

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS D.P.C.

MARK J. EDSALL, P.E., P.P. (NY, NJ & PA)
MICHAEL W. WEEKS, P.E. (NY, NJ & PA)
MICHAEL J. LAMOREAUX, P.E. (NY, NJ, PA, VT, VA & CT)
PATRICK J. HINES
LYLE R. SHUTE, P.E. LEED-AP (NY, NJ, PA)

Main Office
33 Airport Center Drive
Suite 202
New Windsor, New York 12553

(845) 567-3100
fax: (845) 567-3232
e-mail: mheny@mhepc.com

Principal Emeritus:
RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY, NJ & PA)

**TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS**

PROJECT: HEALY KIA
PROJECT NO.: 19-25
PROJECT LOCATION: SECTION 95, BLOCK 1, LOT 54.2
REVIEW DATE: 9 JANUARY 2020
MEETING DATE: 16 JANUARY 2020
PROJECT REPRESENTATIVE: DAY & STOKOSA ENGINEERING P.C.

1. The Applicants have provided a FIRMette of the project area from the FEMA interactive website identifying the project as located in Zone X which is not considered a flood plain.
2. The Applicants have submitted a threatened and endangered species habitat assessment prepared by Michael Nowicki of Ecological Solutions. The report identifies that clearing date restrictions will be imposed in order to minimize any potential impacts to the threatened and endangered bat species. The other species identified are not present on the site based on the existing habitat assessments provided.
3. Height of the light poles should be submitted to the FAA for a no obstruction to aviation determination.
4. The project must be submitted to the Orange County Planning Department once the comments regarding Stormwater Management below have been addressed.
5. The narrative submitted appears to identify that the access will be gated and fenced. The plans do not depict fencing between the existing lot and the proposed inventory parking lot.
6. A detail of the proposed gravel surface and access road should be provided.
7. The following comments will pertain to a Stormwater Pollution Prevention Plan dated 7 January 2020.
 - 1) The introduction section in the second paragraph identifies "construction of the proposed entrance, building expansion and associated improvements. Driveways will add impervious surface that contribute to the increase in surface water due to the

• Regional Office • 111 Wheatfield Drive • Suite 1 • Milford, Pennsylvania 18337 • 570-296-2765 •

- development of the site. It is unclear where buildings will be constructed on the site.”
- 2) Existing conditions contributed drainage area soils identifies the Dutchess County Soils Map and soils which should not exist in the Town of Newburgh.
 - 3) The report identifies that three bio-retention facilities will be constructed within the development. Plans depict one bio-retention area.
 - 4) The culverts identify at the driveway crossing are identified 18” RCP in the model while the plans identify 24” HDPE. Further review of the Stormwater Management Plan will be undertaken once revisions are submitted.
 - 5) It is requested the Applicant evaluate the submitted Stormwater Pollution Prevention Plan and update it with site specific information.

Respectfully submitted,

***McGoey, Hauser and Edsall
Consulting Engineers, D.P.C.***

Patrick J. Hines
Principal

PJH/kbw

DAY STOKOSA

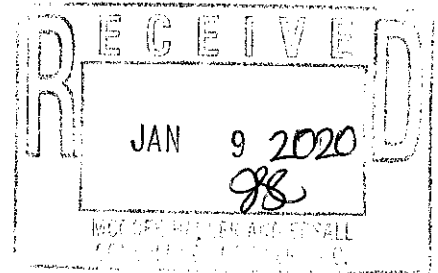
ENGINEERING P.C.

3 Van Wyck Lane
Suite 2
Wappingers Falls, New York 12590
Phone: 845-223-3202

December 24, 2019

Mr. John Ewasutyn Planning
Board Chairman
Town of Newburgh Planning Board
308 Gardnertown Road
Newburgh, New York 12550

Re: Town File No. 2019-25
Amended Site Plan for Healey Kia
NYS Route 17K,
Town of Newburgh



Dear Chairman Ewasutyn:

The following are our responses to the comment letter dated November 25, 2019 from McGoey, Hauser and Edsall.

- The Applicant is proposing to construct an overflow parking area for the Healy Kia site on Route 17K on an adjoining parcel. It appears that the parcels are in common ownership. It is unclear why a lot consolidation or a lot line change cannot be accomplished to place the overflow parking on the dealership lot in order to eliminate the requirement for covenants or cross agreements.

Response: Per legal counsel, mortgage covenants prohibit a lot line consolidation or lot line change because one parcel has a mortgage and the other one does not.
- The proposed overflow parking identifies a 2.2 +/- acre disturbance on the adjoining property. It is noted the project is located in the City of Newburgh Watershed for Washington Lake through Murphy's Ditch diversion, when such diversion is utilized. Stormwater Management Facilities will be required to be addressed on the site in order to provide for water quality and quantity control. The Town of Newburgh requires treatment of 110% of the water quality volume within the City of Newburgh Watershed.

Response: Included with this submission please find the Drainage analysis prepared by this office.

3. Site development details should be added to the plans including any piping, surface treatment, and Stormwater Management Facilities. Details for removal of the curbing between the existing asphalt parking and adjoining asphalt parking should be provided.

Response: Site development details have been added to the plans.

4. Similar arrangements for off-site parking have been evaluated by the Planning Board in the past including at the Orange County Choppers Facility and Toyota Facility. In each of those cases these sites were not in common ownership.

Response: Comment noted.

5. The EAF identifies potential impacts to threatened or endangered species which must be addressed by the Applicant through the NYS DEC.

Response: Ecological Solutions has been retained to do an endangered species study. A copy of that study has been included with this submission.

6. A portion of the project involves clearing of the adjoining property frontage in order to provide visibility of the dealership from Route 17K. The extent of this clearing activity should be detailed on the plans and potential impacts to the stream should be addressed on the plans.

Response: In discussion with the Planning Board at the December 5, 2019 meeting, it has been decided the clearing shall be limited to cutting down the trees, grinding down the stumps and seeding and mulching the area to minimize the potential impacts.

7. Previously the Planning Board restricted access by the public to the overflow parking areas which were not constructed of conventional asphalt pavement. Appropriate signage and gates should be provided should the Board wish to consider the off-site use.

Response: A continuous chain link fence with an entrance gate and appropriate signage has been provided to restrict access to the inventory only parking lot.

8. The metes and bounds of any potential lease area between the adjoining properties should be identified.

Response: There are no proposed lease areas between the adjoining properties.

December 24, 2019

The properties are owned by the same entity.

9. Notes should be added to the plans identifying what the sites will operate as a unified site plan and tying the approvals to the current property use of the Kia dealership. Any change in the use of any property should eliminate the adjoining parking spaces without further approvals or action by the Town.

Response: A note stating "The approved sites shall operate as a unified site plan and so tying the approvals to the current property use of the Kia dealership. Any change in the use of either property will eliminate the adjoining parking spaces without further approvals or action by the Town." has been added to sheet SP.1.

Per the Planning Boards request at the meeting December 5, 2019, we investigated whether or not the site is located in the 100 year floodplain. Based on our review of the FEMA maps it does not appear to be in the floodplain. Please see the attached FEMA map.

Please review the provided materials at your earliest convenience. If you have any questions or require any additional information please contact this office.

Very truly yours,



Anita Odell

Cc: file

*Threatened and Endangered Species
Habitat Suitability Assessment Report*

Healey Kia - Newburgh
114 Route 17K
Town of Newburgh
Orange County, New York

December 10, 2019

Prepared by:

Michael Nowicki
Ecological Solutions, LLC
1248 Southford Road
Southbury, CT 06488
(203) 910-4716

1.0 INTRODUCTION

Ecological Solutions, LLC completed a threatened and endangered species habitat assessment on the rear section of the Healey Kia - Newburgh site (Tax Identification Number 95-1-54.2) totaling about 2 acres located at 114 Route 17K in the Town of Newburgh, Orange County, New York (*Figure 1*). The site contains the Healey Kia dealership and associated infrastructure including paved parking area. The area of the proposed project is directly behind the existing parking area.

The New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper indicates that there is a Class "A" watercourse on the eastern boundary of the site and that there are potential State listed threatened/endangered species located at Stewart Airport (*Attachment 1*). It is known that there are several species of threatened/endangered grassland bird associated with Stewart Airport in the vicinity of the site. These species cannot utilize the habitat on the site. A review of the US Fish and Wildlife Service (USFWS) list of threatened and endangered species indicates that there is potential for the Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), small whorled pogonia (*Isotria medeoloides*), and upland sandpiper (*Bartramia longicauda*) to be located on the site (*Attachment 2*).

The purpose of the assessment was to determine if potential habitat exists on the site. A field assessment was conducted on December 10, 2019 and habitat on the site was observed and is listed in Table 1.

**TABLE 1
COVER TYPES IDENTIFIED ON THE SITE**

<u>HABITAT COVER TYPES</u>	
NO.	
1	Mixed Upland Forest

1. Mixed Upland Forest – The area is generally mixed upland forest with eastern red cedar, ash, black cherry, poplar, and some maples and oaks in the 4-6 inch dbh range.

Figure 1
Location Map



2.0 HABITAT SUITABILITY ASSESSMENT/CONCLUSION

2.1 Small whorled pogonia

The small whorled pogonia is a member of the orchid family. It usually has a single grayish-green stem that grows about 10 inches tall when in flower and about 14 inches when bearing fruit. The plant is named for the whorl of five or six leaves near the top of the stem and beneath the flower. The leaves are grayish-green, somewhat oblong and 1 to 3.5 inches long. The single or paired greenish-yellow flowers are about 0.5 to 1 inch long and appear in May or June. The fruit, an upright ellipsoid capsule, appears later in the year. This orchid grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. Sometimes it grows in stands of softwoods such as hemlock. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams.

Conclusion - There is no potential habitat for this species since the forest is young woods with a thick dense understory.

2.2 Indiana bats

The Indiana bat typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating or defoliating bark, or containing cracks or crevices that could potentially be used by Indiana bats as a roost. The minimum diameter of roost trees observed to date is 2.5 inches for males and 4.3 inches for females. However, maternity colonies generally use trees greater than or equal to 9 inches dbh. Overall, roost tree structure appears to be more important to Indiana bats than a particular tree species or habitat type. Females appear to be more habitat specific than males presumably because of the warmer temperature requirements associated with gestation and rearing of young. As a result, they are generally found at lower elevations than males may be found. Roosts are warmed by direct exposure to solar radiation, thus trees exposed to extended periods of direct sunlight are preferred over those in shaded areas. However, shaded roosts may be preferred in very hot conditions. As larger trees afford a greater thermal mass for heat retention, they appear to be preferred over smaller trees.

Streams associated with floodplain forests, and impounded water bodies (ponds, wetlands, reservoirs, etc.) where abundant supplies of flying insects are likely found provide preferred foraging habitat for Indiana bats, some of which may fly up to 2-5 miles from upland roosts on a regular basis. Indiana bats also forage within the canopy of upland forests, over clearings with early successional vegetation (e.g., old fields), along the borders of croplands, along wooded fencerows, and over farm ponds in pastures. While Indiana bats appear to forage in a wide variety of habitats, they seem to tend to stay fairly close to tree cover.

Conclusion – The mixed upland forest is not potential roosting habitat but may provide suitable foraging habitat for the Indiana bat. The proposed parking area will impact less than 2 acres of the forested area. The Applicant will incorporate the following conservation measures as is typically requested by the NYSDEC to ensure no impact occurs to this species. The Applicant will avoid, minimize, and mitigate impacts to this species by:

- Implementing tree clearing for site activities during timeframes when bats are not resident on the site October 1 – to March 31.

2.3 Northern long-eared bat

Winter Habitat: Same as the Indiana bat northern long-eared bats spend winter hibernating in caves and mines, called hibernacula. They typically use large caves or mines with large passages and entrances; constant temperatures; and high humidity with no air currents. Specific areas where they hibernate have very high humidity, so much so that droplets of water are often seen on their fur. Within hibernacula, surveyors find them in small crevices or cracks, often with only the nose and ears visible.

Summer Habitat: During summer, northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on suitability to retain bark or provide cavities or crevices. It has also been found, rarely, roosting in structures like barns and sheds.

Feeding Habits: Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation. This bat also feeds by gleaning motionless insects from vegetation and water surfaces.

Conclusion - The northern long eared bat requires/occupies practically the same habitat niche as the Indiana bat. Impacts to habitat and mitigation would be consistent with the recommendations for the Indiana bat.

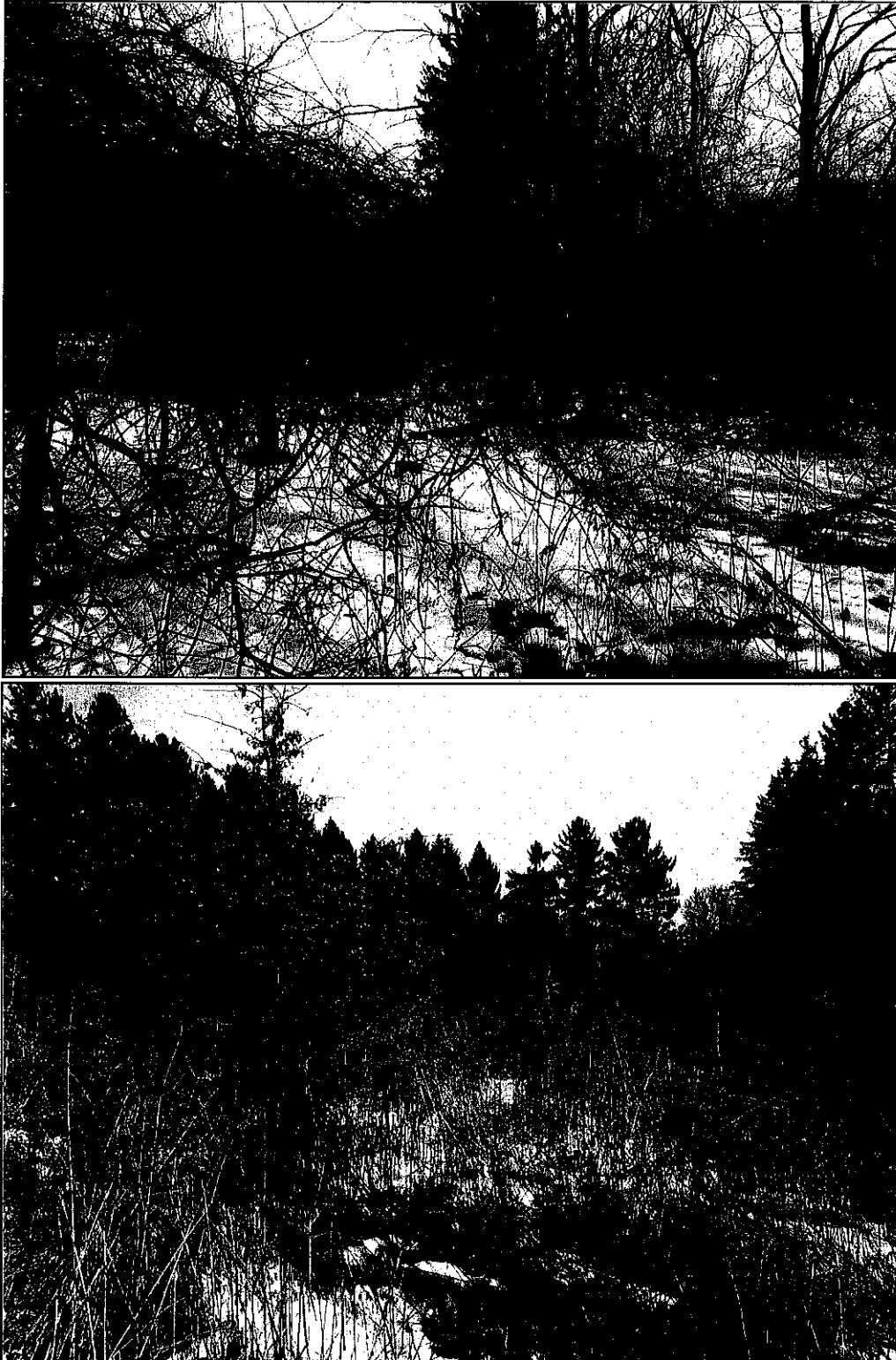
2.4 Upland Sandpiper

Upland sandpipers require large open grasslands and show a preference for nesting, feeding, and courtship in vegetation less than 60 cm in height and most commonly in areas interspersed with taller grasses which provide concealment. Typical nesting cover includes idle cropland, pasture, highway edges, hayfields, untilled crops such as clover, alfalfa or blueberries, and mowed grass at airports.

