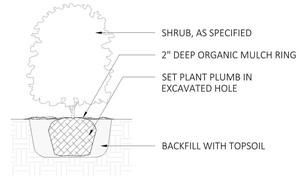
3. REMOVE COMPLETELY ANY NON-BIODEGRADABLE MATERIALS BINDING THE ROOTBALL.

4. REMOVE WIRE BASKET COMPLETELY IF ROOTBALL WILL BARE. OTHERWISE, CLIP AND PEEL BACK WIRE BASKET AT LEAST ONE THIRD OF THE WAY FROM THE TOP OF THE ROOTBALL.

5. SATURATE SOIL WITHIN SIX (6) HOURS OF PLANTING AND WATER AS NECESSARY UNTIL IRRIGATION IS INSTALLED.

6. DO NOT ADD ANY SOIL AMENDMENTS OTHER THAN COMPOST UNLESS DIRECTED TO BY LANDSCAPE ARCHITECT.

7. DO NOT ADD ANY SOIL OR MULCH AGAINST TRUNK OF TREE. IF ROOT FLARE IS NOT EXPOSED, REMOVE SOIL AND EXPOSE.



3 L-801 SHRUB PLANTING
SCALE: 1/2"=1'

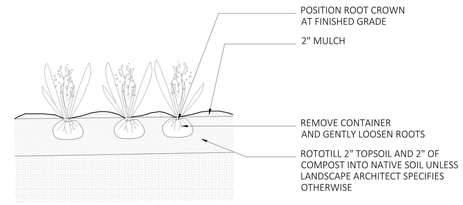
NOTES:

1. FOR B & B PLANT MATERIAL, REMOVE ALL TWINE AND ROLL BACK BURLAP FROM TOP 1/2 OF BALL. IF ANY MATERIALS USED TO BIND THE ROOTBALL ARE NON-BIODEGRADEABLE, REMOVE COMPLETELY INCLUDING WIRE BASKET.

2. FOR CONTAINER GROWN PLANT MATERIAL, REMOVE CONTAINER. TO HELP PREVEN LOOSENING OF SOIL AND SCARIFY BALL TO HELP PREVENT GIRDLING ROOTS.

3. SATURATE SOIL WITHIN SIX (6) HOURS OF PLANTING, AND WATER AS NECESSARY UNTIL IRRIGATION INSTALLED.

4. NO MULCH OR SOIL SHOULD BE PLACED AGAINST THE PLANT'S TRUNK.



4 L-801 GROUNDCOVER PLANTING
SCALE:1/2"=1'

YOST
DESIGN
LANDSCAPE
ARCHITECTURE
178 elizabeth st
pearl river, ny 10965
p 845.365.4595 | f 914.361.4473
yostdesign.com
Blythe M Yost ASLA | Registered Landscape Architect

SURVEYOR:

HARRIS RESIDENCE

9 STERLING ROAD NORTH
ARMONK, NY 10504

DATE: NOVEMBER 4, 2020
DRAWN BY: AVM
JOB NO: 040518
SCALE: VARIES
FILENAME: 2022_1101 Harris

REVISIONS:
04/12/2021
10/31/2022

Blythe M Yost ASLA | Registered Landscape Architect

DETAILS
SHEET

SHEET NO.

L-801

VICINITY MAP

1" = 2,000'±

PROPERTY DATA

1. PROPERTY OWNER: HUGH HARRIS
   9 STERLING ROAD N
   ARMONK, NEW YORK 10504

2. TAX MAP DESIGNATION: 108.02-1-58

3. ZONING DISTRICT R-2A SINGLE FAMILY RESIDENTIAL 2 ACRE

GENERAL NOTES

1. SITE TOPOGRAPHY FROM A SURVEY PREPARED BY STEPHEN HOPPE, LS DATED FEBRUARY 28, 2018. SURVEY UPDATED BY TC MERRITTS ENTITLED "TOPOGRAPHIC SURVEY PREPARED FOR HUGH AND VIOLETTA HARRIS" DATED AUGUST 20, 2019.
2. EROSION CONTROLS MUST BE PROPERLY INSTALLED, MAINTAINED AND INSPECTED AROUND THE WORK SITE.
4. CONSTRUCTION ENTRANCES MUST BE PROPERLY MAINTAINED SO THAT NO DEBRIS OR DIRT IS DEPOSITED ON THE STREET.
5. EXPOSED AREAS MUST BE STABILIZED AS SOON AS LAND ALTERATIONS ARE COMPLETED.
6. ANY UNDERGROUND PIPING OR STRUCTURES MUST BE INSPECTED PRIOR TO BACKFILLING
7. 24 HOUR NOTICE IS REQUIRED FOR ANY INSPECTION.
8. PRIOR TO THE START OF ANY EXCAVATION OPERATIONS THE CONTRACTOR SHALL CALL "DIG SAFELY NEW YORK" AT 1-800-962-7962 OR 811.9. WETLANDS ASSOCIATED WITH PARCEL 108.02-1-57 FROM TC MERRITTS RECORD SURVEY.
10. ADDITIONAL WETLAND INFORMATION BASED UPON A SKETCH PREPARED BY EVANS ASSOCIATES.
11. PRIOR TO THE START OF CONSTRUCTION, THE LIMIT OF DISTURBANCE LINE SHALL BE FIELD STAKED AND REVIEWED/APPROVED BY THE TOWN CONSULTING ENGINEERS.

Symbol	Description
490 x	EXISTING SPOT GRADE
	PROPERTY LINE
TP 1	DEEP TEST PIT
*	TREE TO BE REMOVED
490	EXIST CONTOUR
	PROP CONTOUR

SHEET: 1 of 4

7 March 25, 2023 Additional Comments
6 November 2, 2022 Remediation Permit
5 July 5, 2022 Resubmssion to Planning Bd
4 October 10, 2021, 2021 Resubmssion to Planning Bd
3 May 5, 2021 Clarified Pool Wall
2 May 25, 2020 Septic Added
1 April 6, 2020 Misc.

Original Date: March 13, 2020
Project Number: HAR-4

Nathaniel J. Holt, P.E.
STATE OF NEW YORK ★ NATHANIEL HOLT 074128 ★ LICENSED PROFESSIONAL ENGINEER
Date:

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

EXISTING CONDITIONS PLAN

PROPOSED IN-GROUND POOL
for
HARRIS

9 STERLING ROAD NORTH, ARMONK, NY

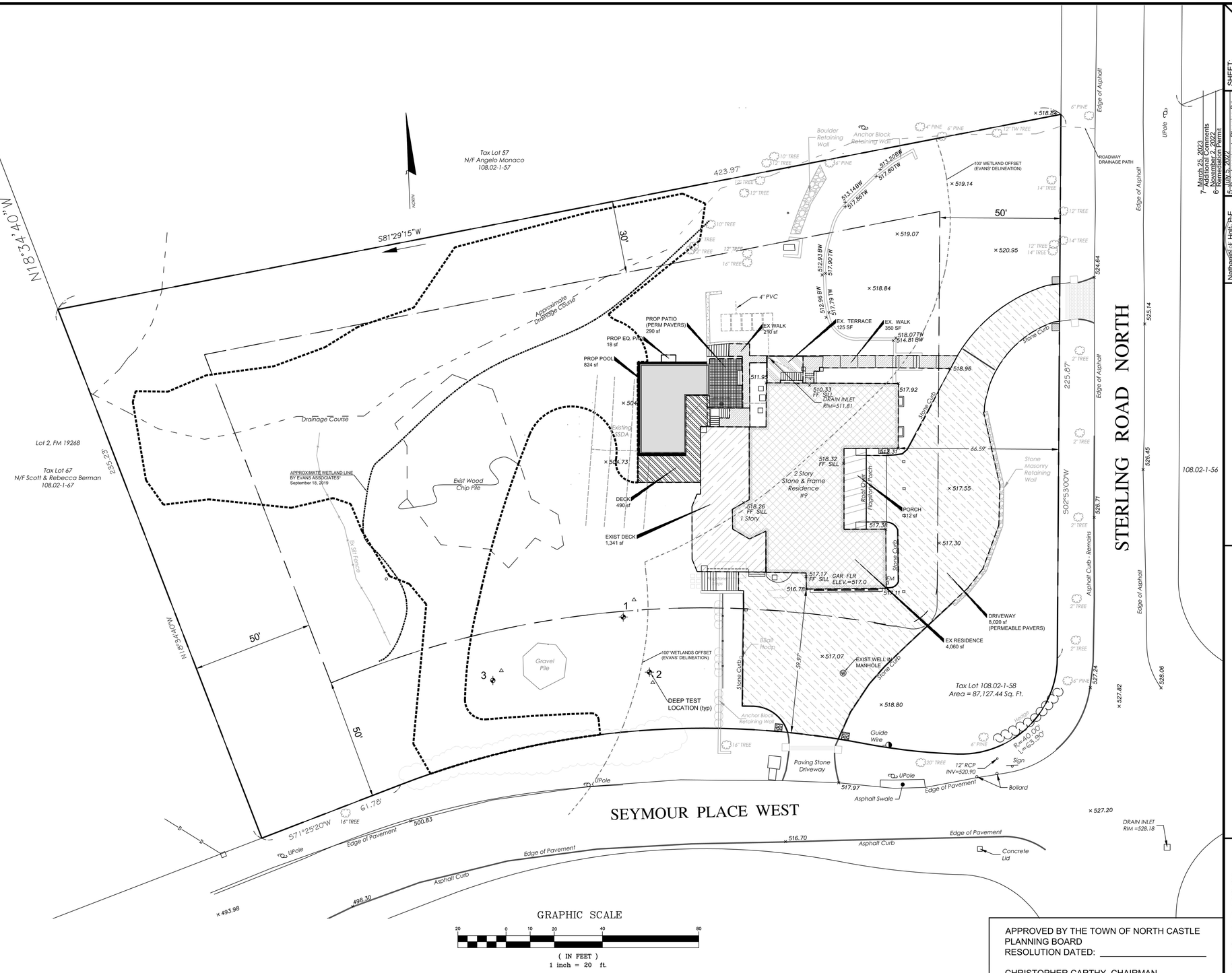
C:\Data\HEC- Projects_Cad\HARRIS-ARMONK\HARRIS.Pool.2022.1028.dwg, 3/30/2023 11:48:05 AM

GROSS LAND COVERAGE CALCULATIONS WORKSHEET

APPLICATION NAME: HUGH HARRIS
TAX MAP DESIGNATION: 108.02-1-58

GROSS LOT COVERAGE	APPROVED	EXISTING	PROPOSED
1. TOTAL LOT AREA	87,120 sf		
2. MAXIMUM PERMITTED GROSS LAND COVERAGE	13,270 sf		
3. BONUS MAXIMUM GROSS LAND COVER Distance principal home is beyond minimum front yard setback 16.5 ft x 10 =	165 sf		
4. TOTAL MAXIMUM PERMITTED GROSS LAND COVERAGE	13,435 sf		
5. AMOUNT OF LOT AREA COVERED BY PRINCIPAL BUILDING 4,090 sf (EXISTING) + 0 sf (PROPOSED)	4,060 sf	4,060 sf	4,060 sf
6. AMOUNT OF LOT AREA COVERED BY ACCESSORY BLDGS 0 sf (EXISTING) + 0 sf (PROPOSED)	0 sf	0 sf	0 sf
7. AMOUNT OF LOT AREA COVERED BY DECKS 1,340 sf (EXISTING) + 490 SF (PROPOSED)	1,041 sf	1,340 sf	1,830 sf
8. AMOUNT OF LOT AREA COVERED BY PORCHES 300 sf (EXISTING) + 0 (PROPOSED)	312 sf	312 sf	312 sf
9. AMOUNT OF LOT AREA COVERED BY DRIVEWAY, PARKING AREAS AND WALKWAYS 8,545 sf (EXISTING) + 0 (PROPOSED)	7,113 sf	8,580 sf	8,580 sf
10. AMOUNT OF LOT AREA COVERED BY TERRACES/PATIOS 125 sf (EXISTING) + 290 SF (PROPOSED)	278 sf	125 sf	415 sf
11. AMOUNT OF LOT AREA COVERED BY TENNIS COURT, POOL'& MECHANICAL EQUIP 0 sf (EXISTING) + 786 SF (PROPOSED)	0 sf	0 sf	784 sf
12. AMOUNT OF LOT AREA COVERED BY ALL OTHER STRUC. 0 sf (ORIGINAL) + 0 SF (PROPOSED)	0 sf	0 sf	0 sf
13. PROPOSED GROSS LAND COVERAGE:Total of Lines 5-12:	12,804 sf	14,417 sf [1]	15,981 sf [2]

[1] VARIANCE OF 982 sf REQUIRED FOR EXISTING CONDITIONS
[2] VARIANCE OF 3,177 sf REQUIRED FOR EXISTING CONDITIONS



GRAPHIC SCALE

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

LEGEND

- 490 x — EXISTING SPOT GRADE
- PROPERTY LINE
- TP 1 — DEEP TEST PIT
- TREE TO BE REMOVED
- 490 — EXIST CONTOUR
- PROP CONTOUR

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

CHRISTOPHER CARTHY, CHAIRMAN
TOWN OF NORTH CASTLE PLANNING BOARD

_____ DATE: _____

ENGINEERING PLANS REVIEWED FOR
CONFORMANCE TO THE RESOLUTION:

_____ DATE:_____
JOSEPH M. CERMELE, PE
KELLARD SESSIONS, CONSULTING
CONSULTING TOWN ENGINEERS

March 25, 2023
7- Additional Comments
November 2, 2022
6- Remediation Permit

SHEET: 3 of 4

5- Rev's Added to Planning Bd
4- October 10, 2021, 2021
3- Resubmission to Planning Bd
2- Clarified Pool Wall
1- May 25, 2020
Misc.
Original Date: March 13, 2020
Project Number: HAR-4

