

SITE DEVELOPMENT PLAN

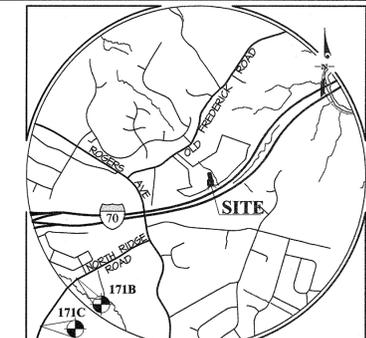
SUNELL PROPERTY

PARCEL A - PUMP STATION

CAPITAL PROJECT S-6275

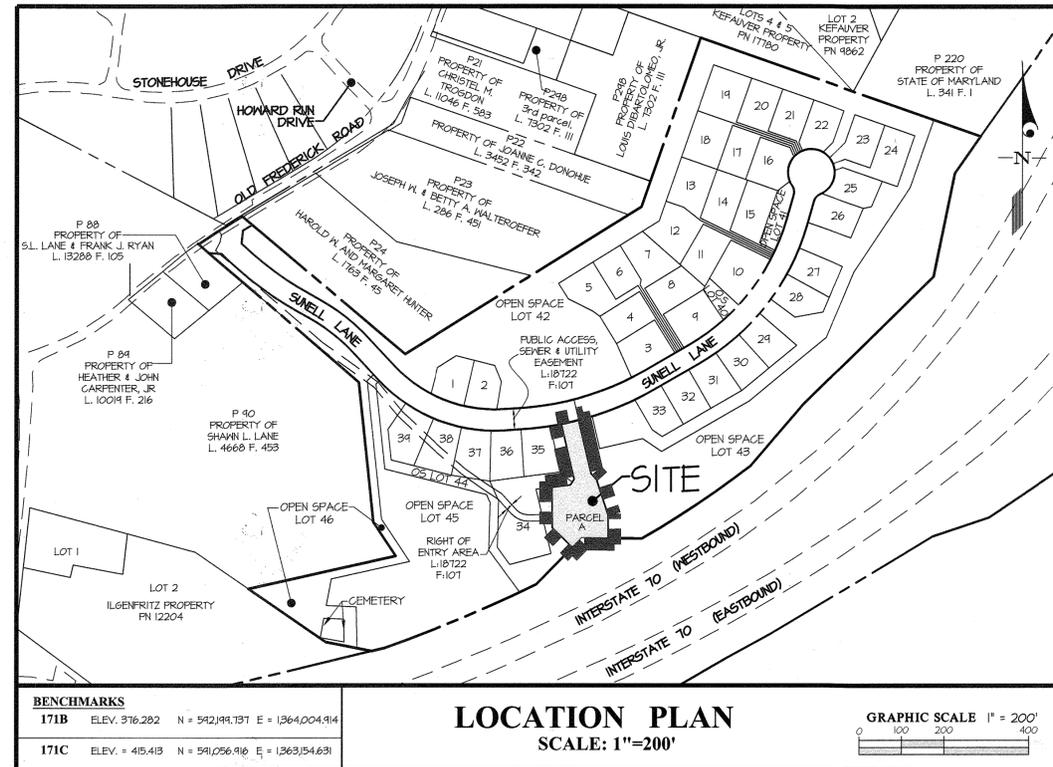
STORMWATER MANAGEMENT INFORMATION CHART	
LOT NO.	(M-6)/(M-8)
PARCEL A	1

(M-6) MICRO-BIORETENTION
(M-8) SNALES



- GENERAL NOTES**
- 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 BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1000 AT LEAST 48 HOURS PRIOR TO THE START OF WORK.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-251-TITTI AT LEAST 48-HOURS PRIOR TO ANY EXCAVATION WORK.
 - THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES AT (410) 313-4400 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
 - AS REQUIRED, ANY "STOP" SIGN OR THE STREET NAME SIGN (SBS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 - THE TRAFFIC CONTROL DEVICES LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - 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" TYPE), SQUARE TUBE POST (1/4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1/2 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.
 - PROJECT BACKGROUND:

LOCATION: TAX MAP 1B	PROPERTY IS ZONED R-20 PER THE 2013 COMPREHENSIVE ZONING PLAN
ZONING: SECOND ELECTION DISTRICT	
AREA OF BUILDABLE LOTS: PARCEL 'A', 0.51 AC.	
DPZ REF. FILE NO.:	ECF-14-054, NP-15-011, SP-15-002, F-14-038, CAPITAL PROJECT S-6275
 - TOPOGRAPHIC AERIAL SURVEY WAS PERFORMED ON APRIL, 2011 BY MCKENZIE SNYDER.
 - COORDINATES ARE BASED ON NAD '83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATION NUMBERS: 171B AND 171C.
 - THE EXISTING UTILITIES SHOWN HEREIN WERE DERIVED FROM AVAILABLE PUBLIC RECORDS. THE CONTRACTOR MUST DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS AND CONNECTION POINTS TO VERIFY EXACT LOCATION.
 - SPOT ELEVATIONS SHOWN FOR CURB ARE BOTTOM OF CURB UNLESS OTHERWISE NOTED.
 - ALL PLAN DIMENSIONS ARE TO THE FACE OF BUILDING OR CURB UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIAL BETWEEN ITEMS UNLESS NOTED OTHERWISE. CURB RADII ARE 5' UNLESS NOTED OTHERWISE.
 - THE CEMETERY INVENTORY MAP DOES NOT SHOW ANY CEMETERIES WITHIN THE SITE (PARCEL A). SEE F-14-038 FOR INFORMATION ON THE CEMETERY WITHIN THE ADJACENT SUBDIVISION.
 - THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS IN THE VICINITY.
 - THE HISTORIC SITES MAP DOES NOT SHOW ANY HISTORICAL SITES WITHIN THE PROJECT LIMITS.
 - THE GEO-TECHNICAL REPORT WAS PROVIDED BY GEOTECH ENGINEERS, INC. DATED JANUARY, 2014.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS USE.
 - THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY KLEBASCO ENVIRONMENTAL, LLC., DATED OCTOBER 2, 2012 AND APPROVED WITH SP-15-002 ON JULY 30, 2015. THERE ARE NO STREAMS, WETLANDS, OR BUFFERS WITHIN THE LIMITS OF THIS SDP.
 - SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED MARCH, 2008.
 - A TRAFFIC STUDY IS NOT REQUIRED FOR THIS SDP. A TRAFFIC STUDY FOR THE SURROUNDING DEVELOPMENT WAS PROVIDED WITH F-14-038
 - BOUNDARY INFORMATION IS FROM BOUNDARY SURVEYS BY GUTSCHICK, LITTLE, AND WEBER, P.A., DATED MAY, 2013.
 - THERE IS NO FLOODPLAIN ON SITE.
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, OR PLACEMENT OF NEW STRUCTURES IS PERMITTED WITHIN LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, OR 100 YEAR FLOODPLAIN AREAS, UNLESS PERMITTED UNDER AN APPROVED WAIVER PETITION OR DETERMINED TO BE ESSENTIAL OR NECESSARY BY DPZ.
 - THE PROJECT IS WITHIN THE METROPOLITAN DISTRICT. WATER SERVICE IS PUBLIC (CONTR. #14-4874-D) AND SEWER SERVICE IS PUBLIC (14-4874-D & 10-5096-D).
 - THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SITE ARE PROVIDED BY F-14-038. NO ADDITIONAL FOREST CONSERVATION OR SURETY IS REQUIRED FOR THIS SDP.
 - ALL OUTDOOR LIGHTING SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING PUBLIC ROADS AND IN ACCORDANCE WITH SECTION 154 OF THE HOWARD COUNTY ZONING REGULATIONS.
 - 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.
 - THE REQUIRED LANDSCAPE BUFFER PLANTINGS ARE PROVIDED IN ACCORDANCE WITH SECTION 16.124 AND THE HOWARD COUNTY LANDSCAPE MANUAL. THE PERIMETER LANDSCAPE PLANTING ADJACENT TO I-70 FOR THIS SITE IS PROVIDED BY F-14-038. NO SURETY IS REQUIRED FOR THIS SDP DUE TO GOVERNMENT OWNERSHIP.
 - MINIMUM BUILDING SETBACK RESTRICTIONS FROM PUBLIC ROADS AND PROPERTY LINES WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING REGULATIONS ADOPTED OCTOBER, 2013.
 - APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN.
 - STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MDE STORMWATER DESIGN MANUAL. BASED ON TABLE 5.3, THIS SITE HAS A TARGET PE OF 1.0". IN ORDER TO FULFILL THE STORMWATER MANAGEMENT REQUIREMENTS A COMBINATION OF BIO-SNALES (M-8) AND MICRO-BIORETENTION (M-6) WILL BE USED. ALL FACILITIES WILL BE OWNED AND MAINTAINED BY THE PROPERTY OWNER.
 - PARCEL A IS SUBJECT TO A RIGHT OF ENTRY AGREEMENT ACROSS THE SUNELL PROPERTY, PARCEL 25, RECORDED L. 18122 F.101.
 - A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON 07/10/2013 IN COMPLIANCE WITH SECTION 16.128 OF THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
 - THE PLANNING BOARD APPROVED SP-15-002 AND CEMETERY BOUNDARY DOCUMENTATION ON 6/23/2015.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (8' SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN)
 - GEOMETRY - MAX. 5% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS
 - STRUCTURE (CULVERTS/BOXES) - CAPABLE OF SUPPORTING 25 GROSS TONS (125 LOADS)
 - DRAINAGE ELEMENTS - SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
 - ALL IMPROVEMENTS PROPOSED BY F-14-038 ARE SHOWN AS EXISTING ON THIS PLAN SET HOWEVER THESE FEATURES MAY BE CONSTRUCTED SIMULTANEOUSLY WITH THE IMPROVEMENTS SHOWN ON THIS SITE PLAN. COORDINATE ALL CONSTRUCTION WITH THE CONTRACTOR FOR F-14-038.
 - PURSUANT TO SECTION 16.102(b) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS FOR HOWARD COUNTY MARYLAND, A DEED WAS RECORDED IN LIBER 18142 AT FOLIO 353 CONVEYING PARCEL 'A' FROM WILLIAM EUGENE SUNELL TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS FOR THE PURPOSE OF A PUBLIC UTILITY.
 - STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1943) AND AS MODIFIED BY GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.



- I. SITE ANALYSIS DATA CHART**
- TOTAL PROJECT AREA: 0.51 AC. (22,246 SF)
 - LIMIT OF DISTURBED AREA: 0.5 AC.
 - ZONING: R-20
 - APPLICABLE DPZ FILE REFERENCES: ECF-14-054, NP-15-011, SP-15-002, F-14-038, CAPITAL PROJECT S-6275
 - PROPOSED USE OF SITE: GOVERNMENT STRUCTURE - PUBLIC UTILITY - WASTEWATER PUMPING STATION
 - FLOOR SPACE:

CONTROL ROOM	182 SF (GOVERNMENT STRUCTURE)
TOTAL	182 SF (GOVERNMENT STRUCTURE)
 - PARKING REQUIRED: 2 (PER H.C.D.M. Vol 2, Section 6.9.A.12)
 - PARKING PROVIDED: 2

- 100.0.D. BULK REGULATIONS (R-20)**
- THE FOLLOWING MAXIMUM HEIGHT LIMITATIONS SHALL APPLY:
 - PRINCIPAL STRUCTURE 34 FEET
 - ACCESSORY STRUCTURE 15 FEET
 - MINIMUM LOT SIZE (EXCEPT AS PROVIDED IN SECTION 100.0.F. OF THESE REGULATIONS FOR MANDATORY OPEN SPACE) 20,000 SF
 - MINIMUM LOT WIDTH AT BUILDING RESTRICTION LINE 60 FEET
 - MINIMUM SETBACK REQUIREMENTS:
 - FROM ARTERIAL OR COLLECTOR PUBLIC STREET RIGHT-OF-WAY
 - STRUCTURES
 - FRONT OR SIDE
 - LOTS THAT FRONT A PUBLIC STREET CONSTRUCTED AFTER 10/18/43 40 FEET
 - ALL OTHER LOTS 50 FEET
 - REAR
 - PRINCIPAL STRUCTURE 50 FEET
 - ACCESSORY STRUCTURE 10 FEET
 - USES (OTHER THAN STRUCTURES) IN ALL DEVELOPMENT PROJECTS EXCEPT SINGLE-FAMILY DETACHED 20 FEET
 - FROM OTHER PUBLIC STREET RIGHT-OF-WAY
 - STRUCTURES
 - FRONT OR SIDE
 - LOTS THAT FRONT A PUBLIC STREET CONSTRUCTED AFTER 10/18/43 30 FEET
 - ALL OTHER LOTS 50 FEET
 - REAR
 - PRINCIPAL STRUCTURE 30 FEET
 - ACCESSORY STRUCTURE 10 FEET
 - USES (OTHER THAN STRUCTURES) IN ALL DEVELOPMENT PROJECTS EXCEPT SINGLE-FAMILY DETACHED 20 FEET