Conclusion - The site is wooded. Upland Sandpipers utilize open low growing grass areas for nesting and socializing. The site contains no large open areas and cannot support this species. There is no habitat for this species on the site and no impacts will occur. Typical habitat for this species in this area of Orange County is associated with the open areas of Stewart Airport.

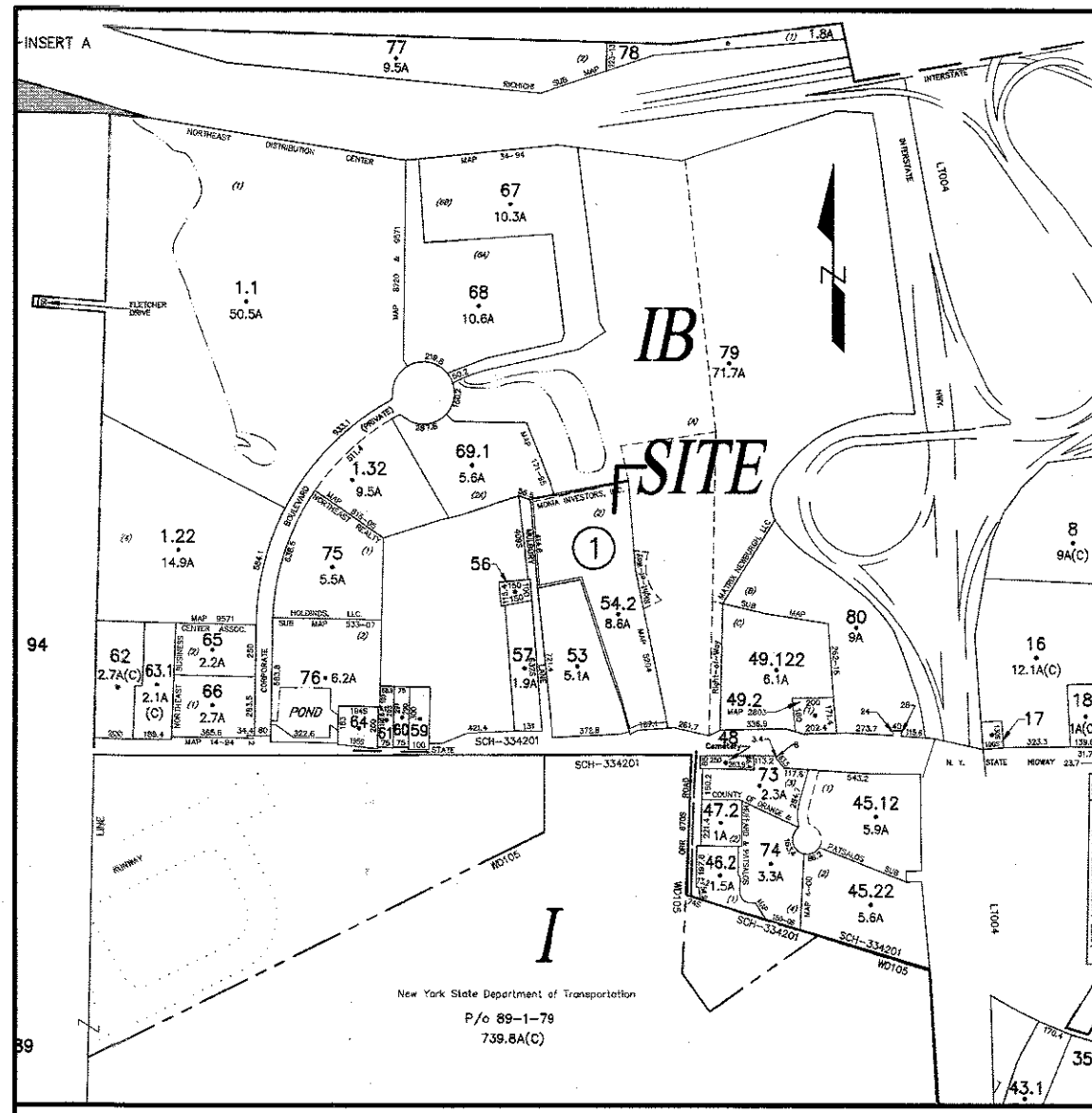
3.0 PHOTOGRAHS

Typical habitat on the site





Area Map N.T.S.



Location Map N.T.S.

ZONING INFORMATION

TAX MAP No. 95-1-54.2
 ZONING DISTRICT: IB-INTERCHANGE BUSINESS
 TOPOGRAPHIC DATUM: USGS
 TOTAL ACREAGE: 8.62 ACRES (+/-)
 WATER & SEWER: TOWN OF NEWBURGH

BULK REQUIREMENTS	REQUIRED	PROPOSED
MIN. LOT AREA (SQ. FT.)	40,000 S.F.	375,301 S.F.
MIN. WIDTH (FEET)	150'	>150'
MIN. LOT DEPTH (FEET)	150'	>150'
MIN. FRONT YARD (FEET)	50'	N/A
MIN. REAR YARD (FEET)	60'	N/A
MIN. ONE SIDE YARD (FEET)	30'	N/A
MIN. BOTH SIDE YARDS (FEET)	80'	N/A
HABITABLE FLOOR AREA PER DWELLING UNIT (S.F.)	N/A	N/A
DWELLING UNITS PER ACRE	N/A	N/A
MAX. LOT BLDG COVERAGE (%)	40%	N/A
MAX. BUILDING HEIGHT (FEET)	35'	N/A
MAX. LOT SURFACE COVERAGE (%)	80%	20%

SOURCE: TOWN OF NEW BURGH ZONING CODE
 TABLE OF USE AND BULK REGULATIONS DATED 4-9-18
 *EXISTING NON-CONFORMING

OWNER/APPLICANT

PDH REALTY, LLC
 2528 ROUTE 17M
 GOSHEN, NEW YORK 10924

OWNER'S CONSENT NOTE

THE UNDERSIGNED OWNER OF THIS PROPERTY HEREON STATES THAT HE IS FAMILIAR WITH THIS MAP, ITS CONTENTS AND ITS LEGENDS AND HEREBY CONSENTS TO ALL SAID TERMS AND CONDITIONS AS STATED HEREON.

PAUL HEALY, PDH REALTY, LLC DATE

ADJACENT PROPERTY OWNERS

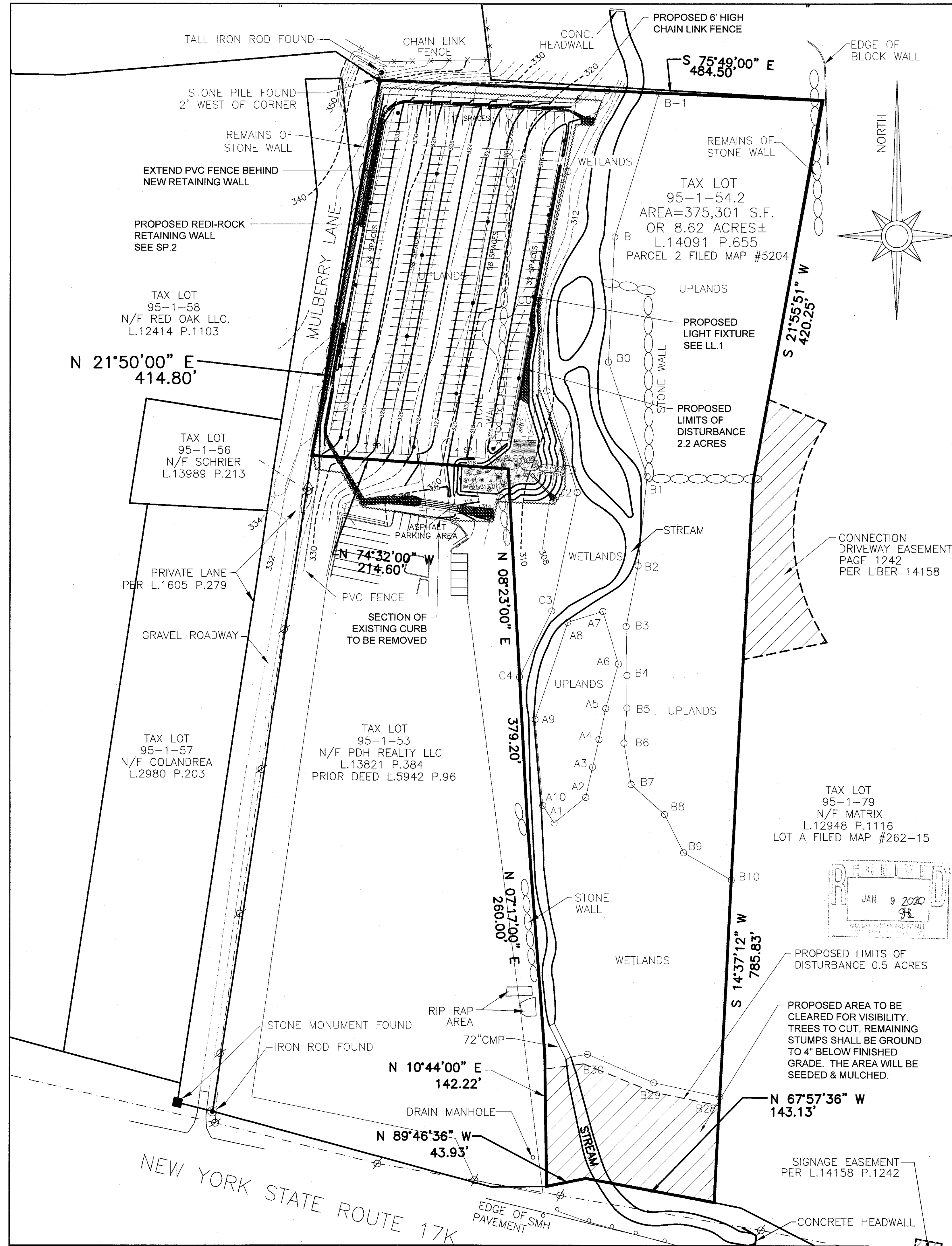
- 334600-95-1-69.1, A. Duie Pyle, Inc., P.O. Box 546, West Chester, PA. 19381
- 334600-95-1-58, Red Oak SOS, LLC, 57 Alexander Street,
- 334600-95-1-57, Cosimo J. Colandrea, P.O. Box 3257, Newburgh, New York 12550
- 334600-95-1-47.2, DP66, LLC, 333 North Bedford Rd, Ste. 145, Mt. Kisco, New York 10549
- 334600-95-1-53, PDH Realty, LLC, P.O. Box 859, Goshen, New York 10924
- 334600-95-1-54.2, PDH Realty, LLC, P.O. Box 859, Goshen, New York 10924
- 334600-95-1-56, Van Shrier, 120 Route 17K, Newburgh, New York 12550
- 334600-89-1-79, New York State Department of Transportation, Albany, New York 12201
- 334600-95-1-32, Business Center Northeast, 4.5 Associates, 3 Manhattanville Rd., Purchase, NY 10577
- 334600-95-1-48, Patten Cemetery, Newburgh, New York 12550
- 334600-95-1-73, Exit 21 Real Estate, LLC, P.O. Box 10804, Newburgh, New York 12550
- 334600-95-1-49.122, Debrizzi, 1089 Little Britain Road, New Windsor, New York 12550

**TOWN PLANNING BOARD
 TOWN OF NEWBURGH, NEW YORK**

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE TOWN OF NEWBURGH, NEW YORK ON THE _____ DAY OF _____ SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS SITE PLAN, AS APPROVED, SHALL VOID THIS APPROVAL. SITE PLAN IS VOID IF CONSTRUCTION IS NOT STARTED WITHIN ONE YEAR AND COMPLETED IN TWO YEARS OR THE DATE OF THE SIGNING OF THIS PLAN.

TOWN OF NEWBURGH PLANNING BOARD
 SIGNED THIS _____ DAY OF _____ BY _____

Chairman, Planning Board



SURVEY CERTIFICATION

I HEREBY CERTIFY THAT THIS MAP OR PLAN IS BASED UPON THE FIELD NOTES OF THE SURVEY AND OTHER REFERENCES SHOWN. ALL RECORDED EASEMENTS OR RIGHT-OF-WAY AS SHOWN IN THE TITLE REPORT AND OTHER REFERENCES ARE SHOWN. ALL OBSERVABLE EVIDENCE OF EASEMENTS ON THE GROUND ARE SHOWN. ALL OBSERVABLE ABOVE GROUND EVIDENCE OF THE BUILDING, STRUCTURES AND OTHER IMPROVEMENTS ARE SHOWN. UNAUTHORIZED ALTERATION TO A MAP BEARING A LICENSED PROFESSIONAL LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW. THIS CERTIFICATION IS NOT AN EXPRESS OR IMPLIED WARRANTY OR GUARANTEE. IT IS PURELY A STATEMENT OF PROFESSIONAL OPINION BASED ON KNOWLEDGE, INFORMATION AND BELIEF. BASED ON EXISTING FIELD EVIDENCE AND DOCUMENTARY EVIDENCE AVAILABLE. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS. PLAN PREPARED PURSUANT TO SECTION 7209m OF THE NEW YORK STATE EDUCATION LAW. SUBJECT TO THE FINDINGS OF AN UP-TO-DATE TITLE SEARCH.

DARRIN J. STRIDIRON, PROFESSIONAL LAND SURVEYOR NYS LIC. #050487

THE SURVEY INFORMATION CONTAINED HEREON WAS OBTAINED FROM THE MAP ENTITLED "WETLAND LOCATION SURVEY" PREPARED BY HERITAGE LAND SURVEYING, PC ON 7-16-18

- REFERENCES:
- TOWN OF NEWBURGH TAX MAP SECTION 95.
 - DEEDS FILED IN THE ORANGE COUNTY CLERK'S OFFICE AS:
 L.14091 P.655 L.12414 P.1103
 L.13821 P.384 L.13989 P.213
 L.5942 P.96 L.2980 P.203
 L.12948 P.1116 L.12341 P.857
 - MAPS FILED IN THE ORANGE COUNTY CLERK'S OFFICE AS:
 FILED MAP #5204
 FILED MAP #171-95
 FILED MAP #262-15

NOTE: THE APPROVED SITES SHALL OPERATE AS A UNIFIED SITE PLAN AND SO TYING THE APPROVALS TO THE CURRENT PROPERTY USE OF THE KIA DEALERSHIP. ANY CHANGE IN THE USE OF EITHER PROPERTY WILL ELIMINATE THE ADJOINING PARKING SPACES WITHOUT FURTHER APPROVALS OR ACTION BY THE TOWN OF NEWBURGH.

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW FOR ANY PERSONS TO ALTER THESE PLANS, SPECIFICATIONS, OR REPORTS IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR.