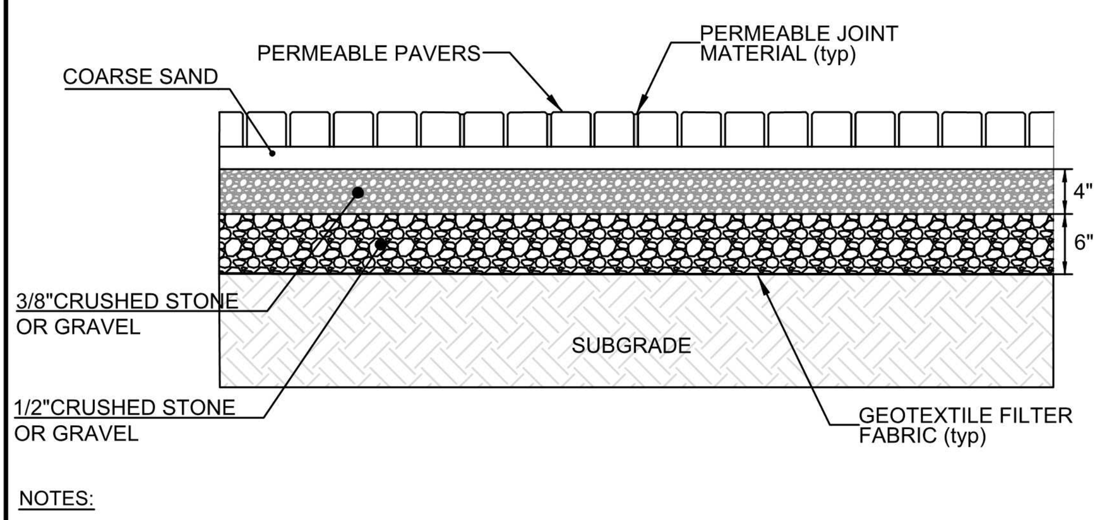
Nathaniel J. Holt, P.E.
NATHANIEL J. HOLT NEW YORK 12564 PROFESSIONAL ENGINEER LICENSED
Date: _____

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

PROPOSED COVERAGE PLAN

PROPOSED IN-GROUND POOL
for
HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

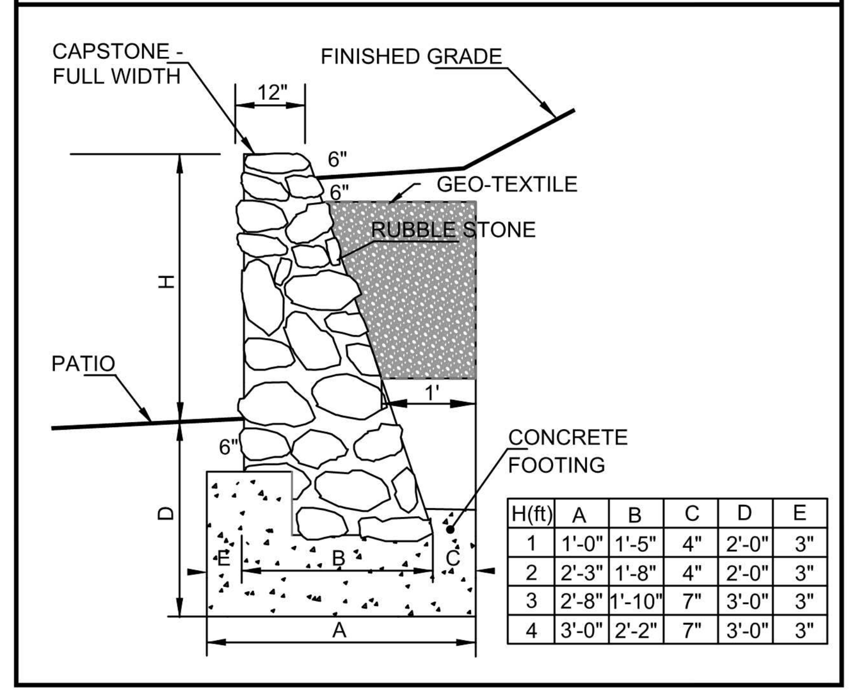
PERMEABLE PAVERS
N.T.S.



NOTES:

1. PERMEABLE PAVERS TO BE BELGARD OR APPROVED EQUAL.
2. INSTALLATION OF PAVERS TO BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

RUBBLE STONE WALL DETAIL
N.T.S.



H(ft)	A	B	C	D	E
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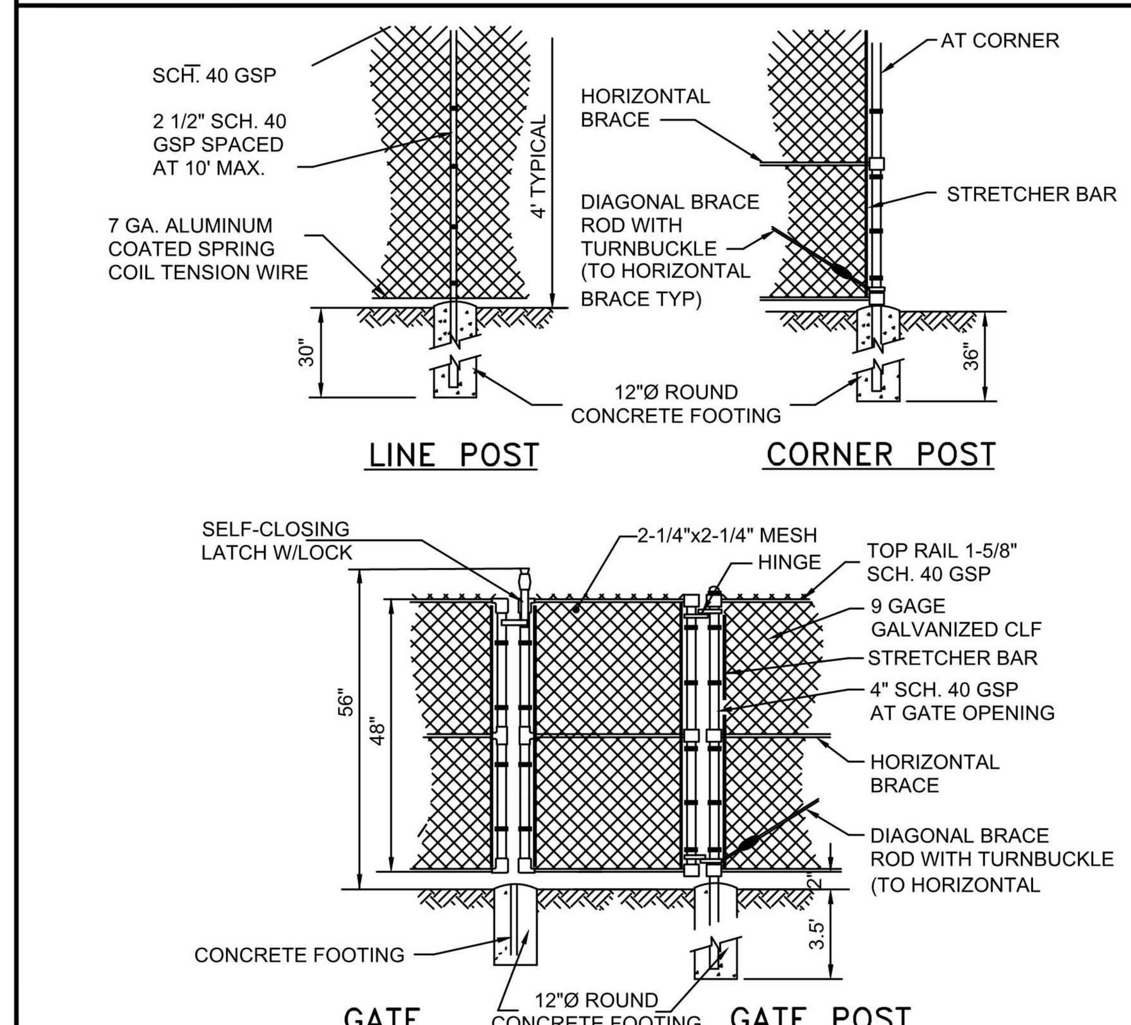
CHAIN LINK FENCE DETAIL



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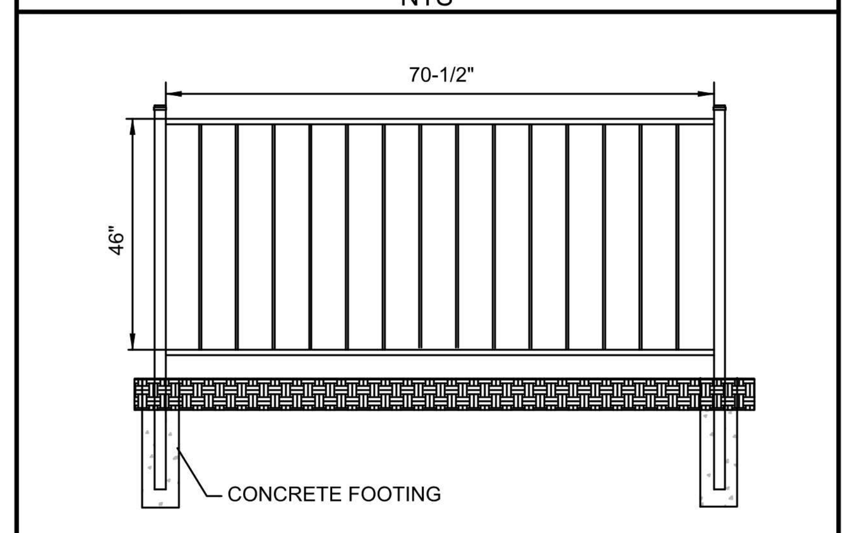
NTS



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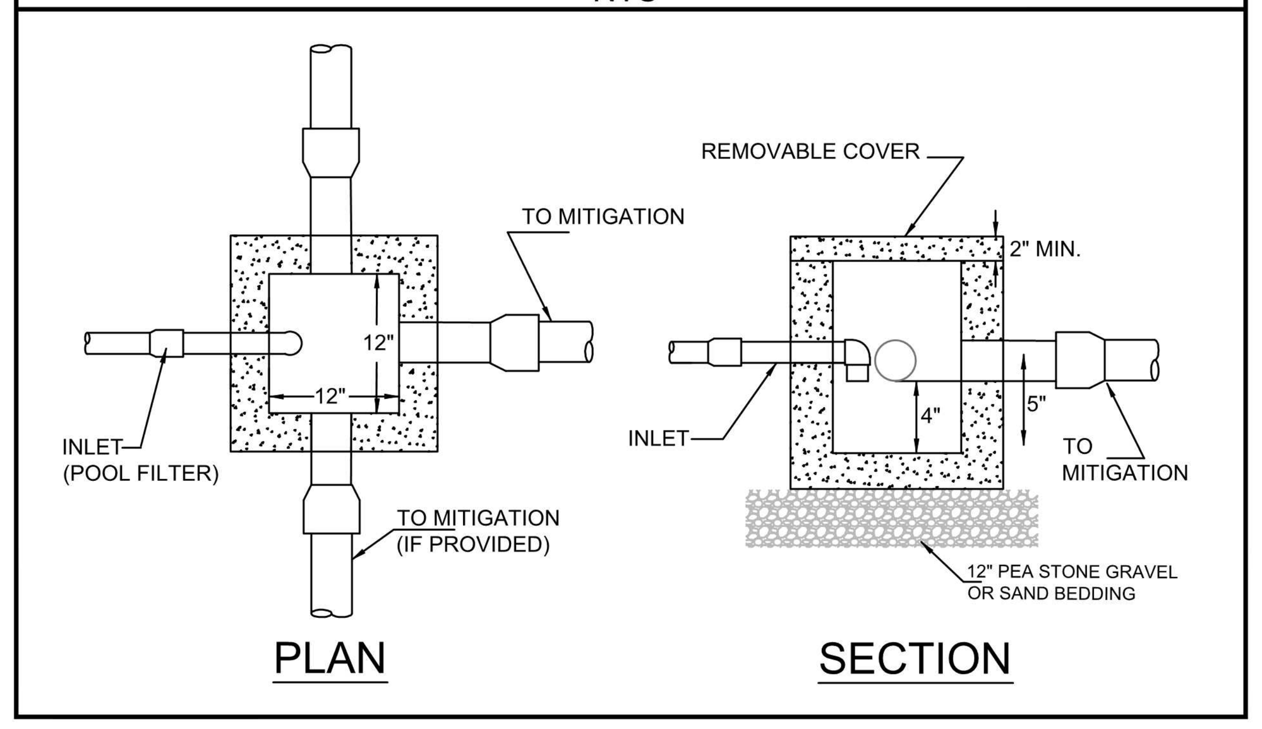

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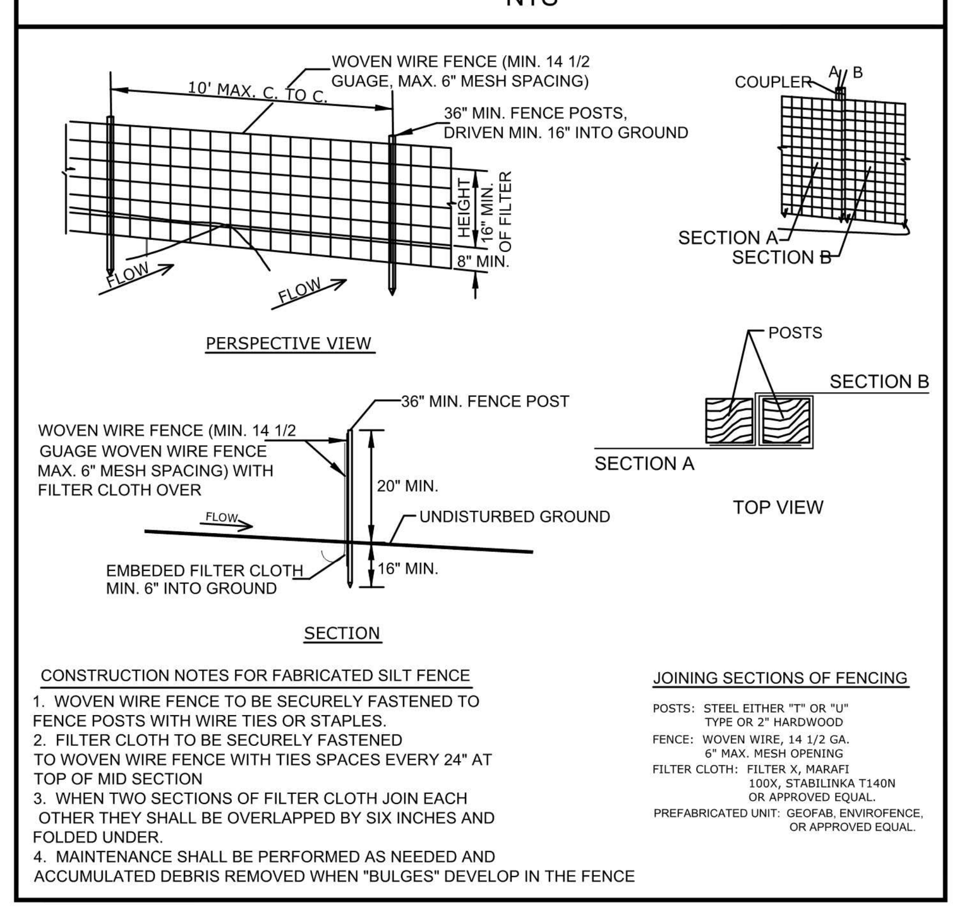

