

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2)**

A. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OF DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

**OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A-4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

**OWNER**  
FRANK A. MANAGO III  
4109 WALDRD STREET  
BALTIMORE, MD 21229-4142  
C/O (410)375-1052

**DEVELOPER**  
PATAPSCO BUILDERS, LLC  
C/O BURKARD HOMES, LLC  
5300 DORSEY HALL DRIVE, SUITE 102  
ELICOTT CITY, MD 21042  
(410)375-1052

**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *R. JACOB HIKMAT* DATE: 7/27/15

R. JACOB HIKMAT, PE  
PRINTED NAME OF ENGINEER

**DEVELOPER'S CERTIFICATE**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

SIGNATURE OF DEVELOPER: *Timothy C. Budard* DATE: 7/27/15

TIMOTHY C. BUDARD  
PRINTED NAME OF DEVELOPER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF HOWARD SOIL CONSERVATION DISTRICT: *John C. Blanton* DATE: 8/15/15

APPROVED: DEPARTMENT OF PUBLIC WORKS

SIGNATURE OF DEPARTMENT OF PUBLIC WORKS: *Michael* DATE: 8/15/15

APPROVED: DEPARTMENT OF PLANNING AND ZONING

SIGNATURE OF DEPARTMENT OF PLANNING AND ZONING: *Chad Clark* DATE: 8-19-15

SIGNATURE OF DEPARTMENT OF PLANNING AND ZONING: *Chad Clark* DATE: 8-24-15

**B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms**

1. **Material Specifications**  
The allowable materials to be used in these practices are detailed in Table B.4.1.

2. **Filtering Media or Planting Soil**

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
- Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
- Clay Content - Media shall have a clay content of less than 5%.
- pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. **Compaction**

It is very important to minimize compaction of both the base of bio-retention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are

Supp. 1 B.4.4

Appendix B.4. Construction Specifications for Environmental Site Design Practices

excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bio-retention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bio-retention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bio-retention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bio-retention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bio-retention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. **Plant Material**

Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.

5. **Plant Installation**

Compost is a better organic material source, is less likely to float, and should be placed in the heaviest and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bio-retention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/4" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

B.4.5 Supp. 1

**STORMWATER MANAGEMENT PRACTICES**

LOT #	ADDRESS	GREEN ROOF (Y/N)	PERMEABLE PAVEMENTS (Y/N)	REINFORCED TURF (Y/N)	DISCONNECTION OF ROOFTOP RUNOFF (Y/N)	DISCONNECTION OF NON-ROOFTOP RUNOFF (Y/N)	SHEETFLOW TO CONSERVATION AREAS (Y/N)	RAINWATER HARVESTING (Y/N)	SUBMERGED GRAVEL WETLANDS (Y/N)	LANDSCAPE INFILTRATION (Y/N)	INFILTRATION BERMS (Y/N)	DRY WELLS (Y/N)	MICRO-BIORETENTION (Y/N)	RAIN GARDENS (Y/N)	SWALES (Y/N)	ENHANCED FILTERS (Y/N)
1	8686 PINE ROAD	N	N	N	0	Y	N	0	0	0	0	0	1	0	0	0
2	8684 PINE ROAD	N	N	N	0	Y	N	0	0	0	0	4	0	0	0	0
3	8682 PINE ROAD	N	N	N	0	Y	N	0	0	0	0	2	1	0	0	0
4	8688 PINE ROAD	N	N	N	0	Y	N	0	0	0	0	2	1	0	0	0
5	8686 PINE ROAD	N	N	N	0	N	N	0	0	0	0	4	0	0	0	0
6	8684 PINE ROAD	N	N	N	0	N	N	0	0	0	0	4	0	0	0	0
D/W		N	N	N	0	Y	N	0	0	0	0	0	0	0	0	0

**SHEET INDEX**

SHEET NO.	TITLE
1	COVER SHEET
2	SUPPLEMENTAL, GRADING, EROSION & SEDIMENTAL CONTROL, AND SWM PLAN
3	SUPPLEMENTAL, LANDSCAPE AND FOREST CONSERVATION PLAN
4	DRAINAGE AREA MAP, STORM DRAIN PROFILES, AND DETAILS
5	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
6	PINE ROAD IMPROVEMENTS
7	DETOUR PLAN
8	OFF-SITE FOREST CONSERVATION PLAN

NOTE: SOILS INFORMATION CAN BE FOUND ON SHEET 2 OF THIS PLAN SET

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.

SIGNATURE OF ENGINEER: *R. JACOB HIKMAT* DATE: 7/27/15

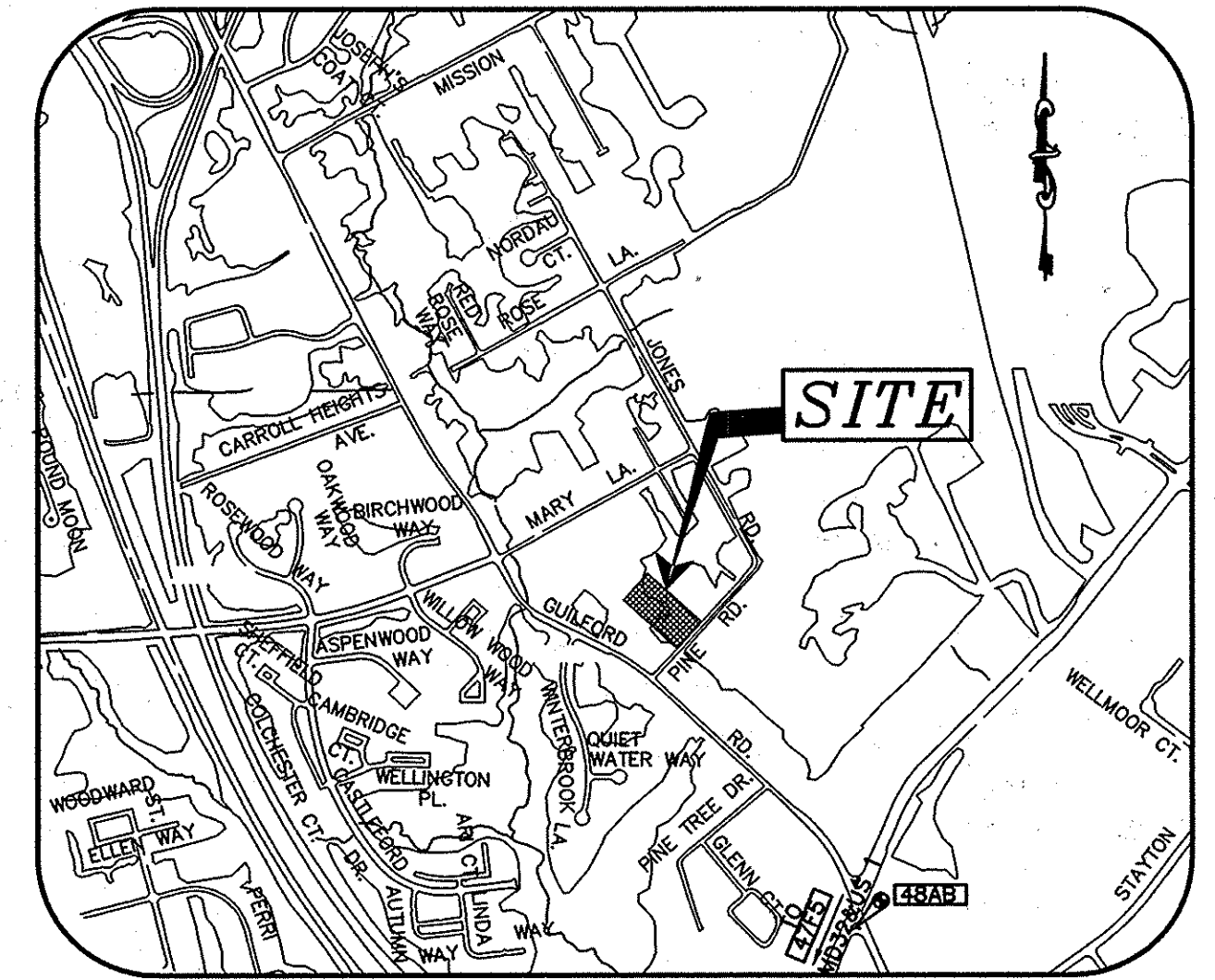
# SUPPLEMENTAL AND ROAD IMPROVEMENT PLANS

## PINE GROVE ADDITION

### LOTS 1 THRU 6

## SIXTH ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND



**VICINITY MAP**  
SCALE: 1" = 1000'  
ADC MAP 41 - GRID A2

**SHEET INDEX**

**Appendix B.4. Construction Specifications for Environmental Site Design Practices**

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bio-retention structure is to improve water quality. Adding fertilizers, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. **Underdrains**

Underdrains should meet the following criteria:

- Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
- Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/2" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
- The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (1/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. **Miscellaneous**

These practices may not be constructed until all contributing drainage area has been stabilized

**Appendix B.4. Construction Specifications for Environmental Site Design Practices**

**Table B.4.1. Materials Specifications for Micro-Bioretenion, Rain Gardens & Landscape Infiltration**

Material	Specification	Size	Notes
Planting soil	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2' to 4' deep)	loamy sand (60% to 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)	n/a	
Mulch	shredded hardwood	n/a	aged 6 months, minimum; no pine or wood chips
Free gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" to 3/8")	
Curtain drain	omniblock stone: washed cobble	stone: 2" to 5"	
Geotextile			FE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary unless pipe shall be wrapped with 1/2-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Mix No. 3; F <sub>c</sub> = 3500 psi @ 28 days, normal weight, air-entrained; references to meet ASTM-615-00	n/a	on-site testing of poured-in-place concrete required; 28 day strength and slump tests; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 530.9.6; vertical loading [15-10 or 15-20]; allowable horizontal loading (based on soil pressure); and analysis of potential cracking. Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Sand	AASHTO-M-6 or ASTM-C-33	0.075" to 0.04"	

- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, INC., DATED MAY, 2014 AND APPROVED ON JULY 11, 2015.
- IMPROVEMENTS TO PINE ROAD WILL INCLUDE THE CONSTRUCTION OF A CONCRETE SIDEWALK, CURB AND GUTTER, AND THE REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT PER HOWARD COUNTY'S ROADWAY WIDENING DETAIL. SEE SHEETS 2, 4, AND 6 FOR LOCATIONS AND DETAILS.
- NO STEEP SLOPES THAT AVERAGE 25% OR GREATER OVER 10 VERTICAL FEET WITH A 20,000 SF OR GREATER ONSITE AND OFFSITE CONTIGUOUS AREA ARE LOCATED ON THIS SITE.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127- RESIDENTIAL INFILL DEVELOPMENT- OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
- A PRE-SUBMISSION MEETING WAS HELD FOR THIS PROJECT ON JUNE 2, 2014 AT 6:00 PM AT THE LAUREL COMMUNITY CENTER IN HOWARD COUNTY, MARYLAND.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 RESIDENTIAL INFILL DEVELOPMENT OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTION AND ORIENTATION OF THE PROPOSED HOUSES.
- WATER IS PUBLIC (CONTRACT 24-4895-D, "LITTLE PATUXENT" DRAINAGE AREA).
- SEWER IS PUBLIC (CONTRACT 24-4895-D, "LITTLE PATUXENT" DRAINAGE AREA).
- LOCATIONS OF EXISTING UTILITIES ARE BASED ON BOTH FIELD RUN SURVEY PERFORMED BY MILDENBERG, BOENDER, AND ASSOCIATES, IN JULY, 2014 AND "AS-BUILT" WATER AND SEWER PLANS ON FILE AT HOWARD COUNTY.

**NOTES:**

- SITE ANALYSIS DATA:  
LOCATION: TAX MAP: 47 GRID: 6 PARCEL: 50  
ELECTION DISTRICT: SIXTH  
ZONING: R-12  
TOTAL AREA: 1.83 AC ±  
LIMIT OF DISTURBED AREA: 1.98 AC ± (INCLUDING RIGHT-OF-WAY)  
PROPOSED USE FOR SITE: RESIDENTIAL  
TOTAL NUMBER OF UNITS: 6  
TYPE OF PROPOSED UNIT: SFD  
DEED REFERENCE: L 9465, F 0001  
PREVIOUS DPZ NUMBERS: ECP-14-092, WP-15-082
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 475 & 484  
STA. No. 475 N 535,985.0412 E 1,365,653.4555 ELEV. 234.996  
STA. No. 484 N 538,384.4474 E 1,366,415.7904 ELEV. 225.653
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (COULDFIELD BILL 45-2003). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION OR BUILDING/GRADING PERMIT.
- SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLINGS ON THESE LOTS.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH 16.127 RESIDENTIAL INFILL DEVELOPMENT OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
- PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JULY, 2014 BY MILDENBERG, BOENDER AND ASSOC., INC.
- TOPOGRAPHY ON-SITE AND WITHIN 200' OF SITE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PERFORMED ON OR ABOUT JULY, 2014 BY MILDENBERG, BOENDER AND ASSOC., INC. OTHER TOPOGRAPHY IS BASED ON HOWARD COUNTY GIS.
- THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1202 OF THE HOWARD COUNTY CODE FOR PUBLIC FOREST CONSERVATION BY PLACEMENT OF 0.27 ACRES OF REQUIRED REFORESTATION INTO AN OFF-SITE PRESERVATION PARCEL LOCATED ON TAX MAP NO. 14 AND IDENTIFIED AS PARCEL 221, SITUATED ON THE WEST SIDE OF HOBBS ROAD. THE ROSEBAR FOREST CONSERVATION EASEMENT HAS BEEN SHOWN ON SHEET 18 OF SDP-97-115, NEW COLONY VILLAGE. THE DETERMINATION OF A REDLINE REVISION SHALL BE MADE TO SDP-97-115 TO SHOW 0.27 ACRES OF REFORESTATION DEDUCTION FROM THE TOTAL FOREST CONSERVATION EASEMENT. SURETY FOR THE OFF-SITE FOREST CONSERVATION EASEMENT ON THE ROSEBAR PROPERTY HAS BEEN PREVIOUSLY POSTED BY THE OWNER OF THE EASEMENT HOLDER. NO SURETY IS POSTED FOR RETENTION. A DEED OF FOREST EASEMENT AND FOREST CONSERVATION AGREEMENT IS REQUIRED FOR THIS PLAN.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
- NO WETLAND EXISTS ON SITE AS CERTIFIED BY ECO SCIENCE, INC. IN WETLAND CERTIFICATION LETTER DATED JUNE 2014. FOREST STAND DELINEATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. JUNE 2014.
- NO AREAS OF 100-YEAR FLOODPLAIN EXIST ON-SITE.
- FINANCIAL SURETY FOR PERIMETER AND TRASH PAD SCREENING IN THE AMOUNT OF \$5,400 FOR 17 SHADE TREES AND 10 SHRUBS SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT. PERIMETER LANDSCAPING WILL BE DERERRED TO THE SDP.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HERETH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL.
- THE FINAL LANDSCAPE DESIGN WILL BE SHOWN ON THE SITE DEVELOPMENT PLAN FOR THE CONSTRUCTION OF HOUSES ON THESE LOTS PER THE COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- NO CEMETERIES EXIST ON SITE.
- THIS PROPOSED SUBDIVISION WILL CONSIST OF SINGLE FAMILY DETACHED DWELLINGS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:  
A) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)  
B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2")  
C) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. OF 45 FOOT TURNING RADII.  
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).  
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD PLAIN WITH NO MORE THAN 1 FOOT OF DEPTH OVER DRIVEWAY SURFACE.  
F) STRUCTURE CLEARANCES - MINIMUM 12 INCHES  
G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
- ALL EXISTING STRUCTURES ON SITE WILL BE REMOVED, UNLESS OTHERWISE NOTED.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- STORMWATER MANAGEMENT IS PROVIDED VIA NON-ROOFTOP DISCONNECTIONS (N-2) AND DRY WELLS (M-5) IN ACCORDANCE WITH THE 2000 MDE STORMWATER DESIGN MANUAL. ALL ESD PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED. PRIOR TO SIGNATURE APPROVAL OF THIS PLAN OR SITE DEVELOPMENT PLAN, THE DEVELOPER WILL BE REQUIRED TO EXECUTE THE DECLARATION OF COVENANT AND/OR A DEVELOPER'S AGREEMENT FOR THE CONSTRUCTION OF THE STORMWATER MANAGEMENT PRACTICES AND A MAINTENANCE AGREEMENT FOR THE PRIVATELY OWNED AND MAINTAINED ESD PRACTICES (DISCONNECTIONS AND MICRO-BIORETENTION FACILITIES).
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST 5 WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- A PRIVATE RANGE OF ADDRESS SIGN SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATE.
- TRAFFIC CONTROL DEVICES  
a) THE R-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.  
b) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.  
c) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (M&MUTCD).  
d) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (1 1/2 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (2 GAUGE) - 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO ("QUICK PUNCH") HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- A FEE IN LIEU IN THE AMOUNT OF \$7,500.00 WILL BE PAID TO SATISFY THE OPEN SPACE REQUIREMENT OF SECTION 16.121(a)(2) OF THE SUBDIVISION REGULATIONS FOR THE CREATION OF FIVE (5) NEW BUILDABLE LOTS.