Mark A. Day, PE

1-8-2020
 2016.136 License No. 069646

**DAY STOKOSA
 ENGINEERING P.C.**

3 Van Wyck Lane Suite 2
 Wappingers Falls, New York
 (845)-223-3202

PROJECT: Healey KIA - Newburgh
 114 NY-17K
 Town of Newburgh Orange County, New York

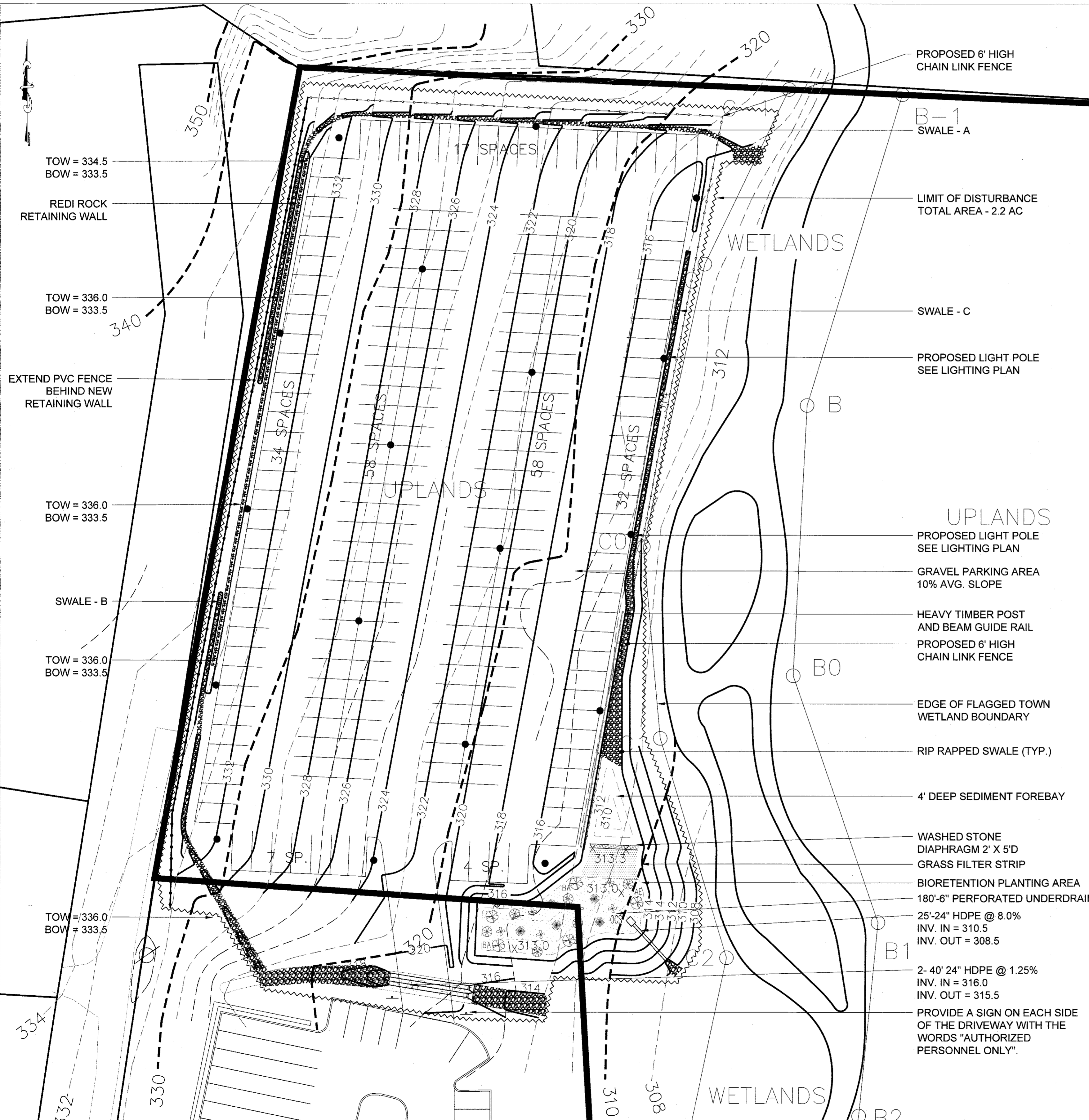
SITE PLAN

SCALE: 1" = 60'	DRAWN BY: MAD	DATE: 11-14-19	CHECKED BY: MAD	DATE: 11-14-19	PROJECT: SP.1
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SYMBOL	COMMON NAME	SCIENTIFIC NAME	SIZE OR CONTAINER	BALL SIZE	REMARKS
AE	AMERICAN ELM	ULMUS AMERICANA	2" C	32"	NURSERY GROWN PLANT IN SPRING OF YEAR
BA	BLACK ASH	FRAXINUS NIGRA	2" C	32"	NURSERY GROWN PLANT IN SPRING OF YEAR
	BUTTBUSH	CEPAHLANTHUS OCCIDENTALIS	24" CONTAINER		NURSERY GROWN PLANT IN SPRING OF YEAR
	ELDERBERRY	SAMBUCUS CANADENSIS	1 GALLON CONTAINER		NURSERY GROWN PLANT IN SPRING OF YEAR
	Speckled Aster	ALNUS RUGOSA	24" CONTAINER C-CALIPER		NURSERY GROWN PLANT IN SPRING OF YEAR

1 BIORETENTION PLANTING SCHEDULE

N.T.S.



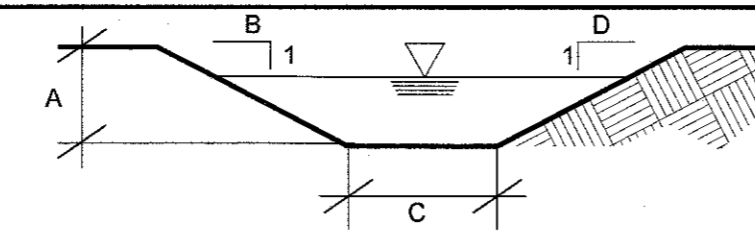
A PARTIAL UTILITY PLAN

SCALE: 1" = 30'

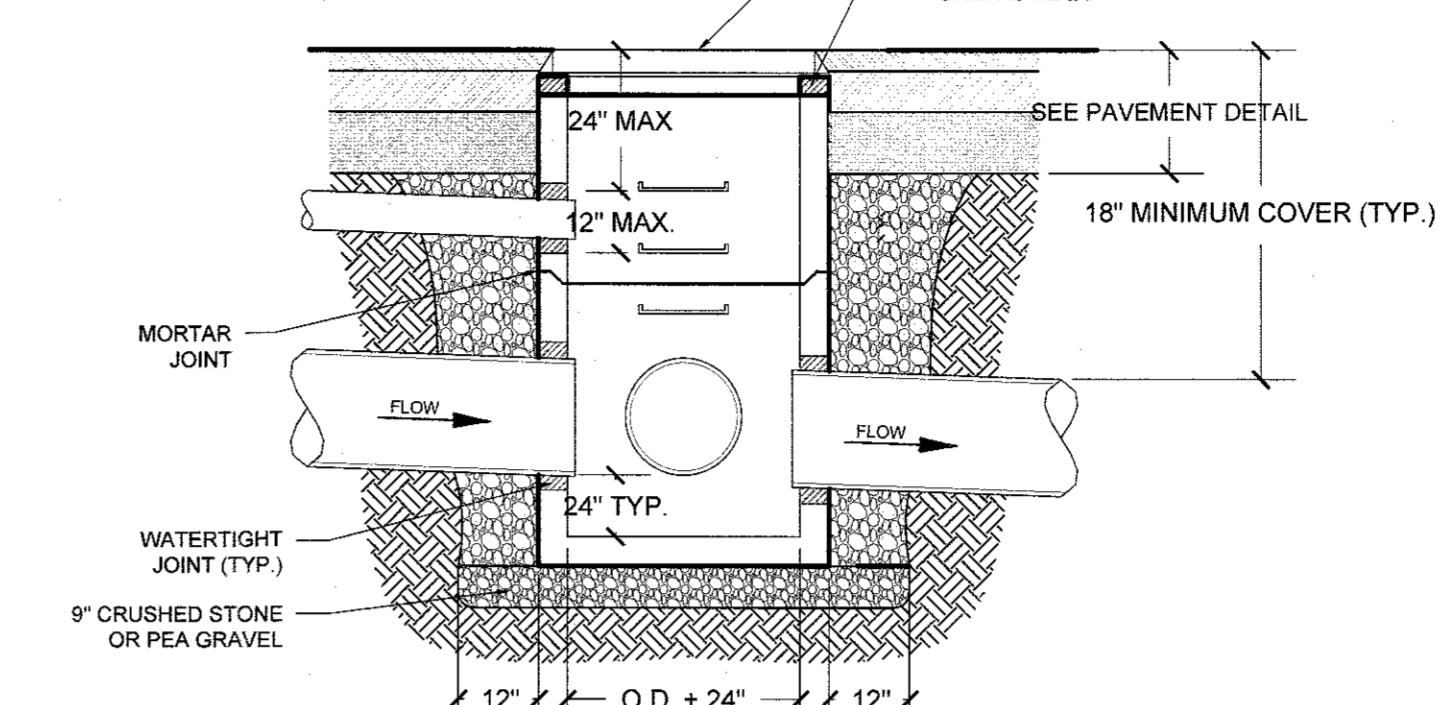
2 SWALE DETAILS

N.T.S.

SWALE	A (FEET)	B (FEET)	C (FEET)	D (FEET)	SLOPE	LINING	d50	Dmax	Thickness
SWALE A	1.0	2	2.0	2	VARIES	RIP RAP	12"	18"	27"
SWALE B	1.0	2	2.0	2	VARIES	RIP RAP	12"	18"	27"
SWALE C	1.5	2	2.0	2	VARIES	RIP RAP	--	--	--



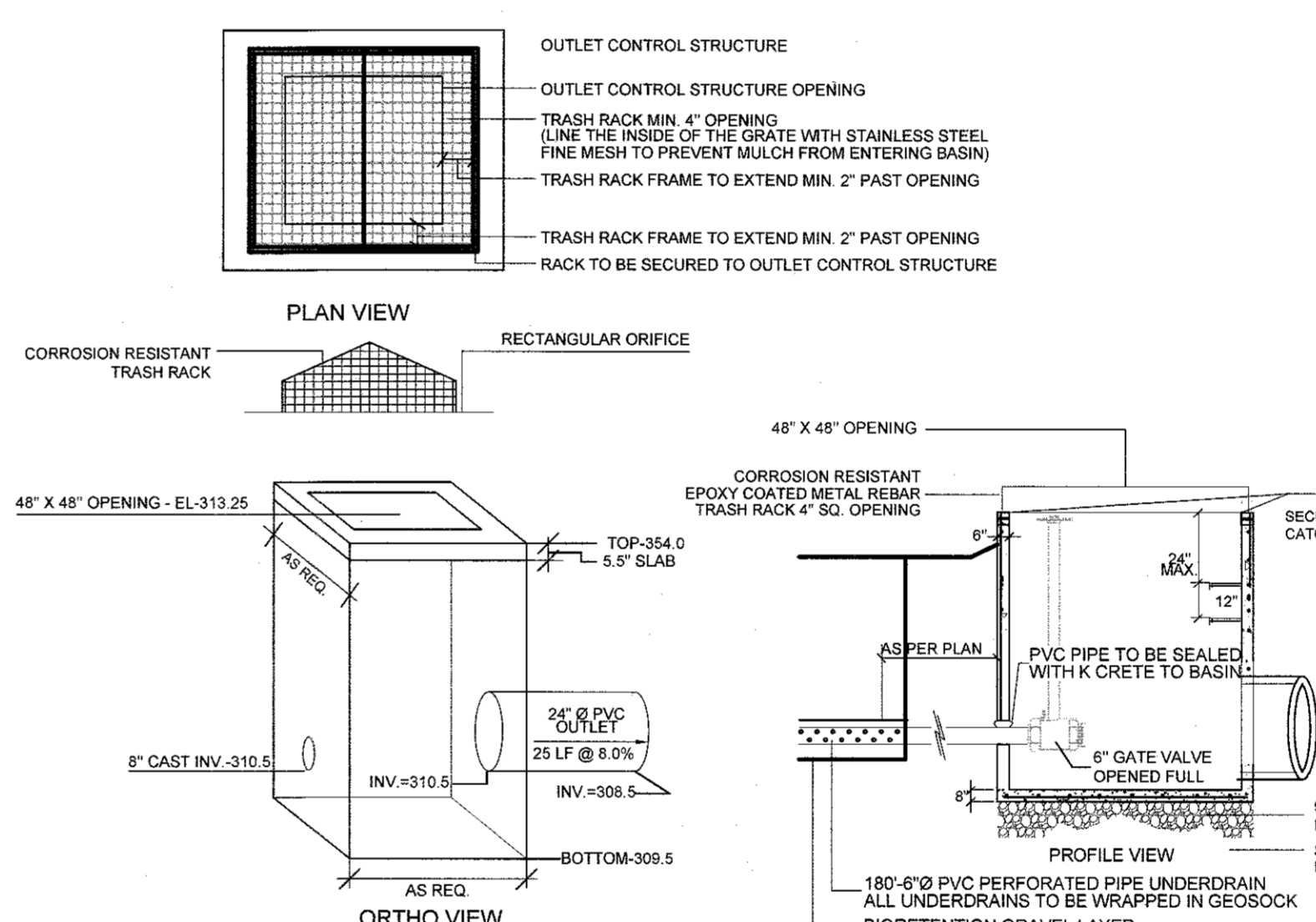
NOTE: THE CONTRACTOR SHOULD BE AWARE THAT DUE TO THE VARYING SIZES AND GEOMETRY OF THE PROPOSED STORM SEWER PIPING THAT ACTUAL CATCH BASIN SIZES SHALL VARY. THE CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE OF 3" FROM THE OUTER DIAMETER OF THE PIPE TO THE INSIDE FACE OF THE CATCH BASIN WALL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL ACTUAL CATCH BASIN SIZES.



- CONSTRUCTION NOTES:
1. THE TOP OF THE PIPES TO BE SET AT EQUAL ELEVATIONS WHEN INLET PIPE IS SMALLER THAN OUTLET PIPE.
 2. POLYPROPYLENE STEEL REINFORCED PLASTIC STEPS AS SUPPLIED BY M.A. INDUSTRIES, OR EQUAL, TO BE SET EVERY 12" TO BOTTOM OF CATCH BASIN.
 3. FRAME AND GRATE TO MEET OR EXCEED H-20 LOADING.
 4. ALL PIPES SHALL BE INSTALLED FLUSH WITH THE INSIDE WALL OF THE CATCH BASIN AND GROUTED IN PLACE ON BOTH THE INSIDE AND OUTSIDE FACE OF THE BASIN.
 5. BRICK FRAME AND GRATE TO GRADE MATCH BOTH CROWN OF ROAD AND SLOPE OF ROAD. A MAXIMUM OF TWO TIERS OF CONCRETE BRICKS OR ONE 6" SOLID CONCRETE BLOCK SHALL BE PERMITTED. RISERS SHALL BE PARGED BOTH INSIDE AND OUTSIDE.
 6. BASE AND RISER SECTIONS SHALL BE INTEGRALLY CAST.
 7. INSIDE DIMENSIONS SHALL REMAIN CONSTANT FROM TOP TO BOTTOM AND SHALL MATCH THE FRAME OPENING OF THE GRATE.
 8. THE BASIN SHALL CONFORM TO ASTM C-785 SPECIFICATIONS AND SHALL HAVE A MIN. 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
 9. PROVIDE PROPER ANCHORING IN CASES OF HIGH GROUNDWATER TO PREVENT FLOATATION.
 10. ALL BASINS WITH A TOTAL DEPTH OF GREATER THAN 8'-0" SHALL HAVE A MIN. WALL THICKNESS OF 8".
 11. LADDER RUNGS TO BE PROVIDED FOR CATCH BASINS IN EXCESS OF 4'-0" TOTAL DEPTH (TOP TO BOTTOM OF SUMP).
 12. FOOTING DRILLS TO CONNECT TO STORM SEWER SYSTEM WHENEVER POSSIBLE.
 13. SHOP DRAWINGS TO REFLECT KNOCKOUTS OR OPENING SIZES INDICATIVE OF OUTSIDE PIPE DIAMETER FOR VARIOUS PIPE SIZES AND LOCATIONS WHERE PIPES DO NOT MEET BASIN AT RIGHT ANGLES.