VICINITY MAP
SCALE: 1" = 2,000'

GEODETIC CONTROL STATIONS

171B	ELEV. 376.282	N = 542194.731	E = 1364004.914
171C	ELEV. = 415.419	N = 541056.916	E = 1263154.631

ADC MAP: 21 GRID: B4

LEGEND

---	PROPERTY LINE
---	EXISTING CONTOUR
---	PROPOSED CONTOUR
---	EXISTING TREELINE
EX 8" S	EXISTING SANITARY SEWER
8" S	PROPOSED SANITARY SEWER
EX 8" W	EXISTING WATERLINE
8" W	PROPOSED WATERLINE
---	PROPOSED FIRE HYDRANT
---	STORM DRAIN PER F-14-038
---	LIMIT OF SITE
---	CONCRETE SIDEWALK PER F-14-038
---	CURB AND GUTTER PER F-14-038
---	PROPOSED EDGE OF PAVEMENT
---	LIMIT OF WETLAND
---	WETLAND AREA
---	STREAM BANK BUFFER
---	WETLAND BUFFER
---	FOREST CONSERVATION EASEMENT
---	STREAM BANK CENTERLINE OF STREAM
---	STEEP SLOPES - 25% AND GREATER
---	STREET LIGHT
---	EASEMENTS
---	PROPOSED BUILDING RESTRICTION LINE
---	EXISTING BUILDING
---	PROPOSED BUILDING
---	SOIL BOUNDARY
---	SOIL TYPE
---	LIMIT OF DISTURBANCE

SHEET INDEX

- COVER SHEET
- SITE DEVELOPMENT PLAN
- DETAILS
- SEDIMENT CONTROL PLAN
- SEDIMENT CONTROL DETAILS
- SWM DRAINAGE AREA MAP AND DETAILS
- LANDSCAPE PLAN, NOTES, AND DETAILS

NOTE: HEALTH DEPARTMENT APPROVAL CONTINGENT ON THE EXISTING SUNELL HOUSE ON PROPOSED LOT 34 BEING VACATED PRIOR TO THE START OF CONSTRUCTION. THE WELL AND SEPTIC FOR THE EXISTING HOUSE MUST BE ABANDONED AND DOCUMENTATION SUBMITTED AND APPROVED BY THE HEALTH DEPARTMENT PRIOR TO RECORDATION OF THE PLAT (F-14-038) FOR THE SURROUNDING SUB-DIVISION.

APPROVED: FOR PUBLIC WATER & SEWERAGE SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT

B. Wilson for Mayor Roseman 7/10/19
County Health Officer Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Walter J. Miller 7-30-19
Director Date

Kathleen L. Lusk 7-25-19
Chief, Division of Land Development Date

W. L. Chubb 7-23-19
Chief, Development Engineering Division Date

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DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE	REVISION	BY	APP'R.
dds	dds					

OWNER:
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MD
9250 BENDIX ROAD
COLUMBIA, MD 21045
410-313-2040

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12875

EXPIRATION DATE: May 26, 2020

6/24/19

COVER SHEET

SUNELL PROPERTY
PARCEL A
WASTEWATER PUMP STATION
CAPITAL PROJECT S-6275
Liber: 18142 Folio: 353

SCALE: AS SHOWN
ZONING: R-20
DATE: JUNE, 2019
TAX MAP - GRID: 18 - 13
SHEET: 1 OF 7

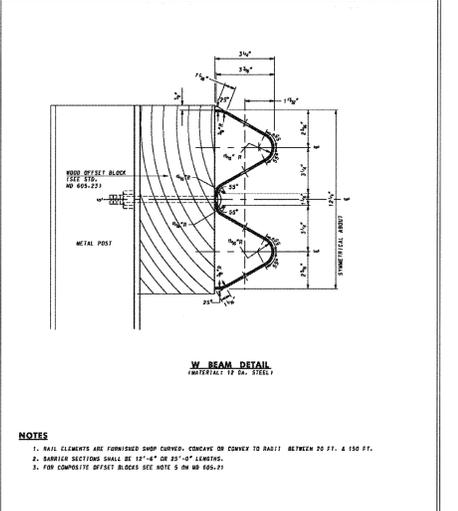
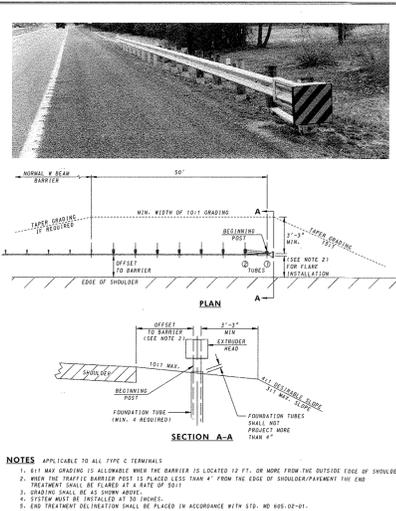
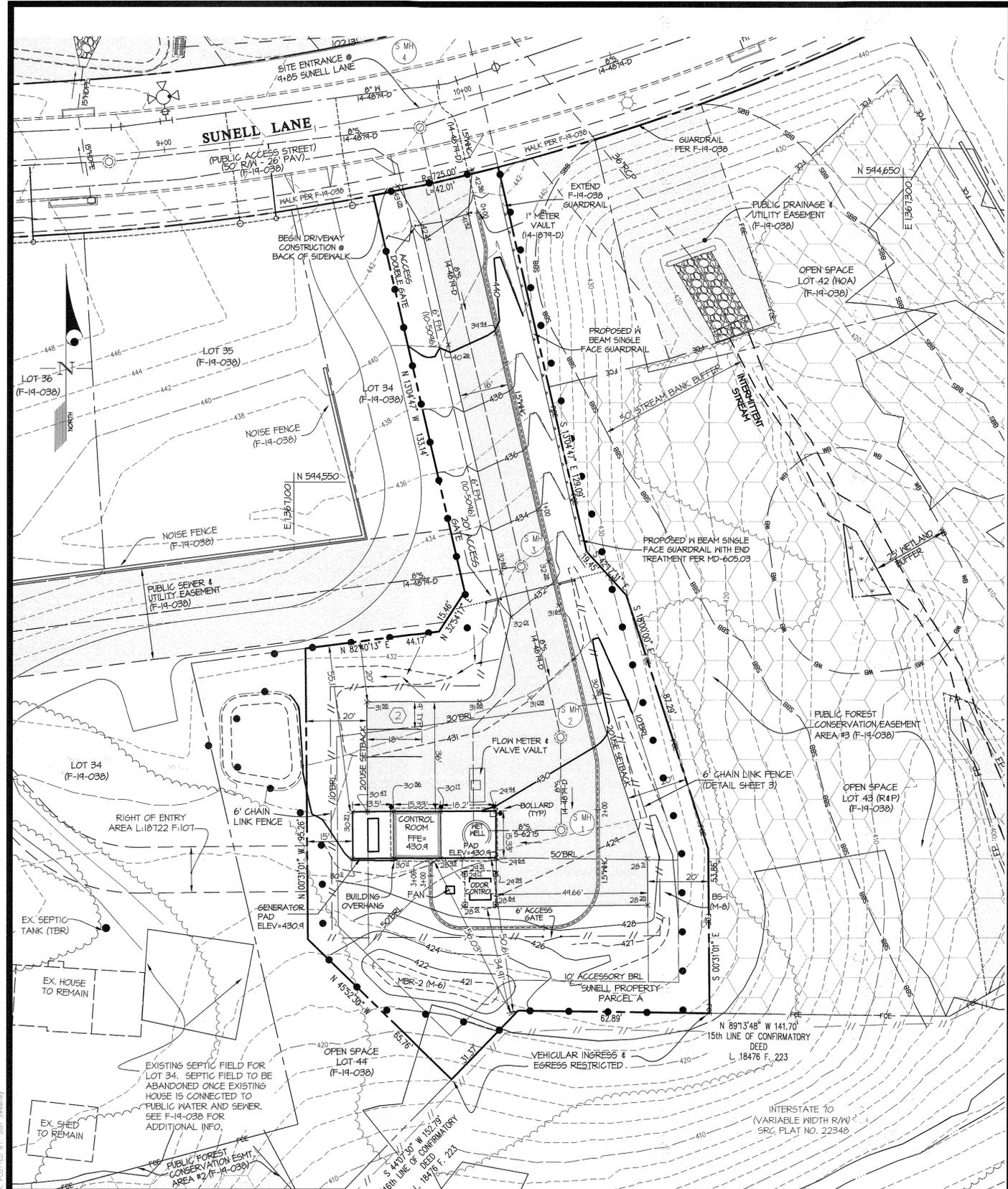
G. L. W. FILE NO. 18107

HOWARD COUNTY, MARYLAND

PERMIT INFORMATION CHART

SUBDIVISION NAME:	SUNELL PROPERTY	SECTION/AREA	IVA	LOT / PARCEL	PARCEL A
RECORDING L.:	18142	PARCEL	25	ZONE	R-20
F.:	353	TAX MAP	18	BLOCK	
		ELEC. DIST.	2	CENSUS TRACT	6021
WATER CODE:		SEWER CODE:			

SDP-1

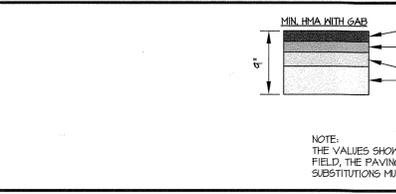
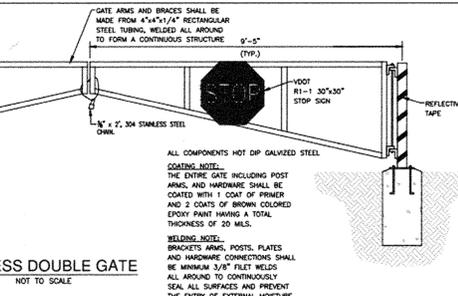
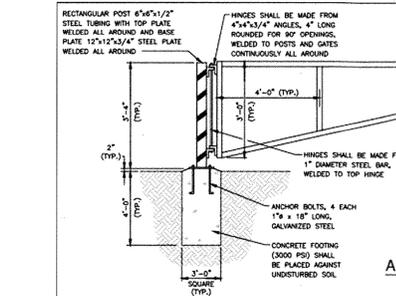


NOTES APPLICABLE TO ALL TYPE C BARRIERS:

- 6" MAX GRADING IS ALLOWABLE WHEN THE BARRIER IS LOCATED 12 FT. OR MORE FROM THE OUTSIDE EDGE OF SHOULDER.
- WHEN THE TRAFFIC BARRIER POST IS PLACED LESS THAN 4' FROM THE EDGE OF SHOULDER/PAVEMENT THE END TREATMENT SHALL BE PLACED AT A DATE OF 50 FT.
- GRAVEL SHALL BE 1 1/2" SHOWN ABOVE.
- SYSTEM MUST BE INSTALLED AT 30 INCHES.
- END TREATMENT DELINEATION SHALL BE PLACED IN ACCORDANCE WITH STD. NO. HD-102-01.

NOTES

- BAR ELEMENTS ARE FURNISHED SHOP CORNER, CONCRETE OR CONVEY TO PARTS BETWEEN 20 FT. & 150 FT.
- BARRIER SECTIONS SHALL BE 12'-0" OR 24'-0" LONG.
- FOR COMPLETE OFFSET BLOCKS SEE NOTE 5 ON MD 605.21



NOTE: THE VALUES SHOWN ARE FOR A CBR VALUE 5 TO 7, DEPENDING ON THE CBR VALUES OBTAINED IN THE FIELD, THE PAVING SECTIONS MAY BE REVISED, IF APPROVED BY A PROFESSIONAL SOILS ENGINEER. THESE SUBSTITUTIONS MUST ALSO BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS.