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7850-B Orace Drive, Columbia, Maryland 21044  
(410) 997-0296 Fax: (410) 997-0298 Fax

PINE GROVE ADDITION, LOTS 1 THRU 6  
RESUBDIVISION OF NORDAU SUBDIVISION, LOT 1, SECTION E-1  
SIXTH ELECTION DISTRICT TAX MAP: 47 PARCEL: 50 HOWARD COUNTY, MARYLAND  
COVER SHEET

1 OF 8  
F-15-036



SEE SHEET 4 FOR GEOTECHNICAL INFORMATION AND ADDITIONAL CONSTRUCTION DETAILS

SEE SHEET 4 FOR DRAINAGE AREA TO DIVERSION FENCING.

HOUSES MAY NOT BE CONSTRUCTED UNDER THIS DRAWING.

SEE SHEET 6 FOR IMPROVEMENTS TO PINE ROAD.

THE USE-IN-COMMON DRIVEWAY APRON AND LOT 6 APRON ARE TO BE CONSTRUCTED PER HOWARD COUNTY DETAIL R-6.01.

**LEGEND**

- AREA OF PAVEMENT TREATED BY N-2, NON-ROOFTOP DISCONNECTION
- AREA OF N-2, NON-ROOFTOP DISCONNECTION
- ROOF AREA TREATED BY M-5 DRY WELLS.
- ROOF AREA TREATED BY M-6, MICRO-BIORETENTION
- PRIVATE USE-IN-COMMON ACCESS, DRAINAGE, TRASH PAD & UTILITY EASEMENT
- PUBLIC SEWER AND UTILITY EASEMENT
- PUBLIC WATER AND UTILITY EASEMENT
- PUBLIC WATER, SEWER AND UTILITY EASEMENT
- AREA TO BE DEDICATED TO HOWARD COUNTY FOR THE USE OF A PUBLIC ROAD (2,261 SF / 0.05 Ac)
- M-5, DRY WELL
- M-6, MICRO-BIORETENTION FACILITY, M-6, I.D. NUMBER
- LOD
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- SFT
- SFT
- SFT
- SFT
- SFT
- SCE
- STABILIZED CONSTRUCTION ENTRANCE
- EXISTING TREELINE
- PROPOSED TREELINE
- ROOF DRAIN LEADER
- SIDEWALK

**SWM PRACTICES SCHEDULE**

AREA	ADDRESS	PROPOSED PRACTICES	REQUIRED ESDv	PROVIDED ESDv	REQ'D P <sub>e</sub>	PROVIDED P <sub>e</sub>
LOT 1	8696 PINE ROAD	MICRO-BIORETENTION (M-6) NON-ROOFTOP DISCONNECTION (N-2)		423 CF		
LOT 2	8694 PINE ROAD	DRY WELL (M-5) NON-ROOFTOP DISCONNECTION (N-2)		625 CF		
LOT 3	8692 PINE ROAD	DRY WELL (M-5) NON-ROOFTOP DISCONNECTION (N-2) MICRO-BIORETENTION (M-6)		631 CF		
LOT 4	8688 PINE ROAD	DRY WELL (M-5) NON-ROOFTOP DISCONNECTION (N-2) MICRO-BIORETENTION (M-6)		617 CF		
LOT 5	8686 PINE ROAD	DRY WELL (M-5)		576 CF		
LOT 6	8684 PINE ROAD	DRY WELL (M-5)		576 CF		
USE-IN-COMMON D/W		NON-ROOFTOP DISCONNECTION (N-2)		249 CF		
<b>TOTAL</b>			3,652 CF	3,698 CF	1.70"	1.72"

\* BY DESIGNING ESD MEASURES FOR "WOODS IN GOOD CONDITION", W<sub>0</sub>, R<sub>e</sub>, AND C<sub>p</sub> REQUIREMENTS ARE MET  
 \*\* STORMWATER MANAGEMENT QUANTITY CONTROL FOR THE 10- AND 100-YEAR (Q<sub>p</sub>, Q<sub>100</sub>) STORM EVENTS NOT REQUIRED.

**SOILS DESCRIPTION**

SYMBOL	HYDROLOGICAL GROUP	DESCRIPTION	K <sub>w</sub>	K <sub>f</sub>	MAP
CcC	B	CHILLUM LOAM, 5 TO 10% SLOPE	0.37	0.37	24 & 25
CdD	C	CRUM AND EYEBORO SOILS, 10 TO 15% SLOPE	0.28	0.24	24 & 25

**OWNER**

FRANK A. MANAGO III  
 4109 WALRAD STREET  
 BALTIMORE, MD 21229-4142  
 C/O (410)375-1052

**DEVELOPER**

PATAPSCO BUILDERS, LLC  
 C/O BURKARD HOMES, LLC  
 5300 DORSEY HALL DRIVE, SUITE 102  
 ELLICOTT CITY, MD 21042  
 (410)375-1052

**ENGINEER'S CERTIFICATE**

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/29/16  
 SIGNATURE OF ENGINEER DATE  
 R. JACOB HIKMAT, PE.  
 PRINTED NAME OF ENGINEER

**DEVELOPERS CERTIFICATE**

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

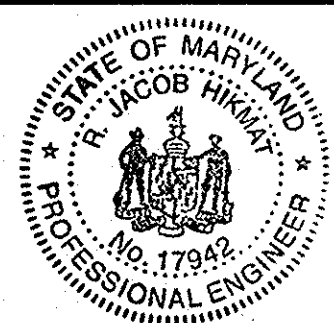
*[Signature]* 3/29/16  
 SIGNATURE OF DEVELOPER DATE  
 Timothy C. Burkard  
 PRINTED NAME OF DEVELOPER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 4/5/16  
 HOWARD SOIL CONSERVATION DISTRICT DATE

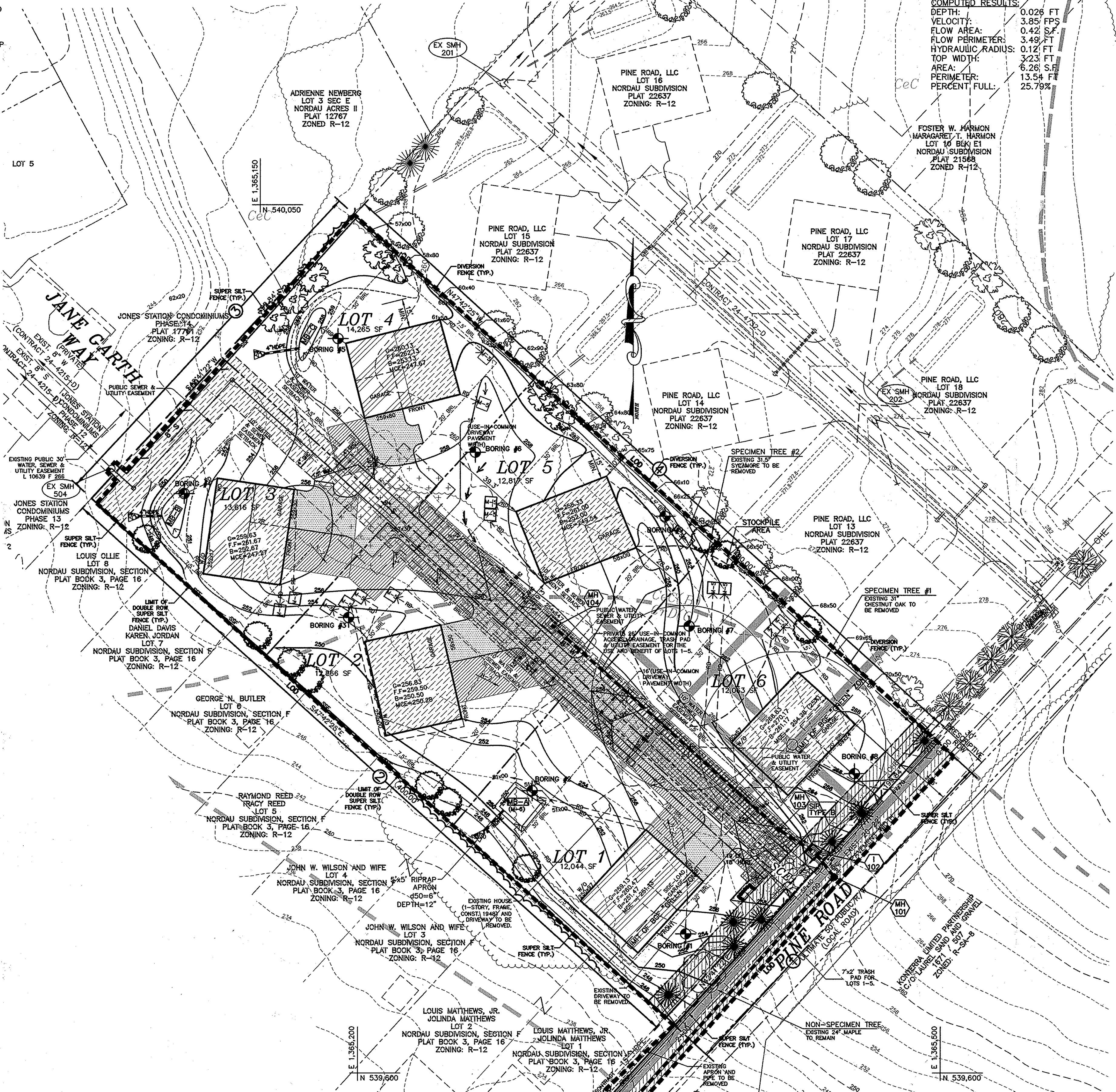
APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 4/13/2016  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 4-21-16  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*[Signature]* 4-28-16  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE



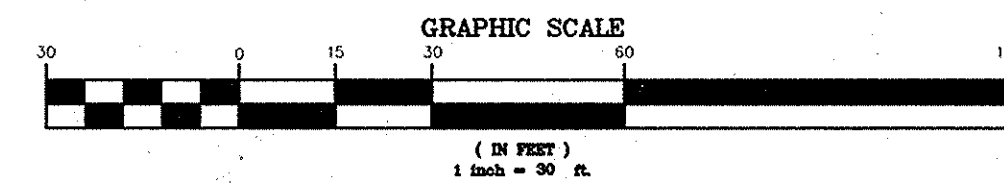
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.

*[Signature]* 3/29/16  
 R. JACOB HIKMAT, P.E. DATE



COMPUTED RESULTS:  
 DEPTH: 0.026 FT  
 VELOCITY: 3.85 FPS  
 FLOW AREA: 0.42 SF  
 FLOW PERIMETER: 3.49 FT  
 HYDRAULIC RADIUS: 0.12 FT  
 TOP WIDTH: 6.26 SF  
 AREA: 13.54 FT  
 PERIMETER: 25.79%  
 PERCENT FULL:

SEE SHEET 6 FOR IMPROVEMENTS TO PINE ROAD



**REPLACEMENT SHEET**  
 THE PURPOSE OF THIS REPLACEMENT SHEET IS TO REVISE GRADING, STORM DRAINAGE AND LOCATION OF SWM FACILITIES. ALSO TO RELOCATE GENERIC BOX AND DRIVEWAY ON LOT 5.

**PINE GROVE ADDITION, LOTS 1 THRU 6**  
 RESUBDIVISION OF NORDAU SUBDIVISION, LOT 1, SECTION E-1  
 TAX MAP: 47 PARCEL 50  
 HOWARD COUNTY, MARYLAND  
 SIXTH ELECTION DISTRICT

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7850-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0236 Ext. (410) 997-0236 Fax



**STREET TREE PLANTING SCHEDULE**

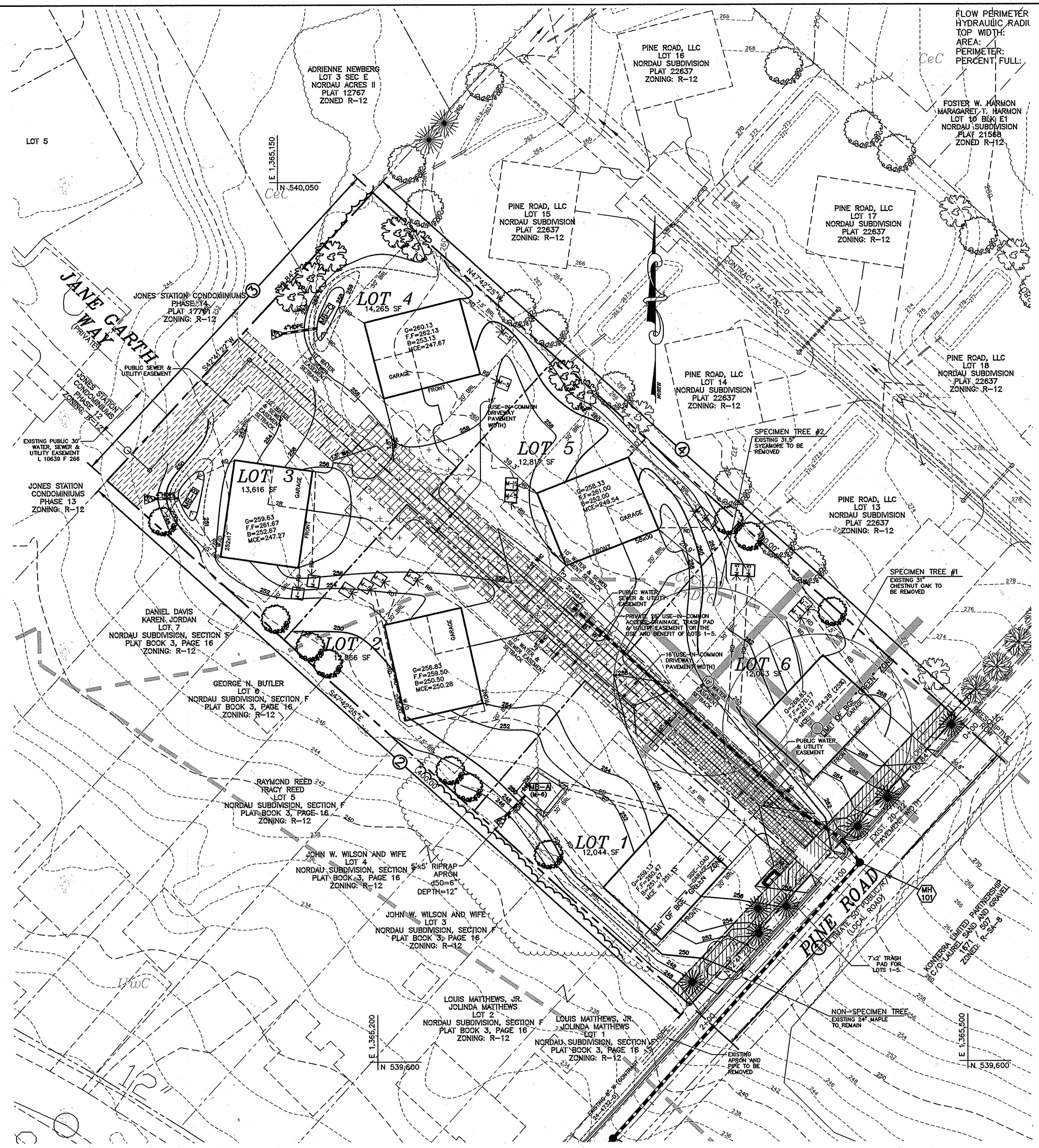
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
7		CERIS CANDENSIS	EASTERN REDBUD	2-1/2" - 3" CAL.
<b>TOTAL</b>				
7 TREES				

**PERIMETER LANDSCAPE REQUIREMENT PLANTING SCHEDULE**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
10		PRUNUS SARGENTI	SCRGENT CHERRY	2 1/2" - 3" CAL.
7		QUERCUS RUBRA	NORTHERN RED OAK	2 1/2" - 3" CAL.
10		TAXUS MEDIA 'HICKSI'	HICKS YEW	2 1/2" - 3" HT.
<b>TOTAL</b>				
17 TREES (17 SHADE TREES), 10 SHRUBS				

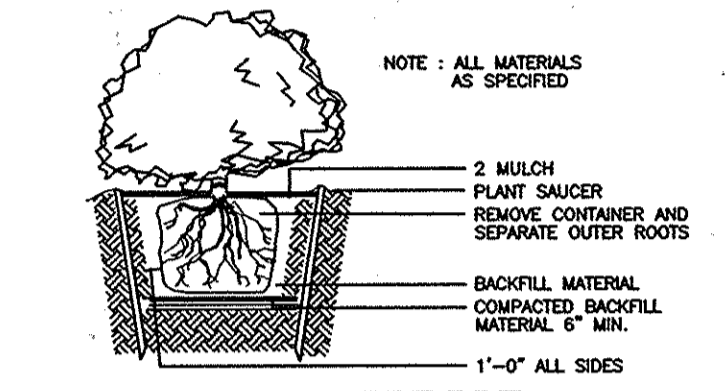
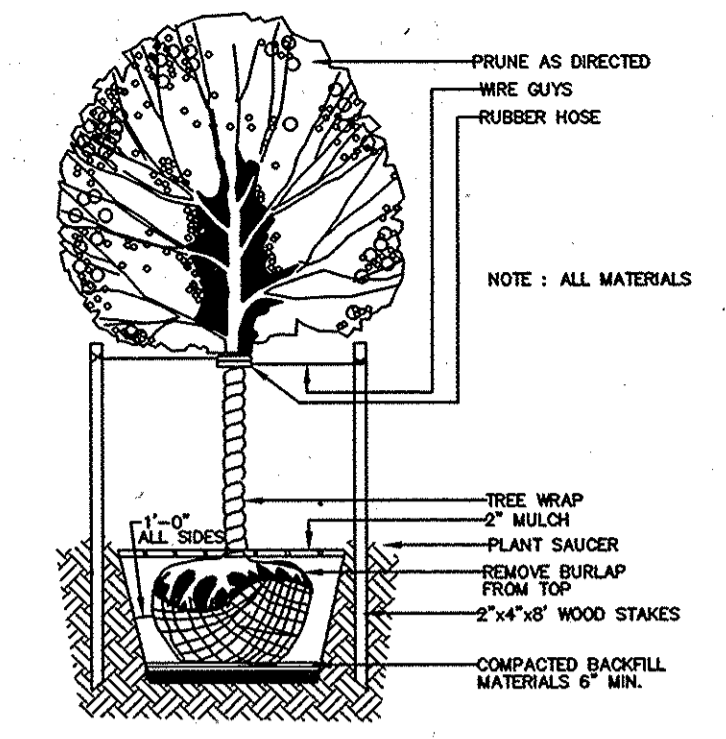
**LANDSCAPE NOTES**

- NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN; HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
- THE OWNER, TENANT AND / OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERMS, FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, BE REMOVED OR DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.
- PERIMETER LANDSCAPING WILL BE DEFERRED TO THE SDP.