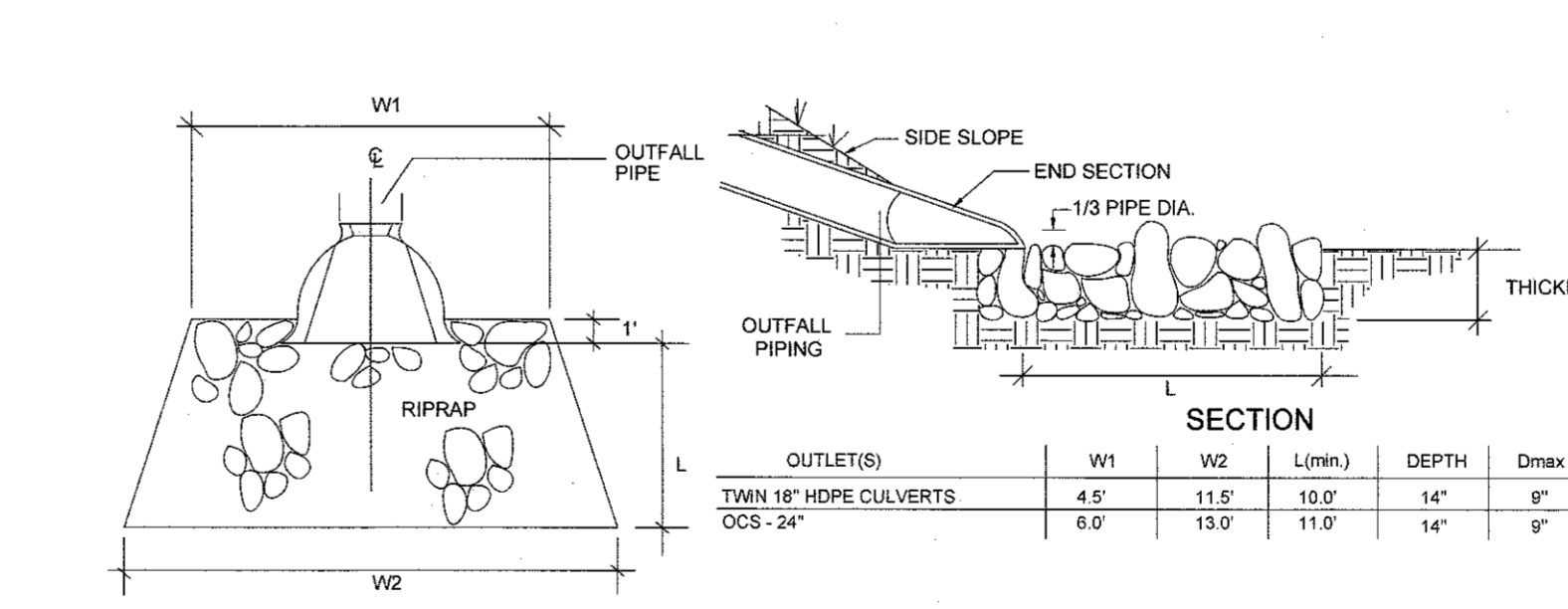
3 TYPICAL CATCH BASIN DETAIL

N.T.S.



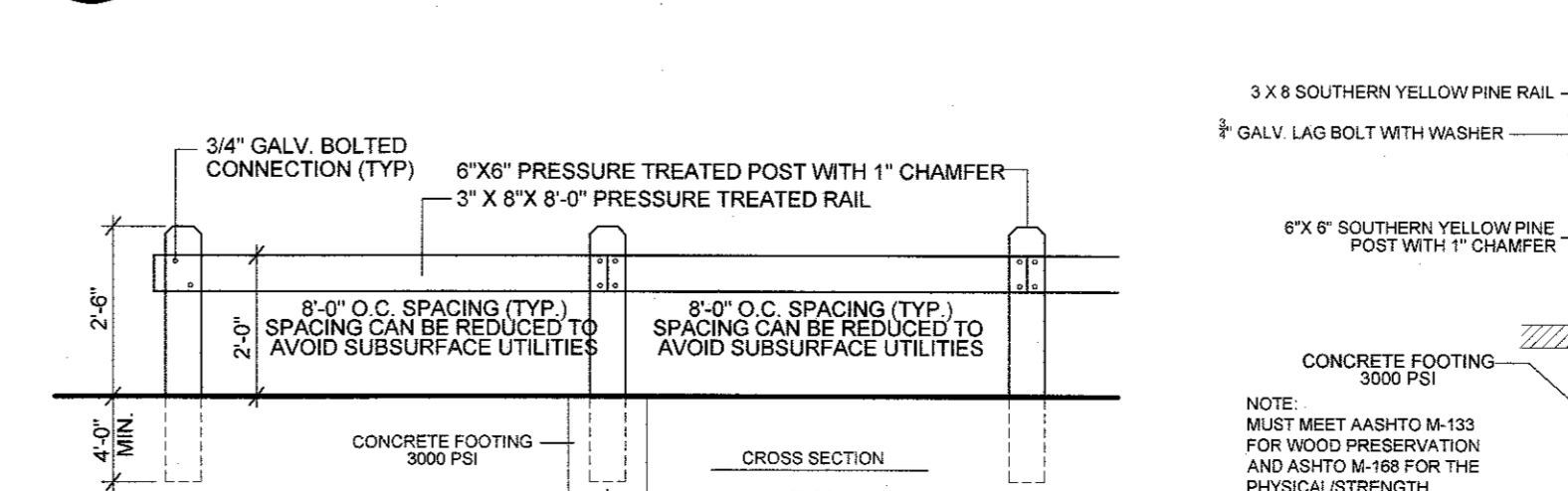
4 OUTLET CONTROL STRUCTURE AND BIORETENTION SECTION DETAIL

N.T.S.



5 RIPRAP OUTFALL SIZING REQUIREMENTS

N.T.S.



6 HEAVY TIMBER GUIDERAIL

N.T.S.



NYSDEC STORMWATER DESIGN MANUAL APPENDIX H.2 BIORETENTION PLANTING SOIL BED CHARACTERISTICS

THE CHARACTERISTICS OF THE SOIL FOR THE BIORETENTION FACILITY ARE PERHAPS AS IMPORTANT AS THE FACILITY LOCATION, SIZE, AND TREATMENT VOLUME. THE SOIL MUST BE PERMEABLE ENOUGH TO ALLOW RUNOFF TO FILTER THROUGH THE MEDIA, WHILE HAVING CHARACTERISTICS SUITABLE TO PROMOTE AND SUSTAIN A ROBUST VEGETATIVE COVER CROP. IN ADDITION, MUCH OF THE NUTRIENT POLLUTANT UPTAKE (NITROGEN AND PHOSPHORUS) IS ACCOMPLISHED THROUGH ADSORPTION AND MICROBIAL ACTIVITY WITHIN THE SOIL PROFILE. THEREFORE, THE SOILS MUST BALANCE THE CHEMISTRY AND PHYSICAL PROPERTIES TO SUPPORT BIOTIC COMMUNITIES ABOVE AND BELOW GROUND.

THE PLANTING SOIL SHOULD BE A SANDY LOAM, LOAMY SAND, LOAM (USDA), OR A LOAM/SAND MIX (SHOULD CONTAIN A MINIMUM 35 TO 65% SAND, BY VOLUME). THE CLAY CONTENT FOR THESE SOILS SHOULD BE LESS THAN 25% BY VOLUME. SOILS SHOULD FALL WITHIN THE SM, OR ML CLASSIFICATIONS OF THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.57/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12 TO 18", LOOSELY COMPACTED (TAMPED LIGHTLY WITH A DOZER OR BACKHOE BUCKET). THE SPECIFIC CHARACTERISTICS ARE PRESENTED IN TABLE H.2.

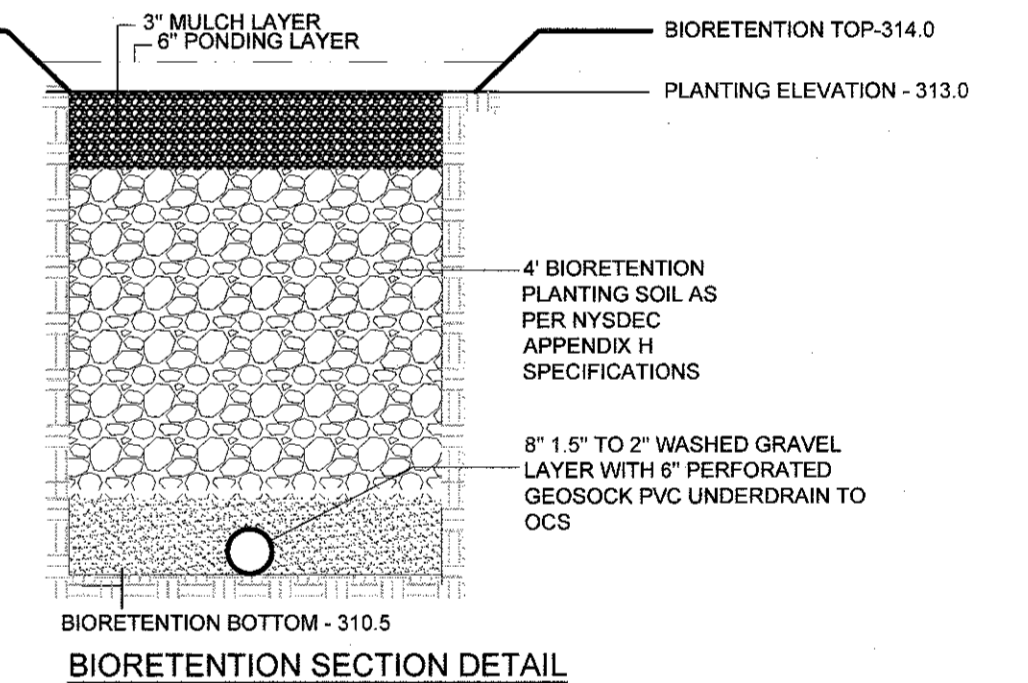
MULCH LAYER
THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM. THE MULCH LAYER HELPS MAINTAIN SOIL MOISTURE AND AVOID SURFACE SEALING WHICH REDUCES PERMEABILITY. MULCH HELPS PREVENT EROSION, AND PROVIDES A MICRO-ENVIRONMENT SUITABLE FOR SOIL BIOTA AT THE MULCH/SOIL INTERFACE. IT ALSO SERVES AS A PRETREATMENT LAYER, TRAPPING THE FINER SEDIMENTS WHICH REMAIN SUSPENDED AFTER THE PRIMARY PRETREATMENT.

THE MULCH LAYER SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE, SHREDDED HARDWOOD MULCH OR CHIPS. THE MULCH LAYER SHOULD BE WELL AGED (STOCKPILED OR STORED FOR AT LEAST 12 MONTHS), UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS, SUCH AS WEED SEEDS, SOIL, ROOTS, ETC. THE MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. GRASS CLIPPINGS SHOULD NOT BE USED AS A MULCH MATERIAL.

LANDSCAPING REQUIREMENTS
1. A DENSE AND VIGOROUS VEGETATIVE COVER SHALL BE ESTABLISHED OVER THE CONTRIBUTING PERVIOUS DRAINAGE AREAS BEFORE RUNOFF CAN BE ACCEPTED INTO THE FACILITY.

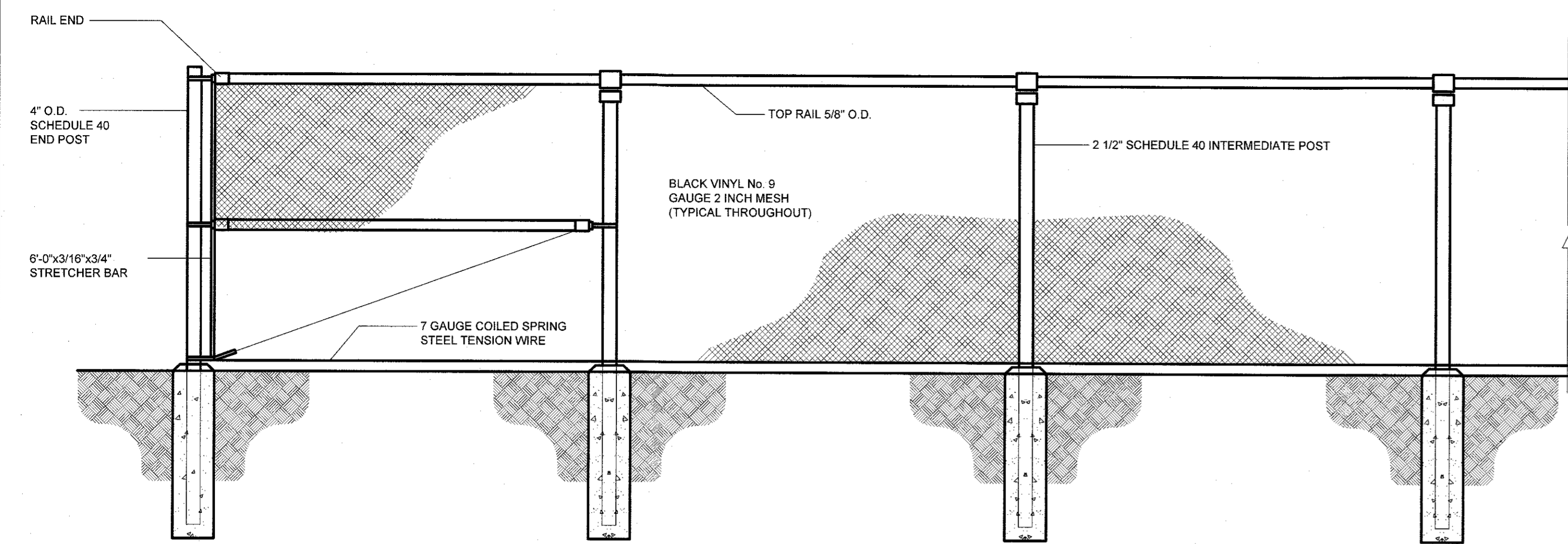
MAINTENANCE REQUIREMENTS
1. A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE AGREEMENT SHALL BE EXECUTED BETWEEN THE FACILITY OWNER AND THE LOCAL REVIEW AUTHORITY TO ENSURE THE FOLLOWING:

- SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF MORE THAN SIX INCHES. VEGETATION WITHIN THE SEDIMENTATION CHAMBER SHALL BE LIMITED TO A HEIGHT OF 18 INCHES. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED/REPAIRED WHEN DRAINOWAYS TIMES EXCEED 36 HOURS. TRASH AND DEBRIS SHALL BE REMOVED AS NECESSARY.
 - SILT/SEDIMENT SHALL BE REMOVED FROM THE FILTER BED WHEN THE ACCUMULATION EXCEEDS ONE INCH WHEN THE FILTERING CAPACITY OF THE FILTER DIMINISHES SUBSTANTIALLY (I.E. WHEN WATER POUNDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 48 HOURS). THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REMOVED AND SHALL BE REPLACED WITH FRESH MATERIAL. THE REMOVED SEDIMENTS SHALL BE DISPOSED IN AN ACCEPTABLE MANNER (I.E. LANDFILL).
 - A STONE DROP (PEA GRAVEL DIAPHRAGM) OF AT LEAST SIX INCHES SHALL BE PROVIDED AT THE INLET OF BIORETENTION FACILITIES. AREAS DEVOID OF MULCH SHALL BE RE-MULCHED ON AN ANNUAL BASIS. DEAD OR DISEASED PLANT MATERIAL SHALL BE REPLACED.
 - INSPECTION PERIODS: MULCHING FREQUENCY - ANNUAL MULCHING IS REQUIRED. REMOVAL AND REPLACEMENT OF DEAD AND DISEASED VEGETATION, TREATMENT OF DISEASED TREES, WATERING SCHEDULE AFTER INITIAL INSTALLATION ONCE PER DAY FOR 14 DAYS IS REQUIRED. REPAIR AND REPLACEMENT OF STAKING AND WIRES.
- WARRANTY - A 2 YEAR WARRANTY PERIOD IS REQUIRED AFTER PLANTING HAS BEEN COMPLETED TO THE SATISFACTION OF THE TOWN ENGINEER. AN 85% SURVIVAL RATE IS REQUIRED. THE PLANTS SHALL BE IN A HEALTHY CONDITION AT THE END OF THE WARRANTY PERIOD.