PAVING SECTIONS (R-201) NO SCALE

CONCRETE PAD NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Nancy J. ... 7-30-19
Director Date

... 7-25-19
Chief, Division of Land Development Date

... 7-23-19
Chief, Development Engineering Division Date

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DESIGNED BY	DATE	REVISION	BY	APPR.
dds				
dds				

OWNER: DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MD
9250 BENDIX ROAD
COLUMBIA, MD 21045
410-313-2040

NOTES:

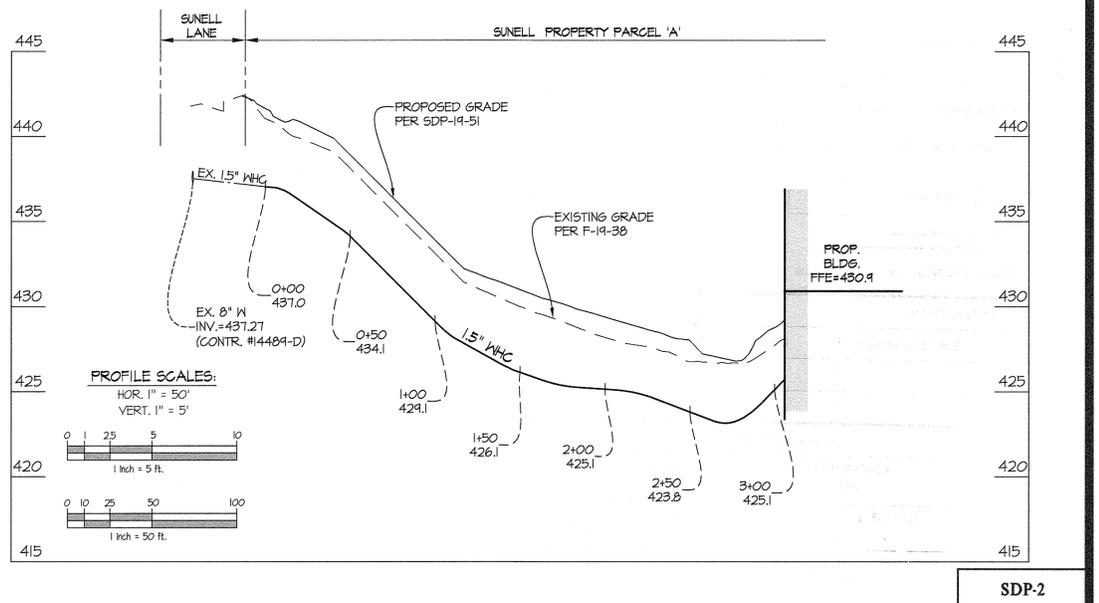
- ALL PROPOSED PAVEMENT TO BE HOWARD COUNTY TYPE P-2.
- SEE HOWARD COUNTY DETAILS 6-121 THRU 6-121 FOR FENCE DETAILS. FENCE TO BE 6 FOOT BLACK VINYL COATED CHAINLINK FENCING, BLACK VINYL COATED POST AND BLACK HARDWARE.
- THE PUMPING STATION BUILDING SHALL HAVE EXTERIOR LIGHTING CONTROLLED BY MOTION DETECTORS. SEE HOWARD COUNTY CAPITAL PROJECT 5-6215 FOR MORE INFORMATION.
- FOR BOLLARD DETAIL, SEE HOWARD COUNTY DETAIL 6-142

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12975.

EXPIRATION DATE: MAY 26, 2020

6/24/19



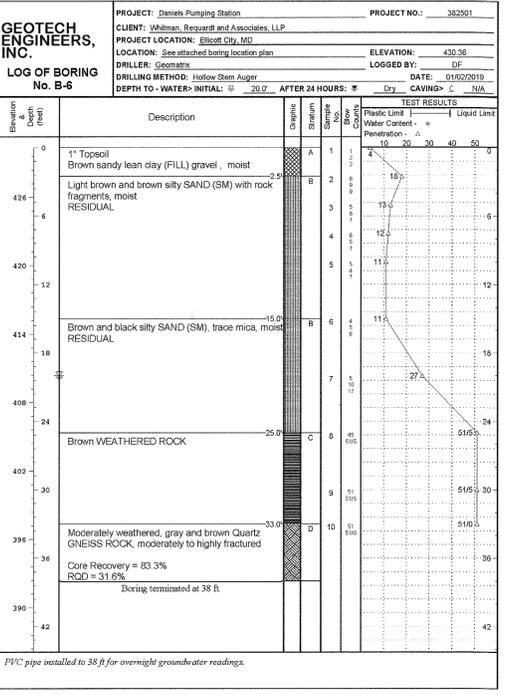
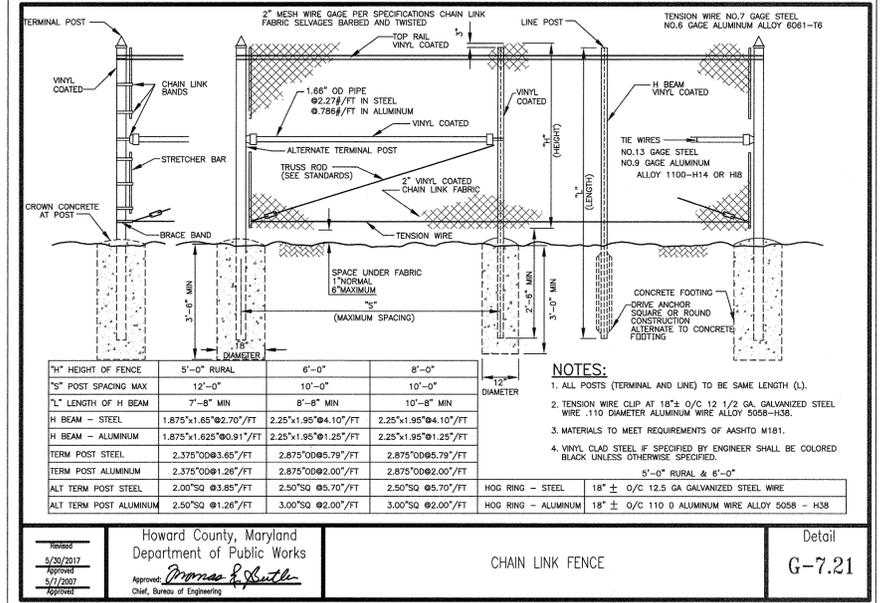
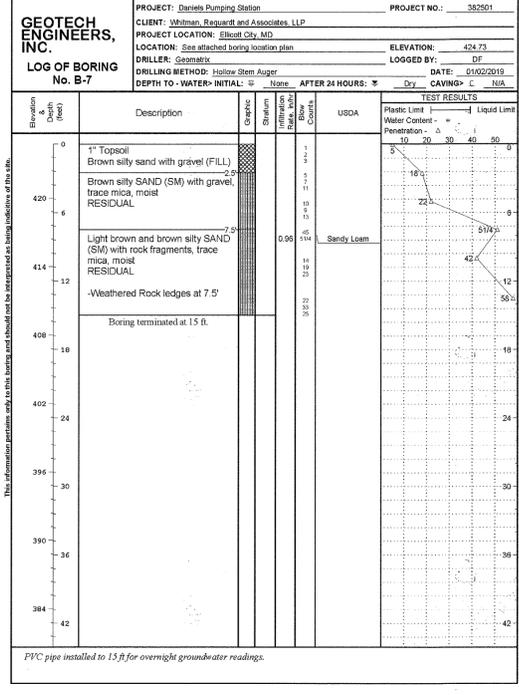
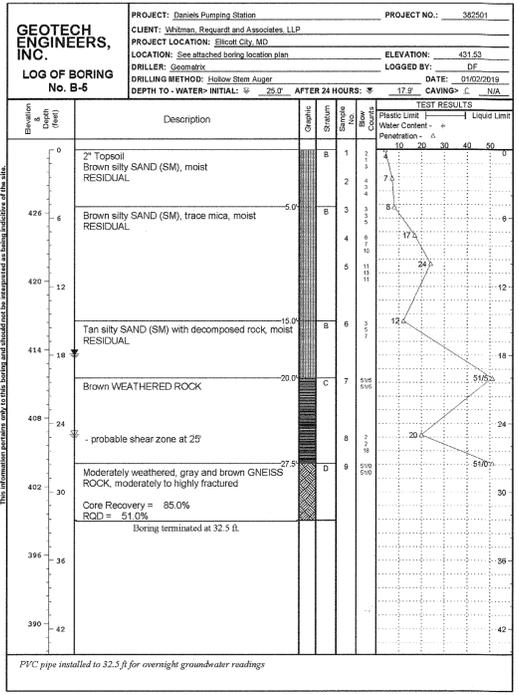
SITE DEVELOPMENT PLAN

SUNELL PROPERTY PARCEL A WASTEWATER PUMP STATION

CAPITAL PROJECT 5-6215
Liber: 1873A Folio: 253

SCALE	ZONING	G. L. W. FILE No.
1"=20'	R-20	18107
DATE	TAX MAP - GRID	SHEET
JUNE, 2019	18-13	2 OF 7

HOWARD COUNTY, MARYLAND



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *Walter J. Fin* 7-30-19
 Chief, Division of Land Development: *Walter J. Fin* 7-25-19
 Chief, Development Engineering Division: *Walter J. Fin* 7-23-19

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DESIGNED BY:	DATE	REVISION	BY	APP'R.
dd				
dds				
CHECKED BY:				

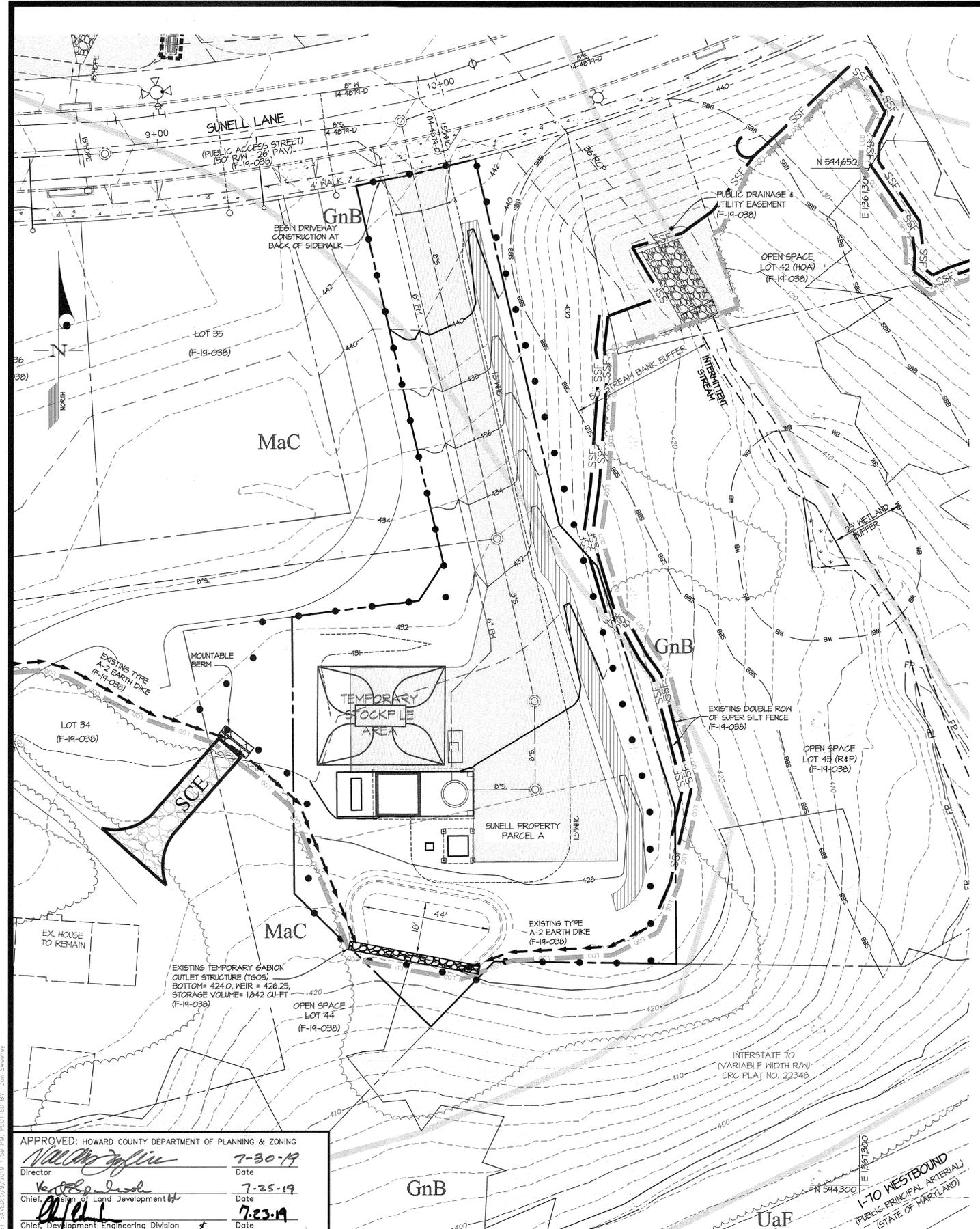
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 6/24/19