FLOW PERIMETER HYDRAULIC RADIUS TOP WIDTH: AREA: PERIMETER: PERCENT FULL:

FOSTER W. HARMON MARGARET T. HARMON LOT 10 BLK E1 NORDAU SUBDIVISION PLAT 21566 ZONED R-12



**LEGEND**

- EXISTING TREES APPROVED UNDER F-12-047 TO REMAIN
- PROPOSED TREES / SHRUBS
- EXISTING SPECIMEN TREE TO BE REMOVED
- EXISTING NON-SPECIMEN TREE TO BE REMOVED
- PROPOSED SIDEWALK

**SCHEDULE B: STREET TREE CALCULATIONS**

PINE ROAD - 199.84 LF / 30 (SMALL) = 6.7  
TOTAL TREES REQUIRED = 7 TREES  
TOTAL TREES PROVIDED = 7 TREES

**SCHEDULE A: PERIMETER LANDSCAPED EDGE**

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	TRASH PAD	TOTAL		
LANDSCAPE TYPE	NONE	A (PERIMETER 2)	A (PERIMETER 3)	A (PERIMETER 4)	C	TOTAL
LINEAR FEET OF PERIMETER	199.84 LF	400.00 LF	199.84 LF	200.00 LF	18 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	N/A	N/A	N/A	N/A	N/A	N/A
NUMBER OF PLANTS REQUIRED	0 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	7 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	3 SHADE TREE 0 EVERGREEN TREES 0 SHRUBS	7 SHADE TREES 0 EVERGREEN TREES 0 SHRUBS	0 SHADE TREES 1 EVERGREEN TREES 0 SHRUBS	17 SHADE TREES 1 EVERGREEN TREES 0 SHRUBS
CREDIT FOR EXISTING VEGETATION	N/A	N/A	N/A	N/A	N/A	N/A
NUMBER OF PLANTS PROVIDED	0 SHADE TREES 0 EVERGREEN TREES 0 OTHER TREES (2:1 SUBSTITUTION) 0 SHRUBS (10:1 SUBSTITUTION)	7 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	3 SHADE TREE 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	7 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 0 SHRUBS	0 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 10 SHRUBS	17 SHADE TREES 0 EVERGREEN TREES 0 SUBSTITUTION TREES 10 SHRUBS

*Mashed P...* 3/29/16  
MASHID TRINGA, DNR QUALIFIED PROFESSIONAL

**REPLACEMENT SHEET**  
THE PURPOSE OF THIS REPLACEMENT SHEET IS TO REVISE GRADING, STORM DRAINAGE AND LOCATION OF SWM FACILITIES. ALSO RELOCATE GENERIC BOX AND DRIVEWAY ON LOT 5

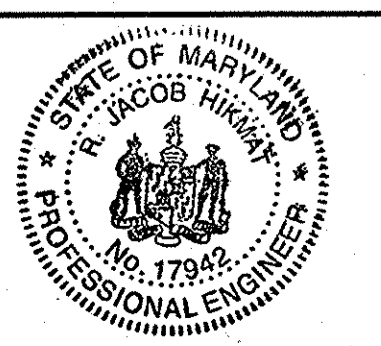
**OWNER**  
FRANK A. MANAGO III  
4109 WALRAD STREET  
BALTIMORE, MD 21228-4142  
C/O (410)375-1052

**DEVELOPER**  
PATAPSCO BUILDERS, LLC  
C/O BURKARD HOMES, LLC  
5300 DORSEY HALL DRIVE, SUITE 102  
ELLCOTT CITY, MD 21042  
(410)375-1052

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 4/13/2016  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 4-21-16  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 4-29-16  
CHIEF, DIVISION OF LAND DEVELOPMENT



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.  
R. JACOB HIKMAT, P.E. 3/29/16

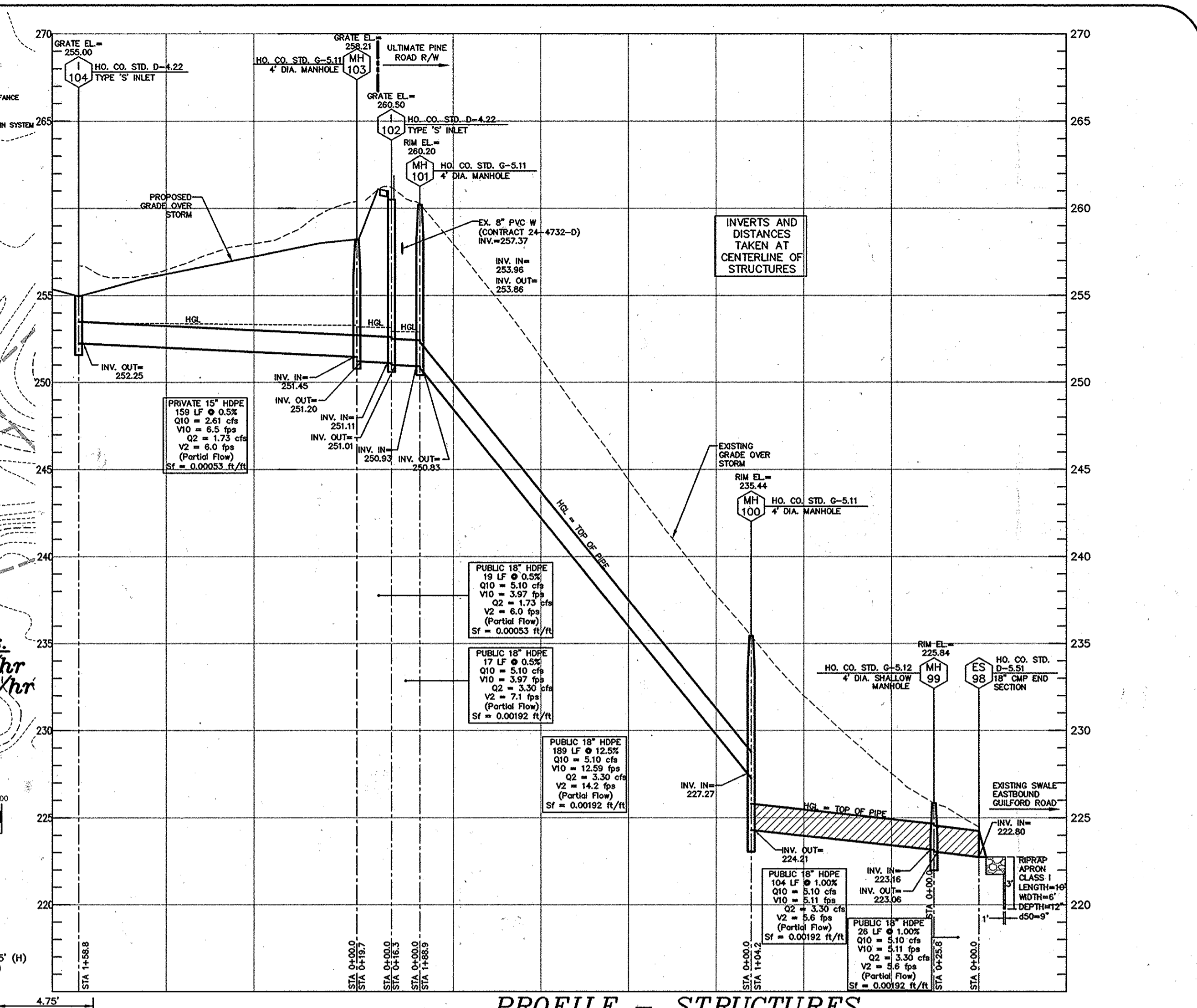
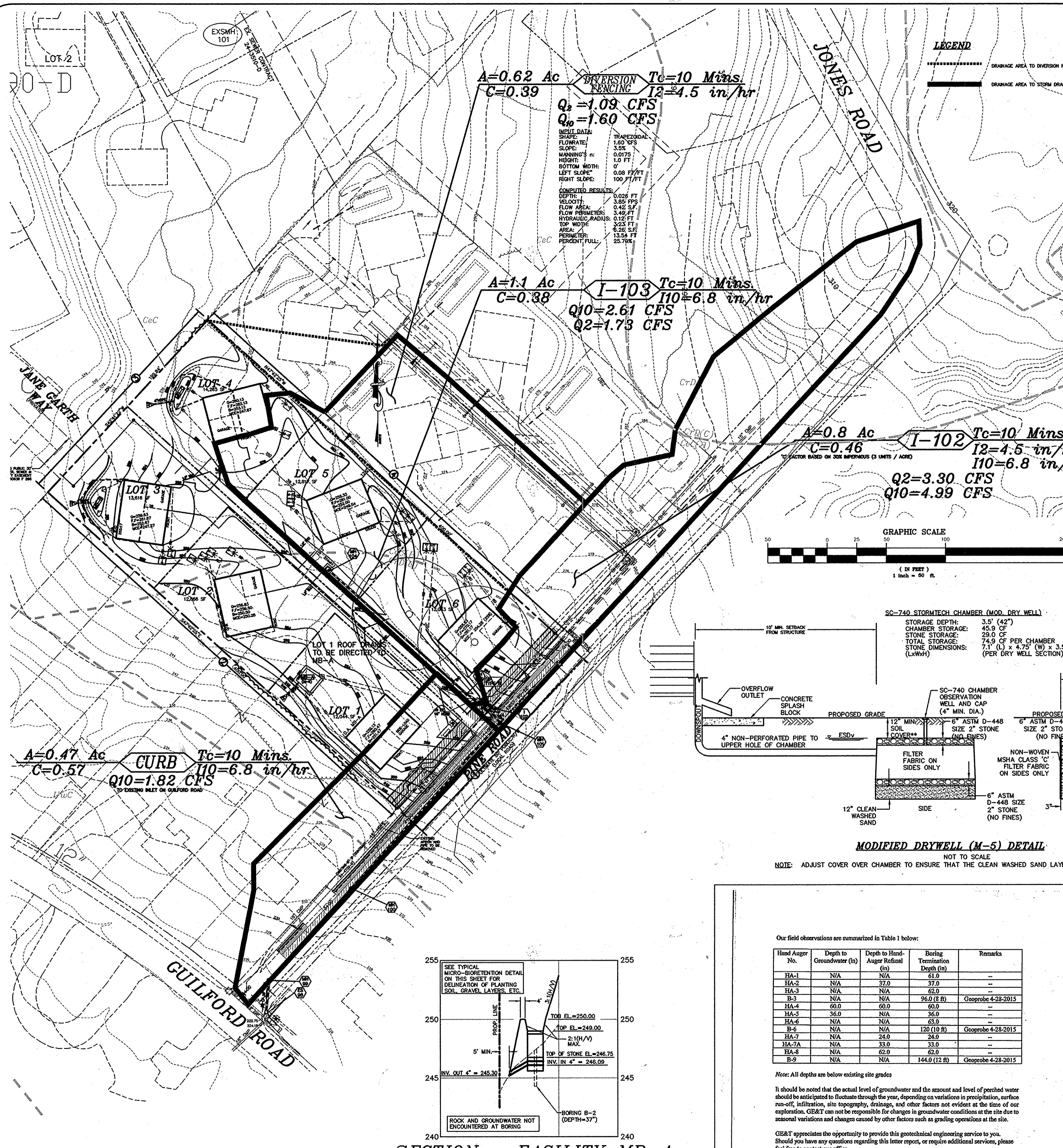
date	MAR 2016	engineering	JLS	approval	MM
project	14-015	illustration	JLS	scale	1"=30'

date	03.2016	description	REVISIONS
1		REVISED GRADING, STORM DRAINAGE AND LOCATION OF SWM FACILITIES. RELOCATED GENERIC BOX AND DRIVEWAY ON LOT 5	

**PINE GROVE ADDITION, LOTS 1 THRU 6**  
RESUBDIVISION OF NORDAU SUBDIVISION, LOT 1, SECTION E-1  
SIXTH ELECTION DISTRICT TAX MAP: 47 PARCEL: 50  
HOWARD COUNTY, MARYLAND  
REVISED SUPPLEMENTAL, LANDSCAPE AND FOREST CONSERVATION PLAN

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7350-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0286 Fax. (410) 997-0286 Fax.





APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 4/13/2014  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 4-21-16  
 CHIEF, DIVISION OF LAND DEVELOPMENT

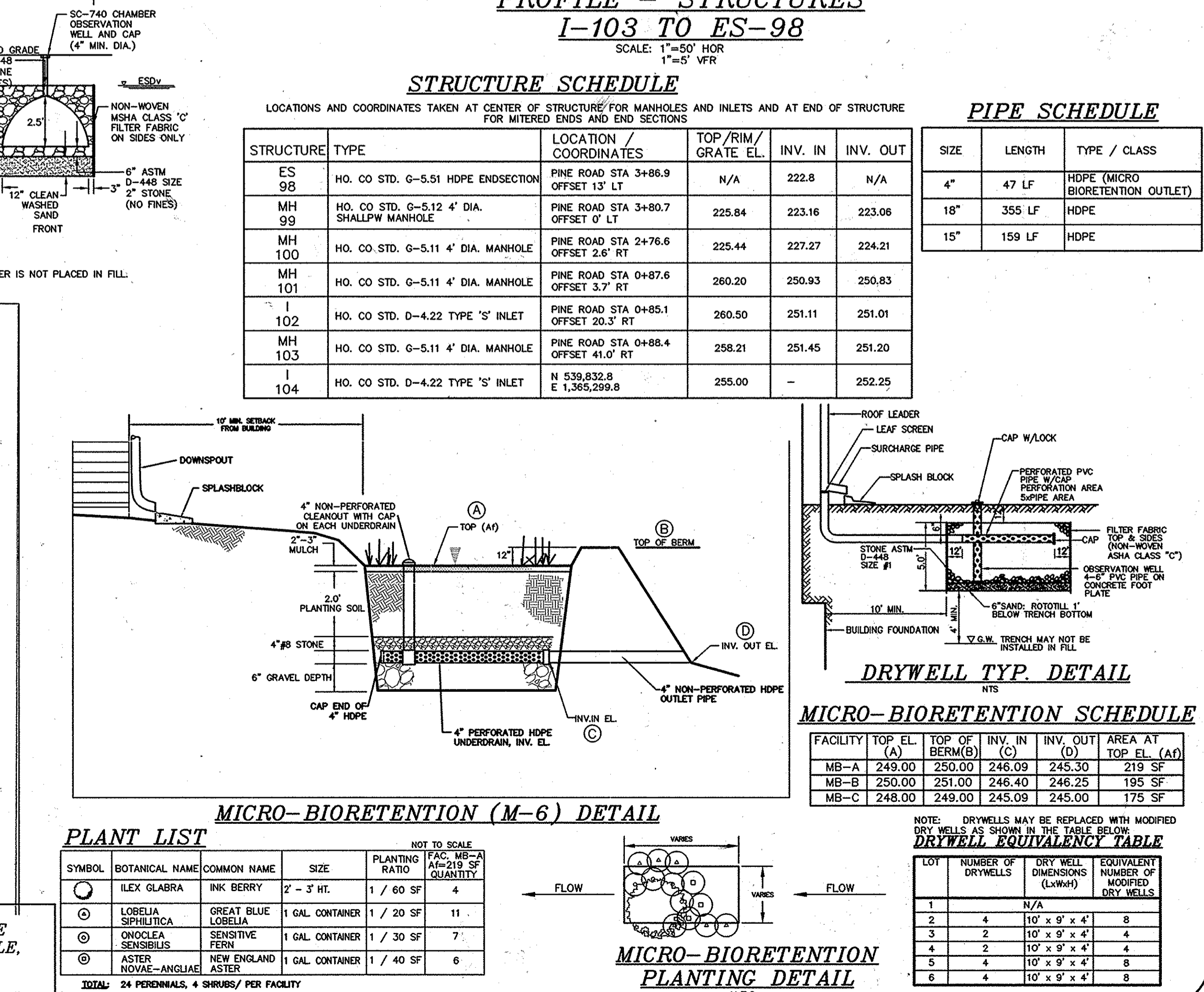
**OWNER**  
 FRANK A. MANAGO III  
 4109 WALRAD STREET  
 BALTIMORE, MD 21228-4142  
 C/O (410)375-1052

**DEVELOPER**  
 PATAPSCO BUILDERS, LLC  
 C/O BURKARD HOMES, LLC  
 5300 DORSEY HALL DRIVE, SUITE 102  
 ELLICOTT CITY, MD 21042

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.