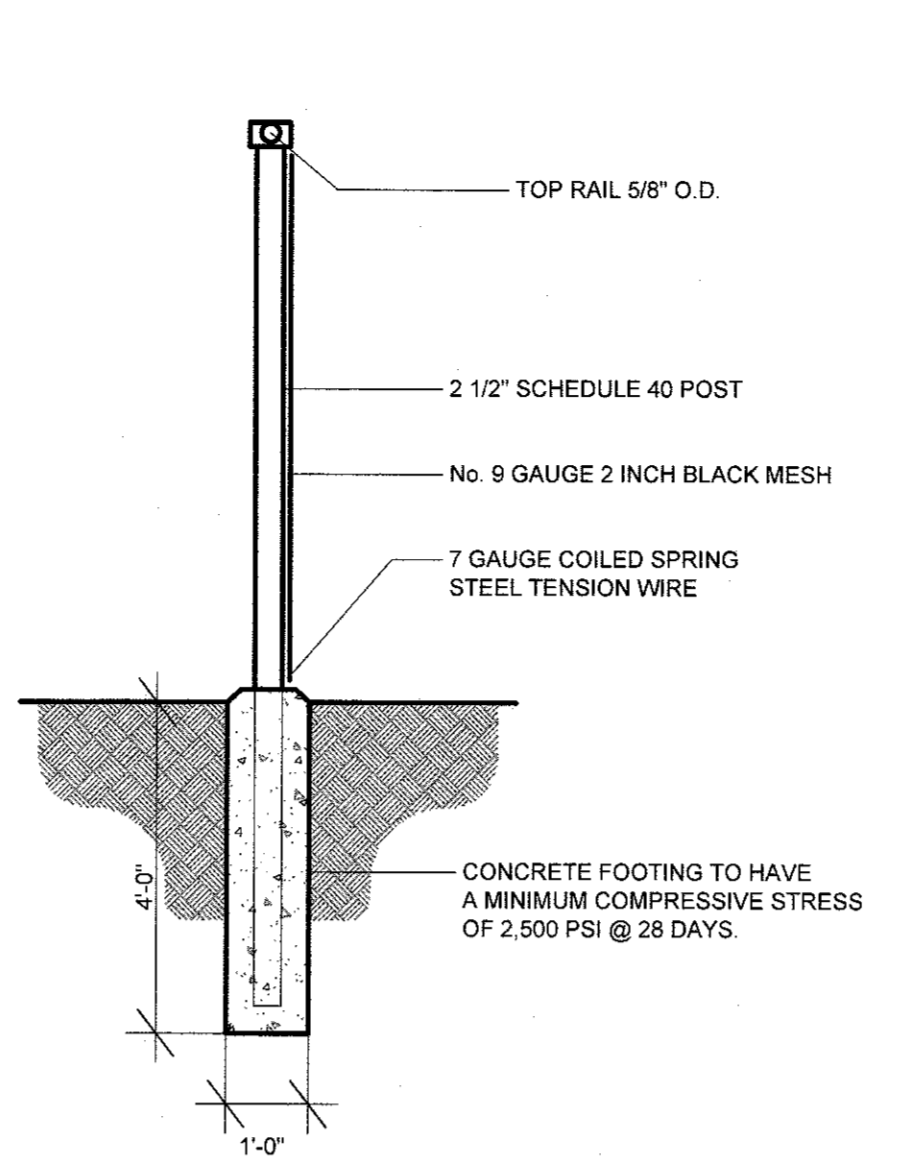


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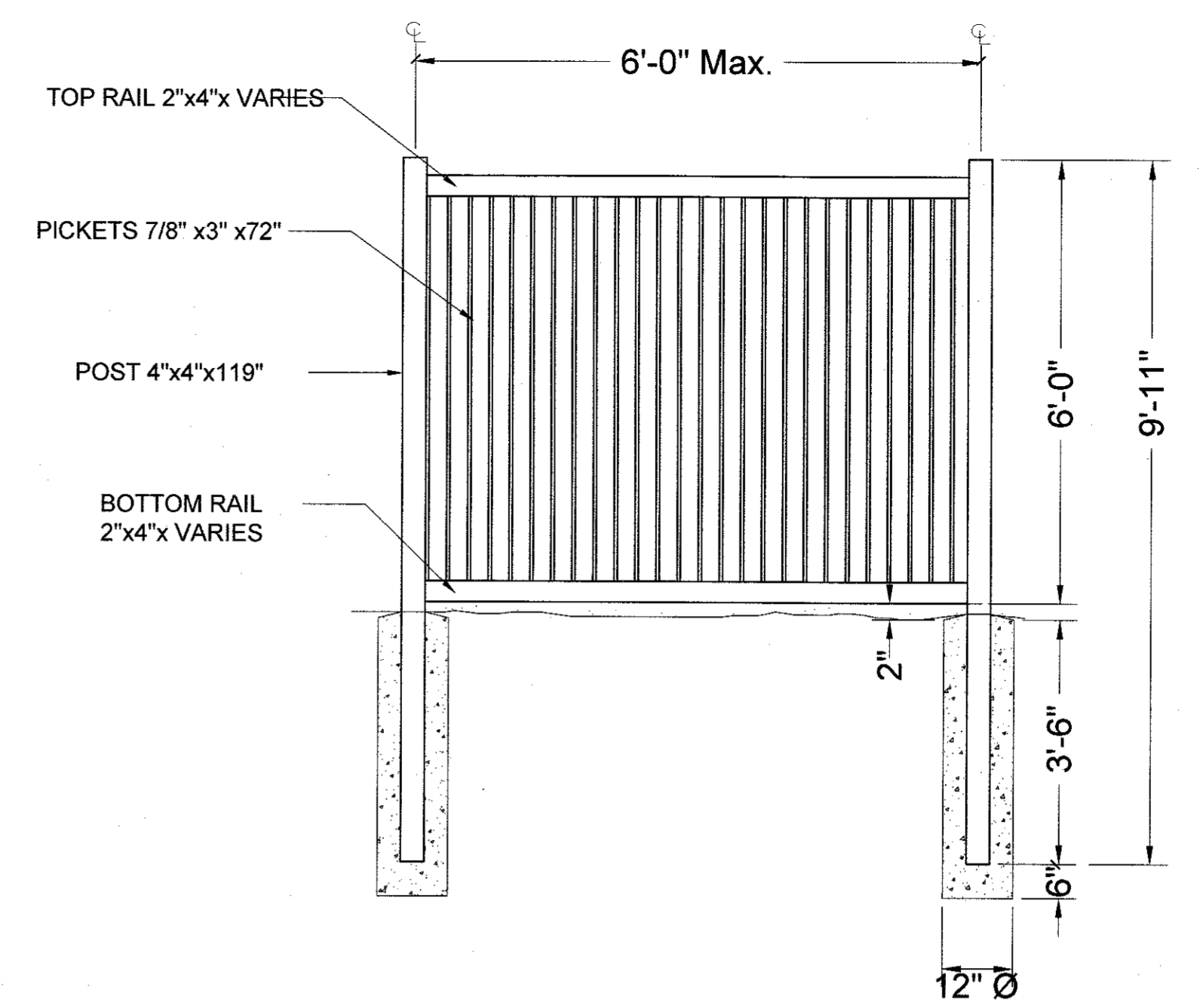
Mark A. Day, PE	
Revision	1-8-2020
Project No.	2016.136
License No. 069646	
DAY STOKOSA ENGINEERING P.C.	
3 Van Wyck Lane Suite 2 Wappingers Falls, New York (845)-223-3202	
PROJECT: Healey KIA - Newburgh 114 NY-17K Town of Newburgh Orange County, New York	
PARTIAL SITE PLAN	
SCALE	1" = 30'
DATE	11-14-19
DRAWN BY	MAD
CHECKED BY	MAD
DRAWING NO.	SP.2
2 of 4	



D.1 8 FT BLACK CHAIN LINK FENCE DETAIL
 Det.1 SCALE: NOT TO SCALE

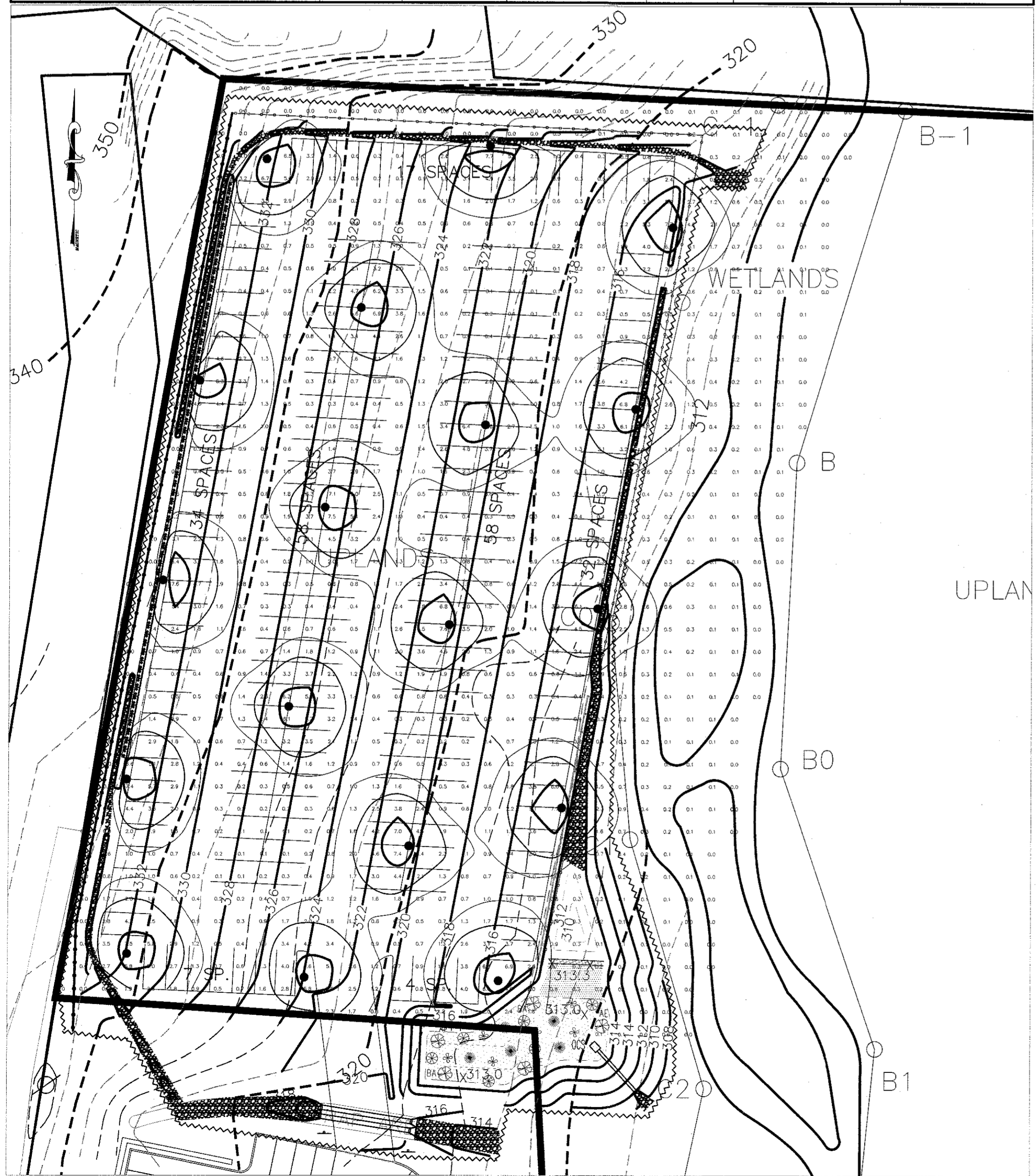


D.2 6 FT BLACK CHAIN LINK FENCE DETAIL
 Det.1 SCALE: NOT TO SCALE

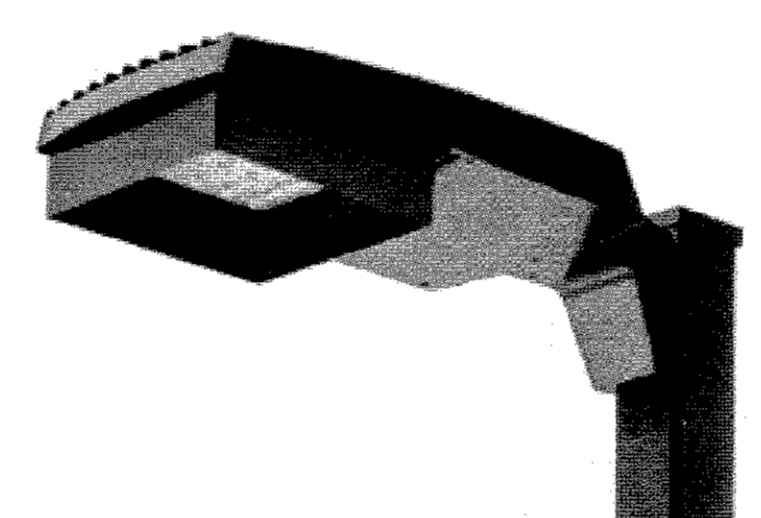


D.3 6 FT WHITE PVC BOARD ON BOARD FENCE DETAIL
 Det.1 SCALE: NOT TO SCALE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	VOLTS	NOTE 1	QUANTITY
Pole	●	(1)	RSX Area Luminaire Size 2 P1 Lumen Package 3000K CCT Type R3S Distribution with EGFV Shield	ELECTRONIC	18' HIGH POLE	Lithonia Lighting, RSX2 LED P1 30K R3S EGFV	120V 1P 2W	/29/2019 SCALED PHOTOMETRY TYPE III VERY SHORT BUG RATING: B2 - U0 - G2 ARM MOUNT 2.35: 1.12, 0.25 RSX2 LED Area Luminaire	18