SITE DETAILS
SUNELL PROPERTY
PARCEL A
WASTEWATER PUMP STATION
 CAPITAL PROJECT S-6275
 Lib: Folio: HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	R-20	18107
DATE	TAX MAP - GRID	SHEET
JUNE, 2019	18-13	3 OF 7

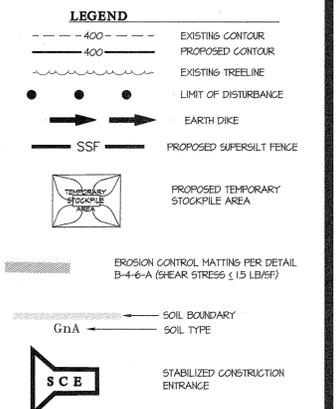
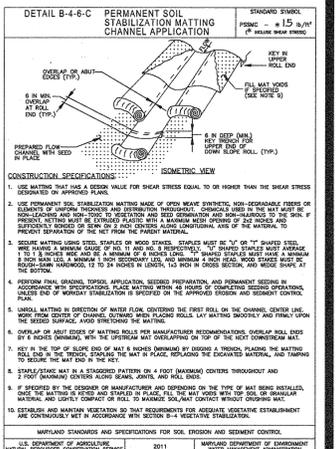
L:\CAD\DRAWINGS\1016\18107 (Pump Station)\PLANS BY G.W.SPP\18107-SPP.dwg



SEQUENCE OF CONSTRUCTION:
 SCE INDICATES STONE CONSTRUCTION ENTRANCE
 SSF INDICATES SUPER SILT FENCE
 ED INDICATES EARTH DIKE
 T605 INDICATES TEMPORARY GABION OUTLET STRUCTURE

NOTES:
 1. THIS PLAN SHOWS THE MASS GRADING PROPOSED BY F-14-038 COMPLETED. THERE MAY BE PERIODS WHERE THE MASS GRADING SHOWN ON F-14-038 AND THE GRADING SHOWN ON THIS PLAN ARE BEING DONE SIMULTANEOUSLY. NO DISTURBANCE IS ALLOWED ON PARCEL A UNTIL THE PERIMETER CONTROLS IN THE VICINITY OF PARCEL A HAVE BEEN INSTALLED BY F-14-038.
 2. WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SCE AND MOUNTABLE BERM SHOWN ON THIS PLAN MAY BE RELOCATED TO MINIMIZE THE IMPACTS TO LOT 34.
 3. THE ENTIRE LOD FOR PARCEL A IS WITHIN THE LOD FOR F-14-038. SEE F-14-038 FOR THE ORIGINAL LIMITS OF ERODIBLE SOILS.

ON-SITE CONSTRUCTION:
 1. OBTAIN GRADING PERMIT AND ARRANGE FOR AN ON SITE PRE-CONSTRUCTION MEETING. (1 DAY)
 2. INSTALL SCE, MOUNTABLE BERM AND VERIFY THAT PERIMETER CONTROLS INSTALLED BY F-14-038 ARE IN PLACE AND IN WORKING CONDITION. MAKE ANY NECESSARY REPAIRS. (2 DAYS)
 3. BEGIN FINE GRADING SITE, UTILITY CONSTRUCTION, AND PAD CONSTRUCTION (180 DAYS). ONCE SUNELL LANE IS ON GRADE AND BECOMES A VIABLE EGRESS PATH, THE SCE ON LOT 34 MAY BE REMOVED AND THE SCE SHOWN ON F-14-038 AT THE INTERSECTION OF OLD FREDERICK ROAD MAY BE USED INSTEAD.
 4. ONCE ALL CONTRIBUTING AREA TO THE T605 HAS BEEN STABILIZED AND THE T605 AND THE EARTH DIKES HAVE BEEN REMOVED BY F-14-038, INSTALL MICRO-BIORETENTION AND BIO-SHALE. ANY AREAS RE-DISTURBED AS A RESULT OF THIS CONSTRUCTION MUST BE STABILIZED IMMEDIATELY. (5 DAYS)
 5. INSTALL LANDSCAPING AND STABILIZE ANY REMAINING AREA. (5 DAYS)



THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *Sh. R. Roberts* / 7/16/19
 HOWARD SOIL CONSERVATION DISTRICT DATE

ENGINEER'S CERTIFICATE
 "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 Signature: *Carl Gutschick* / 6/24/19
 ENGINEER'S SIGNATURE DATE
 CARL GUTSCHICK [2175 (P.E.)]
 PRINTED NAME MD REGISTRATION NO.

DEVELOPER'S/BUILDER'S CERTIFICATE
 "I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."
 Signature: *Paul DiMarco* / June 14, 2019
 SIGNATURE OF DEVELOPER/BUILDER DATE
 PRINTED NAME & TITLE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Director: *William J. Griffin* / 7-30-19
 Chief, Division of Land Development: *Kevin J. Lewis* / 7-25-19
 Chief, Development Engineering Division: *Chris L. ...* / 7-23-19

GLW PLANNING | ENGINEERING | SURVEYING
 3909 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20886 | GLWPA.COM
 PHONE: 301-421-4024 | BALT: 410-880-1820 | DC&VA: 301-988-2524 | FAX: 301-421-4186

DESIGNED BY:	DATE:	REVISION:	BY:	APP'R:
dds				
dds				
CHECKED BY:				
DATE:				

OWNER:
 DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MD
 9250 BENDIX ROAD
 COLUMBIA, MD 21045
 410-313-2040

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975
 EXPIRATION DATE: MAY 26, 2026
 Signature: *Carl Gutschick* / 6/24/19

ELECTION DISTRICT No. 2

SOILS	Map Unit Symbol	Map Unit Name	Type	K Factor
GnB		Glennville-Balle silt loams, 0 to 8 percent slopes	D	0.43
MaC		Manor loam, 8 to 15 percent slopes	B	0.28

SEDIMENT CONTROL PLAN
SUNELL PROPERTY PARCEL A
WASTEWATER PUMP STATION
 CAPITAL PROJECT S-6275
 Liber: 1614A Folio: 153

SCALE	ZONING	G. L. W. FILE NO.
1"=20'	R-2000	18107
DATE	TAX MAP GRID	SHEET
JUNE, 2019	18-1313	4 OF 7

L:\CADD\DRAWINGS\1101\A18107 (Pump Station)\PLANS BY: GLW\SP18107-SDC.dwg

B-4.2 STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOIL 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

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEDIMENT 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 RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIGGS RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

i. SOIL PH BETWEEN 6.0 AND 7.0.

ii. SOILABLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOESSRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. 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.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. 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 SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE. WHERE PRACTICABLE, USE ONLY ONE PASS. DO NOT OVERWORK EQUIPMENT. DO NOT OVERWORK EQUIPMENT TO FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRABLE. SEEDING LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRAINOMETRY.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

b. THE DISTURBANCE TO SOIL IS SUCH THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR BURIAL CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

a. 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 CLAYS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERNARDIA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, PISON VY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 3 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE HANDLED WITH A MANTIONED SOILING OR SEEDING CAP. SPREADING WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND LAYER. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

c. TOPSOIL MUST NOT BE PLACED ON OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. TOP SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FINE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME, OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURRIT LIME) MAY BE SUBSTITUTED EXCEPT WHEN HYDROXYDING MULCH IS USED. AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER TO BE EVENLY INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. WHERE THE SUBSOIL IS EITHER HEAVILY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION
CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.

PURPOSE
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.

CONDITIONS WHERE PRACTICE APPLIES
AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

CRITERIA

1. MULCHES: SEE SECTION B-4.2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS. SECTION B-4.3 SEEDING AND MULCHING, AND SECTION B-4.4 TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.

2. VEGETATIVE COVER: SEE SECTION B-4.4 TEMPORARY STABILIZATION.

3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING COARSE TO THE SURFACE. BLENDED PLOWING ON INWARD SIDE OF SITE. CHISEL-TINE PLOWS SHOULD BE USED IN WALLEYS AND DITCHES. AND SIMILAR PLOWS ARE EXEMPT FROM EQUIPMENT THAT MAY PRODUCE THE DESIRED EFFECT.

4. IRRIGATION: SPRINKLE SOIL WITH WATER UNTIL THE SURFACE IS MOST WET. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT THAT RUNOFF OCCURS.

5. BARRIERS: SOIL BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BARRIERS, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.

6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

DEVELOPER'S/BUILDER'S CERTIFICATE

"I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MINIMUM OF 8 HOURS OF TRAINING IN EROSION AND SEDIMENT CONTROL PROGRAMS FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: *Walter J. ...* Date: 7-30-19

Chief, Division of Land Development: *Paul D. ...* Date: 7-25-19

Chief, Development Engineering Division: *Paul D. ...* Date: 7-23-19

DESIGNED BY: dd

DRAWN BY: dds

CHECKED BY:

DATE: REVISION: BY: APPR:

OWNER: DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD, 9250 BENDIX ROAD, COLUMBIA, MD 21045, 410-313-2040

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975. EXPIRATION DATE: MAY 26, 2020.

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

HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

HOWARD COUNTY DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES CONSERVATION SERVICE

HOWARD COUNTY DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES CONSERVATION SERVICE

HOWARD COUNTY DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES CONSERVATION SERVICE

B-4.3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. SPECIFICATIONS

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SEEDING. SEEDS FROM ANY PROJECT REFER TO TABLE 8.4 REGARDING THE QUALITY OF SEED. TALS MUST BE AVAILABLE (UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE).

b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWES.

c. INCULCANTS: THE INCULCANT FOR TREATING LEGUME SEED IN THE SEED MIXTURE MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INCULCANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INCULCANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INCULCANTS AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INCULCANT LESS EFFECTIVE.

d. SOIL OR SEED MIXTURE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

i. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SEED SPECIFIC SEEDING SUMMARY.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDER AREA WITH A WEIGHTED ROLLER TO PROVIDE 3000 SEED TO SOIL CONTACT.

b. DRILL OR CULPICKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

i. CULPICKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING SEEDING MUST BE FROM FINDER PLANTING.

ii. APPLY SEED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

i. HYDROSEEDING MUST BE APPLIED AT THE TIME OF SEEDING. THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE. TOTAL OF SOLUBLE NITROGEN, P205 (PHOSPHORUS), 200 POUNDS PER ACRE. K2O (POTASSIUM), 200 POUNDS PER ACRE.

ii. LIME: USE ONLY GROUND LIME. APPLY AT THE RATE OF 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING. NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

TEMPORARY SEEDING SUMMARY

No.	SPECIES	APPLICATION RATE (lb/oc)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-10)	LIME RATE
1	ANNUAL RIGGEL	40 lb/oc	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb/oc (10 lb./1,000 sq)	2 tons/oc (90 lb./1,000 sq)
2	PEARL MILLET	20 lb/oc	May 16 to July 31	0.5 INCHES		

SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

A. PRIOR TO THE START OF EACH DISTURBANCE.

B. UPON COMPLETION OF THE INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.

D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

A. 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER CONTROLS, DIKES, SWALES, DITCHES, PERMETER SLOPES, AND ANY OTHER AREAS.

B. 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE UNLESS DITCHES, SLOPES, OR OTHER AREAS UNDER ACTIVE GRADING.

4. 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 TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-4) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH 5% OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN STATUS OF 20 FT. MUST BE BENCHING WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

5. 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 CID.

6. SITE ANALYSIS:

TOTAL AREA OF SITE	: 0.51 AC.
AREA DISTURBED	: 0.51 AC.
AREA TO BE ROOFED OR PAVED	: 0.28 AC.
AREA TO BE VEGETATIVELY STABILIZED	: 0.31 AC.
TOTAL CUT	: 4005 CY
TOTAL FILL	: 4000 CY
OFF-SITE MUD/BARRIERS/AREA LOCATION	: NA

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, TMS).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 FEET LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 90 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY CID, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES SHOULD BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-COUNTUR, AND BE IMBERICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2" IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):

- USE I AND IP MARCH 1 - JUNE 15
- USE III AND III OCTOBER 1 - APRIL 30
- USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THIS SITE IS ACTIVE.