R. JACOB HIKMAT P.E. 3/29/16

**REPLACEMENT SHEET**  
 THE PURPOSE OF THIS REPLACEMENT SHEET IS TO REVISE GRADING, STORM DRAIN PLAN AND PROFILE, PIPE SCHEDULE, STRUCTURE SCHEDULE, MICRO-BIO SCHEDULE, HOUSE AND DRIVEWAY ORIENTATION ON LOT 5.



project date MAR 2016  
 14-015 illustration JLS  
 03.2016 JLS  
 scale 1"=50'  
 approval MAM

REVISED GRADING, STORM DRAIN PLAN AND PROFILE, PIPE SCHEDULE, STRUCTURE SCHEDULE, MICRO-BIO SCHEDULE, HOUSE AND DRIVEWAY ORIENTATION

NO. 1

DATE

DESCRIPTION

REVISIONS

**PINE GROVE ADDITION, LOTS 1 THRU 6**  
 RESUBDIVISION OF NORDAU SUBDIVISION, LOT 1, SECTION E-1  
 TAX MAP: 47 PARCEL 50  
 HOWARD COUNTY, MARYLAND  
 SIXTH ELECTON DISTRICT

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7850-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0236 Balt. (410) 997-0298 Fax

4 OF 8  
 F-15-036



TEMPORARY SEEDING FOR SITE STABILIZATION						
PLANT SPECIES	SEEDING RATE (LB./AC)	SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATED BY PLANT HARDINESS ZONE			
			5B AND 6A	6B	7A AND 7B	
<b>COOL SEASON GRASSES</b>						
ANNUAL RYEGRASS (LOLIUM PERENNE SSP. MULTIFLORUM)	40	1.0	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30	
BARLEY (HORDEUM VULGARE)	96	2.2	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30	
OATS (Avena sativa)	72	1.7	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30	
WHEAT (TRITICUM AESTIVUM)	120	2.8	MAR 15 TO MAY 31; AUG 1 TO SEP 30	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30	
CEREAL RYE (SECALE ITALICA)	112	2.8	MAR 15 TO MAY 31; AUG 1 TO OCT 31	MAR 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO DEC 15	
<b>WARM SEASON GRASSES</b>						
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14

PERMANENT SEEDING SUMMARY					
HARDINESS ZONE (FROM FIGURE B.3): 6b			FERTILIZER RATE (10-20-20)		
NO.	SPECIES	APPLICATION RATE (LB./AC)	SEEDING DATES	SEEDING DEPTHS	LIME RATE
1	TALL FESCUE	100	MARCH 1-MAY 15 AUG 15-OCT 15	1/4"-1/2"	45 LBS. PER ACRE (1 LB./1000 SF) 90 LBS. PER ACRE (2 LB./1000 SF) 90 LBS. PER ACRE (2 LB./1000 SF)

MIXTURES 1, 4, 7, 9, AND 10 FROM TABLE B.3 OF THE 2011 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MAY BE USED.

**STANDARD SEDIMENT CONTROL NOTES**

- MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - 3 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
  - 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-4-5), TEMPORARY SEEDING (SEC. B-4-4-4) AND MULCHING (SDC-B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE:	1.83 ACRES
AREA DISTURBED:	1.58 ACRES (INCL. OFFSETS)
AREA TO BE ROOFED OR PAVED:	0.65 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	1.52 ACRES
TOTAL CUT:	1,500 CU. YDS.
TOTAL FILL:	7,000 CU. YDS.
- WASTE/BORROW AREA LOCATION: THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL, BUT BEFORE PROCEEDING WITH ANY OTHER TYPE OF GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK FILLED AND STABILIZED BY THE END OF EACH WORKING DAY, WHICHEVER IS SHORTER.
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING LOT (MAXIMUM ACREAGE OF 20 ACRES) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING LOT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING LOT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITIES, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

**SEQUENCE OF CONSTRUCTION**

- OBTAIN GRADING PERMIT. (1 DAY)
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN (1 DAY)
- INSTALL SUPER SILT FENCE AND DIVERSION FENCE. (5 DAYS)
- BRING SITE TO GRADE (15 DAYS)
- CONSTRUCT UTILITIES AND ON SITE STORM DRAIN (15 DAYS)
- CONSTRUCT USE-IN-COMMON DRIVEWAY (5 DAYS)
- STABILIZE DISTURBED AREA. (2 DAYS)
- CONSTRUCT STORM SYSTEM ON PINE ROAD AREA AT STORM DRAIN OUTFALL TO BE STABILIZED IMMEDIATELY (7 DAYS)
- CONSTRUCT PINE ROAD IMPROVEMENT (15 DAYS)
- UPON APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE OFF-SITE SEDIMENT CONTROL DEVICES, ON-SITE PERIMETER SEDIMENT CONTROL DEVICES SHOULD REMAIN TO BE USED FOR SDP STAGE OF CONSTRUCTION.
- SEED AND MULCH REMAINING DISTURBED AREAS (1 DAY)

**ENGINEER'S CERTIFICATE**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *R. Jacob Hikmat, P.E.* DATE: 7/27/15  
 PRINTED NAME OF ENGINEER: R. JACOB HIKMAT, P.E.

**DEVELOPERS CERTIFICATE**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.  
 SIGNATURE OF DEVELOPER: *John C. Bahard* DATE: 7/27/15  
 PRINTED NAME OF DEVELOPER: John C. Bahard

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: DEPARTMENT OF PUBLIC WORKS  
 SIGNATURE: *John K. Bahard* DATE: 8/5/15  
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 SIGNATURE: *Chad Edwards* DATE: 8-19-15  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**OWNER**  
 FRANK A. MANAGO III  
 4109 WALRAD STREET  
 BALTIMORE, MD 21229-4142  
 C/O (410)375-1052

**DEVELOPER**  
 PATASCO BUILDERS, LLC  
 C/O BURKARD HOMES, LLC  
 5300 ROLLING DRIVE, SUITE 102  
 ELLICOTT CITY, MD 21042  
 (410)375-1052

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942 EXP. DATE 09/03/16.  
 SIGNATURE: *R. Jacob Hikmat, P.E.* DATE: 7/27/15

**(B-4-8) STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA**

**DEFINITION**  
 A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

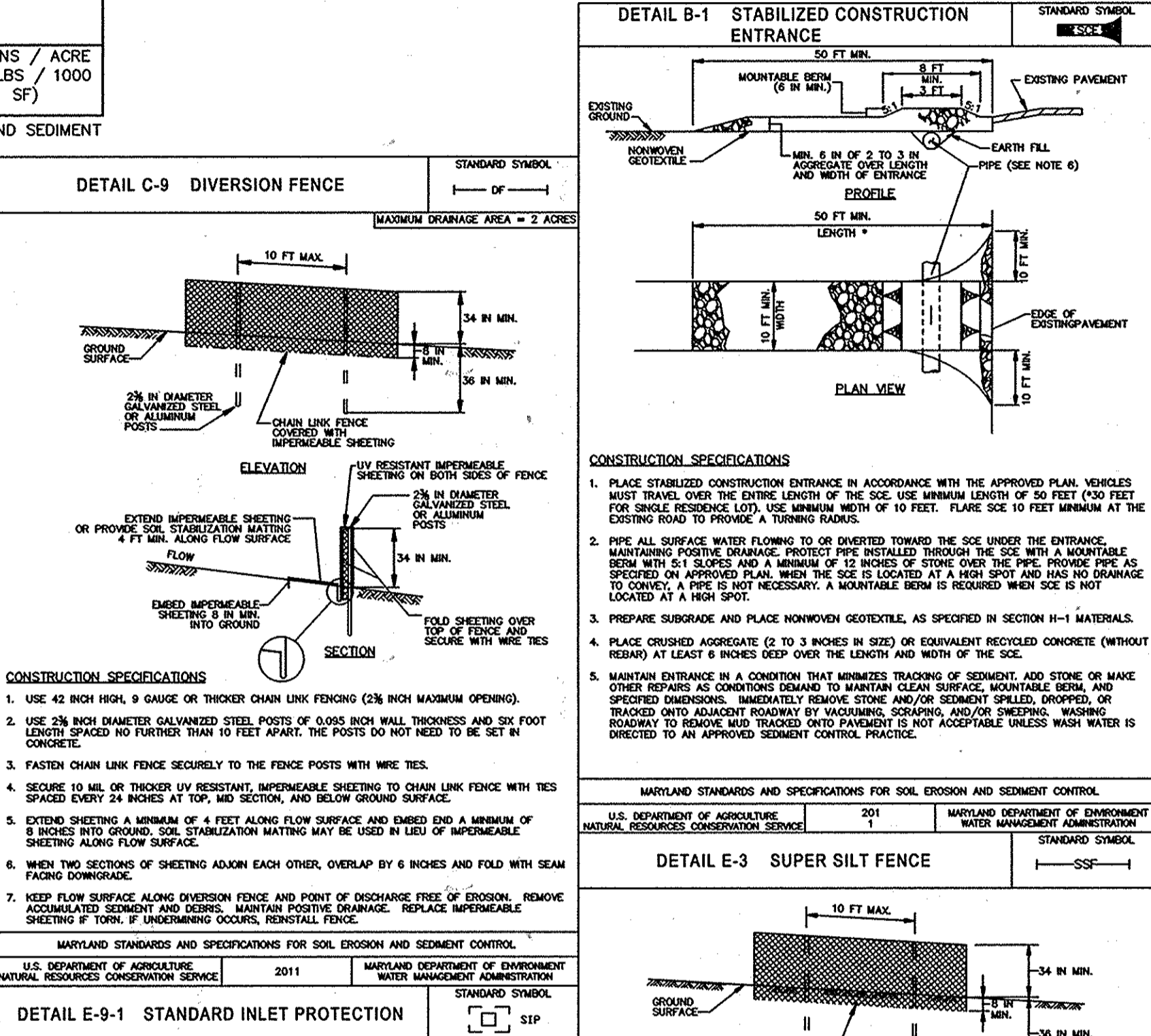
**PURPOSE**  
 TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

**CONDITIONS WHERE PRACTICE APPLIES**  
 STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

**CRITERIA**

- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
- THE FOOTPRINT OF STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3-3 LAND GRADING.
- RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
- ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
- CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DITCH SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
- WHERE RUNOFF CONCENTRATES ABOVE THE TOP OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
- STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-4 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
- IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST COVERED WITH IMPERMEABLE SHEETING.

**MAINTENANCE**  
 THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN 2:1 RATIO. STOCKPILE AREA MUST BE KEPT FREE OF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.