SOIL STOCKPILING DETAIL
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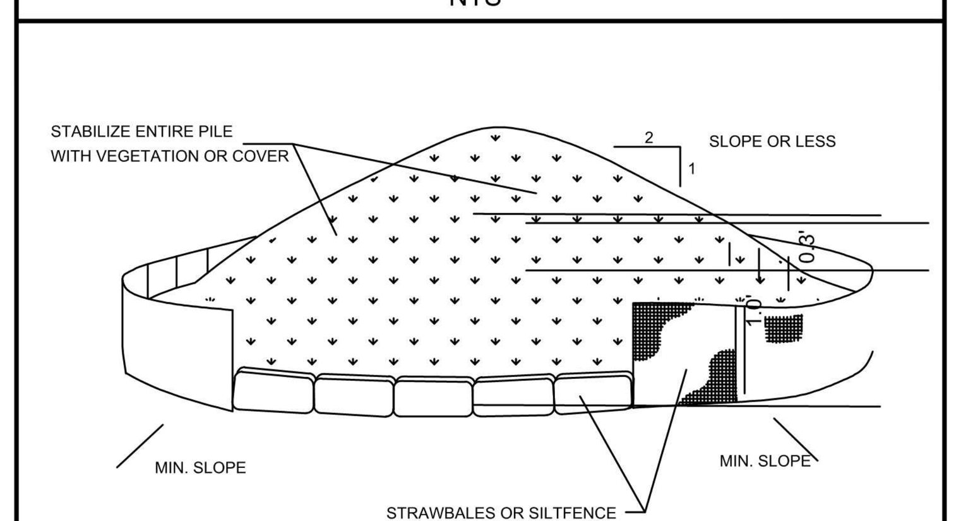

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INFILTRATION UNIT
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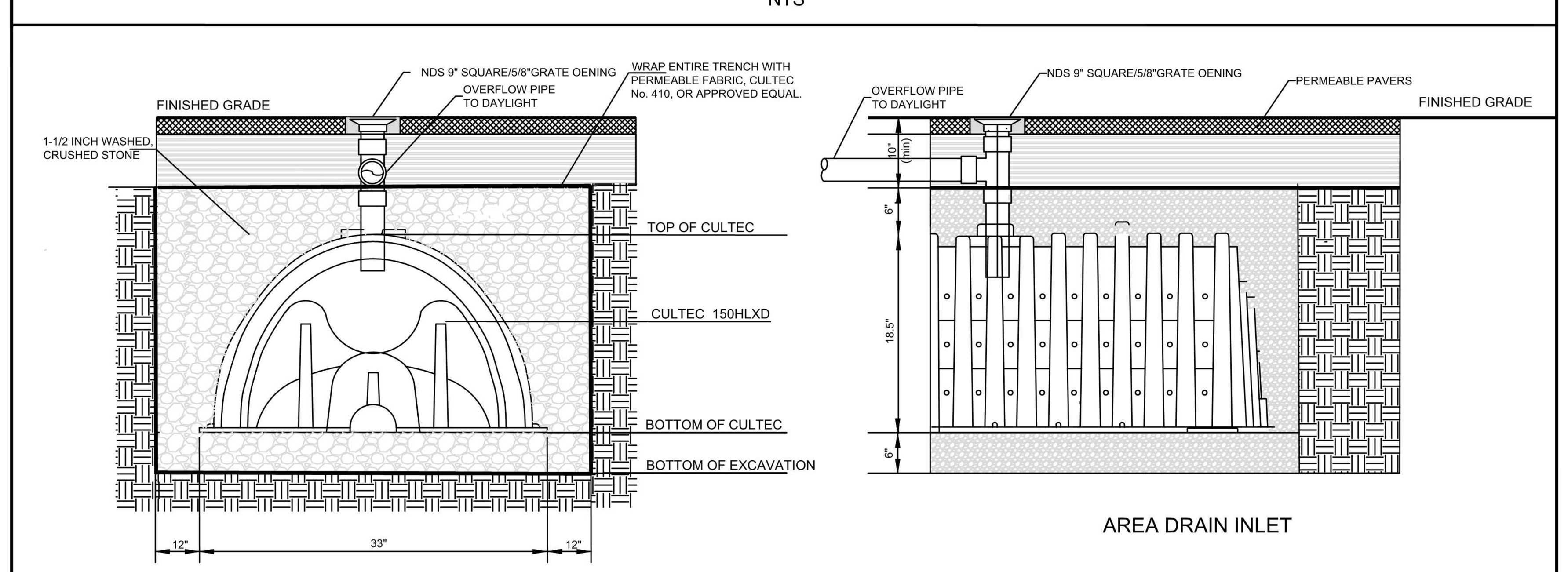

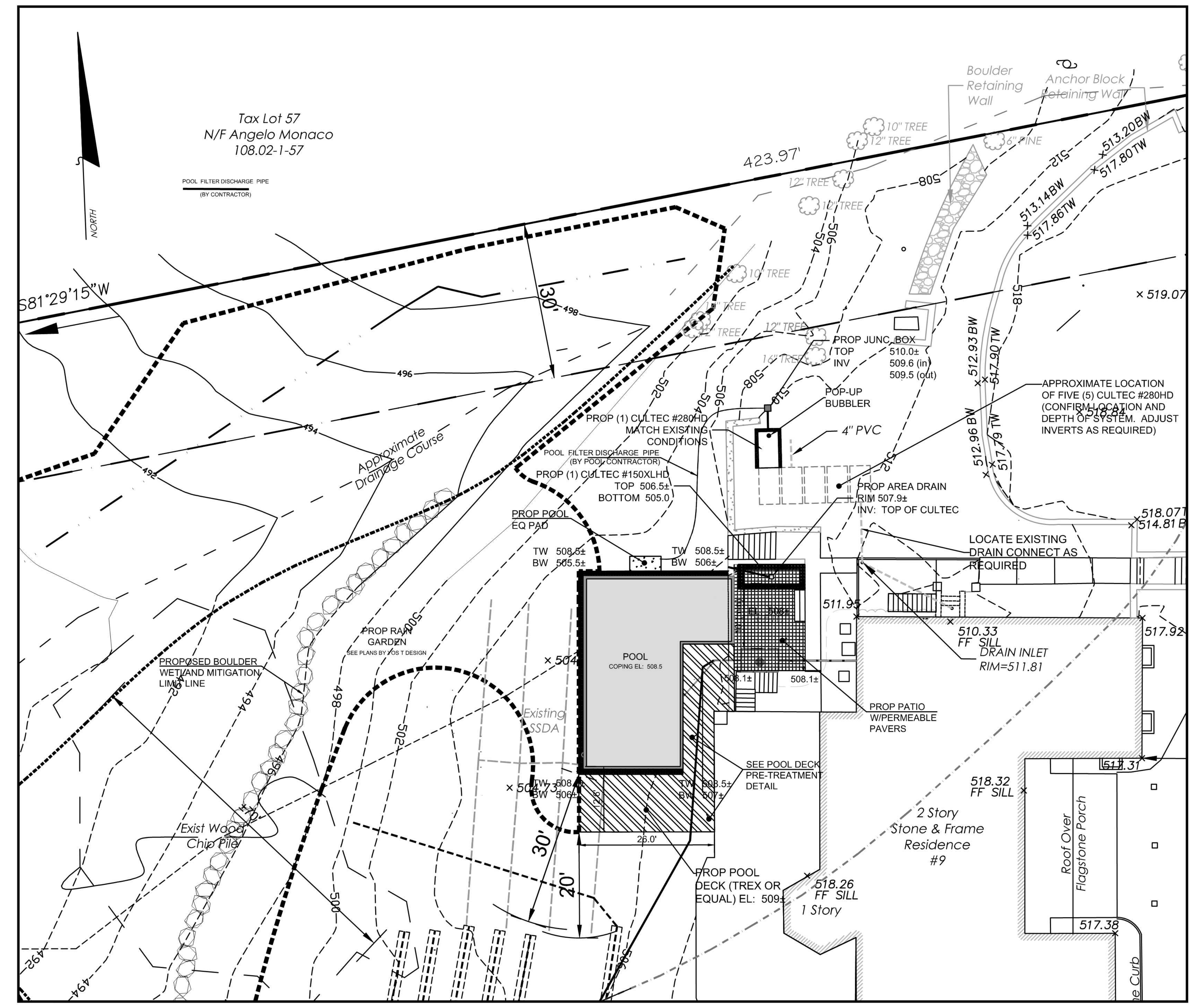

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

STORMWATER ANALYSIS

REQUIRED: CAPTURE 25 YR STORM EVENT (6")
OVER INCREASE IN IMPERVIOUS AREA

EXISTING CONDITIONS

PROPERTY AREA: 87,120 SF
STUDY AREA: 1,735 SF

SOIL TYPE: WdB -WOODBRIDGE

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POOL (NOT INCLUDED IN RUNOFF)	950 sf = 0.0218 ac
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TOTAL	1,730 sf = 0.04 ac

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(3.93" - 3.9") / 12 x 1,730 sf = **43.25 cf**

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RESOLUTION DATED: ____________

CHRISTOPHER CARTHY, CHAIRMAN
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STATE OF NEW YORK · NATHANIEL HOLT · 074128 · LICENSED PROFESSIONAL ENGINEER

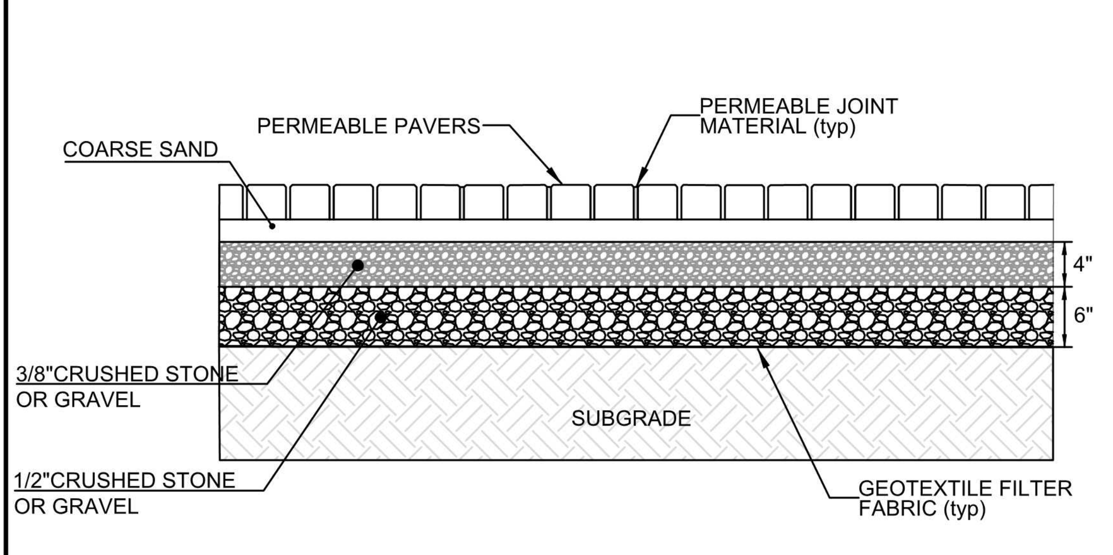
SHEET: 4 of 4

NATHANIEL J. HOLT, P.E.
592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

CONSTRUCTION DETAILS

PROPOSED IN-GROUND POOL
for
HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

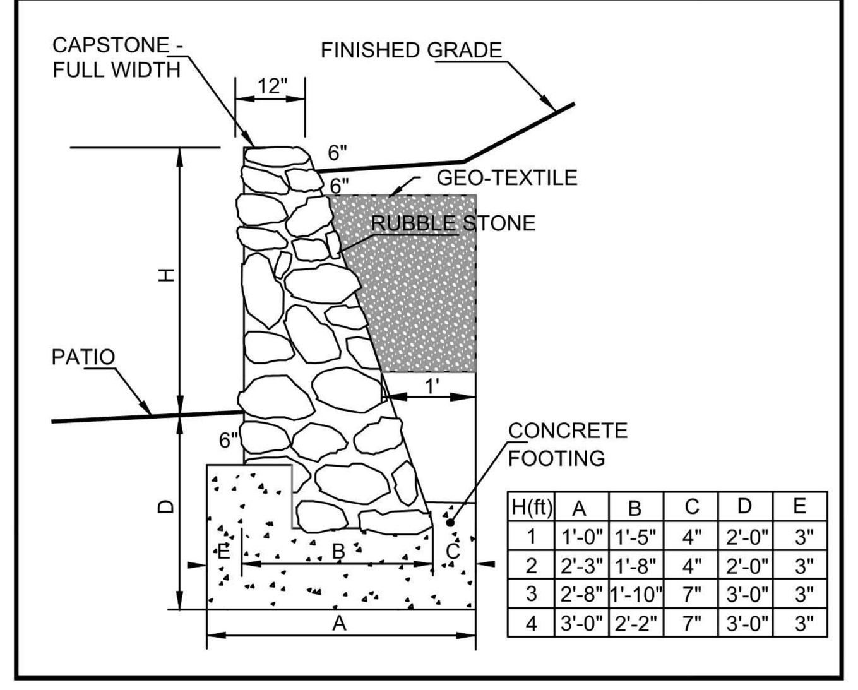
PERMEABLE PAVERS
N.T.S.



NOTES:

1. PERMEABLE PAVERS TO BE BELGARD OR APPROVED EQUAL.
2. INSTALLATION OF PAVERS TO BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

RUBBLE STONE WALL DETAIL
N.T.S.