B-4.4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
SITUATIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS, FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS REQUIRED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.1.8 AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

No.	SPECIES	APPLICATION RATE (lb/oc)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-10)	LIME RATE
1	ANNUAL RIGGEL	40 lb/oc	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb/oc (10 lb./1,000 sq)	2 tons/oc (90 lb./1,000 sq)
2	PEARL MILLET	20 lb/oc	May 16 to July 31	0.5 INCHES		

SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

A. PRIOR TO THE START OF EACH DISTURBANCE.

B. UPON COMPLETION OF THE INSTALLATION OF PERMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.

D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

A. 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER CONTROLS, DIKES, SWALES, DITCHES, PERMETER SLOPES, AND ANY OTHER AREAS.

B. 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE UNLESS DITCHES, SLOPES, OR OTHER AREAS UNDER ACTIVE GRADING.

4. 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 TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-4) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH 5% OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN STATUS OF 20 FT. MUST BE BENCHING WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

5. 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 CID.

6. SITE ANALYSIS:

TOTAL AREA OF SITE	: 0.51 AC.
AREA DISTURBED	: 0.51 AC.
AREA TO BE ROOFED OR PAVED	: 0.28 AC.
AREA TO BE VEGETATIVELY STABILIZED	: 0.31 AC.
TOTAL CUT	: 4005 CY
TOTAL FILL	: 4000 CY
OFF-SITE MUD/BARRIERS/AREA LOCATION	: NA

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, TMS).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 FEET LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY BE ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOD. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 90 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY CID, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES SHOULD BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-COUNTUR, AND BE IMBERICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2" IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):

- USE I AND IP MARCH 1 - JUNE 15
- USE III AND III OCTOBER 1 - APRIL 30
- USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THIS SITE IS ACTIVE.

B-4.5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. GENERAL USE

a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURES, APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

b. ADDITIONAL PLANNING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR RUNNS OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANNING.

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURES, APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

1. KENTUCKY BLUEGRASS: FULL SUN MIXTURE; FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CERTIFIED KENTUCKY BLUEGRASS CULTIVARS MUST BE AT LEAST 30 TO 40 PERCENT AND COVERED TIME PERIOD PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE; FOR USE IN FULL SUN AREAS WHERE 35 PERCENT ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYE/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS PER 1000 SQUARE FEET. CERTIFIED PERENNIAL RYE/CERTIFIED KENTUCKY BLUEGRASS CULTIVARS WHICH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE; FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURES INCLUDES: CERTIFIED TALL FESCUE AND PART OF CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 3 TO 5 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE; FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND COVERED TIME PERIOD PER 1000 SQUARE FEET. SEEDING RATE: 1 1/2 TO 2 POUNDS PER 1000 SQUARE FEET.

NOTES

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, APPROVED WEED #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE IDENTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, EXTENSION SERVICE, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6A)

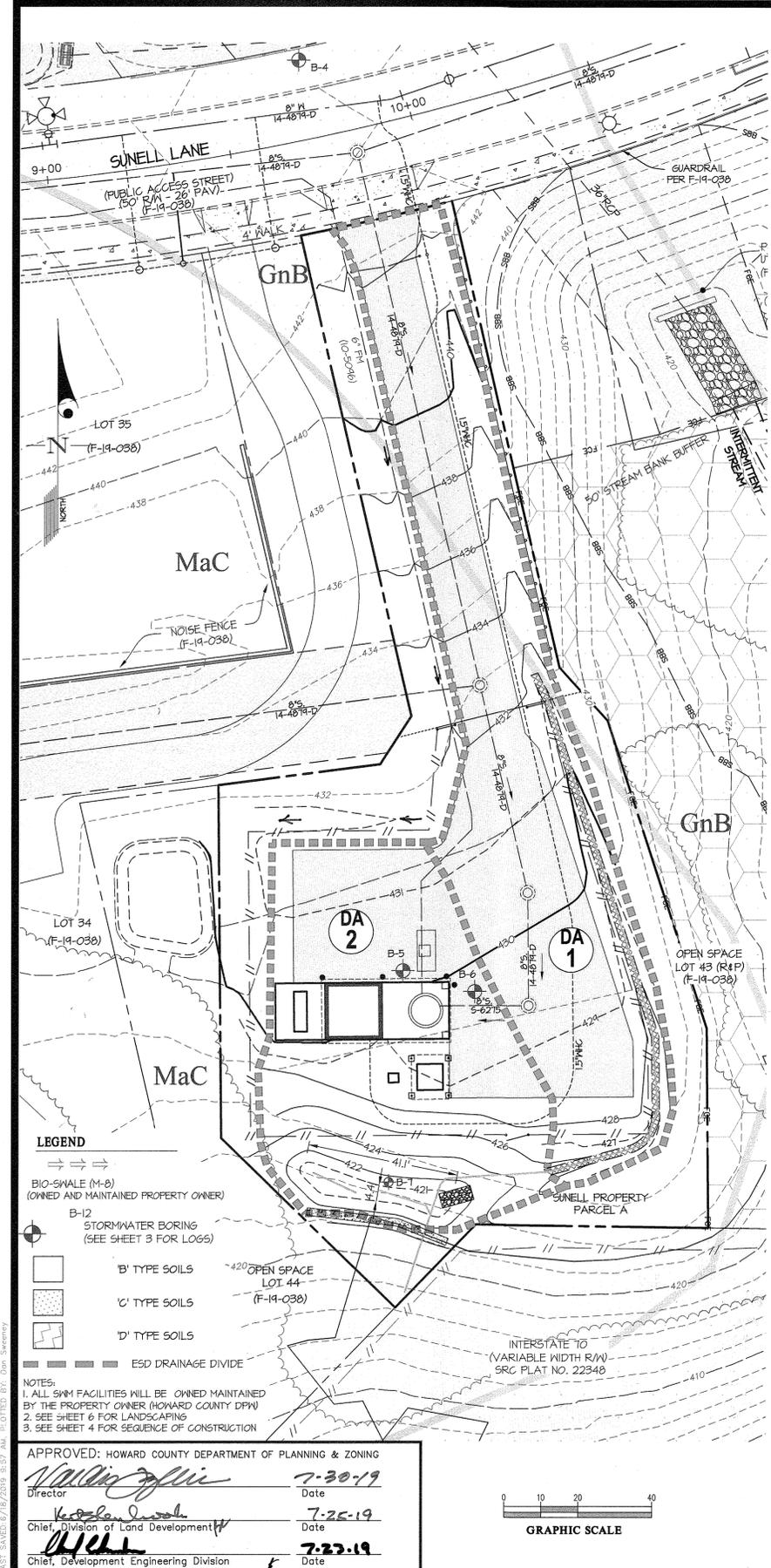
CENTRAL MD: MARCH 1 TO MAY 15, MAY 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)

SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)

k. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 2 TO 3 DAYS DEPENDING ON SOIL TYPE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT CONDITIONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

No.	SPECIES	APPLICATION RATE	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE	REMARKS
4	Deergrass (<i>Dactyloctenium aegyptium</i>)	15 lb/oc	Mar. 1 to May 15 May 16 to Jun 15	1/4 - 1/2 in.	1.0 lb/1000 sq ft (45 lb/acre)	90 lb/1000 sq ft (1000 sq ft)	See notes 1 & 2.
	Crowfoot Red Fescue	20 lb/oc	5 lb/oc				
	Canada Wild Rye (<i>Elymus virginicus</i>) or Canada Wild Rye (<i>Elymus canadensis</i>)	5 lb					



STORMWATER MANAGEMENT REQUIREMENT

DEVELOPMENT AREA :	0.41 Ac.
% IMPERVIOUS:	41%
TARGET P _e :	1.0"
ESDV REQUIRED:	1,284 CF
RECHARGE FACTOR (S):	0.23
RECHARGE REQUIRED:	143 CF

STORMWATER MANAGEMENT PROVIDED BY DEVICE

MICRO-BIORETENTION (M-6):	524 CF*
BIO-SWALES (M-8):	1,001 CF
TOTAL:	1,525 CF
P _e Provided = 2.12"	

*THE RECHARGE REQUIREMENT IS MET BY THE VOLUME PROVIDED IN THE MICRO-BIORETENTION

ESD SUMMARY TABLE

AREA NO.	AREA (SF)	IMPERVIOUS	ESDV (CF)	P _e PROVIDED
DA 1	8,585	59%	1,001	2.40"
MBR 2	6,513	51%	524	1.89"
TOTAL	15,098	56%	1,525	

REQUIRED ESDV: 1,284 cf PROVIDED ESDV: 1,525 cf

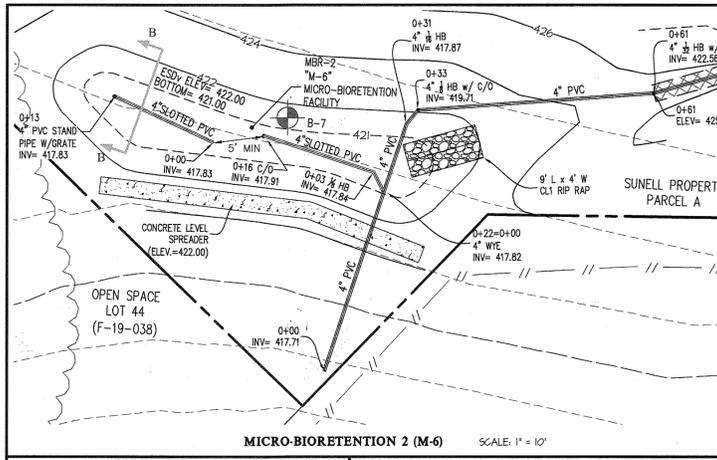
STORMWATER MANAGEMENT INFORMATION CHART

LOT NO. (M-6)(M-8)	
PARCEL A	

(M-6) MICRO-BIORETENTION
(M-8) SWALES

UNDERDRAIN SUMMARY TABLE

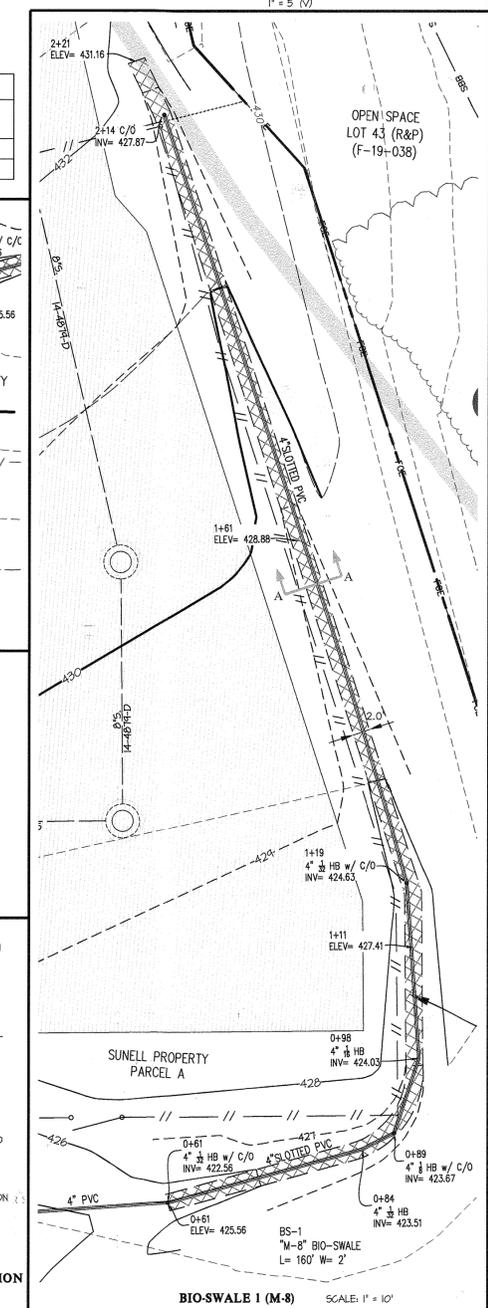
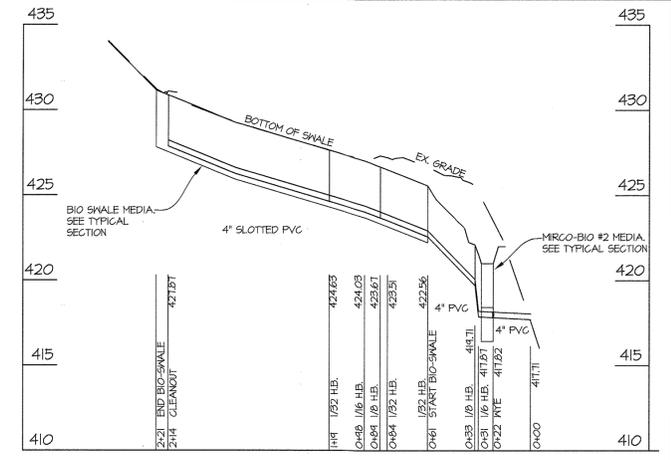
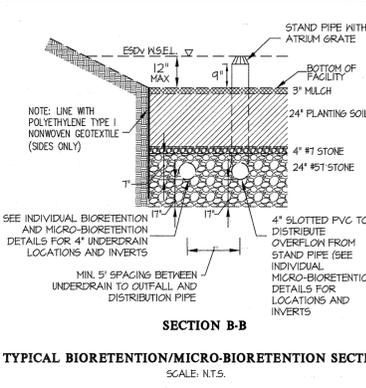
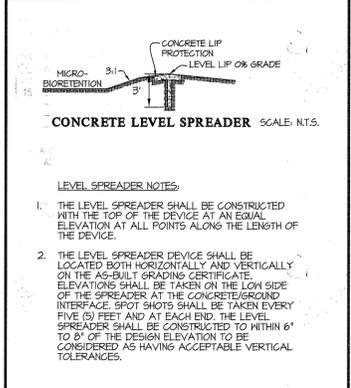
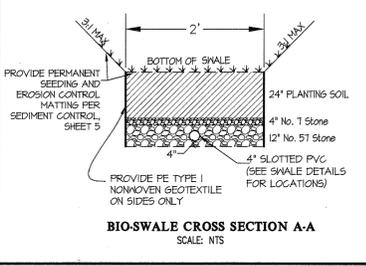
SIZE (INCHES)	TYPE	QUANTITY (L.F.)	REMARKS
4	SLOTTED PVC	182	
4	PVC	64	