**(B-4-2) STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS**

**DEFINITION**  
 THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

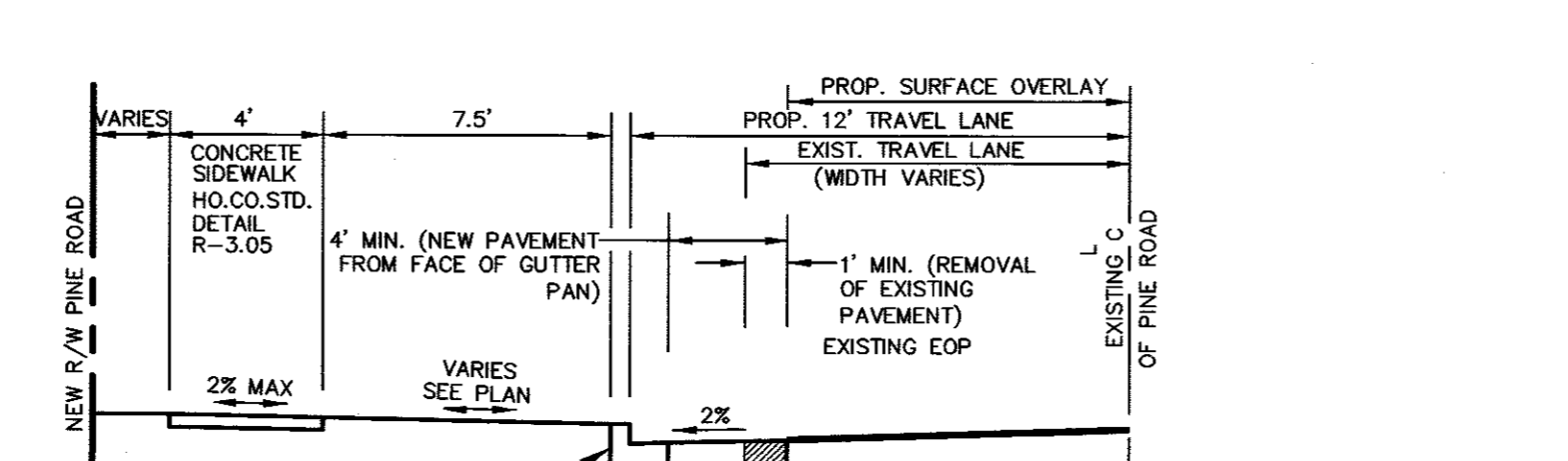
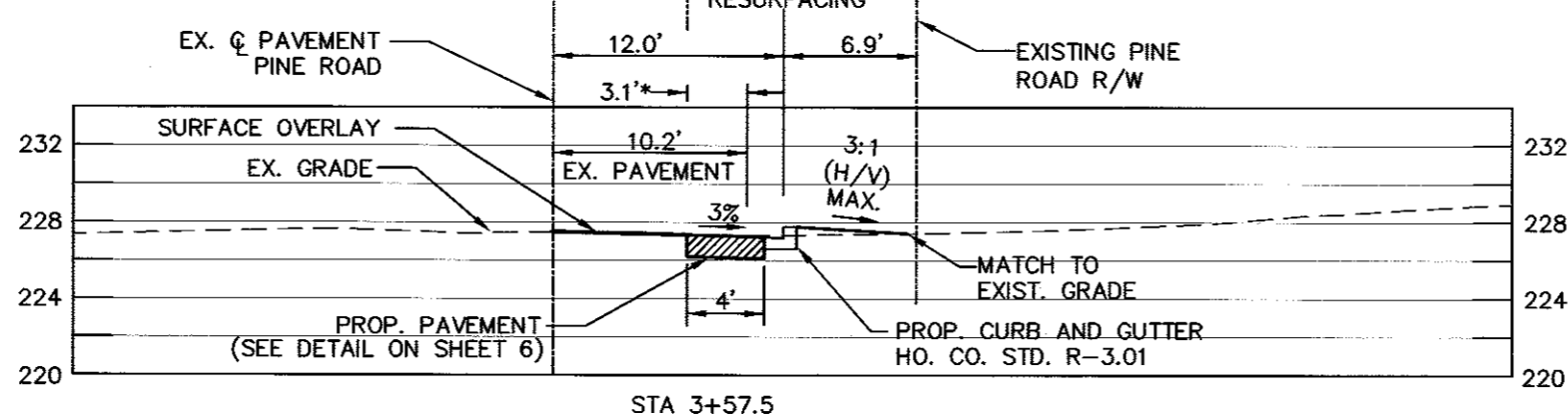
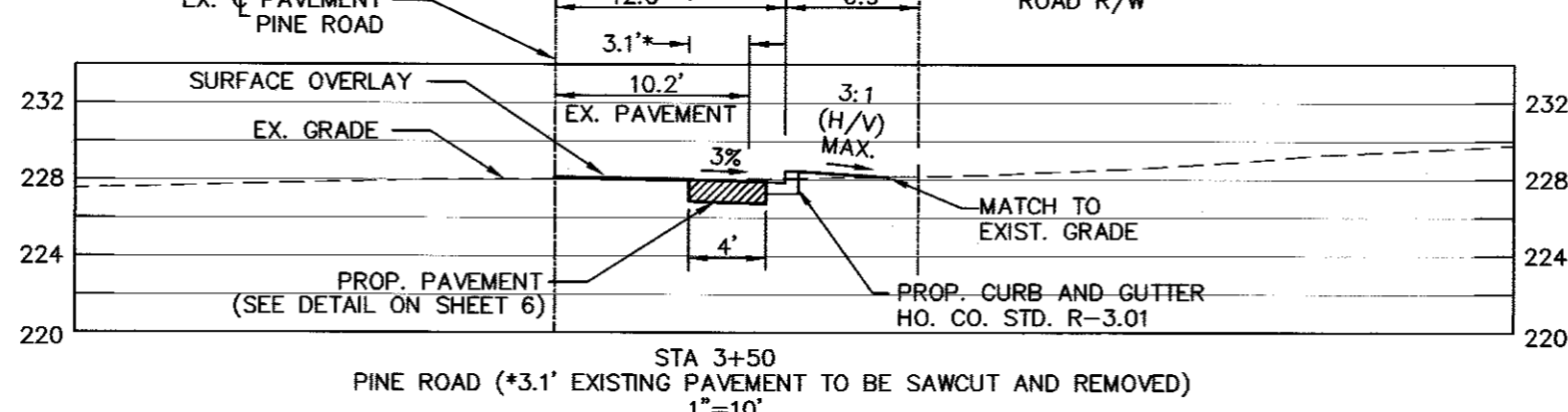
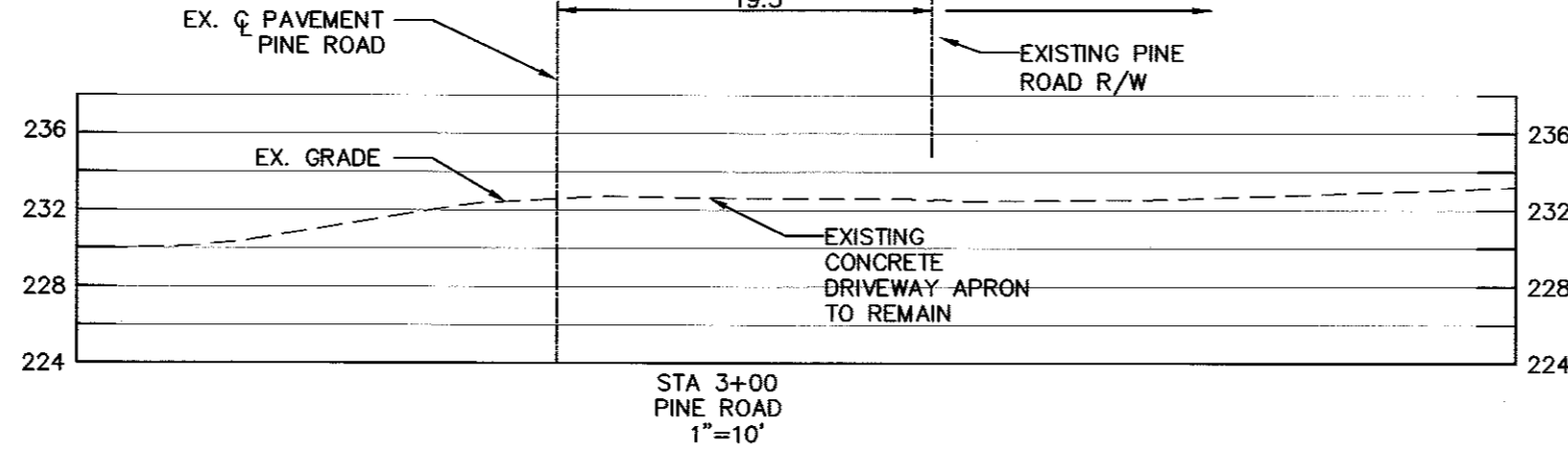
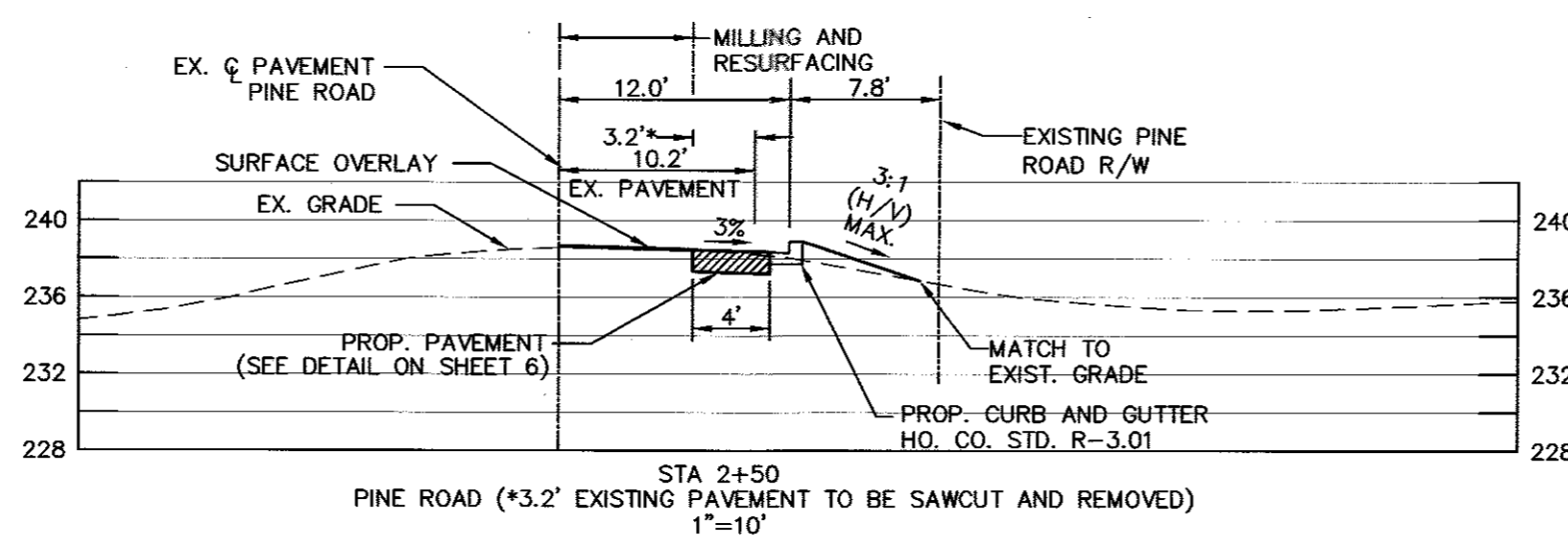
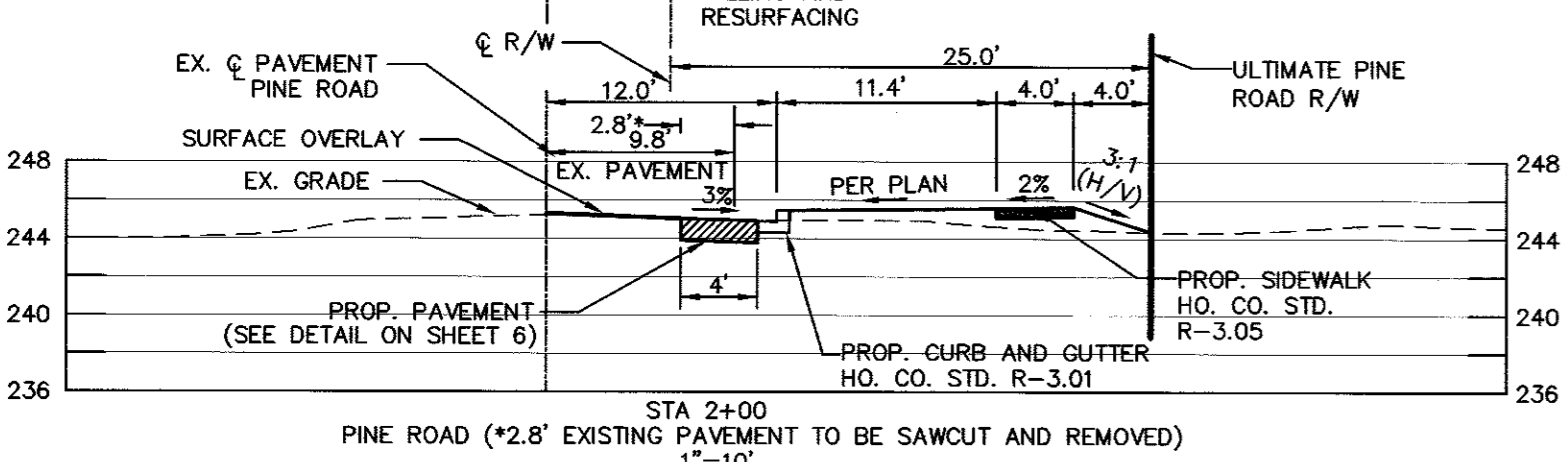
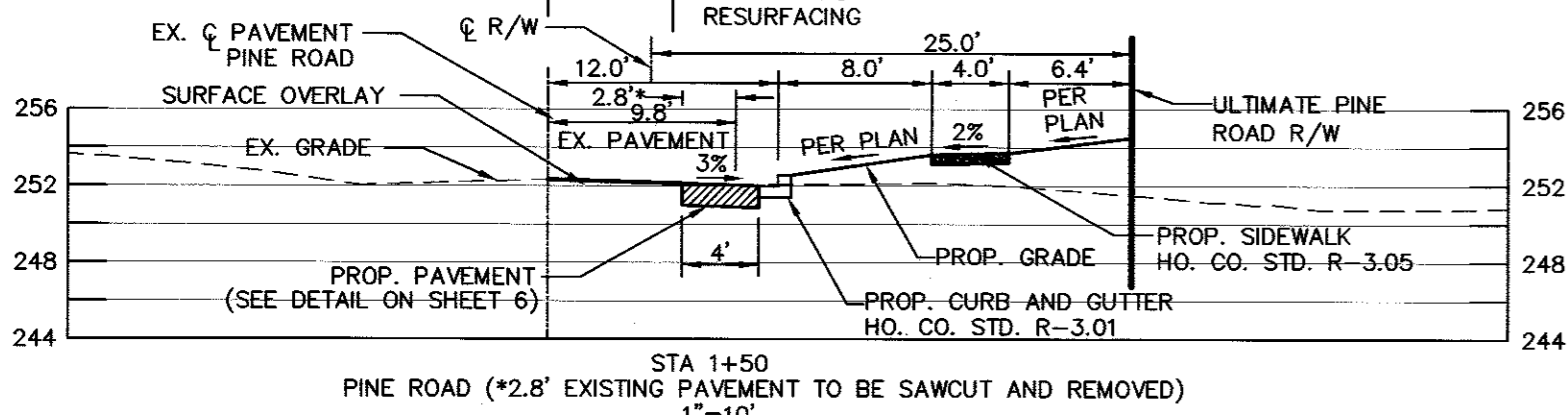
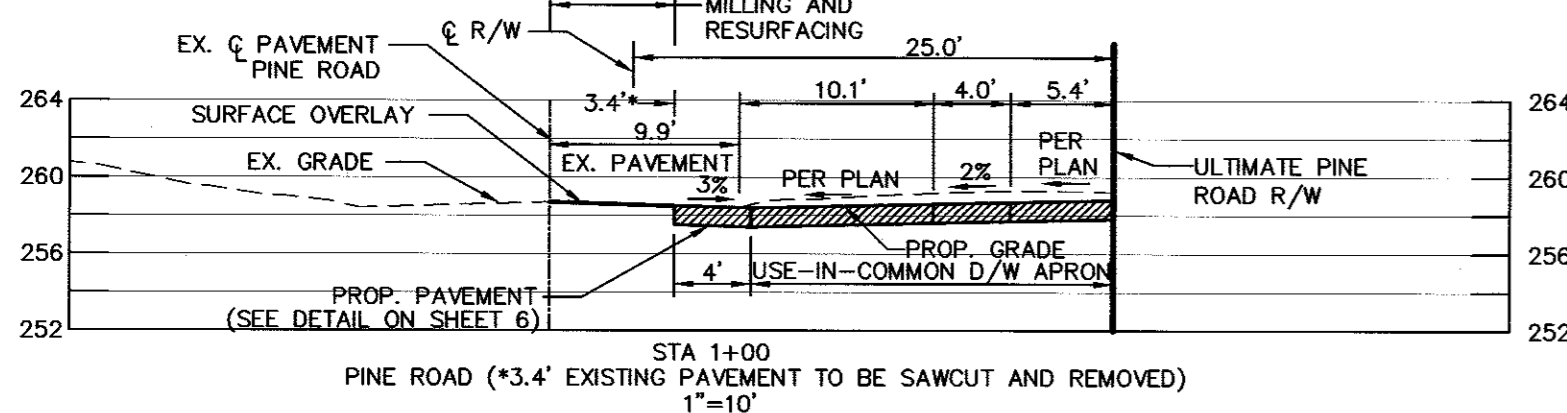
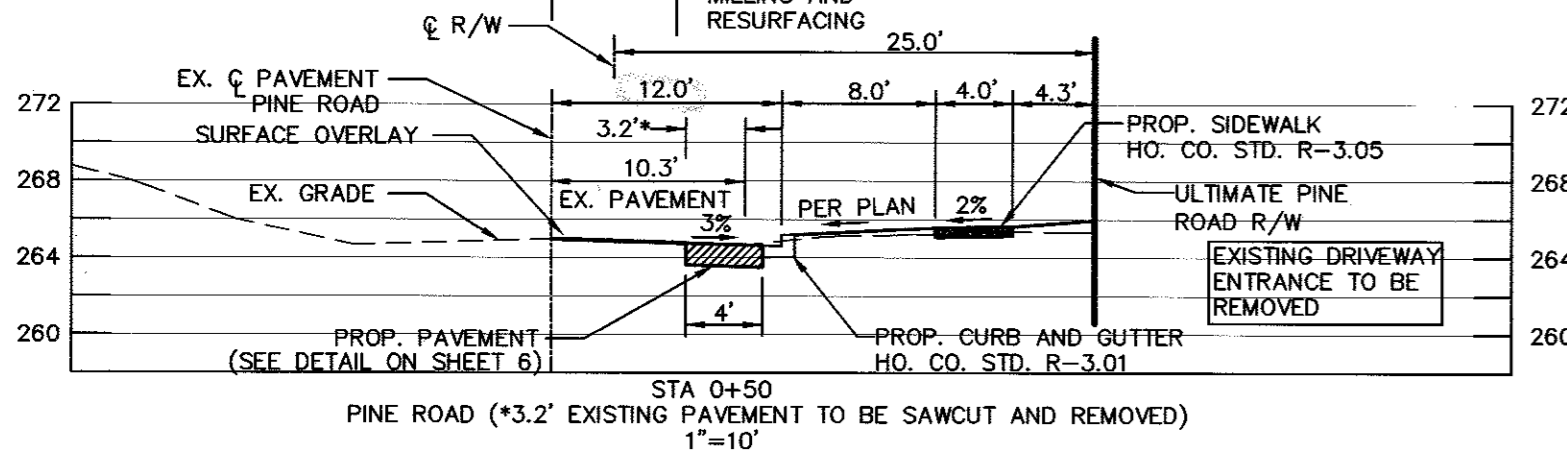
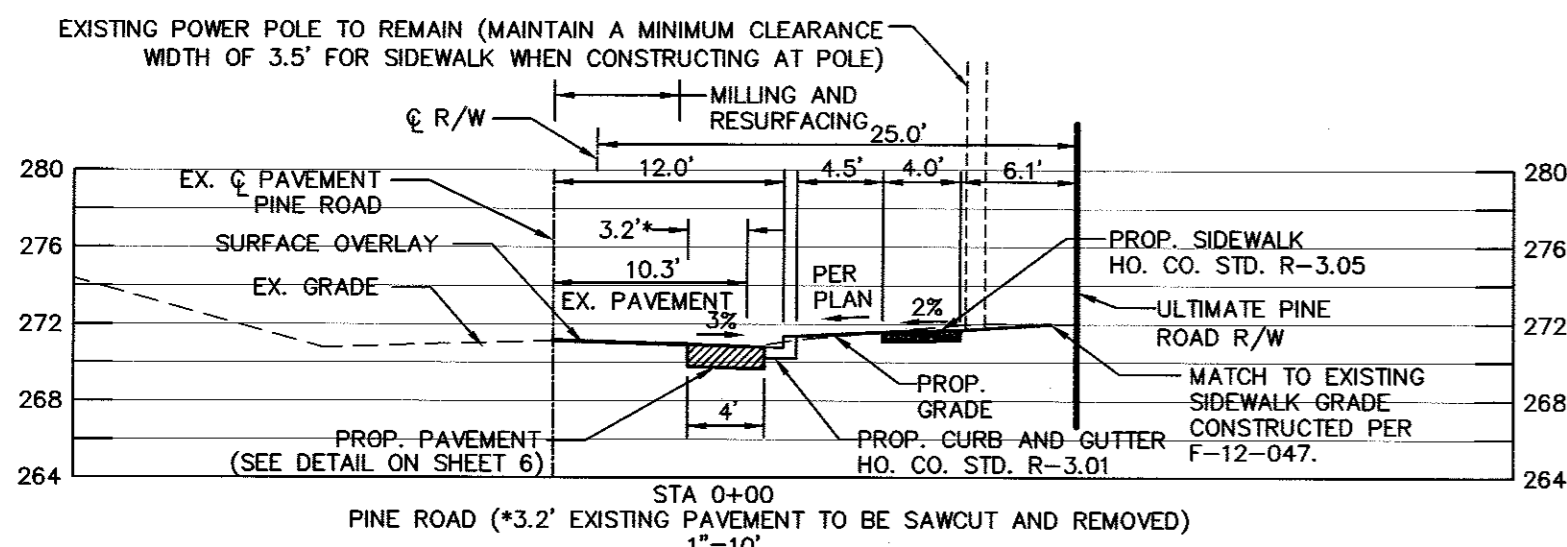
**PURPOSE**  
 TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