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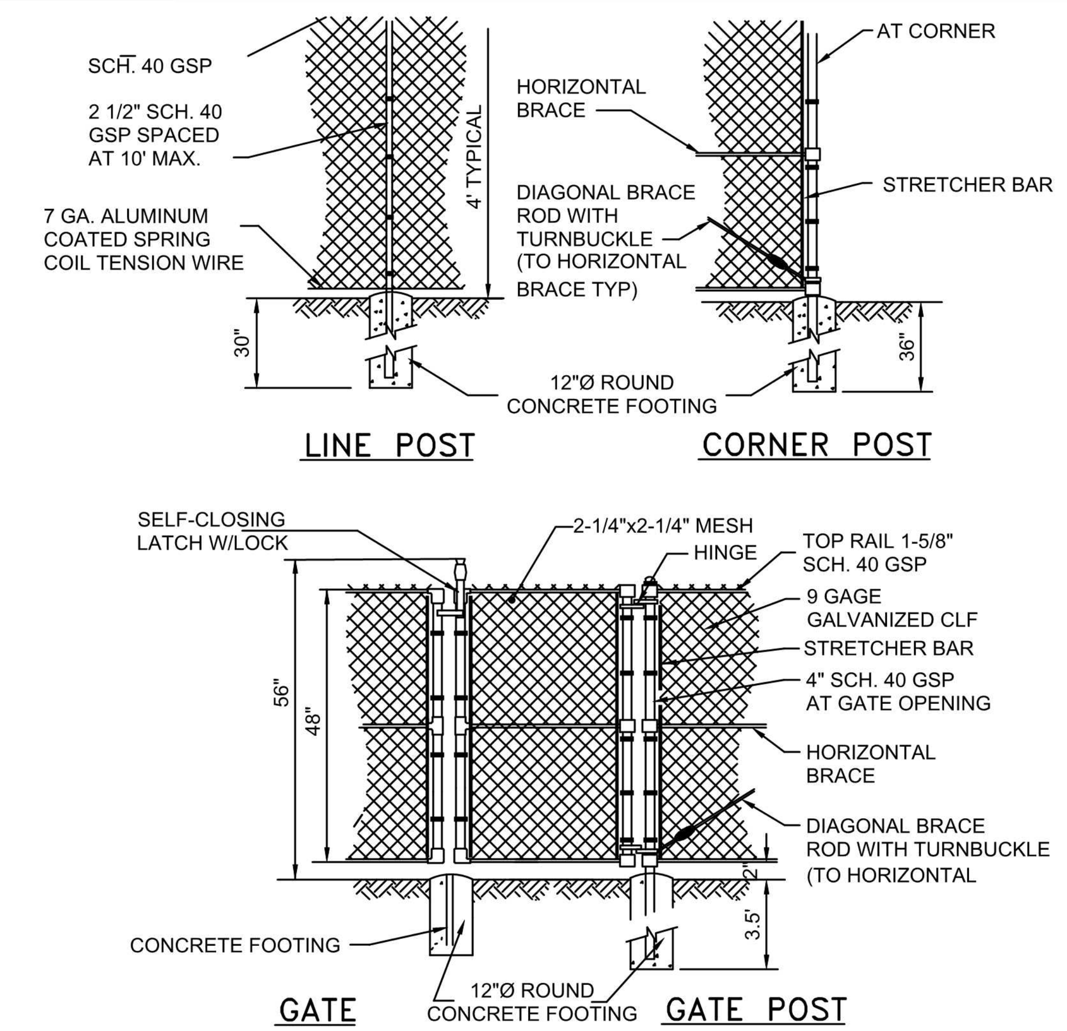

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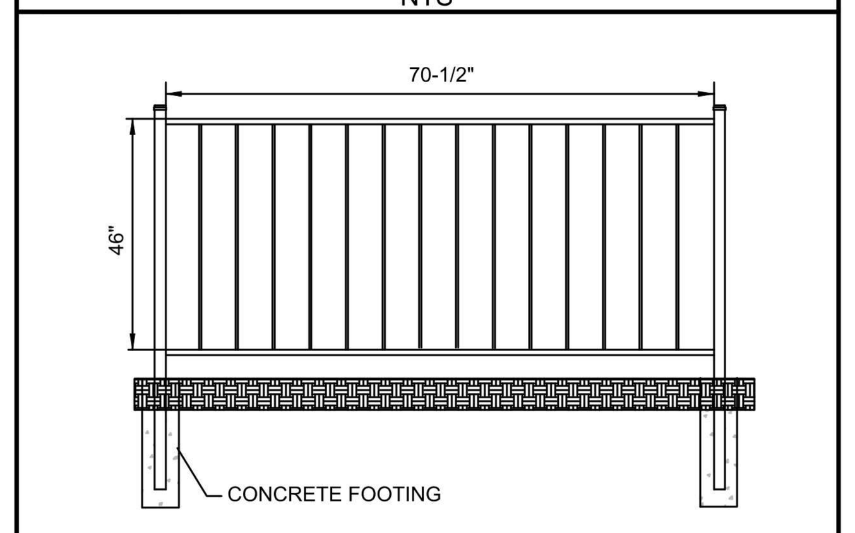

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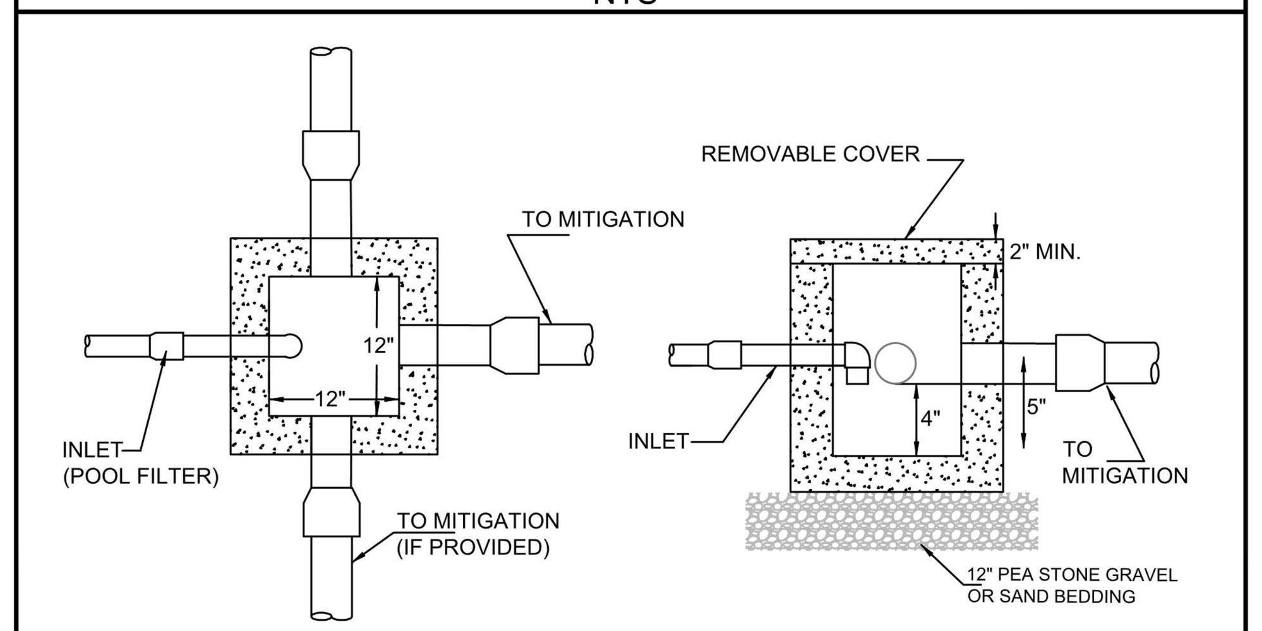

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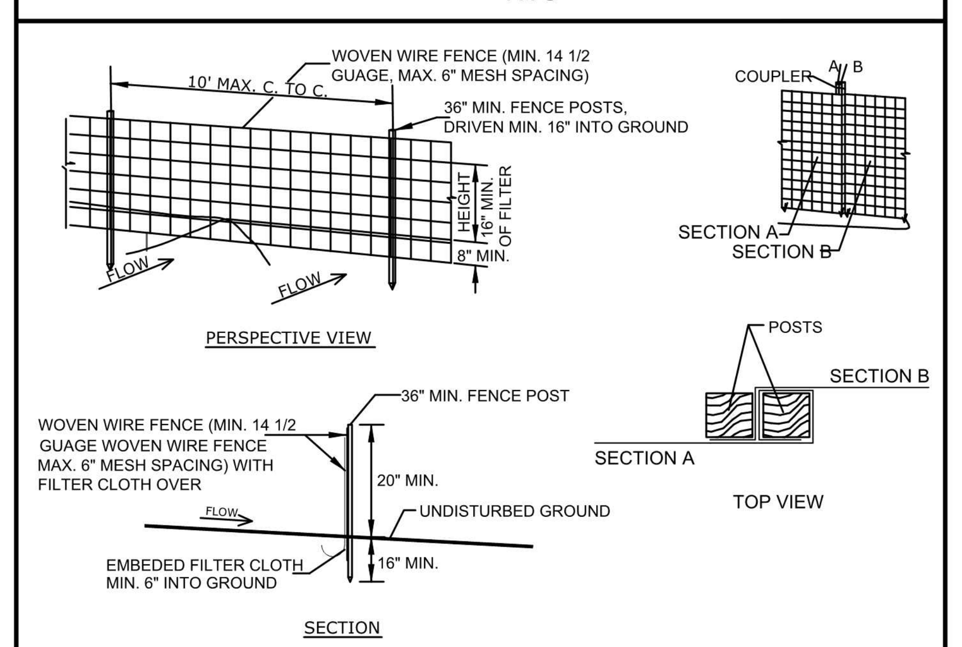

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE SECURELY FASTENED TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE SECURELY FASTENED TO WOVEN WIRE FENCE WITH TIES SPACES EVERY 24" AT TOP OF MID SECTION
3. WHEN TWO SECTIONS OF FILTER CLOTH JOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED UNDER.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ACCUMULATED DEBRIS REMOVED WHEN "BULGES" DEVELOP IN THE FENCE

JOINING SECTIONS OF FENCING

SOIL STOCKPILING DETAIL
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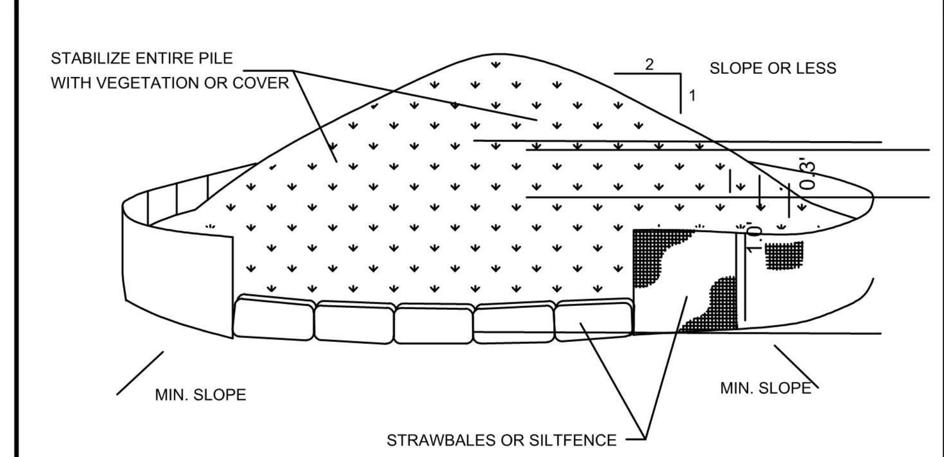

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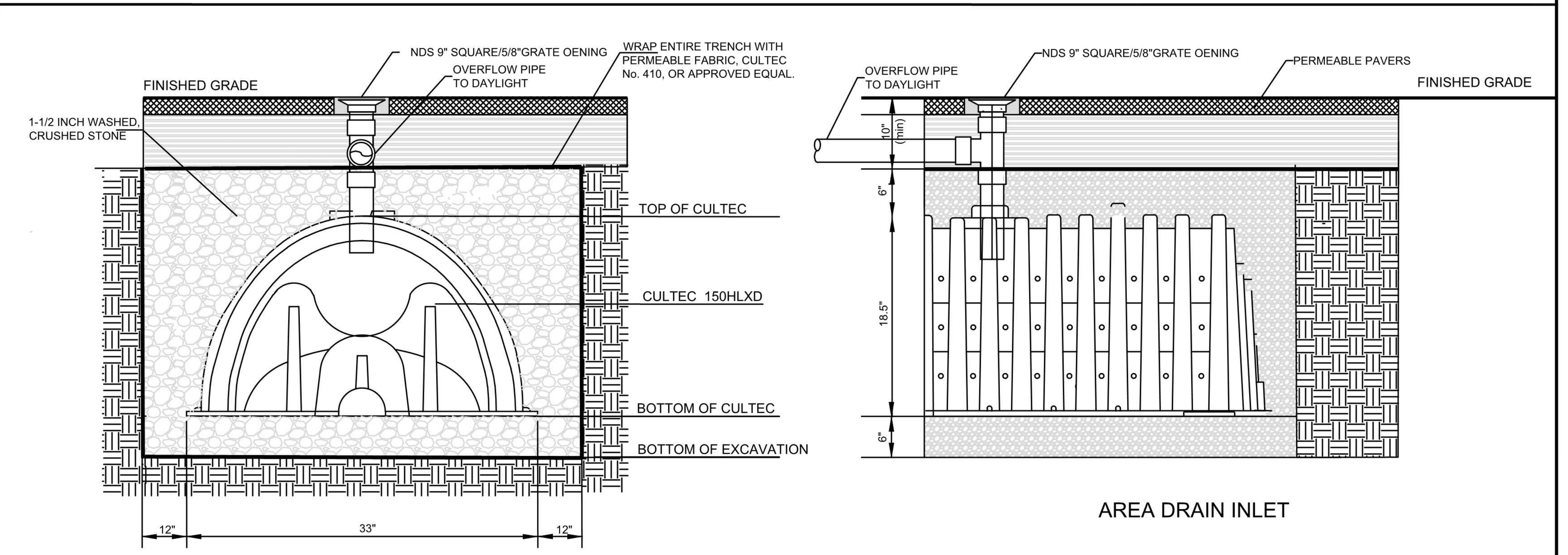