MICRO-BIORETENTION 2 (M-6) SCALE: 1" = 10'

MBR-2 TYPE (PER MDE), MICRO-BIORETENTION SYSTEM (M-6) NON - MDE 9'x8' FACILITY TOTAL DRAINAGE AREA TO FACILITY = 6,513 SF STORAGE PROVIDED = 343 @ (433.75) ESDV PROVIDED = 524 CF-FIT

LOW-FLOW OUTFALL: PERFORATED 4" UNDERDRAIN SYSTEM BOTTOM OF FACILITY = 421.00 HIGH-FLOW OUTFALL AT LEVEL SPREADER. TOP = 422.00 TOP OF FACILITY = 422.00



GENERAL NOTES

- MATERIAL SPECIFICATIONS: THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- 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-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDERANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERBERIDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
- PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 - SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION) ORGANIC MATTER 1.5 - 4% (BY WEIGHT)
 - 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.
- COMPACTION: IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACKS EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYRE TRES. 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 ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACR 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 BIORETENTION 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 BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12 TO 18"; DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.
- PLANT MATERIAL: RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- PLANT INSTALLATION: COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT 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. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AERATED (6 TO 12 MONTHS) FOR ACCEPTANCE.
- ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH 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.
- 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 PUGS 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 BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY, ADDING FERTILIZERS, OR AT A MINIMUM, IMPROVES 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.
- UNDERDRAINS: UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
 - PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM 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 3" (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 (1/8" 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).
- MISCELLANEOUS: THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED MICRO-BIORETENTION (M-6) AND BIO-SWALES (M-8)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. 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.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.
- THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE UNDERDRAINS WITHIN THE BIO-RETENTION LAYERS.
- THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES WITHIN PUBLIC EASEMENTS.

APPENDIX B.1.1 - SUPPLEMENTAL POND SPECIFICATIONS (NON-378)

SUPPLEMENTAL STORMWATER PONDS AND WETLAND SPECIFICATIONS (NON-378)

THESE NOTES AND SPECIFICATIONS ARE IN ADDITION TO THE MD-378 SPECIFICATIONS. IF THERE IS ANY QUESTIONS AS TO THE APPLICABILITY, THE MD-378 SPECIFICATIONS SUPERCEDE.

- IT IS PREFERRED TO USE THE SAME MATERIAL IN THE EMBANKMENT AS IS BEING INSTALLED FOR THE CORE TRENCH. IF THIS IS NOT POSSIBLE BECAUSE THE APPROPRIATE MATERIAL IS NOT AVAILABLE, A DAM CORE WITH A SHELL MAY BE USED. THE CROSS-SECTION OF THE STORMWATER FACILITY SHOULD SHOW THE LIMITS OF THE DAM CORE (UP TO 10-YEAR WATER SURFACE ELEVATION) AS WELL AS THE ACCEPTABLE MATERIALS FOR THE SHELL. THE SHAPE OF THE DAM CORE AND THE MATERIAL TO BE USED IN THE SHELL SHOULD BE PROVIDED BY THE GEOLOGICAL ENGINEER.
- IF THE COMPACTION TESTS FOR THE SITE IMPROVEMENTS IS USING MODIFIED PROCTOR (AASHTO T-99), THEN TO MAINTAIN ON-SITE CONSISTENCY, THE MODIFIED PROCTOR MAY BE USED IN LIEU OF A STANDARD PROCTOR (AASHTO T-99). THE MINIMUM DENSITY USING THE MODIFIED PROCTOR TEST METHOD SHALL BE AT LEAST 92% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF ±2% OF THE OPTIMUM. THE MINIMUM REQUIRED DENSITY USING THE STANDARD PROCTOR TEST METHOD SHALL BE AT LEAST 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF ±2% OF THE OPTIMUM.
- FOR ALL STORMWATER MANAGEMENT FACILITIES, A GEOLOGICAL ENGINEER OR THEIR REPRESENTATIVE MUST BE PRESENT TO VERIFY COMPACTION IN ACCORDANCE WITH THE SELECTED TEST METHOD. THIS INFORMATION NEEDS TO BE PROVIDED IN A REPORT TO THE DESIGN ENGINEER, SO THAT CERTIFICATION OF THE CONSTRUCTION OF THE FACILITY, IN ACCORDANCE WITH MD-378 SPECIFICATIONS, CAN BE MADE.
- A 4-INCH LAYER OF TOPSOIL SHALL BE PLACED ON ALL DISTURBED AREAS OF THE DAM EMBANKMENT. SEEDING, LIMING, FERTILIZING, MULCHING, ETC. SHALL BE IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SERVICE MD-342 OR THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. PERMANENT SEEDING, SECTION IN CHAPTER 28. THE PURPOSE OF THE TOPSOIL IS TO ESTABLISH A GOOD GROWTH OF GRASS, WHICH IS NOT ALWAYS POSSIBLE WITH SOME OF THE MATERIALS THAT MAY BE PLACED FOR THE EMBANKMENT FILL.
- GEOTEXTILE PLACED BENEATH RIP-RAP SHALL BE CLASS "C" GEOTEXTILE OR BETTER (SEE SECTION 24.0, MATERIAL SPECIFICATIONS, 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (MDE, 1994). SOME ACCEPTABLE GEOTEXTILES THAT MEET THE CLASS "C" CRITERIA INCLUDE:
 - AMCO 4552 CARTRIDGE FX-705
 - GEOLON W20 MIRA8 180-N
 - WEBTEC N07
- THIS IS ONLY A PARTIAL LISTING OF AVAILABLE GEOTEXTILES BASED ON INFORMATION PROVIDED BY THE MANUFACTURERS OF THE 1997 SPECIFIER'S GUIDE DATED DECEMBER 1996. IT IS THE RESPONSIBILITY OF THE ENGINEER TO VERIFY THE ADEQUACY OF THE MATERIAL, AS THERE ARE CHANGES IN THE MANUFACTURING PROCESS AND THE TYPE OF FABRIC USED, WHICH MAY AFFECT THE CONTINUED ACCEPTANCE.
- A RULE OF THUMB TO DETERMINE WHEN AN EXCAVATED POND MAY NEED TO BE CONSIDERED AN EMBANKMENT POND IS AS FOLLOWS: PROVIDE CALCULATION OF 10H + 20 FEET * L, WHERE H IS HEIGHT FROM POND BOTTOM TO TOP OF DAM. IF THE PROJECTION OF L DOWNING IS A HORIZONTAL LINE FROM THE UPSTREAM TOE OF SLOPE IS BELOW EXISTING GROUND, THE POND CAN BE CONSIDERED AN EXCAVATED POND. IN ADDITION, THE EXISTING GROUND SLOPE, DOWNSTREAM OF THE TOE, MUST BE LESS THAN 10%.
- THE DESIGN ENGINEER AND GEOLOGICAL ENGINEER SHOULD MAKE THE DETERMINATION THAT THE SETTLEMENT OF THE POND WILL NOT CAUSE EXCESSIVE JOINT EXTENSION. FOR FURTHER INFORMATION ON JOINT ANALYSIS, SEE NRCE PUBLICATION TR-18.
- FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM 8-INCH. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF THE EMBANKMENT.
- THE EMBANKMENT FILL SHALL NOT BE PLACED HIGHER THAN THE CENTERLINE OF THE PRINCIPAL SPILLWAY UNTIL AFTER THE PRINCIPAL SPILLWAY HAS BEEN INSTALLED. IF THE EMBANKMENT NEEDS TO BE EXCAVATED TO INSTALL THE PRINCIPAL SPILLWAY, THE SIDE SLOPE SHALL BE NO LESS THAN 2:1
- THE SIDE SLOPES OF A CUT TO REPAIR A DAM, INSTALL A PRINCIPAL SPILLWAY FOR AN EXCAVATED POND, OR OTHER REPAIR WORK, SHALL BE NO LESS THAN 2:1.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director: *[Signature]* Date: 7-30-19

Chief, Division of Land Development: *[Signature]* Date: 7-25-19

Chief, Development Engineering Division: *[Signature]* Date: 7-23-19

DESIGNED BY: DDS

DRAWN BY: JRC

CHECKED BY: CKG

DATE: _____ REVISION: _____ BY: _____ APP'R: _____

GLW PLANNING | ENGINEERING | SURVEYING

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OWNER:

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MD
9250 BENDIX ROAD
COLUMBIA, MD 21045
410-313-2040

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 12875, EXPIRATION DATE: MAY 26, 2020.

07/24/19

ELECTION DISTRICT No. 2

SWM DRAINAGE AREA MAP AND DETAILS

SUNELL PROPERTY PARCEL A WASTEWATER PUMP STATION

CAPITAL PROJECT S-6275
Liber: 18124 Folio: 7522

HOWARD COUNTY, MARYLAND

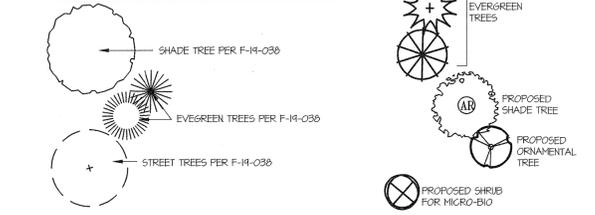
SCALE	ZONING	G. L. W. FILE NO.
1"=20'	R-20	18107
DATE	TAX MAP - GRID	SHEET
JUNE, 2019	18 - 13	6 OF 7

SDP-6

LANDSCAPE & FOREST CONSERVATION NOTES

- THIS SITE DEVELOPMENT PLAN CONFORMS WITH THE REQUIREMENTS OF SECTION 16.020 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY F-14-034 HIGH ADDRESSED AND ACCOINATED THE BUILD OUT OF PARCEL-A.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.024 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IS NOT REQUIRED FOR THIS SITE DEVELOPMENT PLAN DUE TO GOVERNMENT CONTROL OF THIS PROPERTY AND CAPITAL PROJECT.
- ALL PLANT MATERIAL SHALL BE IN CONFORMANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1). NO SUBSTITUTIONS OR RELOCATIONS OF THE PLANTINGS MAY BE MADE WITHOUT THE PRIOR REVIEW AND APPROVAL FROM THE OWNER AND GLW.
- ALL AREA DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED OR MULCHED SHALL BE SOODED OR SEEDED IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS (SEE SEDIMENT # 4) EROSION CONTROL PLAN SHEET 4).
- SEE DPM # 121 THRU # 127 (IN DMYGL 4) FOR CHAIN LINK FENCE DETAILS AS APPLICABLE.
- THE B-BUFFER ALONG I-10 IS BY F-19-038.