**CONDITIONS WHERE PRACTICE APPLIES**  
 WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

**CRITERIA**

- SOIL PREPARATION**
  - TEMPORARY STABILIZATION**
    - SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR REEPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
    - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
    - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
  - PERMANENT STABILIZATION**
    - SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
      - SOIL PH BETWEEN 6.0 AND 7.0.
      - SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
      - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRADED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
      - SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
      - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
    - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. SOILS DO NOT MEET THE ABOVE CONDITIONS.
    - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
    - APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF SOIL TEST.
    - MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEEDING. SOILS THAT CONTAIN A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER. PREPARE SLOPES STEEPER THAN 2:1 TO REQUIRE SPECIAL CONSIDERATION AND DESIGN.
    - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
      - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
      - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
      - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
      - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
        - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
        - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
        - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
        - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
          - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
          - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
          - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
          - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
            - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
            - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
            - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
            - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
              - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
              - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
              - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
              - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                    - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                    - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                    - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                    - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                      - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                      - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                      - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                      - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                        - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                        - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                        - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                        - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                          - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                          - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                          - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                          - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                            - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                            - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                            - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                            - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                              - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                              - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                              - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                              - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                                - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                                - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                                - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                                - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                                  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                                  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                                  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                                  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                                    - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                                    - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                                    - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                                    - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
                                      - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
                                      - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
                                      - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
                                      - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GRASSES, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2 INCHES IN DIAMETER.
  - SOIL IS 50 ACRES THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS. SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
  - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LO

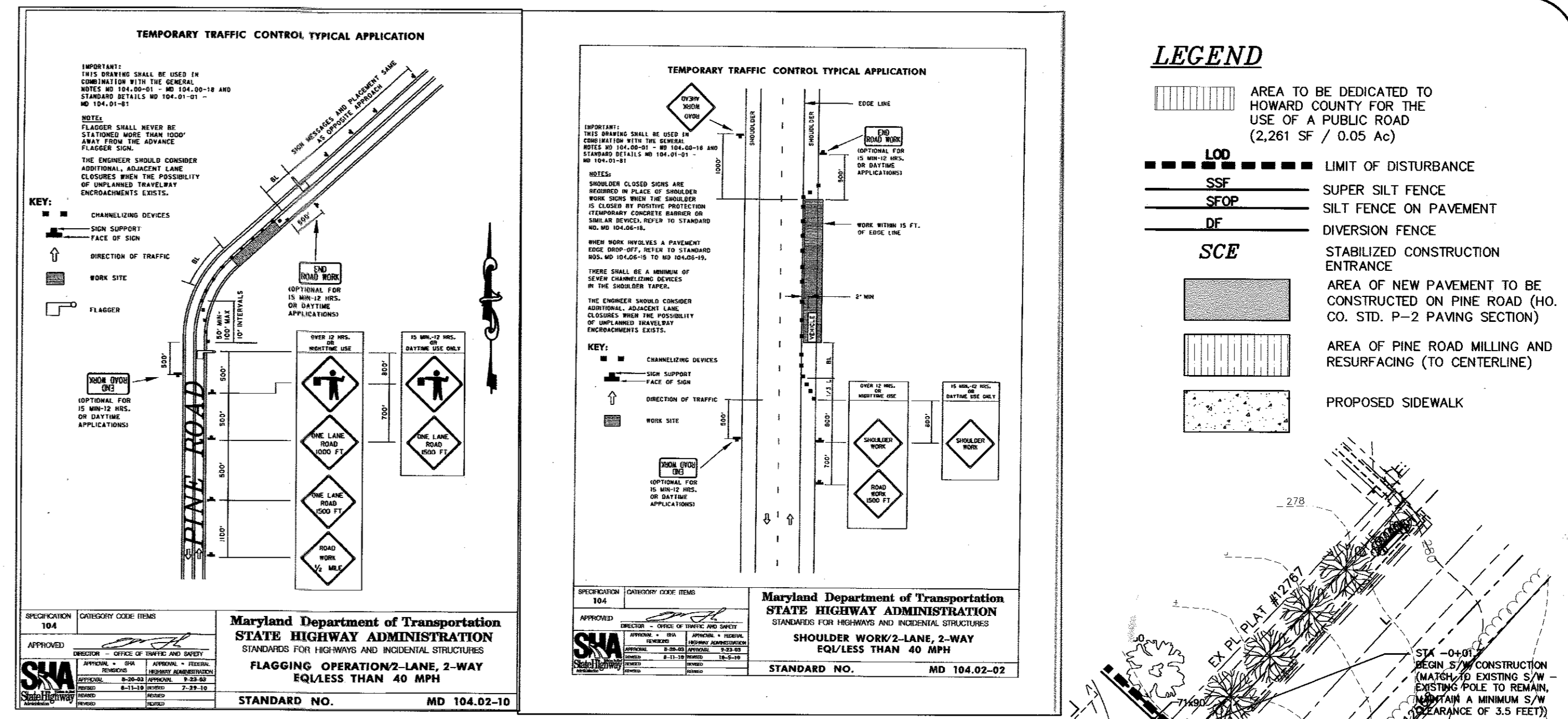
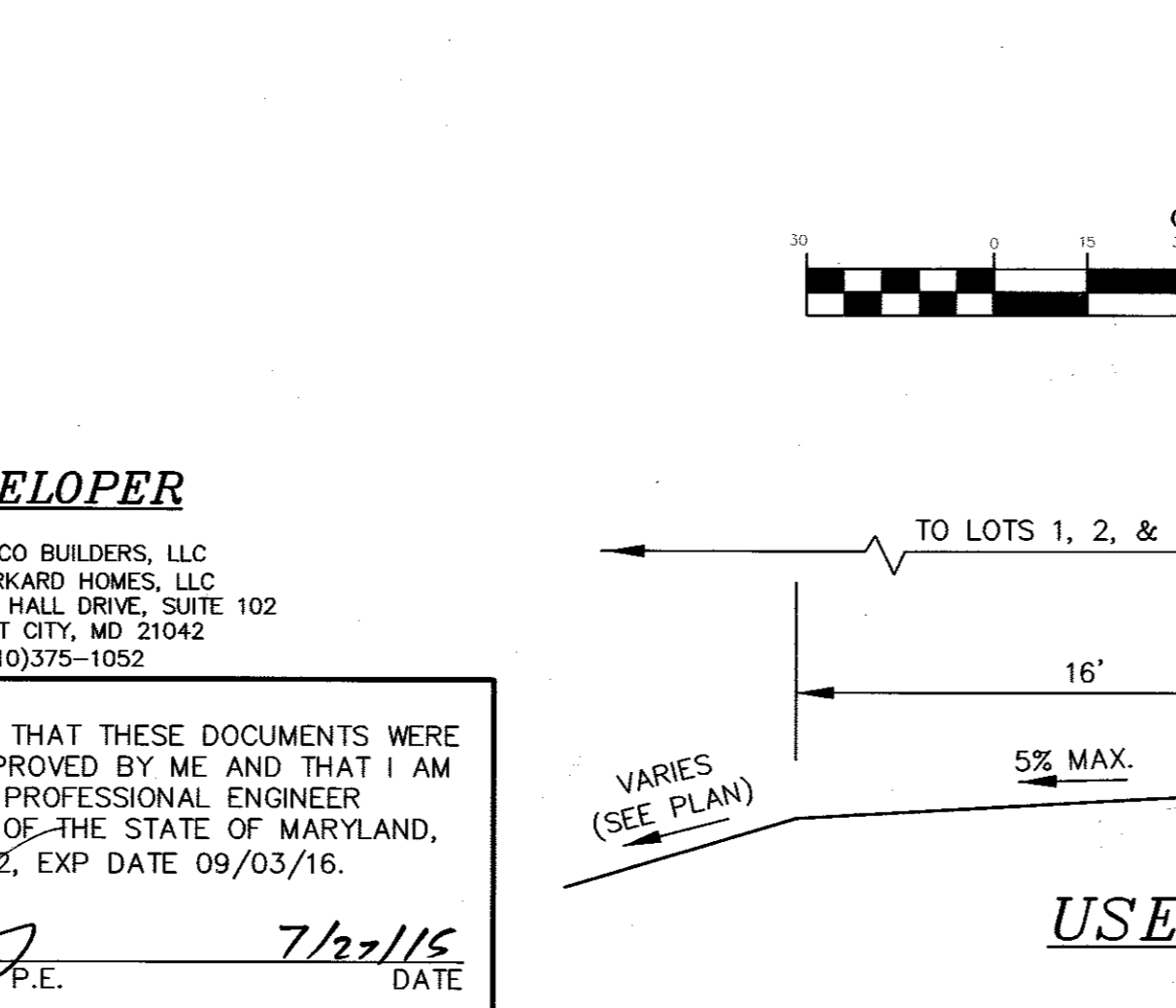




**PINE ROAD IMPROVEMENTS DETAIL**

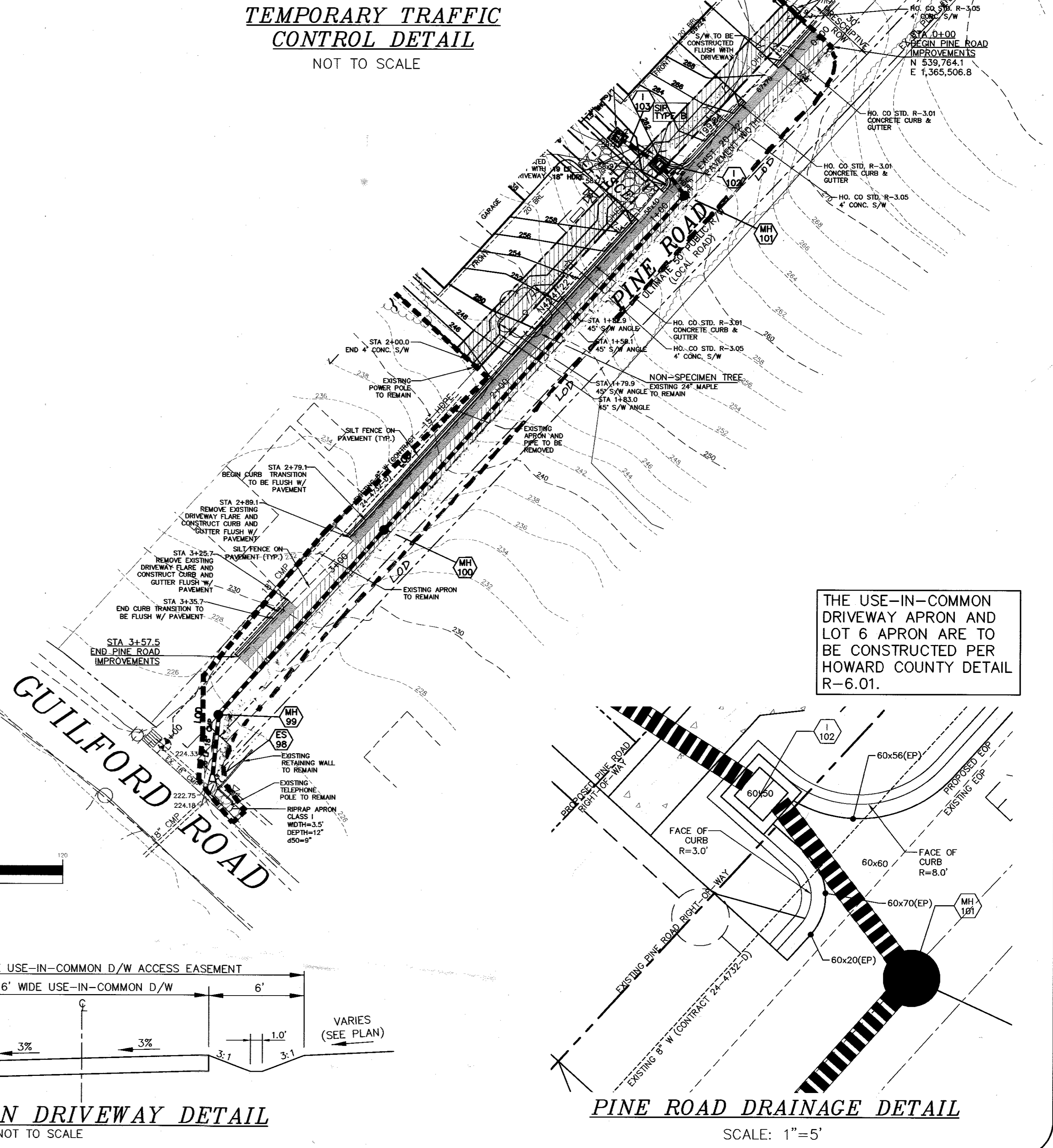
- NOT TO SCALE
1. WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE, CONTRACTOR SHALL REMOVE A MINIMUM OF 1' FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4' OF WIDENING FROM FACE OF GUTTER PAN.
  2. THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED AT A DEPTH OF 1.5" (MINIMUM).
  3. THE RESURFACING SHALL BE PLACED TO THE CENTERLINE OF THE ROADWAY.
  4. RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION.
  5. REFER TO HO. CO. DESIGN MANUAL VOLUME IV, STANDARD DETAIL R-1.08 FOR ADDITIONAL DETAILS

**USE-IN-COMMON DRIVEWAY DETAIL**



**TEMPORARY TRAFFIC CONTROL DETAIL**

NOT TO SCALE



THE USE-IN-COMMON DRIVEWAY APRON AND LOT 6 APRON ARE TO BE CONSTRUCTED PER HOWARD COUNTY DETAIL R-6.01.

**PINE ROAD DRAINAGE DETAIL**

SCALE: 1"=5'

**ENGINEER'S CERTIFICATE**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

7/27/15  
R. JACOB HIKMAT, PE  
DATE  
PRINTED NAME OF ENGINEER

**DEVELOPER'S CERTIFICATE**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION.

7/27/15  
Timothy C. Boland  
DATE  
PRINTED NAME OF DEVELOPER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

8/5/15  
Howard Soil Conservation District  
DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
8/17/2015  
DATE

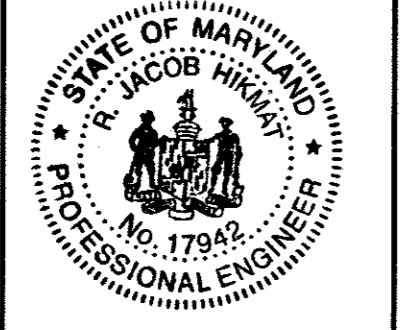
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
8-19-15  
8-21-15  
DATE

**OWNER**  
FRANK A. MANAGO III  
4109 WALRAD STREET  
BALTIMORE, MD 21229-4142  
C/O (410)375-1052

**DEVELOPER**  
PATAPSCO BUILDERS, LLC  
C/O BURKARD HOMES, LLC  
5300 DORSEY HALL DRIVE, SUITE 102  
ELLCOTT CITY, MD 21042  
(410)375-1052

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.