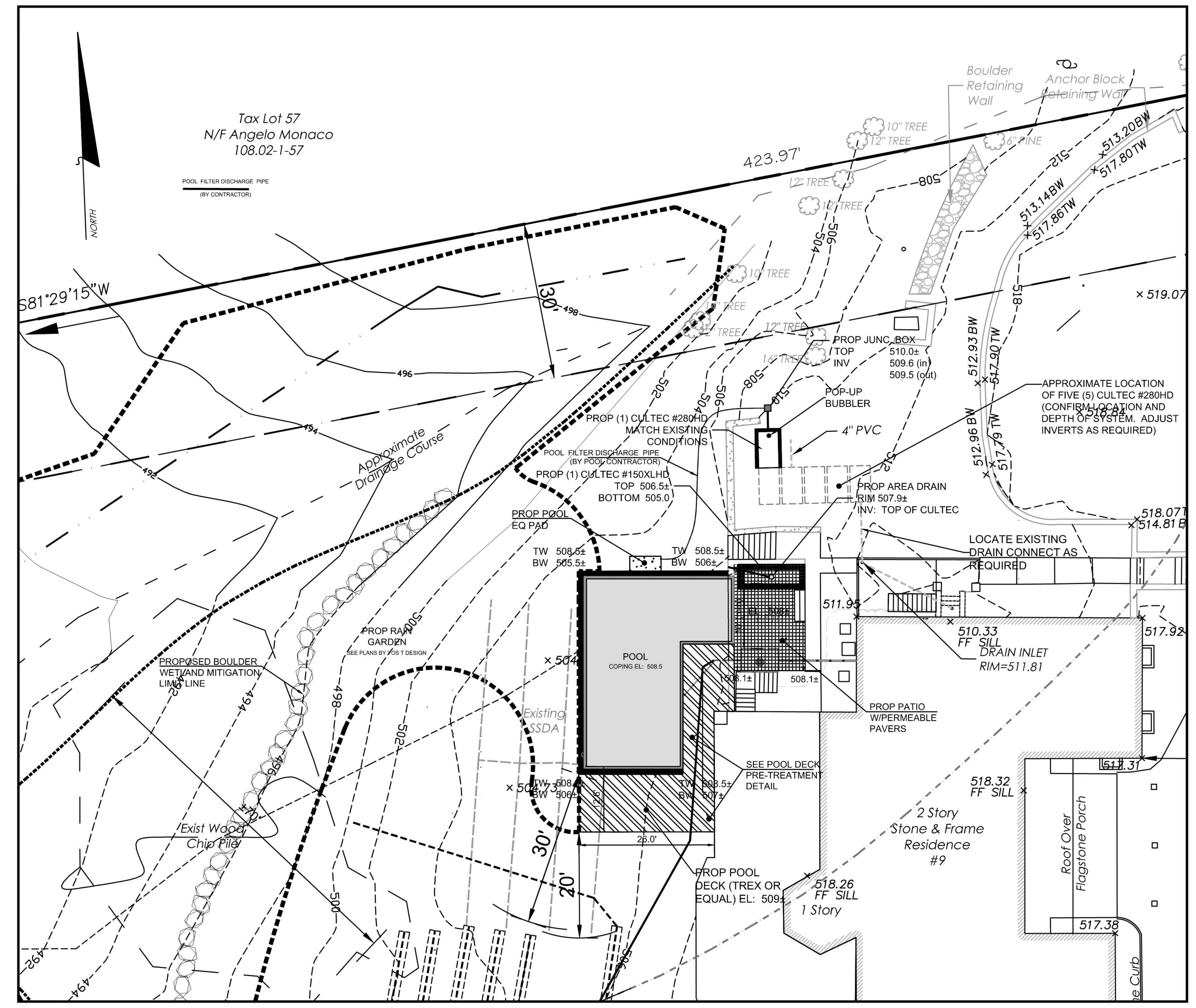

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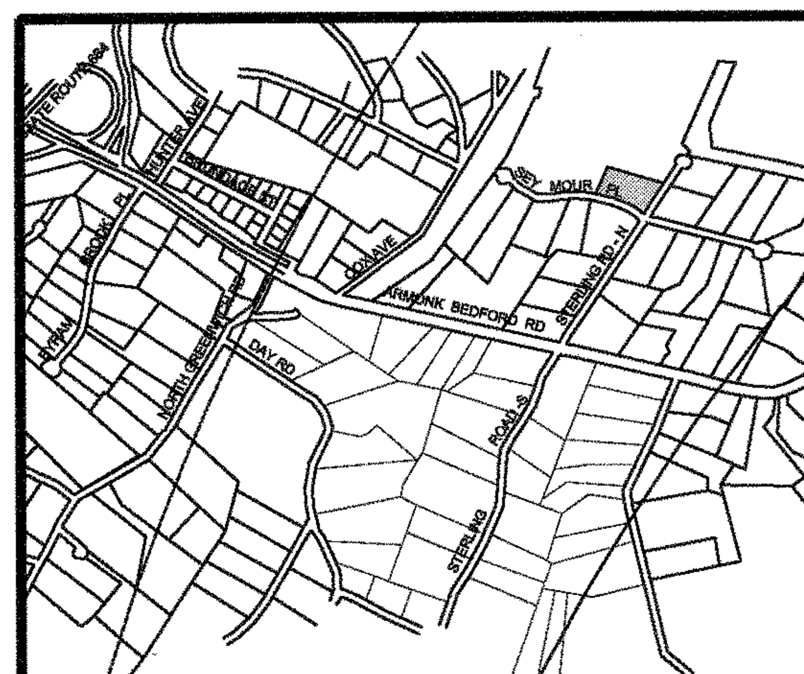


VICINITY MAP

1" = 2,000'±

PROPERTY OWNER: HUGH HARRIS
9 STERLING ROAD NORTH
ARMONK, NEW YORK 10504

SITE LOCATION: 9 STERLING ROAD NORTH, ARMONK, NEW YORK
TAX MAP DESIGNATION: SECTION 2, BLOCK 1-H, LOT 2.
STATE ID:SECTION 108.02, BLOCK 1, LOT 58.

WESTCHESTER COUNTY DEPARTMENT OF HEALTH NOTES

1. CONSTRUCTION OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM (OWTS) SHALL BE IN ACCORDANCE WITH THESE PLANS. ADDITIONS AND/OR MODIFICATION TO THE SYSTEM SHALL BE IN ACCORDANCE WITH THE NYSDOH 10NYCRR, APPENDIX 75-A. ALL MODIFICATIONS AND/OR ADDITIONS SHALL BE ENDORSED BY THE ENGINEER AND THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH PRIOR TO CONSTRUCTION OF THE SYSTEM.

2. ELEVATIONS OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM HAVE BEEN ESTABLISHED BASED UPON THE SEWER INVERT OF THE BUILDING LINE AND GROUND ELEVATIONS WITHIN THE ABSORPTION AREA. SHOULD THE SEWER INVERT BE CHANGED, ADJUSTMENTS OF THE ELEVATIONS TO THE REMAINING PORTION OF THE SYSTEM MAY BE REQUIRED. ALL CHANGES SHALL BE ENDORSED BY THE ENGINEER PRIOR TO CONSTRUCTION.

3. THE CONTRACTOR SHALL ISOLATE AND PROTECT THE SEWAGE DISPOSAL AND EXPANSION AREAS AGAINST DAMAGE. NO TRUCKS, HEAVY EQUIPMENT, BUILDING MATERIALS OR EARTH SHALL BE PERMITTED ON OR IN THE SEWAGE DISPOSAL AREA PRIOR DURING OR AFTER CONSTRUCTION.

4. DESIGN OF THE OWTS IS BASED UPON A SOIL PERCOLATION RATE OF 11 - 15 MINUTES PER INCH AND A 4 BEDROOM SINGLE FAMILY RESIDENCE.

MINIMUM SEPTIC TANK SIZE: 4 BEDROOMS x 110 GAL/DAY/BEDRMS = 440 GPD x 1.5 = 660 GPD IN ACCORDANCE WITH TABLE 3, LATEST EDITION OF WESTCHESTER COUNTY "RULES AND REGULATIONS" THE MINIMUM TANK SIZE IS 1,250 GALLONS

MINIMUM ABSORPTION TRENCH LENGTH = 440 GAL x 0.65 GALS/DAY/SF x $\frac{1}{2}$ SF/FT = 339 LF, SAY 340 LF

5. AS PROPOSED, THE SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL CONSIST OF THE FOLLOWING:

340 LF OF ABSORPTION TRENCH
1,250 GALLON PRECAST CONCRETE SEPTIC TANK

ADDITIONAL REQUIREMENTS

3 FEET RUN OF BANK FILL
7 FOOT DEEP CURTAIN DRAIN

6. SHOULD FILL BE REQUIRED WITHIN THE SUBSURFACE SEWAGE DISPOSAL AND 100% RESERVE AREAS, ALL FILL PLACED SHALL BE "RUN-OF-BANK" FILL CONFORMING TO THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH DEPARTMENT REGULATIONS. BANK RUN FILL SHALL BE PLACED TO THE DEPTHS SPECIFIED ON THE DRAWINGS. PRIOR TO PLACING THE FILL THE ENGINEER SHALL INSPECT AND APPROVE THE MATERIAL.

7. THE CONTRACTOR SHALL CONSTRUCT A CURTAIN DRAIN AND SWALES AS SPECIFIED ON THE PLANS, IN ORDER TO DIVERT GROUND AND SURFACE WATER AROUND THE ABSORPTION AREA. ALL ROOF AND FOUNDATION SURFACE WATER SHALL BE DISCHARGED BELOW THE DISPOSAL AREA.

8. THE CONTRACTOR SHALL REMOVE TOPSOIL WITHIN THE LIMITS OF THE ABSORPTION AREA AND STOCKPILE IT FOR LATER USE. UPON COMPLETION OF CONSTRUCTION OF THE SYSTEM, TOPSOIL SHALL BE REDISTRIBUTED OVER THE AREA TO A MINIMUM DEPTH OF 4 INCHES.

9. THE CONTRACTOR SHALL REMOVE ALL TREES WITHIN TEN FEET OF THE OWTS.

10. THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IMMEDIATELY UPON COMPLETION OF CONSTRUCTION. IN ADDITION,THE CONTRACTOR SHALL EMPLOY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE WESTCHESTER COUNTY'S BEST MANAGEMENT PRACTICE MANUAL FOR CONSTRUCTION RELATED ACTIVITIES IN AN EFFORT TO REDUCE EROSION AND PREVENT SEDIMENTATION OF DOWNSTREAM WATERCOURSES.

11. THERE ARE NO WELLS WITHIN 200' OF THE OWTS UNLESS OTHERWISE NOTED ON THESE PLANS.

12. THERE ARE NO OWTS WITHIN 200' OF THE WELL UNLESS OTHERWISE SHOWN ON THE PLANS.

13. THE PROPOSED OWTS AREA SHALL BE PROTECTED AND ISOLATED AGAINST DAMAGE AND EROSION, STORAGE OF EARTH OR MATERIALS, DISPLACEMENT, COMPACTION OR OTHERWISE ADVERSE PHYSICAL CHANGE IN THE CHARACTERISTICS OF THE SOIL OR IN THE DRAINAGE OF THE AREA.

14. THE DESIGN PROFESSIONAL SHALL SUPERVISE THE CONSTRUCTION OF THE OWTS AND MAKE ON OPEN WORKS INSPECTION.

15. 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 WORKS REQUEST FOR AN OPEN WORKS INSPECTION ON THE APPROPRIATE FORM TO THE WCDH.

16. NO BACKFILLING OF THE OWTS SHALL OCCUR UNTIL AFTER IT HAS BEEN INSPECTED AND ACCEPTED BY THE WCDH.

17. AFTER BACKFILLING OF THE OWTS, THE AREA SHALL BE COVERED WITH A MINIMUM OF 4 INCHES OF CLEAN TOPSOIL, SEEDED AND MULCHED.

18. THE INSPECTION OF THE OWTS SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS FOR THE DESIGN AND CONSTRUCTION OF RESIDENTIAL SUBSURFACE SEWAGE TREATMENT SYSTEMS AND DRILLED WELLS IN WESTCHESTER COUNTY.

19. ALL PIPES CONNECTING THE TANK AND BOXES SHALL BE CUT FLUSH WITH THE INSIDE WALL OF THE STRUCTURE.

20. THE OWTS SHALL BE INSTALLED BY A WESTCHESTER COUNTY LICENSED SEPTIC CONTRACTOR.

21. PRIOR TO ANY EXCAVATION, ALL UNDERGROUND UTILITIES SHALL BE LOCATED, CALL 1-800-962-7962.

22. THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH APPROVAL SHALL EXPIRE 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.

23. THE SITE IS SERVICED BY AN EXISTING DOMESTIC WELL.

24. TOTAL SITE DISTURBANCE IS APPROXIMATELY ----SF.

ADDITIONAL NOTES

1. THE PROPERTY IS NOT LOCATED WITHIN A NYCDEP DESIGNATED WATERSHED. (BYRAM RIVER/LONG ISLAND SOUND).

2. THERE ARE NO NYSDEC WETLANDS OR WATERCOURSES WITHIN 200 FEET OF THE PROPOSED OWTS UNLESS OTHERWISE NOTED ON THE PLANS.