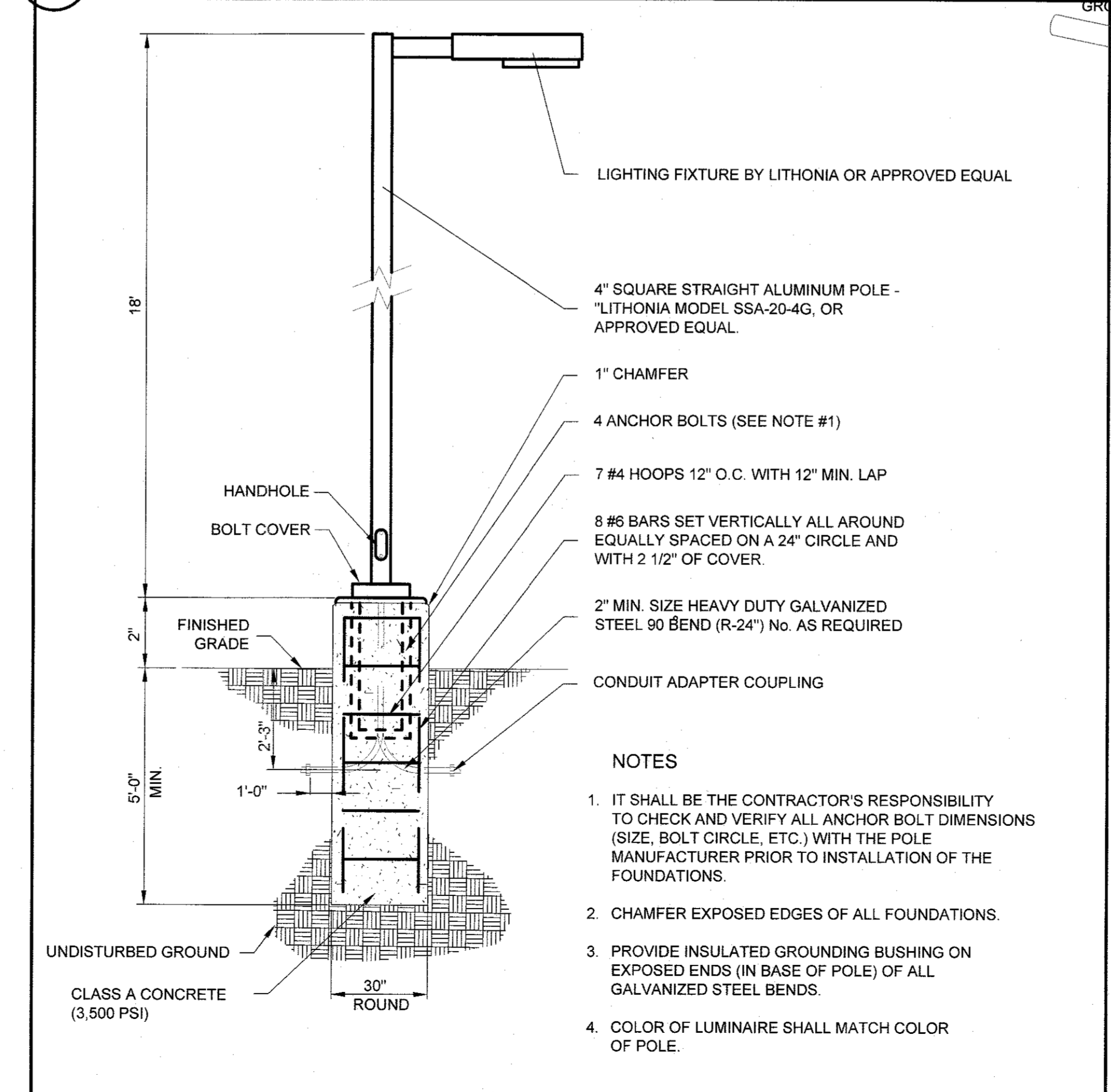


1 LIGHTING PLAN
 Det.1 SCALE: 1" = 40'

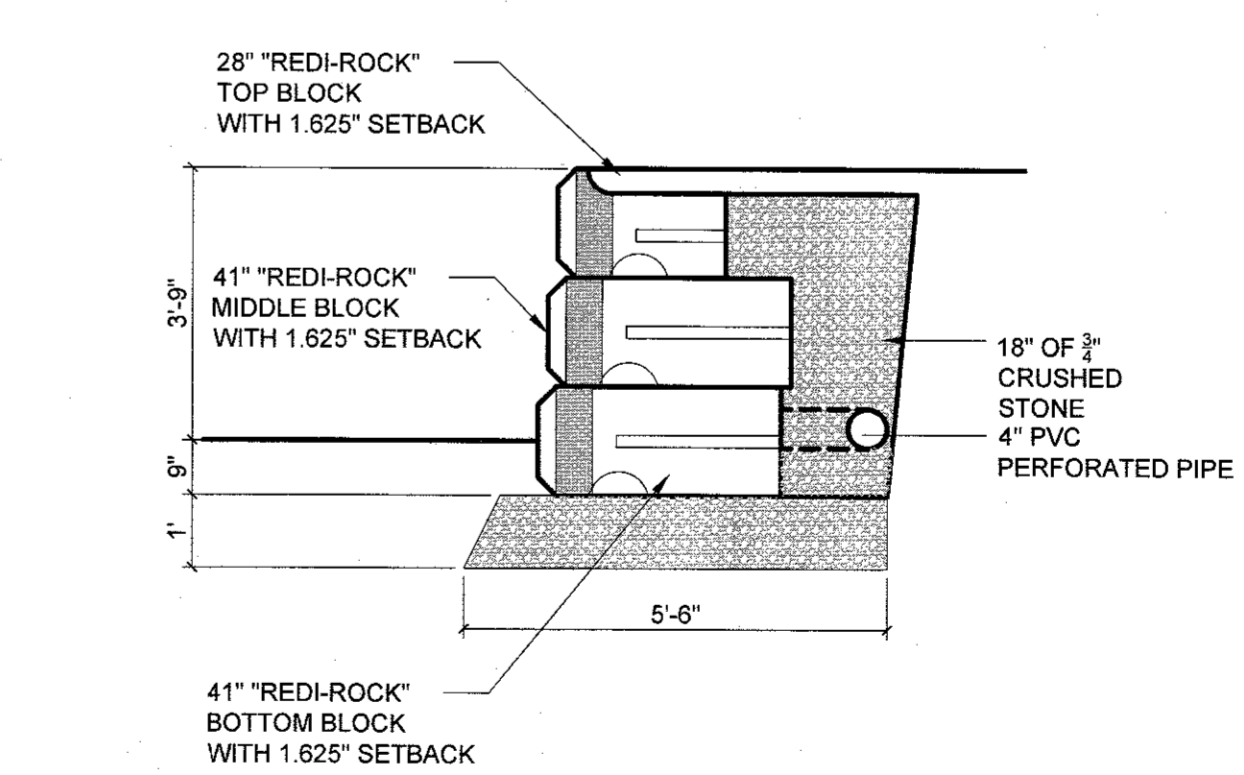
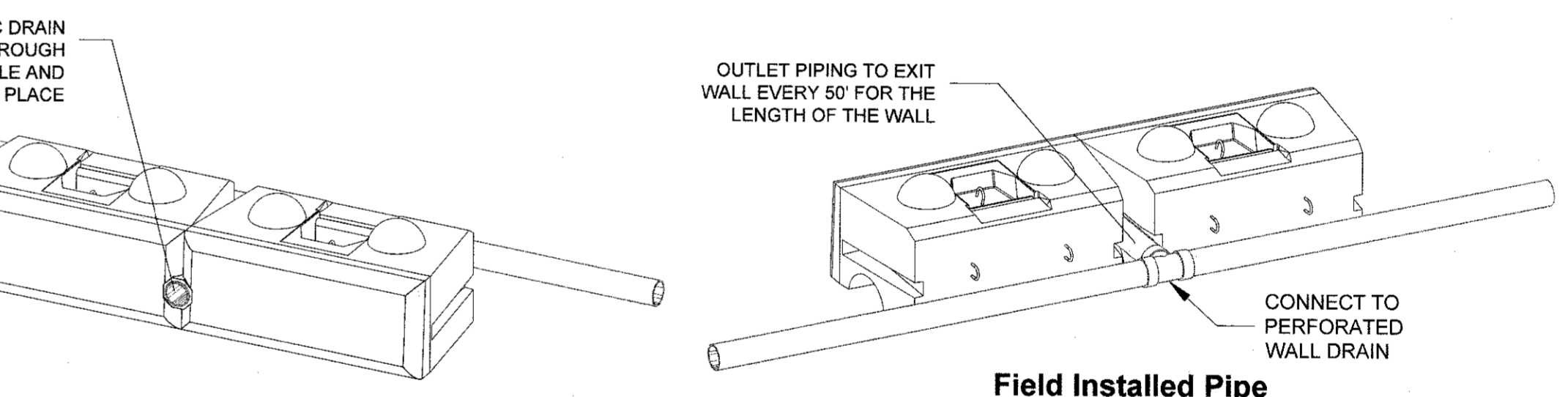
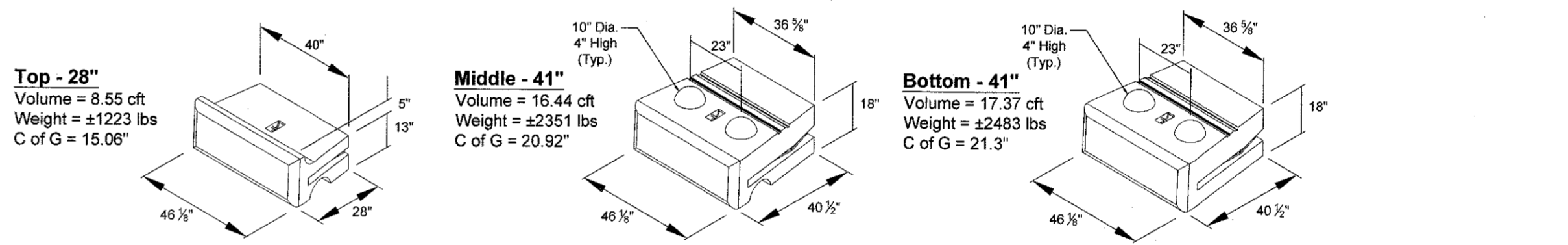


External 360 Full Visor

D.4 LITHONIA RSX2 LED AREA LUMINAIRE WITH FULL VISOR - MOUNTING HEIGHT 18'
 Det.1 SCALE: NOT TO SCALE



D.5 LIGHT POLE BASE AND POLE DETAIL
 Det.1 SCALE: NOT TO SCALE



- GENERAL NOTES:**
- THE CONTRACTOR SHALL EXCAVATE TO THE LINES & GRADES SHOWN HEREON WHILE NOT DISTURBING THE EXISTING EMBANKMENT. THE EXISTING WOODEN RETAINING WALL SHALL BE REMOVED AND DISCARDED IN AN APPROPRIATE LANDFILL.
 - UNSATURABLE SOILS IN THE FOUNDATION SHALL BE REMOVED AND REPLACED WITH 2\"/>
- | SIEVE SIZE | % PASSING |
|------------|-----------|
| 2" | 100 |
| 2" | 100-75 |
| No. 4 | 0-100 |
| No. 200 | 0-35 |
- THE BASE STONE SHALL BE A 12" THICK BED OF 2\"/>

D.6 REDI ROCK RETAINING WALL DETAILS
 Det.1 SCALE: NOT TO SCALE

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Mark A. Day, PE

 1-8-2020
 2016.136 License No. 069646

DAY STOKOSA
 ENGINEERING P.C.
 3 Van Wyck Lane Suite 2
 Wappingers Falls, New York
 (845)-223-3202

PROJECT: **Healey KIA - Newburgh**
 114 NY-17K
 Town of Newburgh Orange County, New York

DETAILS PLAN
 SCALE: AS NOTED DRAWN BY: MAD DRAWING NO.:
 DATE: 11-14-19 CHECKED BY: MAD **DET.1**
 3 of 4

CONSTRUCTION SEQUENCE
 THE APPLICANT PROPOSES NOT TO DISTURB MORE THAN 5.0 AC. AT ONE TIME. PHASE I (APPROXIMATE AREA OF DISTURBANCE 2.7 ACRES) -

- FILE NOI WITH THE N.Y.S.D.E.C. THE APPROVED SEDIMENT AND EROSION CONTROL PLAN SHALL BE FOLLOWED AS REQUIRED. NO DEVIATION IS ALLOWED WITHOUT APPROVAL FROM THE TOWN. COORDINATE ALL ACTIONS WITH THE TOWN AND ENGINEERING DEPARTMENT.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING, AND REMOVING ALL SITE EROSION AND SEDIMENT CONTROLS UNTIL THE SITE IS FLEETED WITH THE NYSDEC.
- THE PARCEL OWNER IS RESPONSIBLE FOR RETAINING A QUALIFIED INDIVIDUAL TO PERFORM ON-SITE INSPECTIONS AS REQUIRED BY THE GP 0-15-002 PERM. DISTURBANCE IS LESS THAN 5.0 AC AT ONE TIME. ONE SWPPP INSPECTION IS REQUIRED PER WEEK. THE TOWN BUILDING DEPARTMENT SHALL BE PROVIDED COPIES OF INSPECTIONS VIA EMAIL DELIVERY.
- PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO CONSTRUCTION WITH THE TOWN ENGINEER, CONTRACTOR, OWNER, AND SWPPP INSPECTOR FOR THE OWNER.
- A NYSLS SHALL FIELD IDENTIFY THE LIMIT OF DISTURBANCE SURROUNDING THE SITE. SEDIMENT HOLDING POND AREA, AND PARCEL ACCESS POINTS AS IDENTIFIED ON THE PLAN SET. ORANGE CONSTRUCTION FENCING LOCATION SHALL BE STAKED NYSLS. IN THE LOCATIONS SHOWN PRIOR TO SITE DISTURBANCE.
- CONSTRUCT SITE ENTRANCE FROM EXISTING REAR PARKING AREA - CLEAR AND ROUGH GRADE AS REQUIRED. STABILIZE SITE DRIVEWAY ACCESS TO SITE BY INSTALLING GRAVEL PER CONSTRUCTION ACCESS DETAIL. STABILIZE ADJACENT BARE AREAS WITH VEGETATION. TEMPORARY FENCING CAN BE INSTALLED IF REQUIRED. INSTALL ORANGE CONSTRUCTION FENCING AROUND ALL BIO-RETENTION AREAS. NO SEDIMENT SHALL ENTER FACILITIES UNTIL THE CONTRIBUTING AREAS ARE FINAL GRADED AND STABILIZED AS APPROVED BY THE TOWN STORMWATER MANAGEMENT AND PROJECT ENGINEER.
- INSTALL SEDIMENT TRAP FOR CONSTRUCTION OF SITE. A NYSLS SHALL STAKE OUT THE LIMIT OF DISTURBANCE IN THE AREA OF THE SEDIMENT TRAP REMOVE TREES. EXISTING PAVEMENT AS REQUIRED FROM SITE. INSTALL WATER BARS, TEMPORARY DIVERSION SWALES, ROUGH GRADE SITE. INSTALL SILT FENCE ALONG THE LOWER SIDE OF THE PROPOSED SEDIMENT TRAP. EXCAVATE AREA FOR SEDIMENT TRAP. INSTALL DEWATERING DEVICE. DEWATERING DEVICE TO OUTLET TO DAYLIGHT. INSTALL OVERFLOW WEIR AS PER TRAP DETAIL. TEMPORARY STABILIZATION OF THE SEDIMENT TRAP AND ADJACENT DIVERSIONS SHALL BE PERFORMED. TEMPORARY STABILIZATION OF THE SITE WHILE UTILITY INSTALLATION (ELECTRIC AND FIBER) IS BEING PERFORMED VIA SEED AND MULCH.
- TEMPORARY STABILIZATION OF THE SITE WHILE UTILITY INSTALLATION (ELECTRIC AND FIBER) IS BEING PERFORMED VIA SEED AND MULCH.
- A DISTURBANCE PLAN SHALL CONSISTENTLY BE UPDATED (INCLUDED IN WEEKLY INSPECTION REPORTS) AS SITE DISTURBANCE CHANGES.
- BIO-RETENTION AREAS SHALL NOT BE INSTALLED UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED TO THE SATISFACTION OF THE TOWN/PROJECT ENGINEER.
- CHECK DAMS CAN BE REMOVED ONCE THE CONTRIBUTING DRAINAGE AREA IS STABILIZED TO THE SATISFACTION OF THE TOWN/PROJECT ENGINEER.