LANDSCAPE LEGEND:



SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
SHADE TREES				
①	6	ACER RUBRUM 'Armstrong' / ARISTONIA COLUMNAR RED MAPLE	2 1/2" - 3" CAL.	B4B
EVERGREEN TREE				
②	8	ILEX OPACA / AMERICAN HOLLY	6'-8" HT.	B4B, SINGLE INTACT LEADER
③	3	PICEA OMORICA / SERBIAN SPRUCE	6'-8" HT.	B4B, SINGLE INTACT LEADER
ORNAMENTAL TREE				
④	8	CERCIS CANADENSIS / EASTERN REDBUD	2 - 2 1/2" CAL. 8'-10" HT.	B4B, TREE FORM IV 4" MIN. CLEAR TRUNK

SYMBOL	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE	ROOT/COMMENTS
MICRO-BIORETENTION PLANT LIST				
SHRUBS				
⑤	4	CORNUS SERICEA RUBY / RUBY RED OSIER DOGWOOD	18"-24" SPR.	CONTAINER

PERIMETER PLANTING - SCHEDULE A											
PERIMETER	LAND USE	ADJACENT LAND USE	TYPE OF BUFFER	LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) DESCRIBE BELOW IF NEEDED.	SHADE TREES	EVERGREEN TREES	SHRUBS	NUMBER OF PLANTS REQUIRED	NUMBER OF PLANTS ERVIDED
EXTERNAL PERIMETER 1	SFD	RESIDENTIAL (SFD)	'A' Buffer	183'4"	NO	NO	3	0	0	3	0
EXTERNAL PERIMETER 2	SFD	RESIDENTIAL (SFD)	'C' Buffer	220'6"	NO	NO	6	11	0	6*	11
EXTERNAL PERIMETER 3	SFD	RESIDENTIAL (SFD)	'C' Buffer	106'14"	YES, 106'14" CREDIT + 0 LF	NO	0	0	0	0	0
EXTERNAL PERIMETER 4	SFD	RESIDENTIAL (SFD)	'A' Buffer	124'0"	YES, 55' CREDIT (24.04-55) = 14 LF	NO	1	0	0	1	0

BUFFER TYPE	LANDSCAPE CHARACTER	SHADE TREES/LF	EVERGREENS/SHRUBS/LF
A	LIGHT BUFFER	1:60	0
B	MODERATE BUFFER	1:50	1:40
C	HEAVY BUFFER	1:40	1:20

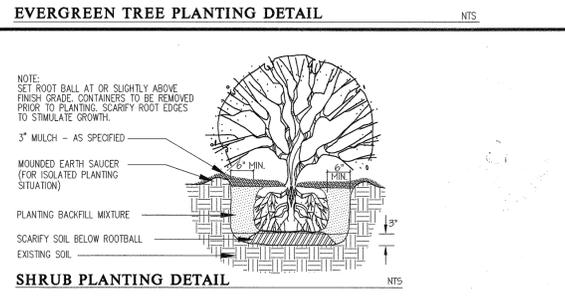
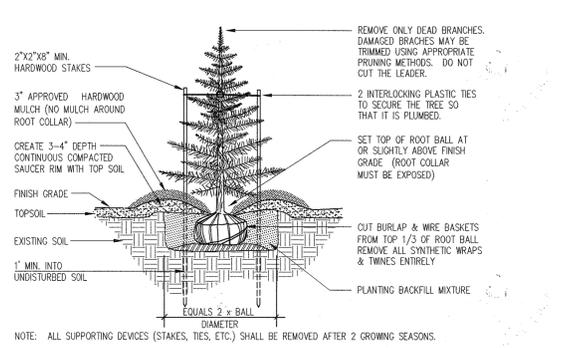
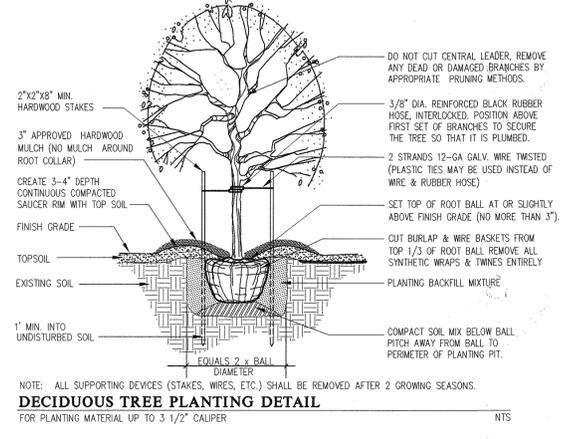
THE BUFFERS SHOWN IN THE SCHEDULES ARE IN ACCORDANCE WITH THE LANDSCAPE MANUAL, CHAPTER IV, TABLE 1

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.024 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

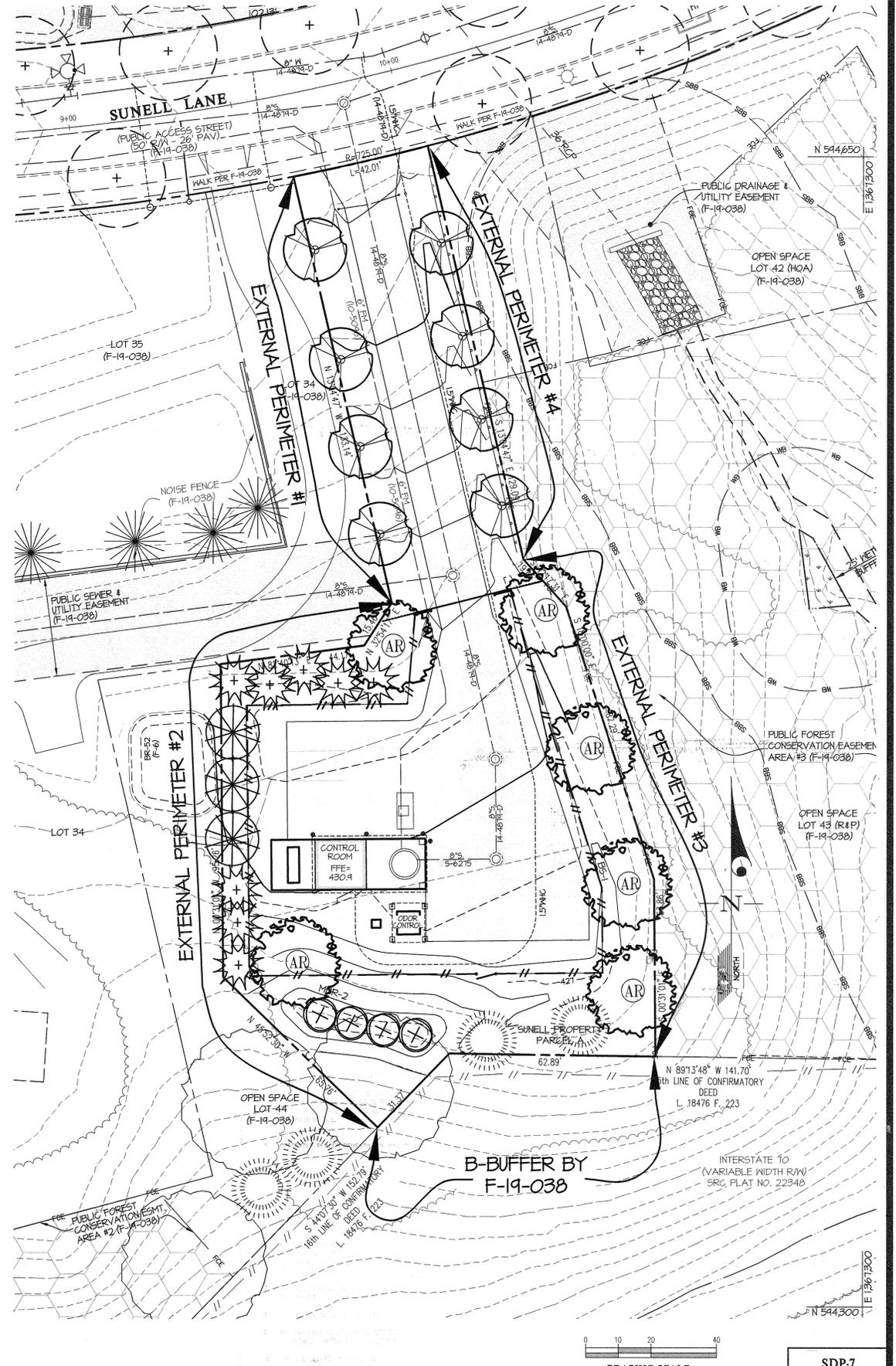
NAME: Paul DiMarco DATE: June 19, 2019
 Director: Walter J. Jolly DATE: 7-30-19
 Chief, Division of Land Development: Walter J. Jolly DATE: 7-25-19
 Chief, Development Engineering Division: Walter J. Jolly DATE: 7-23-19