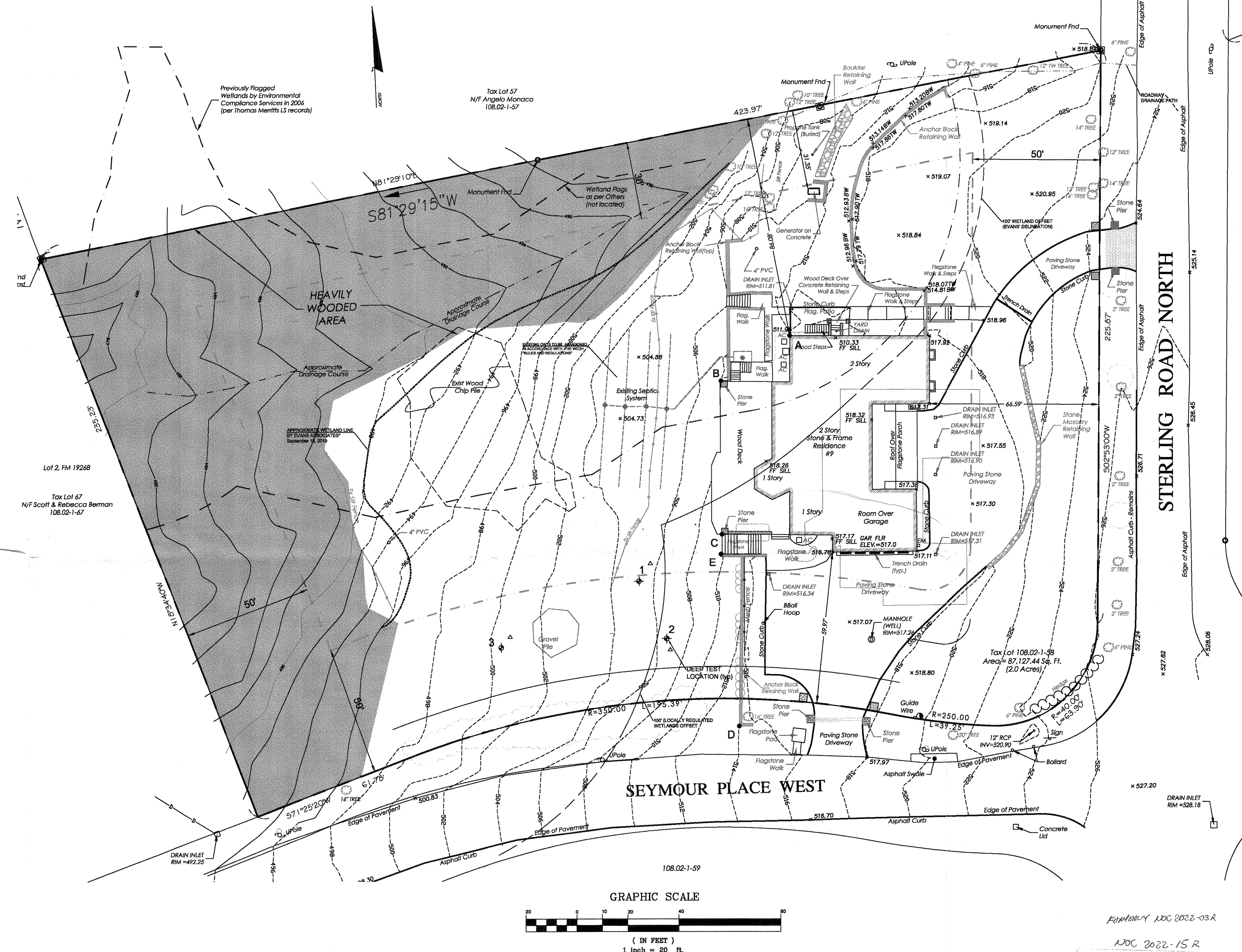
3. THE START DATE IS DEPENDENT UPON THE TOWN OF NORTH CASTLE'S ISSUANCE OF AN "ADMINISTRATIVE WETLAND PERMIT" (LOCALLY REGULATED WETLAND).

4. THE EXISTING OWTS SHALL BE ABANDONED IN ACCORDANCE WITH THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH'S "RULES AND REGULATIONS".

5. A SEARCH OF THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH FILES FAILED TO LOCATE ANY INFORMATION ON THE EXISTING OWTS. HOWEVER, NORTH CASTLE BUILDING DEPARTMENT FILES INDICATED THAT THE 4 BEDROOM RESIDENCE WAS CONSTRUCTED IN THE EARLY 1960'S. THE LOCATION OF THE EXISTING ABSORPTION AREA WAS DETERMINED BY FIELD EXPLORATION.

LEGEND

- 490 x — EXISTING SPOT GRADE
- PROPERTY LINE
- TP 1 — DEEP TEST PIT
- * — TREE TO BE REMOVED
- 490 — EXIST CONTOUR
- PROP CONTOUR



FORMERLY NOC 2022-03R

NOC 2022-15R

APPROVED
FOR CONSTRUCTION
REMEDIATION
OCT 28, 2022
WEST. CO. DEPT OF HEALTH
BY [signature]
FR DEPUTY TAYOU PE

1/3

SHEET: 1 of 3

5	
4	
3	October 17, 20222 Misc
2	September 9, 2022 RENEWAL OF NOC2020-03R
1	April 6, 2020 Misc.

Original Date: March 13, 2020

Project Number: HAR-4

STATE OF NEW YORK · NATHANIEL HOLT · LICENSED PROFESSIONAL ENGINEER · No 074128

Nathaniel J. Holt, P.E.
Date:

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592 ROUTE 22
PAWLING, NEW YORK 12564
(914) 760-1800

EXISTING CONDITIONS PLAN

OWTS REMEDIATION PLAN
for
HUGH HARRIS
9 STERLING ROAD NORTH, ARMONK, NY

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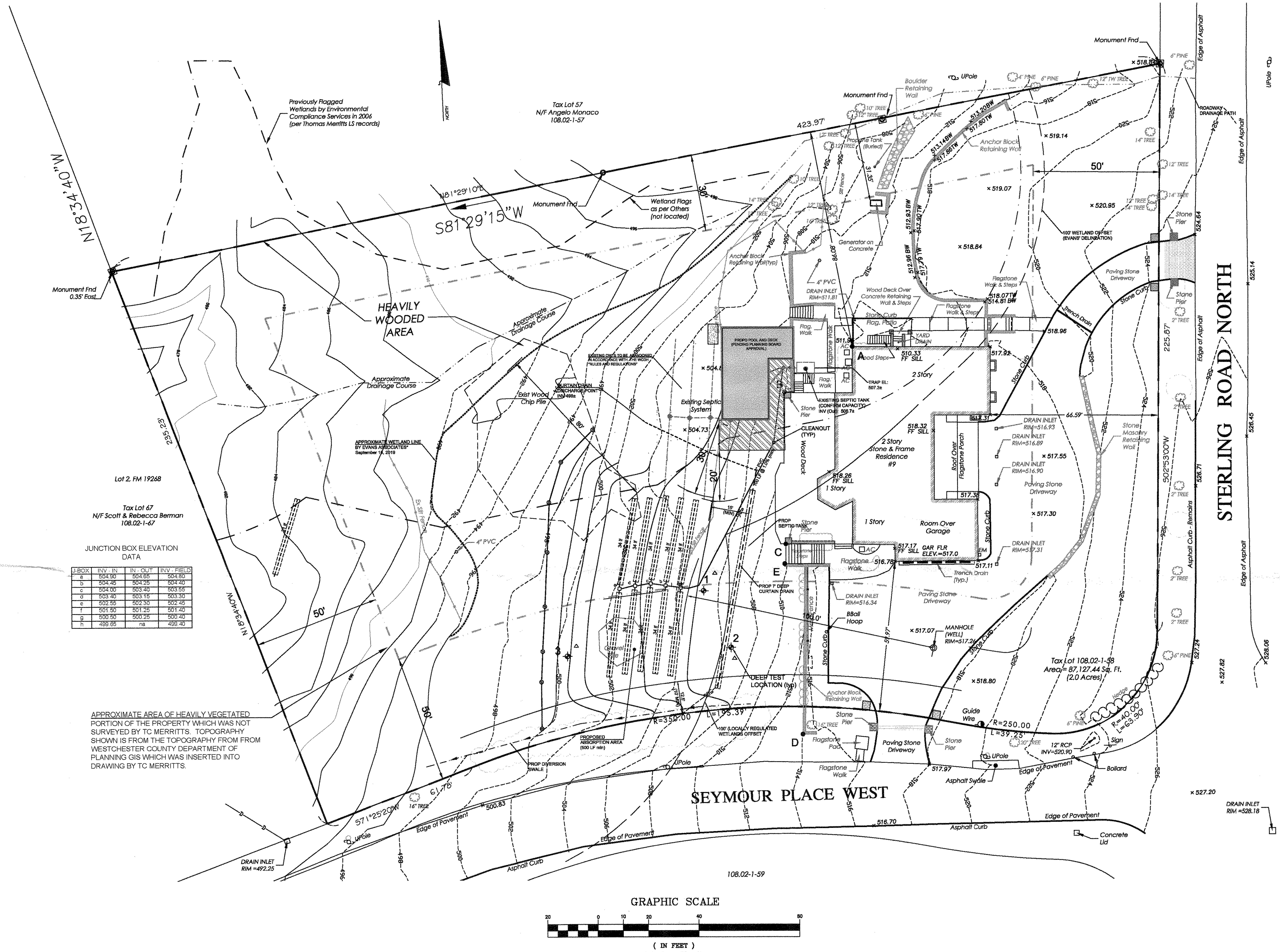
GENERAL NOTES

1. SITE TOPOGRAPHY FROM A SURVEY PREPARED BY STEPHEN HOPPE, LS DATED FEBRUARY 28, 2018. SURVEY UPDATED BY TC MERRITTS ENTITLED "TOPOGRAPHIC SURVEY PREPARED FOR HIGH AND VIOLETTA HARRIS" DATED AUGUST 20, 2019.
2. EROSION CONTROLS MUST BE PROPERLY INSTALLED, MAINTAINED AND INSPECTED AROUND THE WORK SITE.
4. CONSTRUCTION ENTRANCES MUST BE PROPERLY MAINTAINED SO THAT NO DEBRIS OR DIRT IS DEPOSITED ON THE STREET.
5. EXPOSED AREAS MUST BE STABILIZED AS SOON AS LAND ALTERATIONS ARE COMPLETED.
6. ANY UNDERGROUND PIPING OR STRUCTURES MUST BE INSPECTED PRIOR TO BACKFILLING
7. 24 HOUR NOTICE IS REQUIRED FOR ANY INSPECTION.
8. PRIOR TO THE START OF ANY EXCAVATION OPERATIONS THE CONTRACTOR SHALL CALL "DIG SAFELY NEW YORK" AT 1-800-962-7962 OR 811.9. WETLANDS ASSOCIATED WITH PARCEL 108.02-1-57 FROM TC MERRITTS RECORD SURVEY.
10. ADDITIONAL WETLAND INFORMATION BASED UPON A SKETCH PREPARED BY EVANS ASSOCIATES



JUNCTION BOX ELEVATION DATA

J-BOX	INV - IN	IN - OUT	INV - FIELD
a	504.90	504.65	504.80
b	504.45	504.25	504.40
c	504.00	503.40	503.55
d	503.40	503.15	503.30
e	502.55	502.30	502.45
f	501.50	501.25	501.40
g	500.50	500.25	500.40
h	499.65	na	499.40

LEGEND

Symbol	Description
490 x	EXISTING SPOT GRADE
———	PROPERTY LINE
TP 1	DEEP TEST PIT
*	TREE TO BE REMOVED
490	EXIST CONTOUR
———	PROP CONTOUR

2/3

OWTS REMEDIATION PLAN
for
HUGH HARRIS
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OWTS
CONSTRUCTION PLAN

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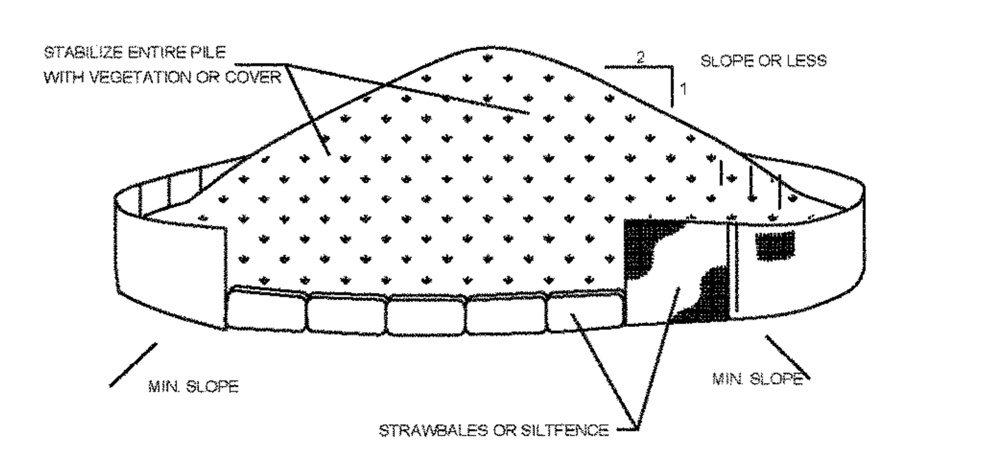
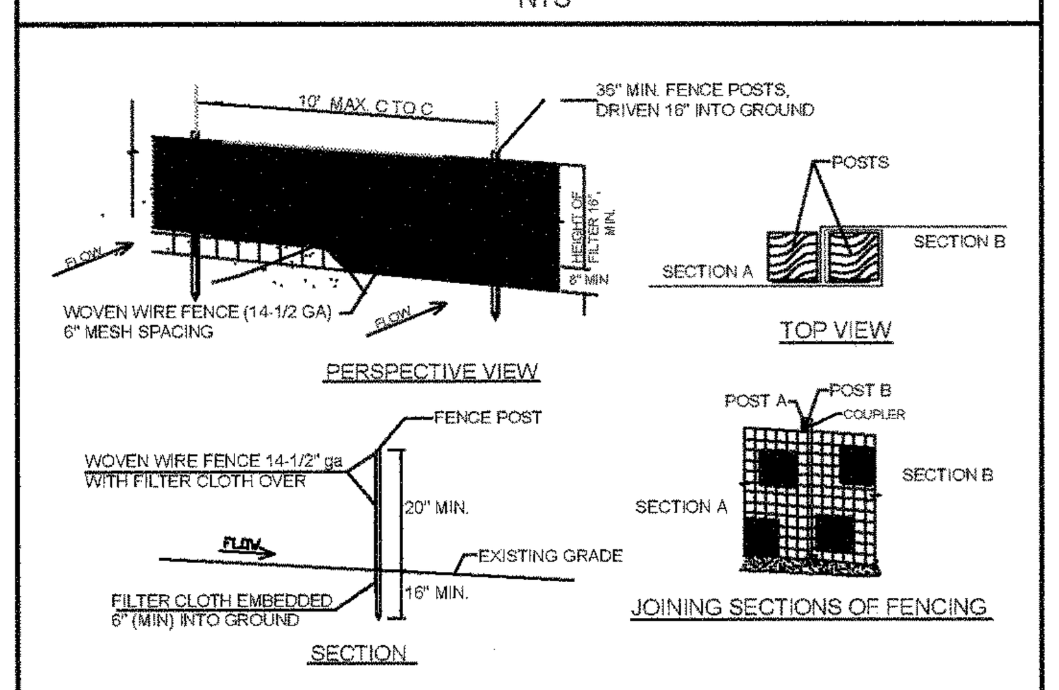
SOIL STOCKPILING DETAIL
NTS



