GENERAL NOTES

- 1.) THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN
- 2.) THE SUBJECT PROPERTY IS ZONED R-SC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
 3.) THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 43EB AND 43EC WERE
- 4.) TRACT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED ON OR ABOUT AUGUST, 2015 BY
- 5.) TOPOGRAPHY SHOWN ON—SITE AND ALONG LINCOLN DRIVE IS BASED ON FIELD SURVEY BY BENCHMARK ENGINEERING, INC., DATED AUGUST, 2015. TOPOGRAPHY SHOWN ON ADJACENT PROPERTIES IS BASED ON HOWARD COUNTY GIS. ALL CONTOURS ARE A MAXIMUM OF 2' INTERVALS.
- 6.) A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT SINCE THE SITE IS LOCATED MORE THAN 1,000 FEET FROM
- 7.) THE TRAFFIC STUDY WAS PREPARED BY MARS GROUP, INC. IN AUGUST, 2015 AND APPROVED BY HOWARD COUNTY DPZ ON 11-20-2015. A FEE-IN-LIEU IN THE AMOUNT OF \$8,820.00 FOR THE REQUIRED ROAD MITIGATION SHALL BE PAID AS PART OF THE DPW DEVELOPERS AGREEMENT PER DEVELOPMENT ENGINEERING DIVISION LETTER DATED APRIL 25, 2016.
- 8.) THE GEOTECHNICAL REPORT WAS PREPARED BY GEOLABS, INC. IN MARCH, 2016
 9.) FOREST STAND AND WETLAND DELINEATION WAS PERFORMED BY ECO—SCIENCE PROFESSIONALS, INC., IN AUGUST, 2015. THERE ARE NO WETLANDS, WETLANDS BUFFER, STREAMS, STREAM BUFFERS, 100—YR FLOODPLAIN OR 25% OR
- GREATER STEEP SLOPES WITH MORE THAN 20,000 SF OF CONTIGUOUS AREA LOCATED WITHIN THE PROJECT SITE.

 10.) TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON—SITE.
- 11.) THERE ARE NO HISTORIC SITES/FEATURES OR FLOODPLAINS LOCATED ON THIS SITE.
- 12.) THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. THE DRAINAGE AREA IS THE MIDDLE PATUXENT. THE WATER AND SEWER IS PUBLIC. THE CONTRACT NUMBER IS 24-4969-D.
- 13.) THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND SEWERAGE ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME
- 14.) STORMWATER MANAGEMENT HAS BEEN PROVIDED IN ACCORDANCE WITH THE "MARYLAND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT ACT OF 2007" AND THE "HOWARD COUNTY DESIGN MANUAL VOLUME I, CHAPTER 5. TO THE MAXIMUM EXTENT PRACTICAL (MEP) VIA THE (F-1) SURFACE SAND FILTER, WHICH IS A PRIVATELY
- 15.) LANDSCAPING IS PROVIDED WITH A CERTIFIED LANDSCAPE PLAN IN ACCORDANCE ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$3,900.00 FOR THE REQUIRED PERIMETER LANDSCAPING AND TWO ADDITIONAL SHADE TREES AS A CONDITION ON WP-16-072 APPROVAL (\$3,600.00 FOR 11 SHADE TREES AND \$600.00 FOR 20 SHRUBS) SHALL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT.
- 16.) THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION VIA THE THE ON-SITE RETENTION OF 0.23 ACRES OF FOREST WITHIN A FOREST CONSERVATION EASEMENT AND BY 0.50 ACRES OFF-SITE WITHIN THE FOREST MITIGATION BANK ESTABLISHED UNDER PHELPS PROPERTY, SDP-14-026FC, RECORDED AS PLAT #22843.
- 17.) DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
- a) WIDTH 12' (16' SERVING MORE THAN ONE RESIDENCE).
- b) SURFACE 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.) c) GEOMETRY MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45" TURNING RADIUS.
- d) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
- e) DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
- g) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- 18.) 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.