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LANDSCAPE SPECIFICATIONS

- GENERAL CONDITIONS
- SCOPE OF WORK
 - THE LANDSCAPE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL LANDSCAPE WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS.
 - TOTAL NUMBER OF PLANTS SHALL BE SHOWN ON THE PLANS. IF THERE IS A DISCREPANCY BETWEEN THE DRAWING AND THE LIST ON THE PLANS, THE CONTRACTOR SHALL REQUEST CLARIFICATION FROM THE LANDSCAPE ARCHITECT.
 - ALL PLANT MATERIAL SHALL CONFORM TO THE CURRENT ISSUE OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1). ALL TREES TO BE BRANCHED SYMMETRICALLY AROUND CENTRAL LEADER. NO FORKED LEADER STOCK WILL BE ACCEPTED.
 - PLANT MATERIAL MUST BE SELECTED FROM NURSERIES THAT HAVE BEEN INSPECTED AND CERTIFIED BY STATE PLANT INSPECTORS.
 - PLANT MATERIAL WILL BE IN ACCORDANCE WITH HORTIS 11 BY L.H. BAILEY.
- SUBMITTALS
 - WHEN REQUESTED BY THE OWNER OR OWNER'S REPRESENTATIVE, SAMPLES OF ALL MATERIAL OTHER THAN PLANTS SHALL BE SUBMITTED TO THE OWNER'S DESIGNATED REPRESENTATIVE FOR APPROVAL.
 - ALL APPROVALS WILL BE IN WRITING.
- APPROVALS
- SUBSTITUTIONS
 - IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO MAKE EVERY REASONABLE EFFORT TO FIND THE MATERIAL SPECIFIED BY THE LANDSCAPE ARCHITECT. THE LANDSCAPE CONTRACTOR MAY OFFER SUBSTITUTIONS TO THE LANDSCAPE ARCHITECT FOR HIS/HER CONSIDERATION. THE LANDSCAPE CONTRACTOR WILL NOTIFY THE LANDSCAPE ARCHITECT IF THERE ARE KNOWN DISEASE OR INSECT RESISTANT SPECIES THAT CAN BE SUBSTITUTED FOR A SELECTED PEST-FREE PLANT. ALL SUBSTITUTIONS SHALL BE APPROVED BY HOWARD COUNTY GOVERNMENT.
 - UTILITIES AND UNDERGROUND FEATURES: THE LANDSCAPE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AND/OR THE GENERAL CONTRACTOR IN ADVANCE OF CONSTRUCTION TO LOCATE UTILITIES.
- DRAINAGE
 - IF PLANTS ARE TO BE INSTALLED IN AREAS THAT SHOW OBVIOUS POOR DRAINAGE, AND THE PLANTS ARE INAPPROPRIATE FOR THAT CONDITION, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AND OWNER. IF THEY DETERMINE RELOCATION IS NECESSARY, THE CONTRACTOR SHALL BE ADJUSTED TO ALLOW FOR DRAINAGE CORRECTION AT A NEGOTIATED COST, OR THE PLANT SELECTION MODIFIED BY THE LANDSCAPE ARCHITECT TO ACCOMMODATE THE POOR DRAINAGE SITUATION.
- WORK-SHARE
 - DURING DELIVERY AND INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL PERFORM IN A WORK-MANLIKE MANNER, COORDINATING HIS/HER ACTIVITIES SO AS NOT TO INTERFERE UNNECESSARILY WITH THE WORK OF OTHER TRADES AND LEAVING HIS/HER WORK AREAS CLEAN OF LETTER AND DEBRIS AT THE CLOSE OF EACH WORKDAY.
 - DURING PLANTING, ALL AREAS SHALL BE KEPT NEAT AND CLEAN. PRECIPITATIONS SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING PLANTS, LARGE TREES, TURF AND STRUCTURES. WHERE EXISTING TREES ARE TO BE PRESERVED, ADDITIONAL PRECAUTIONS SHOULD BE TAKEN TO AVOID UNNECESSARY ACCUMULATION OF EXCAVATED MATERIALS, SOIL COMPACTION OR ROOT DAMAGE.
 - UPON COMPLETION, ALL DEBRIS AND WASTE MATERIAL RESULTING FROM PLANTING OPERATIONS SHALL BE REMOVED FROM THE PROJECT AND THE AREA CLEANED UP.
 - ANY DAMAGE TO THE EXISTING UTILITIES, BUILDINGS, PAVING, CURB AND WALLS, AND VEGETATION (NOT SO DESIGNATED FOR REMOVAL ON THESE PLANS) SHALL BE REPAIRED TO PREVIOUS CONDITION OR REPLACED BY THE CONTRACTOR AT HIS/HER EXPENSE.
- WATER
 - THE OWNER SHALL SUPPLY WATER ON SITE AT NO COST. IF THE LANDSCAPE CONTRACTOR HAS TO SUPPLY WATER TO THE SITE, IT SHALL BE AT AN ADDITIONAL COST.
- PLANTING SEASONS
 - RED OAK, WHITE OAK, MELLOW OAK, SCARLET OAKS, DOGWOOD, SHEET GUM, CONIFERS, AND BROAD LEAF EVERGREENS WILL NOT BE PLANTED BETWEEN NOVEMBER 15 AND MARCH 1, UNLESS THE LANDSCAPE CONTRACTOR STATES IN WRITING THAT HE/SHE WILL GUARANTEE PLANTS.
- INSPECTIONS AND ACCEPTANCE
 - INITIAL INSPECTION: PRIOR TO PLANTING, ALL PLANT LOCATIONS SHALL BE STAKED IN THE FIELD BY THE CONTRACTOR. THE LANDSCAPE ARCHITECT SHALL BE CONTACTED TO INSPECT AND APPROVE ALL PLANT LOCATIONS BEFORE PLANTING.
 - FINAL ACCEPTANCE INSPECTION: A VERIFICATION OF PERFORMANCE FOR WORK BY CONTRACT DOCUMENTS TO BE CONDUCTED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE ON-SITE AND IN THE PRESENCE OF THE LANDSCAPE CONTRACTOR FOR THE PURPOSE OF ACCEPTANCE.
 - FINAL WARRANTY INSPECTION: THE LANDSCAPE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION WITH THE OWNER OR OWNER'S REPRESENTATIVE AT THE END OF THE ONE YEAR PERIOD.
- WARRANTY
 - THE STANDARD WARRANTY IS FOR ONE (1) YEAR PERIOD, EXCLUDING BULBS AND ANNUALS. COMMENCING ON THE DATE OF INITIAL ACCEPTANCE. ALL PLANTS SHALL BE ALIVE AND IN SATISFACTORY GROWTH AT THE END OF THE GUARANTEE PERIOD.
 - ANY MATERIAL THAT IS 25% DEAD OR MORE SHALL BE CONSIDERED DEAD AND MUST BE REPLACED AT NO CHARGE. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK OR 25% OF THE CROWN IS DEAD.
 - PERENNIALS SHALL BE GUARANTEED FOR ONE YEAR AFTER INITIAL ACCEPTANCE.
- PLANT MATERIALS
- SCOPE OF WORK
 - THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL PLANT MATERIAL SHOWN ON THE DRAWINGS AND PLANT LIST.
- INSPECTION
 - PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE AT THE PLACE OF GROWTH BEFORE DIGGING - TREES) OR HOLDING YARD (SHRUBS) FOR CONFORMITY TO SPECIFICATION REQUIREMENTS AS TO QUALITY, SIZE, AND VARIETY.
- PRODUCTS
 - QUALITY ASSURANCE: MANUFACTURER'S CERTIFIED ANALYSIS SHALL ACCOMPANY PACKAGED STANDARD PRODUCTS.
 - ORGANIC MATTER
 - PEAT MOSS - TYPE I SPHAGNUM PEAT MOSS, FINELY DIVIDED WITH A PH OF 3.1 TO 5.0.
 - SEDSIDE PEAT - DESIGNED PEAT CONTAINING NO IDENTIFIABLE FIBERS.
 - LEAF COMPOST - THAT IS SCREENED AND FREE OF TRASH.
 - COMPOSTED SEWAGE SLUDGE - APPROVED, SCREENED, POLYMER-DENATORED SEWAGE SLUDGE WITH A PH OF 6.2 - 7.2 @ 1:1.
- TOPSOIL
 - IT SHALL BE FREE OF STONES, LIMPS, PLANTS, ROOTS AND OTHER DEBRIS OVER 1/2" TOPSOIL. MUST ALSO BE FREE OF PLANTS OR PLANT PARTS OF BERMUDAGRASS, QUICKGRASS, JOHNSONGRASS, MIGNONET, NUTSEDGE, POISON IVY, CANADIAN THISTLE OR OTHERS AS SPECIFIED.
 - IT SHALL NOT CONTAIN TOXIC SUBSTANCES HARMFUL TO PLANT GROWTH, I.E. PESTICIDE RESIDUES.
- BACKFILL MIXTURE
 - BACKFILL MIXTURE FOR TREES AND SHRUBS SHALL BE 3/4 EXISTING SOIL MIXED WITH 1/4 ORGANIC MATERIAL, PLUS GRANULAR FERTILIZER.
- MULCH
 - MATERIAL SHALL BE COMPOSTED, SHREDDED HARDWOOD BARK, WITH LESS THAN 10% SAPWOOD. DARK BROWN IN COLOR, OR APPROVED EQUIVA.
 - MATERIAL SHALL BE UNIFORM IN SIZE AND FREE OF FOREIGN MATTER.
- PLANTING PROCEDURE FOR TREES
 - WALL OF TREE PIT SHALL BE DUG SO THAT THEY ARE VERTICAL OR SLOPING OUTWARD IN HEAVY SOILS, BE AND SO SCARPED.
 - THE TREE PIT MUST BE A MINIMUM OF 4" LARGER ON EVERY SIDE THAN THE BALL OF THE TREE.
 - PLACE THE TREE IN THE PIT CARRYING THE BALL AND THEN LOWERING IT INTO THE PIT. NEVER LIFT THE TREE BY THE TRUNK OR BRANCHES.
 - SET THE TREE STRAIGHT AND IN THE CENTER OF THE PIT WITH THE MOST DESIRABLE SIDE FACING TOWARD THE PROMINENT VIEW.
 - BACKFILL TREE PIT WITH A SOIL MIXTURE STATED IN THE SPECIFICATIONS.
 - CUT AND REMOVE ROPE OR WIRE OFF THE TOP 50% OF ROOTBALL AND PULL BURLAP BACK TO THE EDGE OF THE BALL. REMOVE AS MUCH BURLAP, WOVEN PRODUCTS AND TWINE AS POSSIBLE. ALL PLASTIC OR SYNTHETIC FILM MUST BE REMOVED FROM THE ROOTBALL. CUT ALL TWINE AWAY FROM TRUNK.
 - FORM A SAUCER ABOVE EXISTING GRADE, AROUND THE OUTER RIM OF THE TREE PIT, ESPECIALLY ON SLOPES AND IN HEAVY SOILS.
 - MULCH TOP OF ROOT BALL AND SAUCER TO A MINIMUM DEPTH OF 2", NOT TO EXCEED 3". DO NOT OR PLACE MULCH AGAINST THE TRUNK.
 - WATER THOROUGHLY ON THE INTERIOR OF THE TREE SAUCER UNTIL IT IS FILLED, EVEN IF IT IS RAINING. A SECOND WATERING MAY BE NECESSARY TO INSURE SATURATION OF THE ROOT BALL AND ELIMINATION OF AIR POCKETS.
 - PRUNING SHOULD BE RESTRICTED TO CORRECTIVE PRUNING TO IMPROVE FORM ONLY.
 - STAKE TREE PER PLANTING DETAIL.
- PLANTING PROCEDURES FOR SHRUBS
 - FOR A SINGLE SHRUB, THE PIT SHALL BE DUG 1" WIDER THAN THE ROOTBALL AND DEEP ENOUGH TO ALLOW 1/8TH OF THE ROOTBALL TO SET ABOVE EXISTING GRADE. (SINGLE SHRUB PLANTINGS ONLY IF NOTED ON PLANS)
 - FOR A SHRUB MASS PLANTING, THE ENTIRE BED AREA SHALL BE TILLED 4-6" DEEP. TILLING SHOULD ONLY BE DONE IN DRY SOIL TO AVOID COMPACTION. IF THE SOIL IS HEAVY IN CLAY AND SILT, ORGANIC MATERIAL SHOULD BE ADDED. EACH SHRUB PIT SHALL BE EXCAVATED FOR THE PROPER SETTING OF THE ROOTBALL.
 - PLACE THE SHRUB IN THE PIT BY LIFTING AND CARRYING IT BY THE ROOTBALL. REMOVE CONTAINERS FROM ALL CONTAINER-GROWN SHRUBS; SLASH THE EDGES OF THE ROOTBALL FROM TOP TO BOTTOM AT LEAST 1" DEEP.
 - SET THE SHRUB AND IN THE CENTER OF THE PIT WITH THE MOST DESIRABLE SIDE FACING TOWARD THE PROMINENT VIEW.
 - CUT AND REMOVE ROPE OR WIRE OFF THE TOP 50 % OF ROOTBALL AND PULL BURLAP BACK TO THE EDGE OF THE BALL. REMOVE AS MUCH BURLAP, WOVEN PRODUCTS AND TWINE AS POSSIBLE. ALL PLASTIC OR SYNTHETIC FILM MUST BE REMOVED FROM THE ROOTBALL. CUT ALL TWINE AWAY FROM TRUNK.
 - FORM A SAUCER ABOVE THE EXISTING GRADE AND COMPLETELY AROUND THE PLANTING PIT.
 - MULCH TOP OF ROOTBALL AND SAUCER A MAXIMUM DEPTH OF 2", NOT TO EXCEED 3". WATER SHRUB MASS THOROUGHLY EVEN IF IT IS RAINING. A SECOND WATERING MAY BE NECESSARY TO INSURE SATURATION OF THE ROOT BALL AND ELIMINATION OF AIR POCKETS.
- PLANTING PROCEDURE FOR GROUND COVER, PERENNIALS AND ANNUALS
 - THE PLANTING BED SHALL BE LOOSENED WHEN THE SOIL IS DRY PRIOR TO PLANTING BY TILLING. SOIL SHALL BE LOOSENED TO A DEPTH OF 4 TO 6"
 - ORGANIC MATTER SHALL BE SPREAD OVER THE BED TO A DEPTH OF 2" FOR PEAT MOSS OF 1" DEEP FOR COMPOST. NOT TO EXCEED 4 CUBIC YARDS OF COMPOST/1000 SQUARE FEET, AFTER THE SOIL HAS BEEN LOOSENED. THE ORGANIC MATTER SHALL BE WORKED INTO THE BED BY TILLING.
 - FERTILIZER SHALL BE TOP-DRESSED OVER BED AREA.
 - THE PLANT, EITHER POTTED OR BARE ROOT, SHALL BE INSTALLED SO THAT THE ROOTS ARE SURROUNDED BY SOIL BELOW THE MULCH. POTTED PLANTS SHALL BE SET SO THAT THE TOP OF THE POT IS EVEN WITH THE EXISTING GRADE. THE ROOTS OF BARE ROOT PLANTS SHALL BE COVERED TO THE GROUND.
 - SPACING OF PLANTS SHALL BE INSTALLED AS NOTED ON THE LANDSCAPE PLAN.
 - THE ENTIRE BED SHALL BE MULCHED TO A MINIMUM DEPTH OF 1, 2" MAXIMUM, WITH APPROVED MULCH.
 - THE ENTIRE PLANTING BED SHALL BE THOROUGHLY WATERED.



LANDSCAPE PLAN

SUNELL PROPERTY PARCEL A WASTEWATER PUMP STATION

CAPITAL PROJECT 8-6275
 Liber: 18192 Folio: 353

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=20'	R-20	18107
DATE	TAX MAP - GRID	SHEET
JUNE, 2019	18 - 13	7 OF 7

DESIGNED BY: KLP
 DRAWN BY: KLP
 CHECKED BY: CKG

OWNER: DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MD
 9250 BENDIX ROAD
 COLUMBIA, MD 21045
 410-313-2040

ELECTION DISTRICT No. 2

L:\CAD\DRAWINGS\101\10107 (Pump Station) PLANS BY: G.W. (SPK) 10/07 - L.d.g.
 L:\CAD\DRAWINGS\101\10107 (Pump Station) PLANS BY: G.W. (SPK) 10/07 - L.d.g.