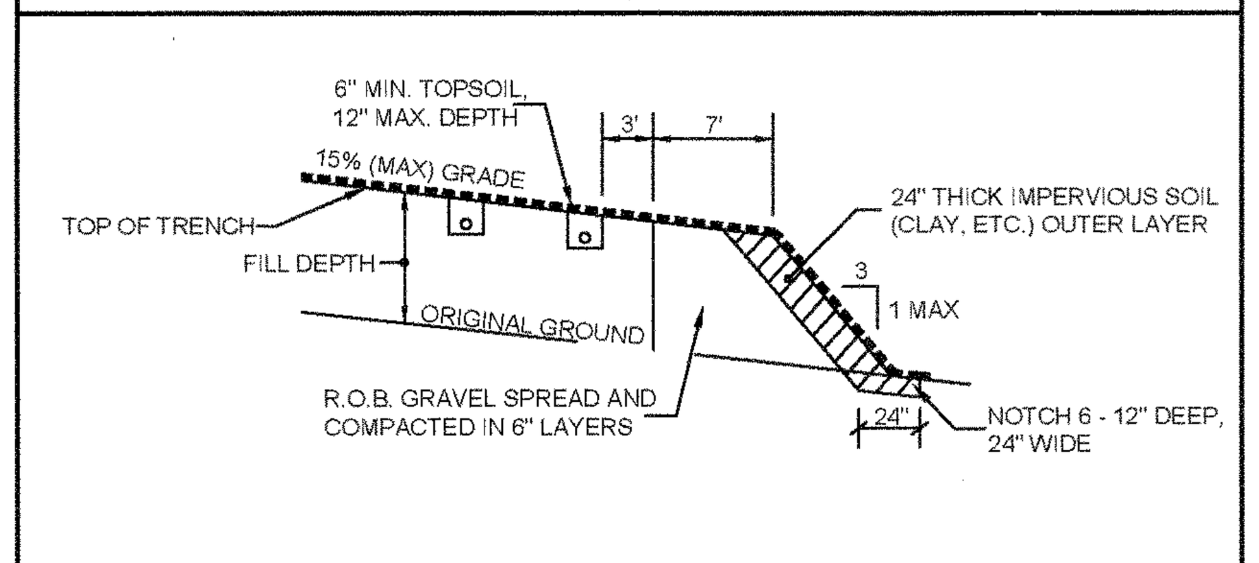
NOTES
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 100' FROM WETLANDS AND WATERCOURSES.

SILT FENCE
NTS

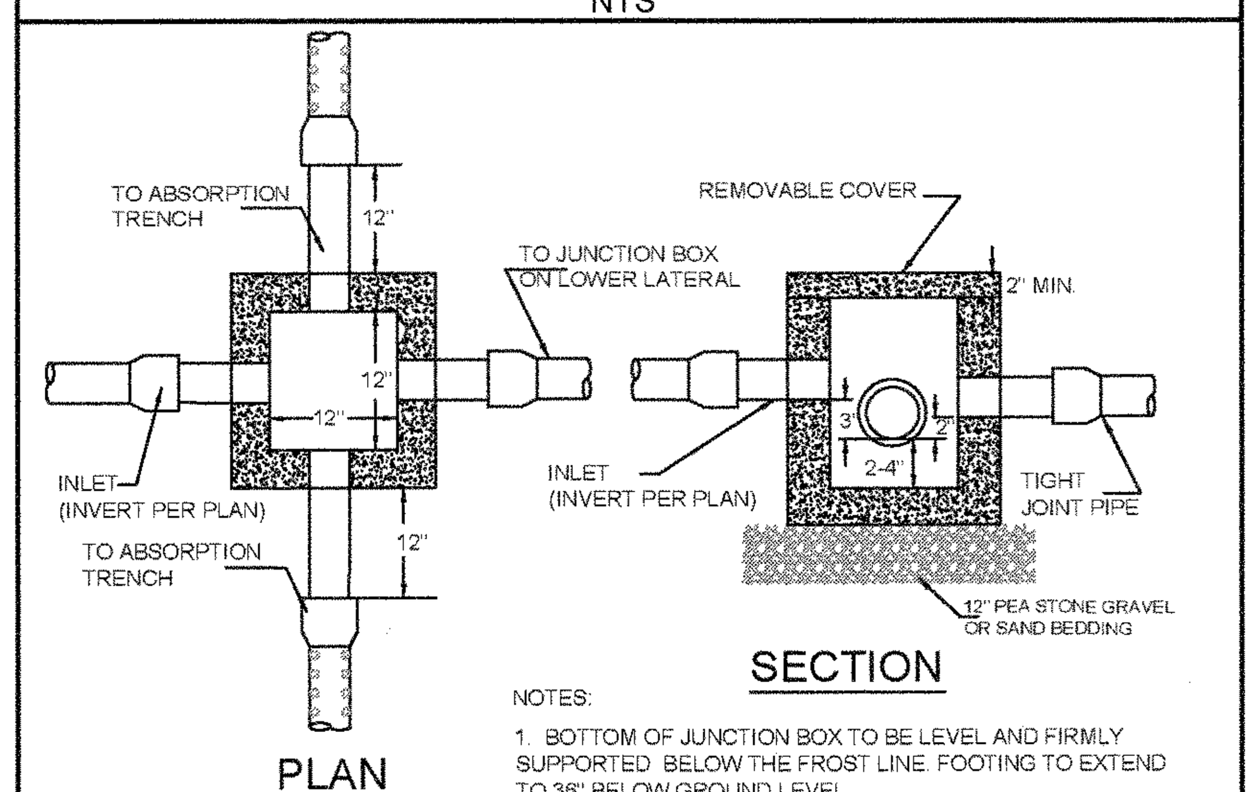


CONSTRUCTION NOTES FOR FABRICATED FENCE
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED AT 24" ON CENTER.
3. WHEN TWO SECTION OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED UNDER ONE ANOTHER.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REPLACED WHEN "BULGES" DEVELOP IN FENCE.

FILL PAD DETAIL
NTS

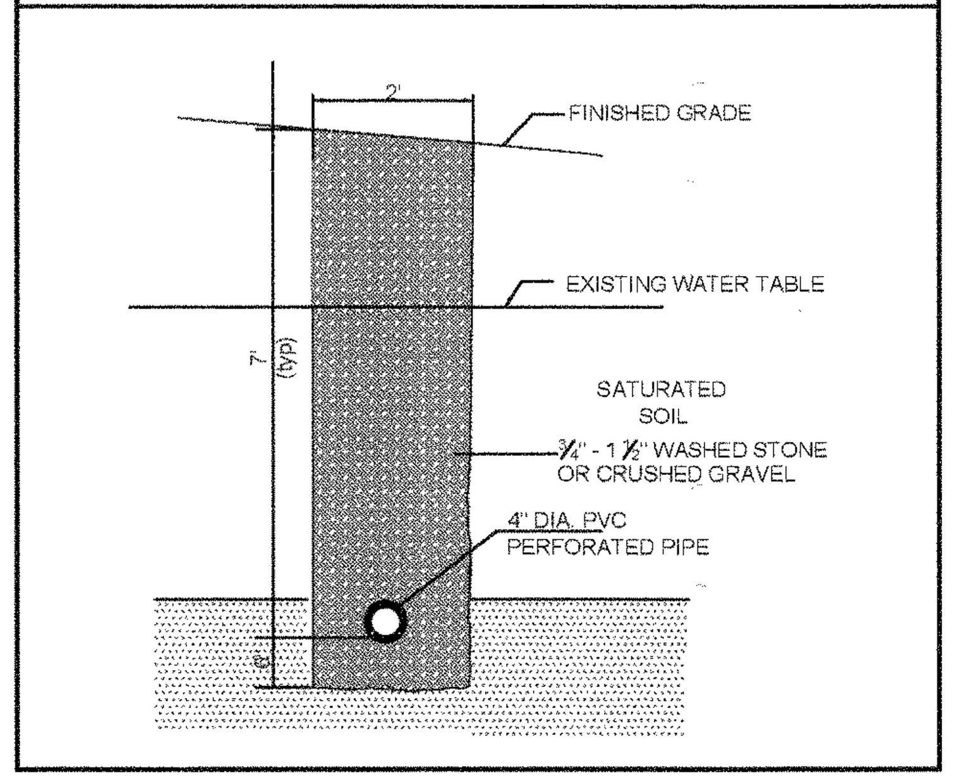


JUNCTION BOX DETAIL
NTS

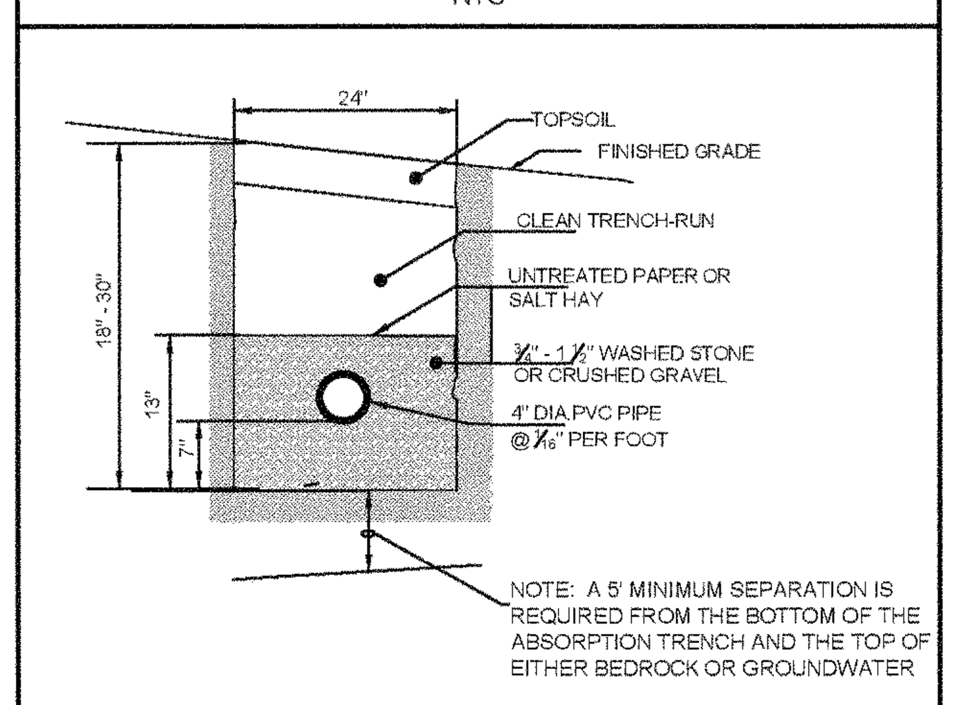


NOTES:
1. BOTTOM OF JUNCTION BOX TO BE LEVEL AND FIRMLY SUPPORTED BELOW THE FROST LINE. FOOTING TO EXTEND TO 36" BELOW GROUND LEVEL.
2. PLACE ON SINGLE BRANCH DISTRIBUTORS.
3. WATERPROOFED MASONRY CONSTRUCTION.
4. TIGHT POINT PIPE FROM SEPTIC TANK TO JUNCTION BOX AND BETWEEN ALL BOXES.
5. FIRST 24" OF PIPE OUT OF THE JUNCTION BOX (TOWARDS ABSORPTION FIELD) TO BE SOLID WALLED.
6. PIPE TO BE CUT FLUSH TO THE INSIDE OF THE JUNCTION BOX.