SEEDING NOTES:
 1) EXPOSED SLOPES AND ALL GRADED AREAS SHALL BE SEED WITH THE FOLLOWING GRASS SEED MIX AS REQUIRED:
 STEEP SLOPES (3:1) - PERMANENT SEEDING - SPRING/FALL TALL FESCUE @ 100 LBS PER ACRE KOBE LESPEDEZA @ 10 LBS PER ACRE BAHIA GRASS @ 25 LBS PER ACRE RYE GRASS @ 40 LBS PER ACRE
 4) GRASS SEED MIX MAY BE APPLIED BY EITHER MECHANICAL OR HYDROSEEDING METHODS. HYDROSEEDING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF N.Y. STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
 5) SEEDING AREAS SHALL BE MULCHED AS REQUIRED.
 MID-SUMMER, LATE FALL OR WINTER APPLY AT A RATE OF 100 LBS/1,000 SQ. FT. GRAIN STRAW. COVER WITH NETTING AND STAPLE TO THE SLOPE.
 SPRING OR EARLY FALL APPLY AT A RATE OF 45 LBS/1,000 SQ. FT. WOOD FIBER IN A HYDRO SEEDER SLURRY.

DESCRIPTION OF EROSION CONTROL PRACTICES
 TEMPORARY SWALE - A TEMPORARY EXCAVATED DRAINAGE WAY. THE PURPOSE OF A TEMPORARY SWALE IS TO PREVENT RUNOFF FROM ENTERED DISTURBANCE AREAS BY INTERCEPTING AND DIVERTING IT TO A STABILIZED OUTLET OR TO INTERCEPT SEDIMENT LADEN WATER AND DIVERT IT TO A SEDIMENT TRAPPING DEVICE.
 SILT FENCE - A TEMPORARY BARRIER OF GEOTEXTILE FABRIC (FILTER CLOTH) USED TO INTERCEPT SEDIMENT LADEN RUNOFF FROM SMALL DRAINAGE AREAS OF DISTURBED SOIL. THE PURPOSE OF A SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND EFFECT DEPOSITION OF TRANSPORTED SEDIMENT LOAD. LIMITS IMPOSED BY ULTRAVIOLET STABILITY OF THE FABRIC WILL DICTATE THE MAXIMUM PERIOD THE SILT FENCE MAY BE USED.
 CHECK DAM - SMALL TEMPORARY STONE DAMS CONSTRUCTED ACROSS A DRAINAGE WAY. THE PURPOSE IS TO REDUCE EROSION IN A DRAINAGE CHANNEL BY RESTRICTING THE VELOCITY OF FLOW IN THE CHANNEL.
 STABILIZED CONSTRUCTION ENTRANCE - A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER CLOTH LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT OF WAY, STREET ALLEY, SIDEWALK OR PARKING. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS.
 DUST CONTROL - THE CONTROL OF DUST RESULTING FROM LAND-DISTURBING ACTIVITIES. THE PURPOSE IS TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES THAT MAY CAUSE OFF-SITE DAMAGE, HEALTH HAZARDS, AND TRAFFIC SAFETY PROBLEMS.
 ROCK OUTLET PROTECTION - A SECTION OF ROCK PROTECTION PLACED AT THE OUTLET AND OF THE CULVERTS, CONDUITS, OR CHANNELS. THE PURPOSE OF THE ROCK OUTLET PROTECTION IS TO REDUCE THE DEPTH, VELOCITY, AND ENERGY OF THE WATER, SUCH THAT THE FLOW WILL NOT ERODE THE RECEIVING DOWNSTREAM REACH. SEE EROSION CONTROL PLAN FOR FURTHER DETAIL.

EROSION CONTROL IMPLEMENTATION SCHEDULE (ALL PHASES):

EROSION/SEDIMENT CONTROL PLACEMENT	CONSTRUCTION SEQUENCE
SILT FENCE	PRIOR TO ANY SITE DISTURBANCE/AS REQUIRED AS PER CONSTRUCTION SEQUENCE
STABILIZED CONSTRUCTION ENTRANCE	PRIOR TO ANY GRADING OF THE SITE/AS REQUIRED AS PER CONSTRUCTION SEQUENCE
SEDIMENT TRAP	PRIOR TO ANY GRADING OF THE ROAD/AS REQUIRED AS PER CONSTRUCTION SEQUENCE
SILT FENCE (ADDITIONAL)	INSTALL AS REQUIRED DURING RD CONSTRUCTION/AS REQUIRED AS PER CONSTRUCTION SEQUENCE
CHECK DAM	AS REQUIRED AS PER CONSTRUCTION SEQUENCE
CATCH BASIN PROTECTION	DURING ROUGH GRADING OF ROAD/AS REQUIRED AS PER CONSTRUCTION SEQUENCE
RIPRAP OUTLET/OVERFLOW	AS REQUIRED AS PER CONSTRUCTION SEQUENCE

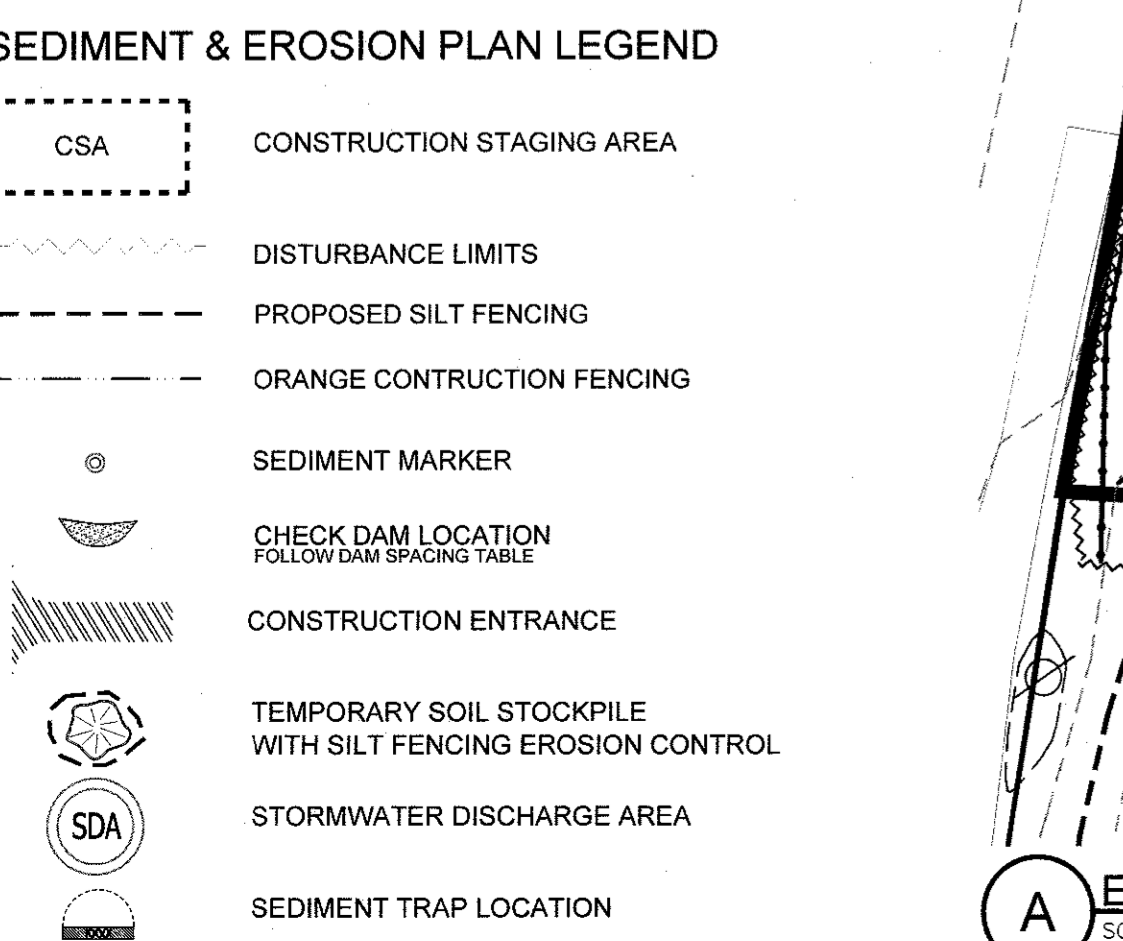
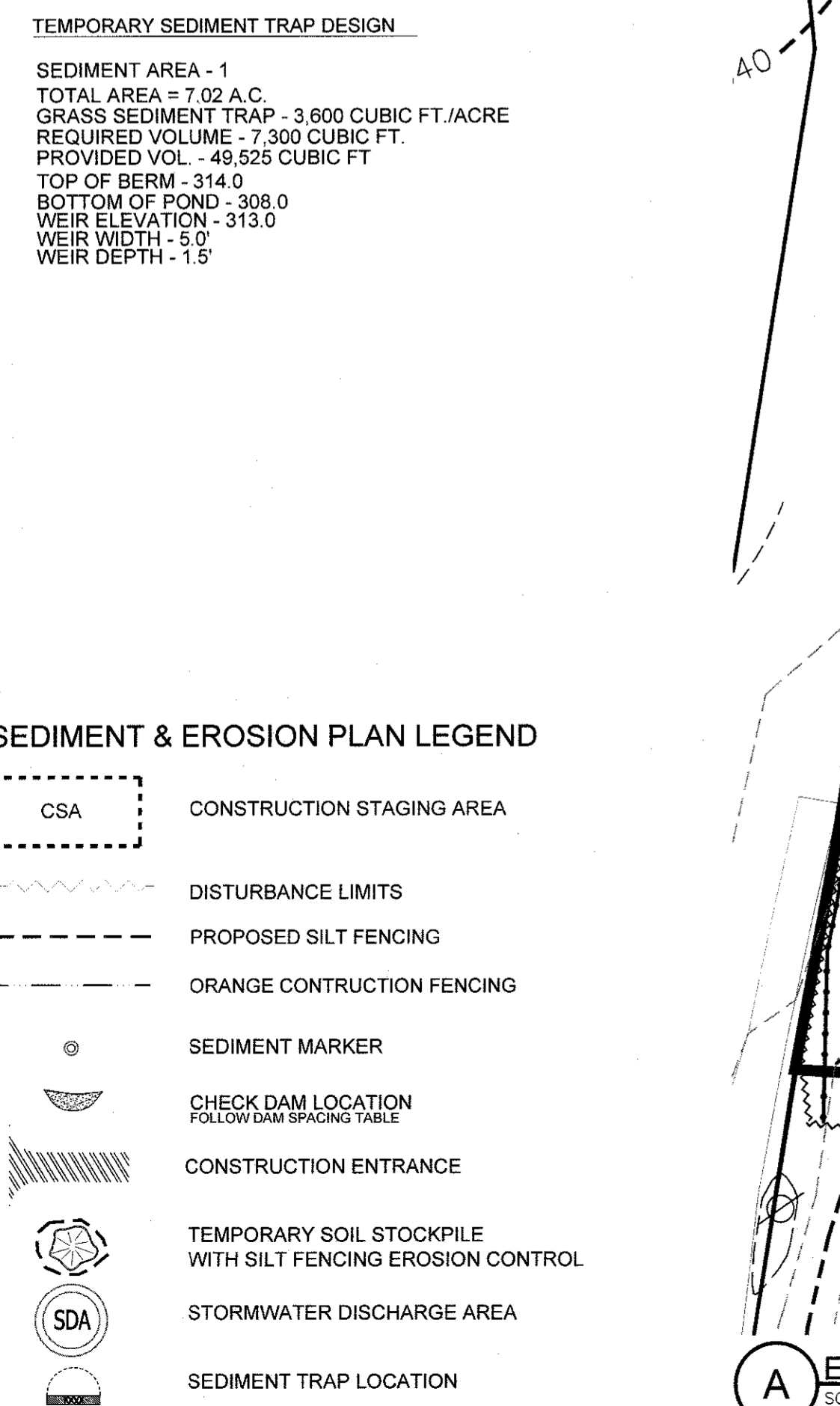
- REFER TO CONSTRUCTION SEQUENCE FOR ADDITIONAL INFORMATION

CONSTRUCTION EROSION CONTROL MAINTENANCE SCHEDULE (ALL PHASES):

STRUCTURE	INSPECTION	MAINTENANCE REQUIRED	STRUCTURE TYPE
SILT FENCE	WEEKLY	REPAIR, REPLACE	TEMPORARY
STABILIZED CONSTRUCTION ENTRANCE	DAILY	REPAIR, REPLACE	TEMPORARY
LITTER	DAILY	PICK UP	-
CHECK DAM	WEEKLY	REPAIR	TEMPORARY
DUST	DAILY	SPRAYING, SWEEPING	-
RIPRAP OUTLET/OVERFLOW	WEEKLY	REPAIR	PERMANENT
VEGETATION ESTABLISHMENT	WEEKLY	WATERING, SEEDING	PERMANENT
SEDIMENT TRAP	WEEKLY	REPAIR, DEEPEN	TEMPORARY

SILT FENCE DISTURBANCE PLAN UPDATE - REFER TO CONSTRUCTION SEQUENCE FOR ADDITIONAL INFORMATION

TEMPORARY SEDIMENT TRAP DESIGN
 SEDIMENT AREA - 1
 TOTAL AREA = 7.02 AC.
 GRASS SEDIMENT TRAP - 3,600 CUBIC FT./ACRE
 REQUIRED VOLUME - 7,300 CUBIC FT.
 PROVIDED VOL. - 49,525 CUBIC FT.
 TOP OF BERM - 314.0
 BOTTOM OF POND - 308.0
 WEIR ELEVATION - 313.0
 WEIR WIDTH - 5'-0"
 WEIR DEPTH - 1'-5"



DISTURBED AREA SOIL RESTORATION REQUIREMENTS

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

*Acration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
 **Per "Deep Ripping and De-compaction, DEC 2008".