7/27/15  
R. JACOB HIKMAT, P.E.  
DATE



|              |           |          |
|--------------|-----------|----------|
| Project      | date      | approval |
| 14-015       | JULY 2015 | JLS      |
| illustration | scale     | AS SHOWN |
| JLS          | 7/20/15   | NAM      |

|             |         |
|-------------|---------|
| description | date    |
| 1           | 7/20/15 |
| 1           | 7/20/15 |

**PINE GROVE ADDITION, LOTS 1 THRU 6**  
RESUBDIVISION OF NORDAU SUBDIVISION, LOT 1, SECTION E-1  
TAX MAP: 47 PARCEL: 50  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
ROAD IMPROVEMENT PLAN

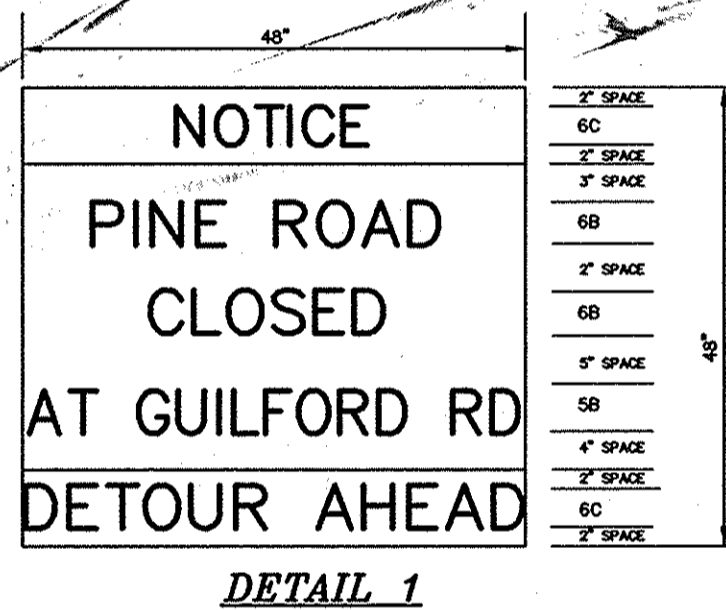
**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
7350-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0296 Balt. (410) 997-0298 Fax



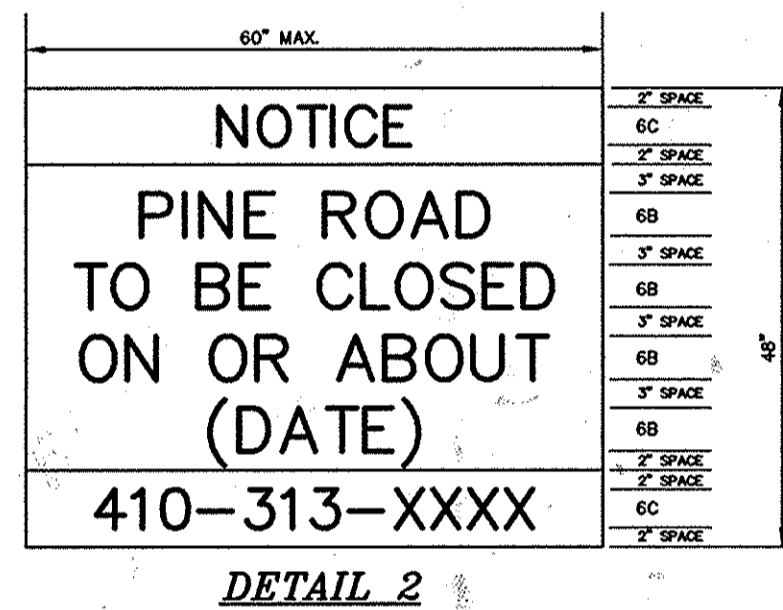
**TEMPORARY TRAFFIC CONTROL SIGN TABLE**

| SYMBOL | M.U.T.C.D. DESIGNATION                   | MESSAGE   | SIZE                             | QUANTITY | COLOR                     |            |
|--------|--|---|----------------------------------|----------|---------------------------|------------|
|        |  |   |                                  |          | BACKGROUND                | CHARACTERS |
| ①      | NOTICE SIGN**                            | NOTICE<br>PINE ROAD<br>CLOSED<br>AT GUILFORD RD<br>DETOUR AHEAD                     | 48"x48"                          | 4        | YELLOW<br>WHITE<br>ORANGE | BLACK      |
| ②      | R4-9<br>W/ROAD NAME PANEL                | PINE ROAD<br>↑  | 30"x24"<br>5" LETTERS<br>30"x12" | 6        | WHITE<br>ORANGE           | BLACK      |
| ③      | R4-9R<br>W/ROAD NAME PANEL               | PINE ROAD<br>→  | 30"x24"<br>5" LETTERS<br>30"x12" | 3        | WHITE<br>ORANGE           | BLACK      |
| ④      | R4-9L<br>W/ROAD NAME PANEL               | PINE ROAD<br>←  | 30"x24"<br>5" LETTERS<br>30"x12" | 3        | WHITE<br>ORANGE           | BLACK      |
| ④A     | R4-9L<br>(MODIFIED)<br>W/ROAD NAME PANEL | PINE ROAD<br>←<br>1   | 30"x24"<br>5" LETTERS<br>30"x12" | 1        | WHITE<br>ORANGE           | BLACK      |
| ⑤      | R11-2*                                   | ROAD<br>CLOSED  | 48"x30"                          | 4        | ORANGE                    | BLACK      |
| ⑥      | NOTICE SIGN***                           | NOTICE<br>PINE ROAD<br>WILL BE CLOSED<br>ON OR ABOUT<br>(DATE)<br>CALL 410-313-XXXX | 60"x48"                          | 2        | YELLOW<br>WHITE<br>ORANGE | BLACK      |
| ⑦      | M4-10R *<br>W/R11-3a                     | ROAD CLOSED<br>900 FT AHEAD<br>LOCAL TRAFFIC ONLY                                   | 48"x18"<br>60"x30"               | 1        | WHITE                     | BLACK      |
| ⑧      | M4-8A                                    | END<br>DETOUR   | 24"x36"                          | 1        | ORANGE                    | BLACK      |

\* MOUNTED ON TYPE III BARRICADE  
\*\* SEE DETAIL 1  
\*\*\* SEE DETAIL 2



**DETAIL 1**



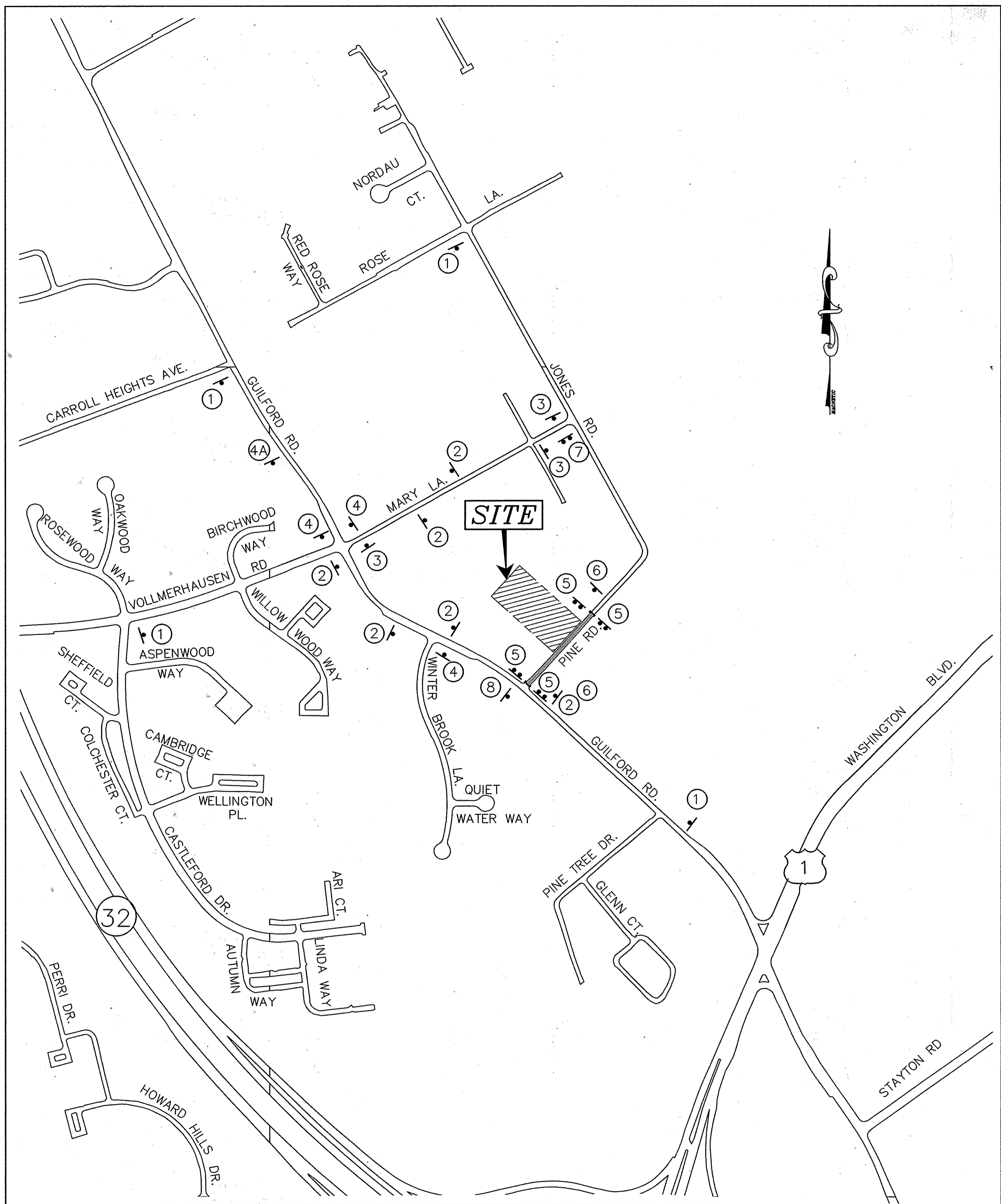
**DETAIL 2**



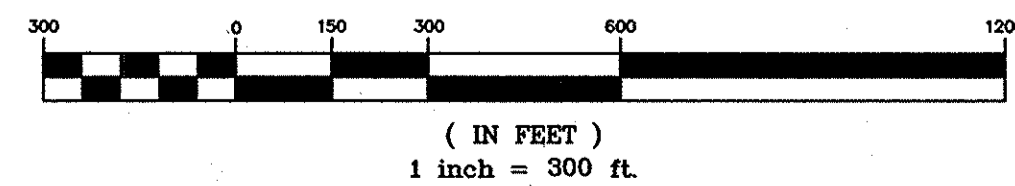
**R-11-3a SIGN DETAIL**

**NOTES:**

1. NOTICE SIGN 6 SHALL BE INSTALLED AT LEAST TWO (2) WEEKS PRIOR TO ROAD CLOSING REMOVE WHEN ROAD IS CLOSED.
2. ALL SIGN LOCATIONS SHALL BE APPROVED BY HOWARD COUNTY TRAFFIC.
3. TYPE III BARRICADES SHALL EXTEND THE FULL WIDTH OF ROADWAY AT CLOSURE POINT.
4. EXISTING DRIVEWAY ACCESS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION AREA.



**GRAPHIC SCALE**



**OWNER**  
FRANK A. MANAGO III  
4109 WALRAD STREET  
BALTIMORE, MD 21229-4142  
C/O (410)375-1052

**DEVELOPER**  
PATAPSCO BUILDERS, LLC  
C/O BURKARD HOMES, LLC  
5300 DORSEY HALL DRIVE, SUITE 102  
ELLCOTT CITY, MD 21042  
(410)375-1052

APPROVED: DEPARTMENT OF PUBLIC WORKS

*Meunier* / *8/7/2015*  
CHIEF, BUREAU OF HIGHWAYS / DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Chad Edwards* / *8-19-15*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION / DATE

*Katelland* / *8-24-15*  
CHIEF, DIVISION OF LAND DEVELOPMENT / DATE



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16.

*R. JACOB HIKMAT* / *7/22/15*  
R. JACOB HIKMAT P.E. / DATE

P: 1200414-015 Pine Grove Addition\Draw\Plan\15-RP-SUPP-OCT 2014

|              |         |             |           |
|--------------|---------|-------------|-----------|
| project      | 14-015  | date        | JULY 2015 |
| illustration | MM      | engineering | MM        |
| scale        | 1"=300' | approval    | MM        |

|     |             |      |
|-----|-------------|------|
| no. | description | date |
|     |             |      |

**PINE GROVE ADDITION, LOTS 1 THRU 6**  
RESUBDIVISION OF NORDAU SUBDIVISION, LOT 1, SECTION E-1  
SIXTH ELECTION DISTRICT  
TAX MAP: 47 PARCEL 50  
HOWARD COUNTY, MARYLAND  
**DETOUR PLAN**

**MILDENBERG, & ASSOC., INC.**  
Engineers Planners Surveyors  
7850-B Grace Drive, Columbia, Maryland 21044  
(410) 997-0236 Balt. (410) 997-0289 Fitz.



**PLANTING SPECIFICATIONS AND NOTES**

- PROTECTION FENCING IS TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
- DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
- SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXED WITH 25% COMPOSTED SLOUGH SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLOUGH SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
- ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND COVERED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

- PLANT STORAGE AND INSPECTION**
- FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
  - FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
  - PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
  - UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.

- PLANT INSTALLATION**
- THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENEROUSLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
  - PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.

- FERTILIZING**
- DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
  - NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
  - IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.

- MAINTENANCE SCHEDULE**
- ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
  - ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
  - VOLUNTEER SEEDING OF NATIVE, LOCAL AND EXOTIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
  - REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
  - REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL, NATURALLY OCCURRING, UNLESS IT IS A SMOOTHERING PLANTING STOCK.
  - A 75 PERCENT SURVIVAL PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

- SUPERVISION**
- ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER QUALIFIED PROFESSIONAL AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

- NOTE :**
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENTS EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETRIMENTAL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

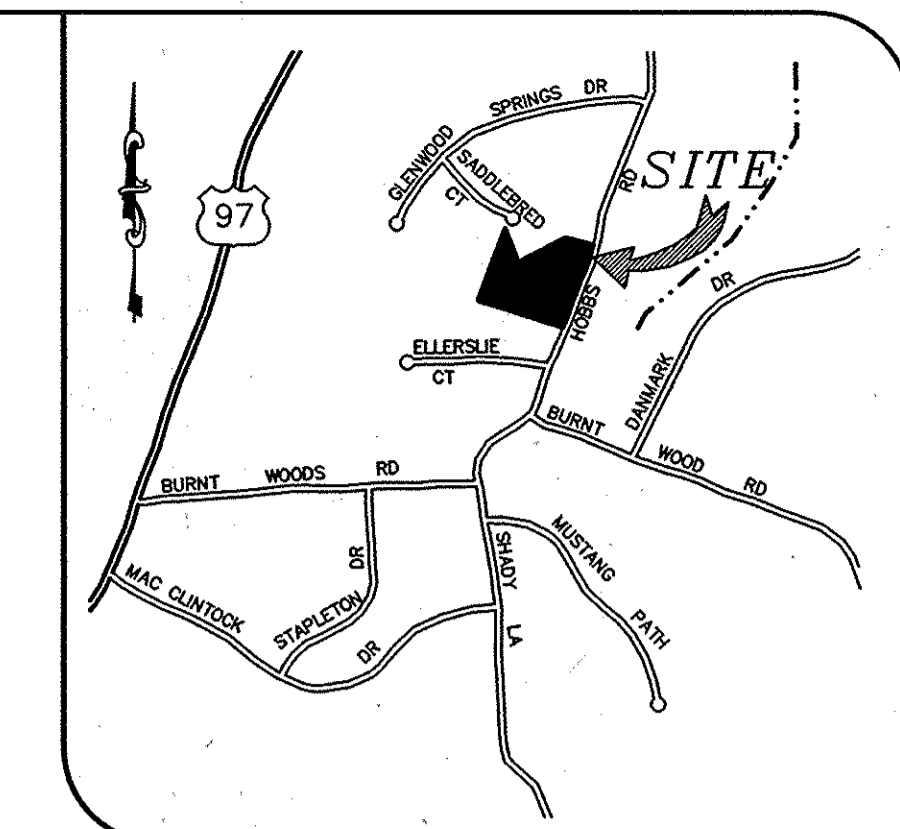
**SOILS CLASSIFICATION**

| SYMBOL | DESCRIPTION                                      |
|--------|--|
| BaA    | BALE SILT LOAM, 0 TO 3 PERCENT SLOPES (D)        |
| ChB    | CHILLUM-RUSSETT LOAMS, 2 TO 5 PERCENT SLOPES (B) |
| GgA    | GLENGLG LOAM, 0 TO 3 PERCENT SLOPES (B)          |
| GgB    | GLENGLG LOAM, 3 TO 8 PERCENT SLOPES (B)          |