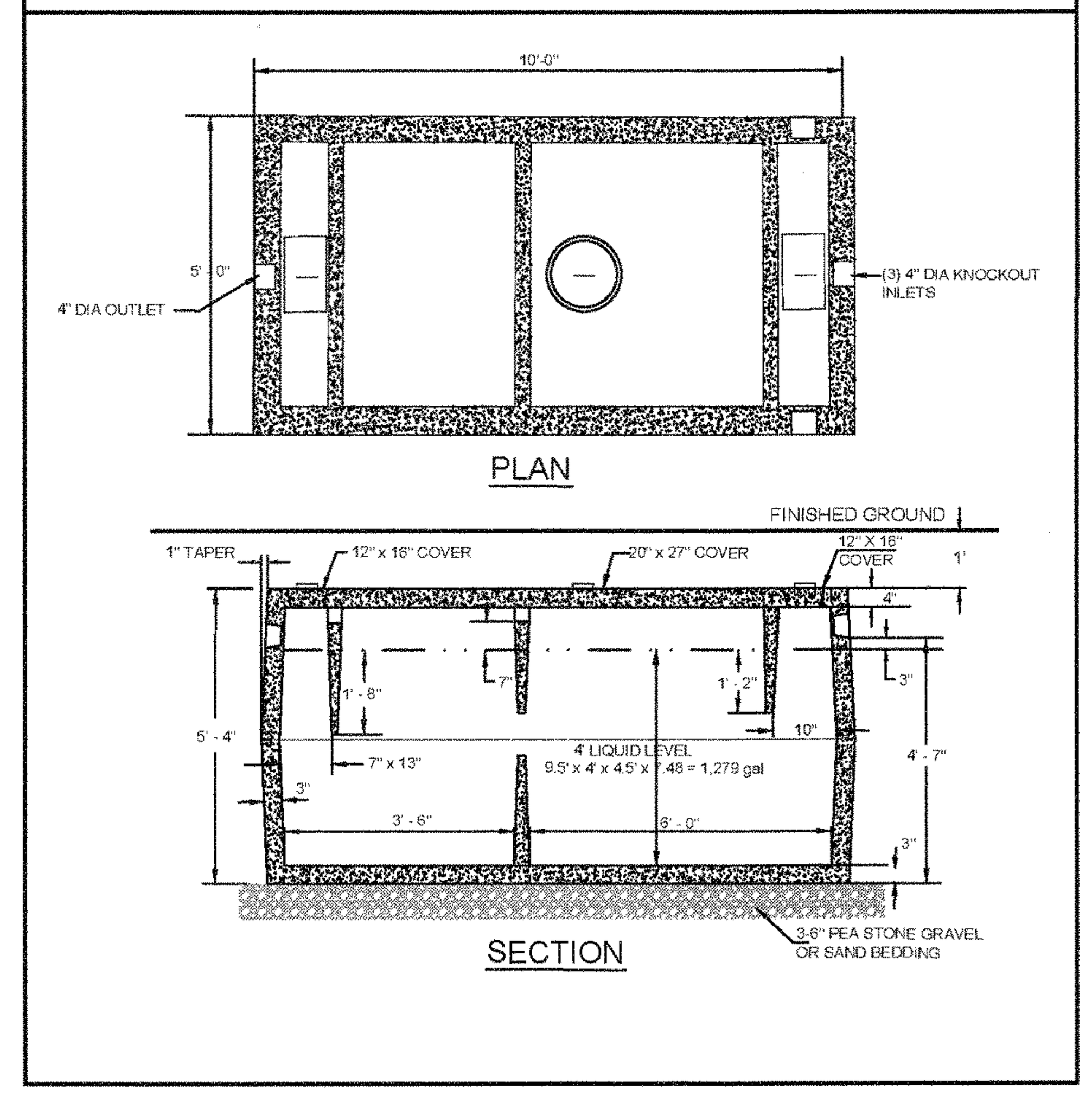
CURTAIN DRAIN DETAIL
NTS



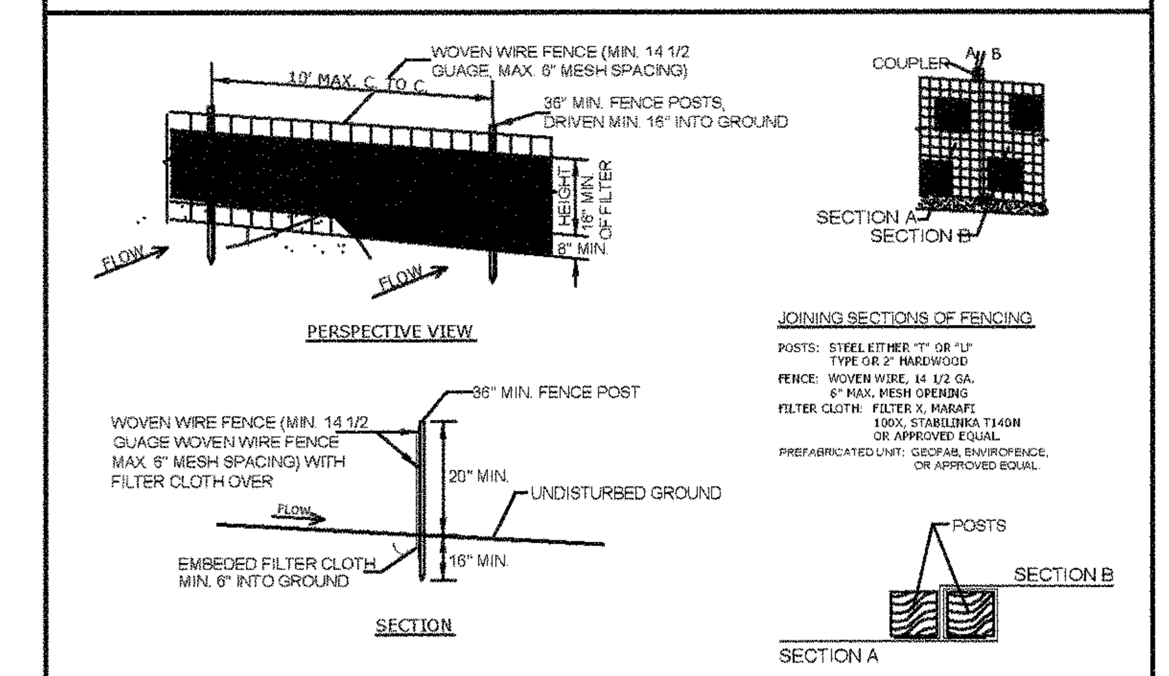
ABSORPTION TRENCH DETAIL
NTS



SEPTIC TANK DETAIL - 1250 GALLON CAPACITY
NTS



SILT FENCE DETAIL
NTS



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
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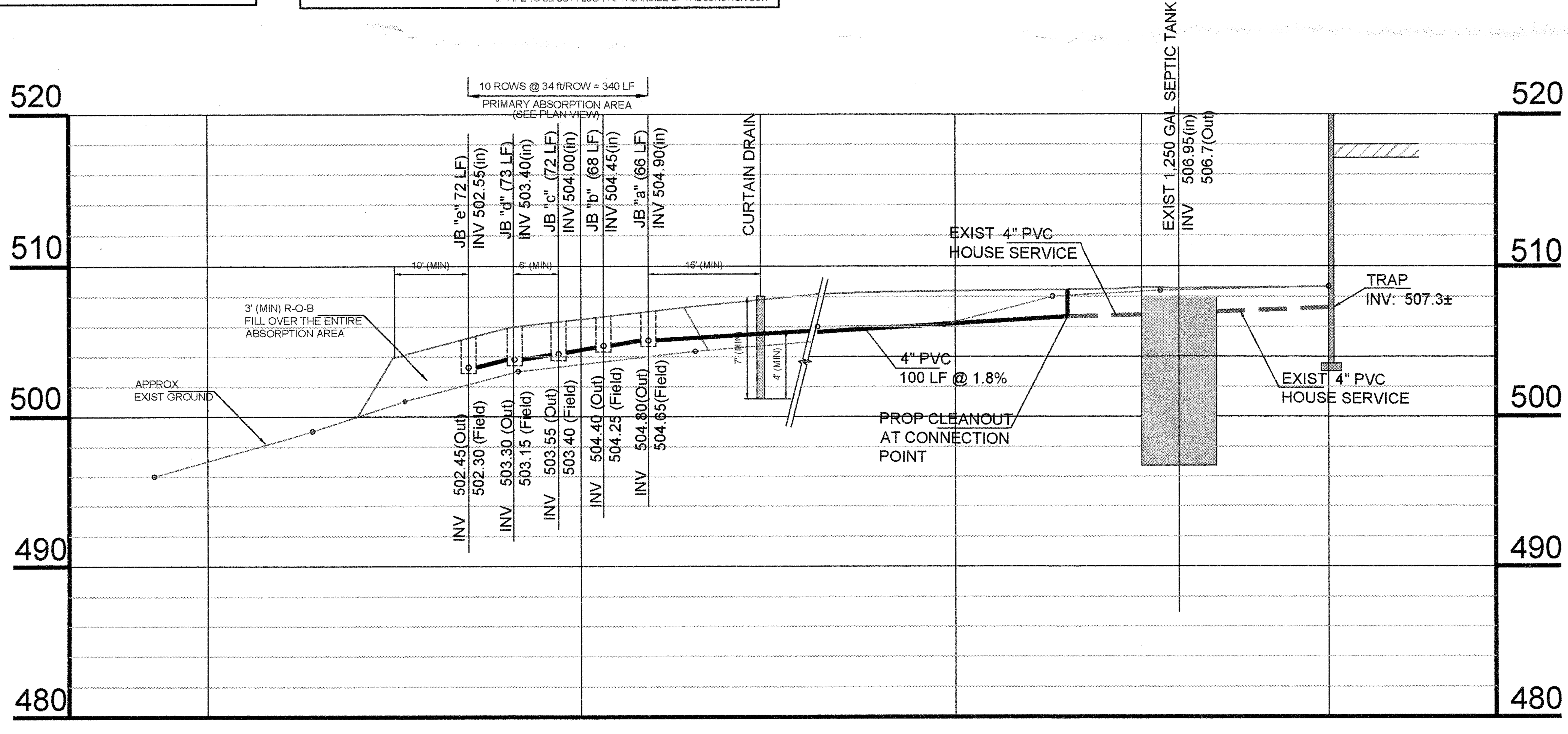
2. FILTER CLOTH TO BE SECURELY FASTENED TO WOVEN WIRE FENCE WITH TIES SPACES EVERY 24" AT TOP OF MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH JOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIXE INCHES AND FOLDED UNDER.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND ACCUMULATED DEBRIS REMOVED WHEN "BULGES" DEVELOP IN THE FENCE.



SEPTIC SYSTEM PROFILE
SCALES HORZ: 1" = 10'
VERT: 1" = 5'

NOC 2022-15R
APPROVED FOR CONSTRUCTION
OCT 28 2022
WEST. CO. DEPT. OF HEALTH
3/3

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DETAILS

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2. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, THE LIMITS OF DISTURBANCE SHALL BE FIELD STAKED FOR REVIEW AND APPROVAL BY THE OFFICE OF THE CONSULTING TOWN ENGINEER. AFTER WHICH TIME THE EROSION CONTROLS MAY BE INSTALLED. EROSION CONTROLS SHALL MUST BE PROPERLY INSTALLED, MAINTAINED AND INSPECTED AROUND THE WORK SITE UNTIL STABILIZED TO THE SATISFACTION OF THE TOWN ENGINEER.
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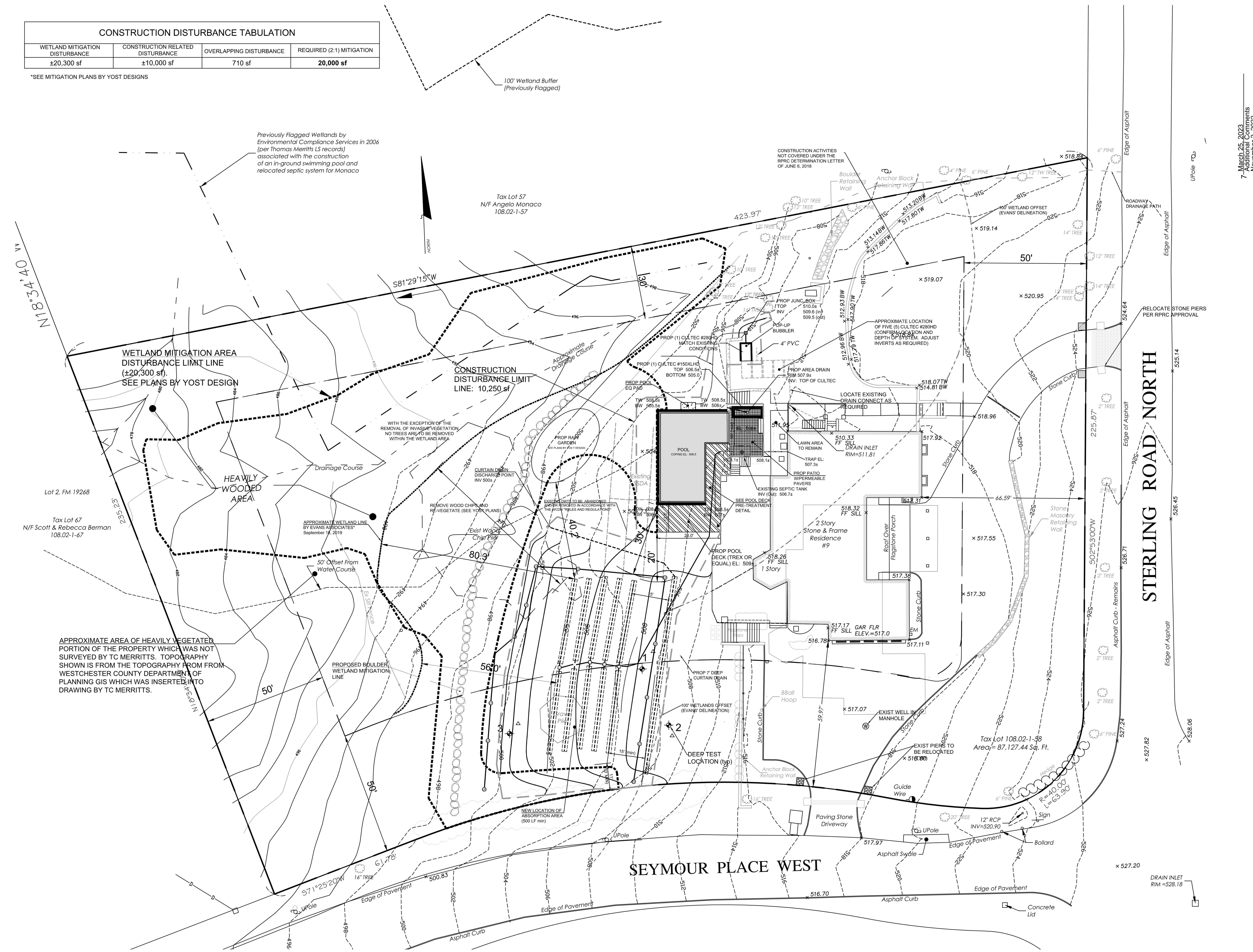
CONSTRUCTION DISTURBANCE TABULATION

WETLAND MITIGATION DISTURBANCE	CONSTRUCTION RELATED DISTURBANCE	OVERLAPPING DISTURBANCE	REQUIRED (2:1) MITIGATION
±20,300 sf	±10,000 sf	710 sf	**20,000 sf**

*SEE MITIGATION PLANS BY YOST DESIGNS



LEGEND

490 x	EXISTING SPOT GRADE
	PROPERTY LINE
TP 1	DEEP TEST PIT
*	TREE TO BE REMOVED
490	EXIST CONTOUR
	PROP CONTOUR

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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SITE PLAN W/ APPROVED SSDS

PROPOSED IN-GROUND POOL for HARRIS

9 STERLING ROAD NORTH, ARMONK, NY

Nathaniel J. Holt, P.E.

Date:

7 March 25, 2023 Additional Comments
6 November 2, 2022 Remediation Permit
5 July 5, 2022 Resubmssion to Planning Bd
4 October 10, 2021, 2021 Resubmssion to Planning Bd
3 May 5, 2021 Clarified Pool Wall
2 May 25, 2020 Septic Added
1 April 6, 2020 Misc.

Original Date: March 13, 2020

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SHEET: 2 of 4