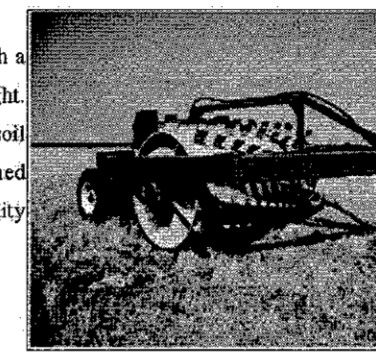
Figure 5.16 Soil aerator implement



Using this Practice

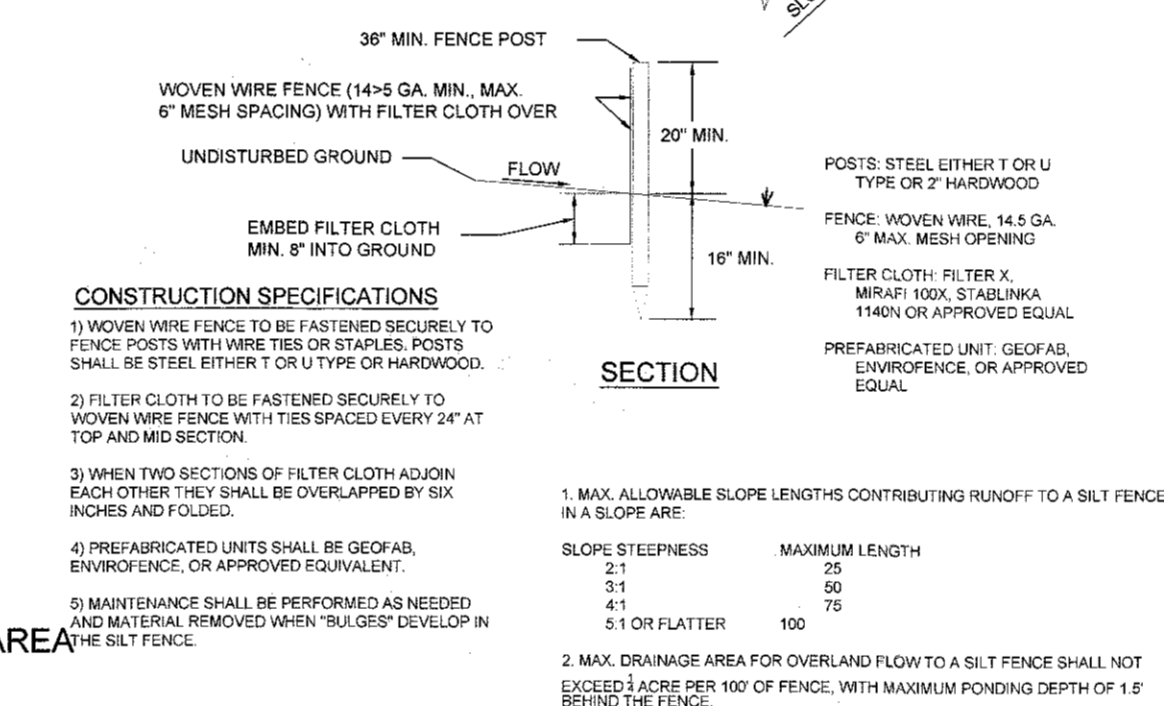
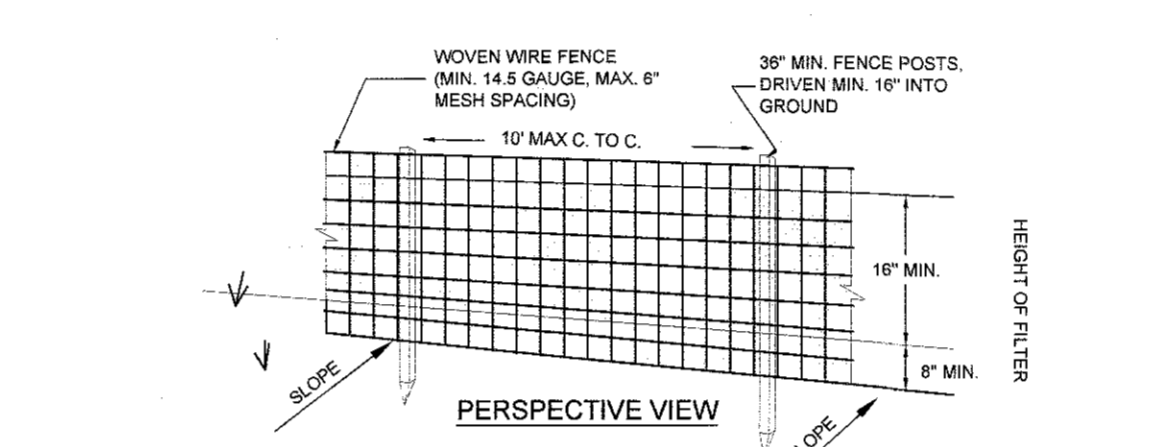
- During periods of relatively low to moderate subsoil moisture, the disturbed subsoils are returned to rough grade and the following Soil Restoration steps applied:
- Apply 3 inches of compost over subsoil
 - Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils
 - Rock-pick until uplifted stone/rock materials of four inches and larger size are cleaned off the site
 - Apply topsoil to a depth of 6 inches
 - Vegetate as required by approved plan.

Figure 5.17 Soil aerator implement



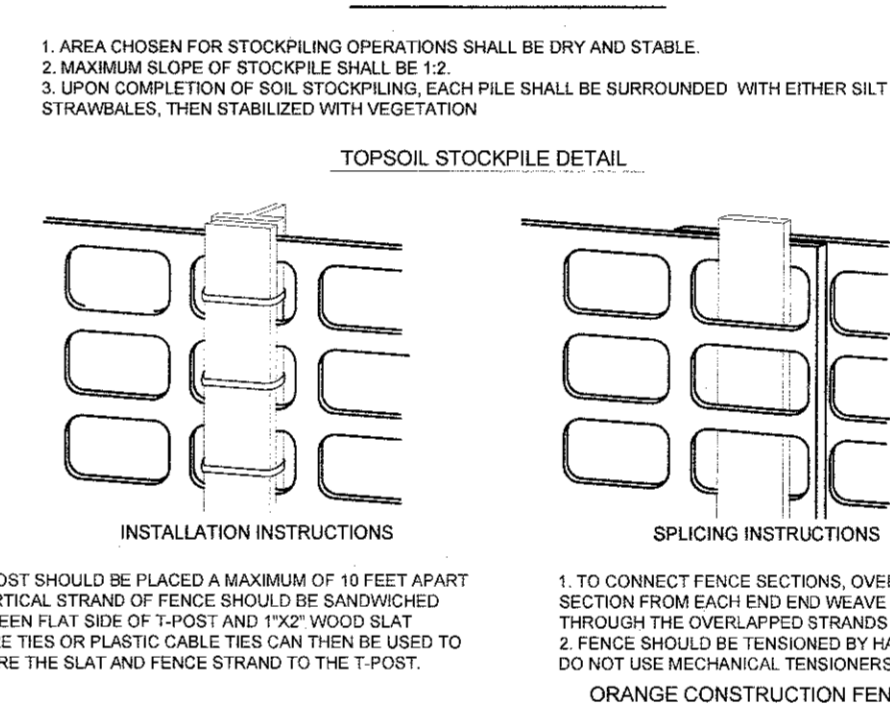
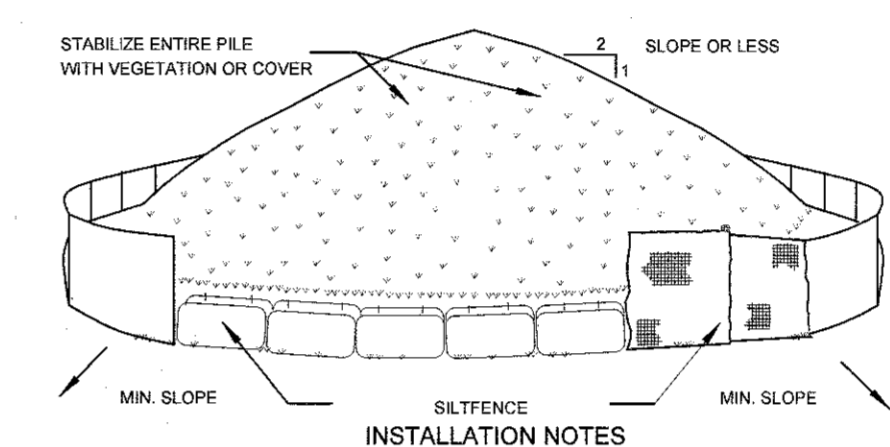
At the end of the project an inspector should be able to push a 3/8" metal bar 12 inches into the soil just with body weight. Figures 5.16 and 5.17 show two attachments used for soil decompaction. Tilling (step 2 above) should not be performed within the drip line of any existing trees or over utility installations that are within 24 inches of the surface.

COMPOST SPECIFICATIONS



CONSTRUCTION SPECIFICATIONS

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STRAPERS. POSTS SHALL BE STEEL EITHER T OR U TYPE OR HARDWOOD.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 4" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- PREFABRICATED UNITS SHALL BE GEOTAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



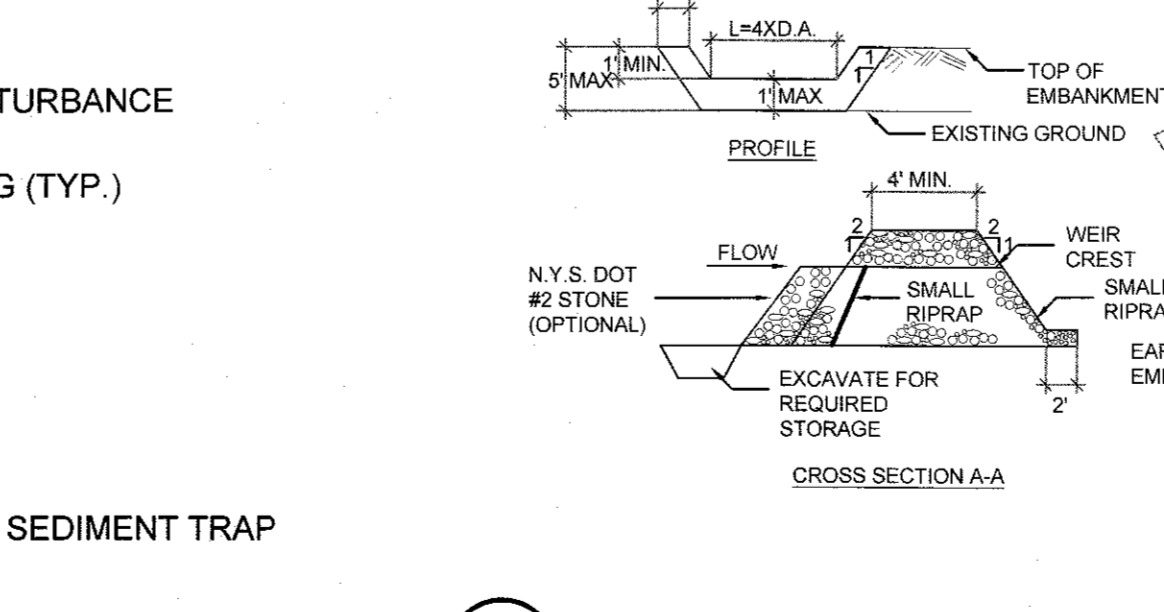
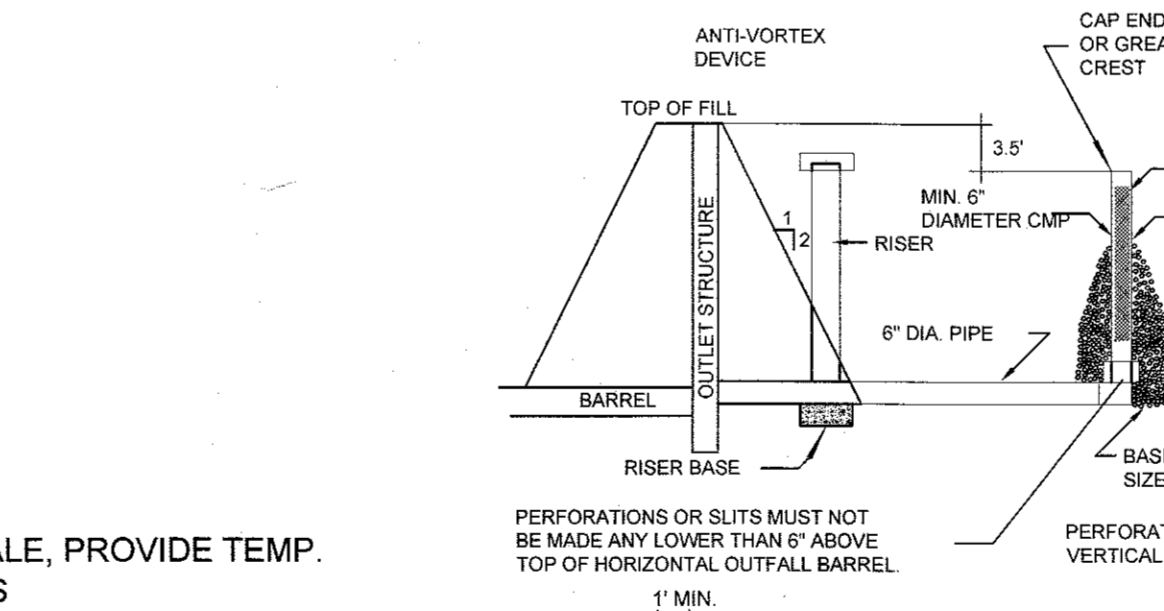
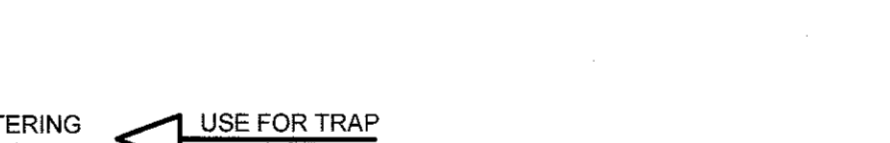
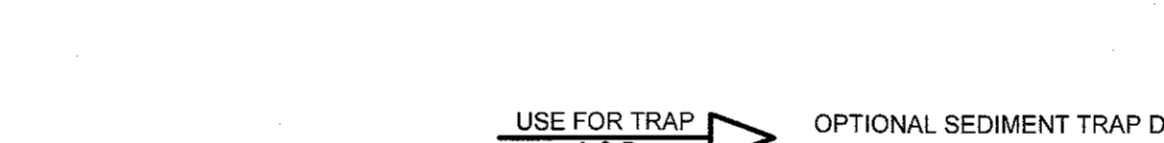
INSTALLATION INSTRUCTIONS

1. POST SHOULD BE PLACED A MAXIMUM OF 10 FEET APART
2. VERTICAL STRAND OF FENCE SHOULD BE SANDWICHED BETWEEN FLAT SIDE OF T-POST AND 1"x2" WOOD SLAT
3. WIRE TIES OR PLASTIC CABLE TIES CAN THEN BE USED TO SECURE THE SLAT AND FENCE STRAND TO THE T-POST.

SPlicing INSTRUCTIONS

1. TO CONNECT FENCE SECTIONS, OVERLAP 2 STRAND SECTION FROM EACH END AND WELVE A 1"x2" SLAT THROUGH THE OVERLAPPED STRANDS
2. FENCE SHOULD BE TENSIONED BY HAND ONLY. DO NOT USE MECHANICAL TENSIONERS.

ORANGE CONSTRUCTION FENCE DETAIL



CONSTRUCTION SPECIFICATIONS

- AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
- THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER WOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVELING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
- THE STONE USED IN THE OUTLET SHALL BE SMALL RIPRAP 4"-8" ALONG WITH A 1" THICKNESS OF 2" AGGREGATE PLACED ON THE UP-GRADE SIDE OF THE SMALL RIPRAP OR EMBEDDED FILTER CLOTH IN THE RIPRAP.
- 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.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION IS MINIMIZED.
- THE STRUCTURE SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED. MAXIMUM DRAINAGE AREA 5 ACRES

Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

Maintenance
 A simple maintenance agreement should identify where Soil Restoration is applied, where newly restored areas are/cannot be cleared, who the responsible parties are to ensure that routine vegetation improvements are made (i.e., thinning, invasive plant removal, etc.). Soil compost amendments within a filter strip or grass channel should be located in public right of way, or within a dedicated stormwater or drainage easement.

- First year maintenance operations includes:
- Initial inspections for the first six months (once after each storm greater than half-inch)
 - Reseeding to repair bare or eroding areas to assure grass stabilization
 - Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
 - Fertilization may be needed in the fall after the first growing season to increase plant vigor

Ongoing Maintenance:
 Two points help ensure lasting results of decompaction:
 1) Planting the appropriate ground cover with deep roots to maintain the soil structure
 2) Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths. (Sometimes it may be necessary to de-thatch the turf every few years)

IT IS A VIOLATION OF NEW YORK STATE EDUCATION LAW FOR ANY PERSONS TO ALTER THESE PLANS, SPECIFICATIONS, OR REPORTS IN ANY WAY, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR.

Mark A. Day, PE
 STATE OF NEW YORK
 PROFESSIONAL ENGINEER
 License No. 069646

DAY STOKOSA
 ENGINEERING P.C.
 3 Van Wyck Lane Suite 2
 Wappingers Falls, New York
 (845)-223-3202

Healey KIA - Newburgh
 114 NY-17K
 Town of Newburgh Orange County, New York
Erosion and Sediment Control Plan
 SCALE: AS NOTED
 DATE: 11-14-19
 DRAWN BY: MAD
 CHECKED BY: MAD
ESC.1
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