**OFF-SITE FOREST CONSERVATION EASEMENT AREAS**

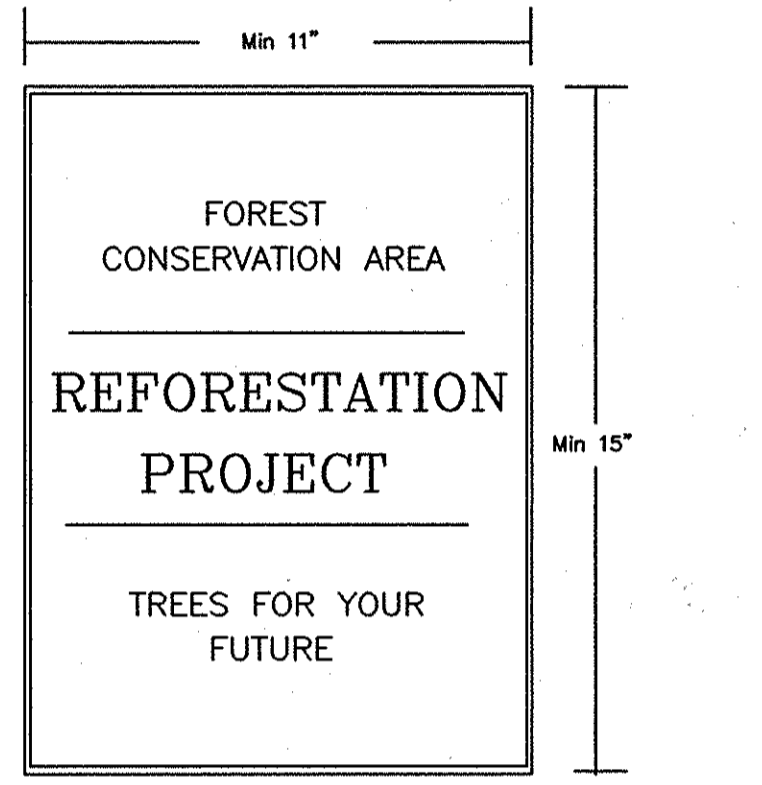
**TOTAL EASEMENT AVAILABLE FOR PLANTING: 8.87 ACRES±**

| PROJECT                      | EASEMENT AREA PROVIDED | REMAINING EASEMENT AREA | FINAL PLAN # |
|------------------------------|------------------------|-------------------------|--------------|
| NORDAU PROPERTY              | 0.77 ACRES±            | 8.10 ACRES±             | F-12-047     |
| TURLEY'S MEADOW              | 1.36 ACRES±            | 6.74 ACRES±             | F-13-084     |
| MONTGOMERY CROSSING PHASE 2  | 1.08 ACRES±            | 5.66 ACRES±             | F-14-029     |
| TURLEY'S OVERLOOK            | 0.52 ACRES±            | 5.14 ACRES±             | F-14-079     |
| BETHEL MINISTRIES, INC.      | 0.81 ACRES±            | 4.33 ACRES±             | SOP-14-042   |
| GUILFORD OVERLOOK            | 0.47 ACRES±            | 3.86 ACRES±             | F-11-059     |
| PINE GROVE ADDITION LOTS 1-6 | 0.27 ACRES±            | 3.59 ACRES±             | F-15-036     |



**VICINITY MAP**  
SCALE: 1" = 2000'  
ADC MAP 17 B-4

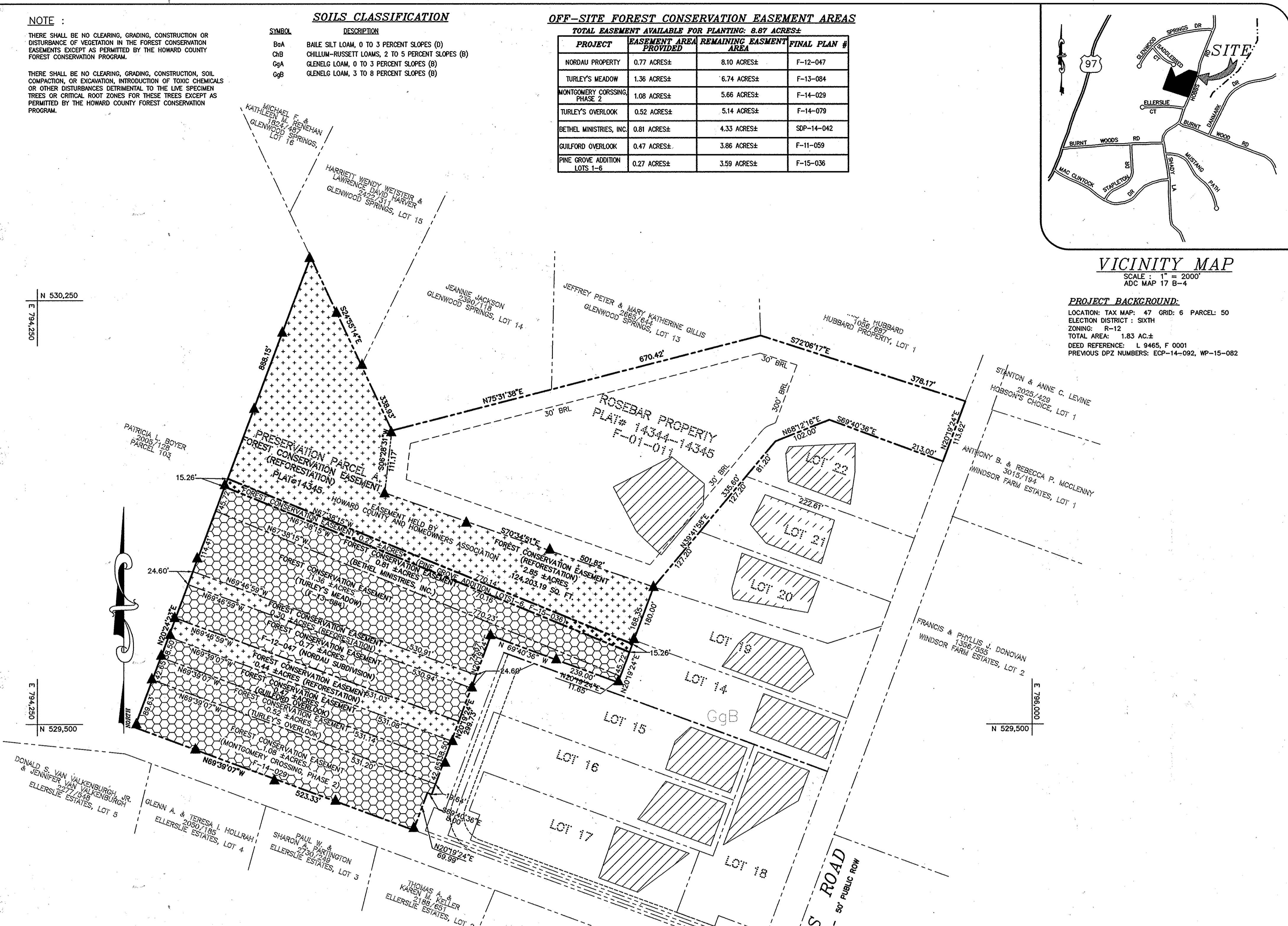
**PROJECT BACKGROUND:**  
LOCATION: TAX MAP: 47 GRID: 6 PARCEL: 50  
ELECTION DISTRICT: SIXTH  
ZONING: R-12  
TOTAL AREA: 1.83 AC±  
DEED REFERENCE: L 9465, F 0001  
PREVIOUS DPZ NUMBERS: ECP-14-092, WP-15-082



**SIGNAGE DETAILS**  
NOT TO SCALE

N 530,250  
E 794,250

N 529,500  
E 794,250



**REFORESTATION PLANT LIST**

**ALTERNATIVE 1**

| QTY.                                | SPECIES                 | SHADE TOL. | MOIST. REQ. | WET. STATUS | MIN.O.C. | SIZE & SPACING          | REMARKS |
|-------------------------------------|-------------------------|------------|-------------|-------------|----------|-------------------------|---------|
| 14                                  | Acer rubrum             | VT         | D-W         | FAC         | 15'      | CONT/B & B 1" CALIPER   |         |
| 10                                  | Lindera benzoin         | T          | M           | FACW-       | 15'      | CONT/B & B 3"-5" HEIGHT |         |
| 10                                  | Quercus Rubra           | I          | M-W         | FAC         | 15'      | CONT/B & B 1" CALIPER   |         |
| 10                                  | Liriodendron tulipifera | MT         | D-M         | FAC         | 15'      | CONT/B & B 1" CALIPER   |         |
| 10                                  | Nyssa sylvatica         | T          | M-W         | FAC         | 15'      | CONT/B & B 1" CALIPER   |         |
| 10                                  | Prunus serotina         | I          | M           | FACU        | 15'      | CONT/B & B 1" CALIPER   |         |
| <b>TOTAL</b><br>54 TREES, 10 BUSHES |                         |            |             |             |          |                         |         |

**ALTERNATIVE 2**

| QTY.   | SPECIES                 | SHADE TOL. | MOIST. REQ. | WET. STATUS | MIN.O.C. | SIZE & SPACING                 | REMARKS |
|--|-------------------------|------------|-------------|-------------|----------|--------------------------------|---------|
| 20   | Acer rubrum             | VT         | D-W         | FAC         | 11"      | SEEDLING/WHP WITH TREE SHELTER |         |
| 10   | Lindera benzoin         | T          | M           | FACW-       | 11"      | SEEDLING/WHP WITH TREE SHELTER |         |
| 20   | Quercus Rubra           | I          | M-W         | FAC         | 11"      | SEEDLING/WHP WITH TREE SHELTER |         |
| 20   | Liriodendron tulipifera | MT         | D-M         | FAC         | 11"      | SEEDLING/WHP WITH TREE SHELTER |         |
| 20   | Nyssa sylvatica         | T          | M-W         | FAC         | 11"      | SEEDLING/WHP WITH TREE SHELTER |         |
| 15   | Prunus serotina         | I          | M           | FACU        | 11"      | SEEDLING/WHP WITH TREE SHELTER |         |
| <b>TOTAL</b><br>95 WHIPS WITH TREE SHELTERS, 10 BUSHES |                         |            |             |             |          |                                |         |

**FOREST CONSERVATION WORKSHEET**

**NET TRACT AREA:**

A. Total tract area..... = 1.83  
 B. Area within 100 year floodplain & overhead transmission line = 0.00  
 C. Area to remain in agricultural production..... = 0.00  
 D. Net tract area..... = 1.83

**LAND USE CATEGORY:**  
 Input the number "1" under the appropriate land use zoning, and limit to only one entry.  
 ARA MDR IDA HDR MPD CIA  
 0 0 0 1 0 0

**EXISTING FOREST COVER:**

E. Afforestation Threshold..... 15% x D = 0.27  
 F. Conservation Threshold..... 20% x D = 0.37

**EXISTING FOREST COVER:**

G. EXISTING forest cover (excluding floodplain)..... = 0.00  
 H. Area of forest above afforestation threshold..... = 0.00  
 I. Area of forest above conservation threshold..... = 0.00

**BREAK EVEN POINT:**

J. Forest retention above threshold with no mitigation..... = 0.00  
 K. Clearing permitted without mitigation..... = 0.00

**PROPOSED FOREST CLEARING:**

L. Total area of forest to be cleared..... = 0.00  
 M. Total area of forest to be retained..... = 0.00

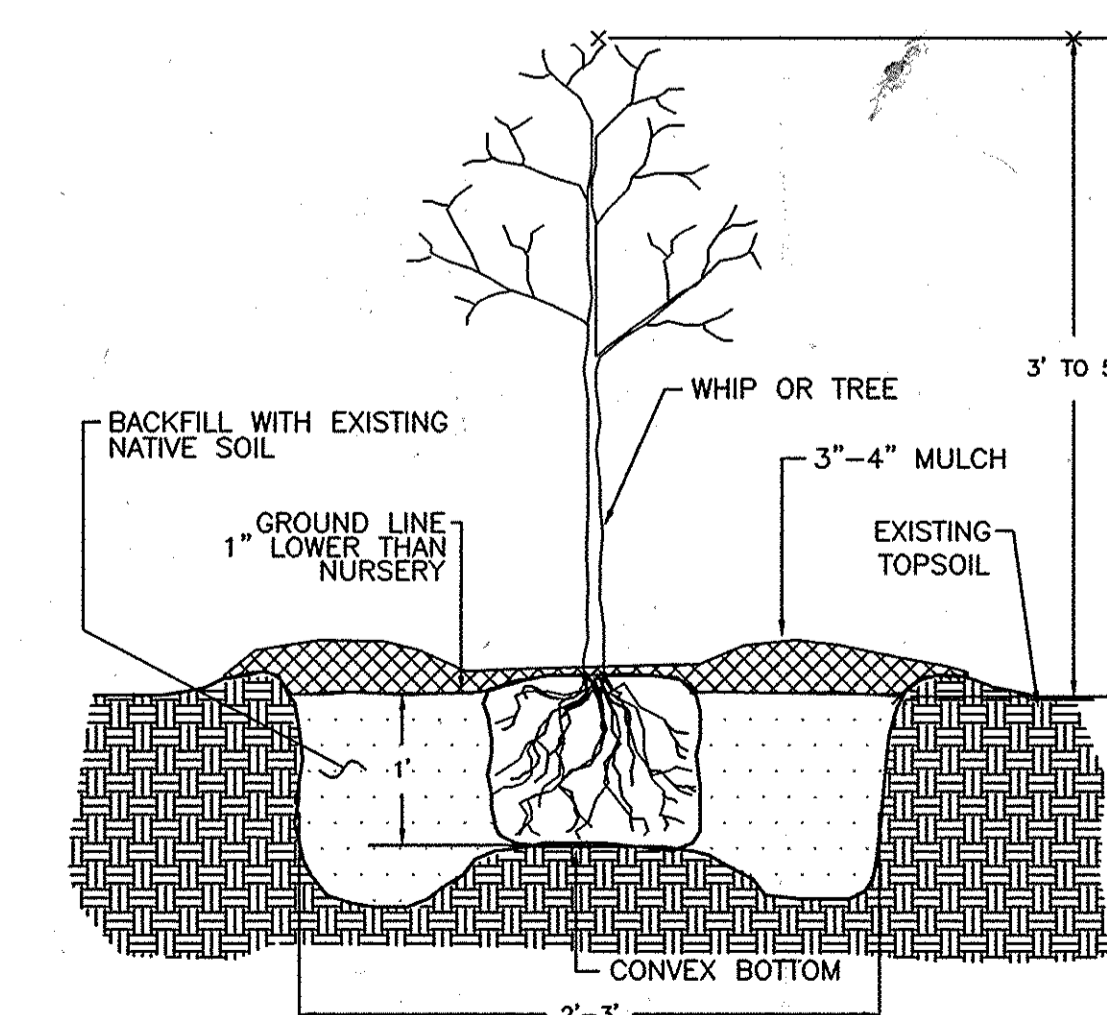
**PLANTING REQUIREMENTS:**

N. Reforestation for clearing above conservation threshold..... = 0.00  
 P. Reforestation for clearing below conservation threshold..... = 0.00  
 Q. Credit for retention above conservation threshold..... = 0.00  
 R. Total reforestation required..... = 0.00  
 S. Total afforestation required..... = 0.00  
 T. Total reforestation and afforestation required..... = 0.27

**LEGEND**

- EXISTING SEPTIC EASEMENT
- FOREST CONSERVATION EASEMENT (REFORESTATION) THAT SATISFY OTHER SUBDIVISION FOREST CONSERVATION OBLIGATION.
- EXISTING FOREST CONSERVATION EASEMENT (REFORESTATION) F-01-11 AVAILABLE.
- PROPOSED FOREST CONSERVATION EASEMENT FOR PINE GROVE ADDITION, LOTS 1-6.
- ▲ DENOTES FOREST CONSERVATION SIGNAGE

FOREST CONSERVATION IN ACCORDANCE WITH SECTION 16.1202 OF THE FOREST CONSERVATION MANUAL SHALL BE PROVIDED BY PLACEMENT OF 0.27 ACRES OF REQUIRED REFORESTATION FOR THE PINE GROVE ADDITION, LOTS 1-6 PROPERTY INTO AN OFF-SITE EASEMENT ON PROPERTY IDENTIFIED AS THE ROSEBAR PROPERTY. PRESERVATION PARCEL A, LOCATED ON TAX MAP NO. 14 AND IDENTIFIED AS PARCEL 221, SITUATED ON THE WEST SIDE OF HOBBS ROAD. THE ROSEBAR FOREST CONSERVATION EASEMENT HAS BEEN SHOWN ON SHEET 18 OF SDP-97-115/NEW COLONY VILLAGE. DPZ HAS DETERMINED THAT A RED-LINE REVISION SHALL BE MADE TO SDP-97-115 TO SHOW 0.27 ACRES OF REFORESTATION DEDUCTED FROM THE TOTAL FC EASEMENT LOCATED ON ROSEBAR. SURETY FOR THE OFF-SITE FOREST CONSERVATION EASEMENT ON THE ROSEBAR PROPERTY HAS BEEN PREVIOUSLY POSTED BY THE OWNER OF THE EASEMENT HOLDER.



**TREE PLANTING DETAIL**  
CONTAINER GROWN

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chris Edmonson  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

8-19-15  
DATE

Kat Sedgewick  
CHIEF, DIVISION OF LAND DEVELOPMENT

8-24-15  
DATE



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP DATE 09/03/16

R. JACOB HIKMAT P.E. 7/22/15  
DATE:

MD DNR QUALIFIED PROFESSIONAL  
MASHID TRINGA

|         |          |              |          |
|---------|----------|--------------|----------|
| project | date     | description  | revision |
| 14-015  | JUL 2015 | engineering  |          |
| 14-015  | JUL 2015 | illustration |          |
|         |          | approval     |          |
|         |          | scale        | 1"=100'  |
|         |          | no.          |          |

|         |      |             |          |
|---------|------|-------------|----------|
| project | date | description | revision |
|         |      |             |          |
|         |      |             |          |
|         |      |             |          |
|         |      |             |          |
|         |      |             |          |

**PINE GROVE ADDITION, LOTS 1 THRU 6**  
 FOREST CONSERVATION EASEMENT GRANTED FROM ROSEBAR PROPERTY, PRESERVATION PARCEL "A"  
 SIXTH ELECTION DISTRICT  
 TAX MAP: 47 PARCEL: 50  
 HOWARD COUNTY, MARYLAND  
**OFFSITE FOREST CONSERVATION PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296, Fax: (410) 997-0296