 19.) THE PRIVATE MAINTENANCE ACCESS AGREEMENT FOR LOTS 3-6 SHALL BE RECORDED SIMULTANEOUSLY WITH THE RECORDATION OF THE PLAT.
- 20.) THE PURPOSE OF OPEN SPACE LOT 7 IS FOR THE PROTECTION OF ENVIRONMENTAL AREAS SUCH AS EXISTING TREES AND VEGETATION. IT WILL ALSO CONTAIN AN ESD SWM PRACTICE WHICH TREATS THE LOTS AND USE—IN—COMMON DRIVEWAY. IT SHALL BE DEDICATED TO THE HOMEOWNERS ASSOCIATION.
- 21.) THERE IS NO RECREATIONAL OPEN SPACE REQUIREMENT FOR THIS PROJECT SINCE THERE ARE LESS THAN 10 LOTS.
- 22.) THE MODERATE INCOME HOUSING UNIT REQUIREMENT (COUNCIL BILL 35-2013) SHALL BE FULFILLED BY PAYMENT OF A FEE-IN-LIEU IN AN AMOUNT THAT IS TO BE CALCULATED BY THE DEPARTMENT OF INSPECTIONS LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT. THE FEE-IN-LIEU SHALL BE PAID FOR LOTS/RESIDENTIAL UNITS 2 THROUGH 6 WITHIN THIS SUBDIVISION AT TIME OF BUILDING PERMIT ISSUANCE.
- 23.) WP-16-072, A REQUEST TO WAIVE SECTION 16.1205(a)(7) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS WAS APPROVED ON JANUARY 14, 2016 AND SECTIONS 16.144(g) AND 16.146 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS WAS APPROVED ON FEBRUARY 24, 2016 SUBJECT TO THE FOLLOWING CONDITIONS:
- 1. THE REMOVAL OF THE ONE SPECIMEN TREE WILL REQUIRE MITIGATION WITH THE PLANTING OF 2:1
 REPLACEMENT TREES (2 TOTAL) WITH A MINIMUM CALIPER NATIVE PLANT SPECIES. THE REPLACEMENT TREES SHALL
 BE BONDED AND SHOWN ON THE LANDSCAPE PLAN.
 2. THE FINAL PLAN FOR THIS PROJECT MUST PROVIDE ALL OF THE REQUIRED INFORMATION THAT WILL ADDRESS

HOW STORMWATER MANAGEMENT WILL BE PROVIDED, ANY REQUIRED PUBLIC ROAD RIGHT-OF-WAY IMPROVEMENTS,

- AND HOW FOREST CONSERVATION AND LANDSCAPING SHALL BE SATISFIED.

 24.) THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 RESIDENTIAL INFILL DEVELOPMENT OF THE 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.

 25.) A PRIVATE DEVELOPED SIGN SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF
- 26.) PUBLIC SIDEWALK HAS BEEN PROVIDED ALONG THE PROPERTY FRONTAGE OF LINCOLN DRIVE. SIDEWALK IS NOT BEING PROPOSED BEYOND THE PROJECT LIMITS TO THE WEST DUE TO THE LACK OF AVAILABLE PUBLIC ROAD RIGHT—OF—WAY OR TO THE EAST SINCE THERE IS NO EXISTING ADJACENT SIDEWALK TO MAKE A CONNECTION TO AND SINCE THERE IS NO NEED FOR SIDEWALKS TO SERVE COMMERCIAL OR INSTITUTIONAL USES, SCHOOLS, PARKS OR OTHER PUBLIC FACILITIES WITHIN 1000 FEET OF THE PROPERTY.
- 27.) SIGHT DISTANCE ANALYSIS WAS APPROVED UNDER S-16-002.

PRIOR TO THE PLACEMENT OF ANY ASPHALT.

- 28.) APPLICABLE DPZ FILE NUMBERS: ECP-16-009, S-16-002, WP-16-072
- 29.) HOWARD COUNTY STANDARD DETAIL R-6.03 SHALL BE UTILIZED FOR THE DRIVEWAY APRONS.
- 30.) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 31.) THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 32.) THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.

 33.) TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE PLACE
- 34.) STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHT IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE. THERE ARE NO STREET LIGHTS REQUIRED FOR THIS PROJECT.
- 35.) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT—OF—WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2—1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 36.) EXISTING UTILITIES SHOWN ARE BASED ON CONTRACT DRAWINGS, AERIAL, GIS DATA AND FIELD SURVEYED LOCATIONS.
- 37.) THE WETLAND DELINEATION STUDY WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. IN AUGUST, 2015, AND WAS APPROVED ON 11/09/2015.
- 38.) A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON AUGUST 20, 2015, PER SECTION 16.128 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

APPROVED: DEPARTMENT OF PUBLIC WORKS	7
Meuni	9/26/2016
CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED: DEPARTMENT OF PLANNING AND	ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT	9-30-16 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	9.29.11/ DATE

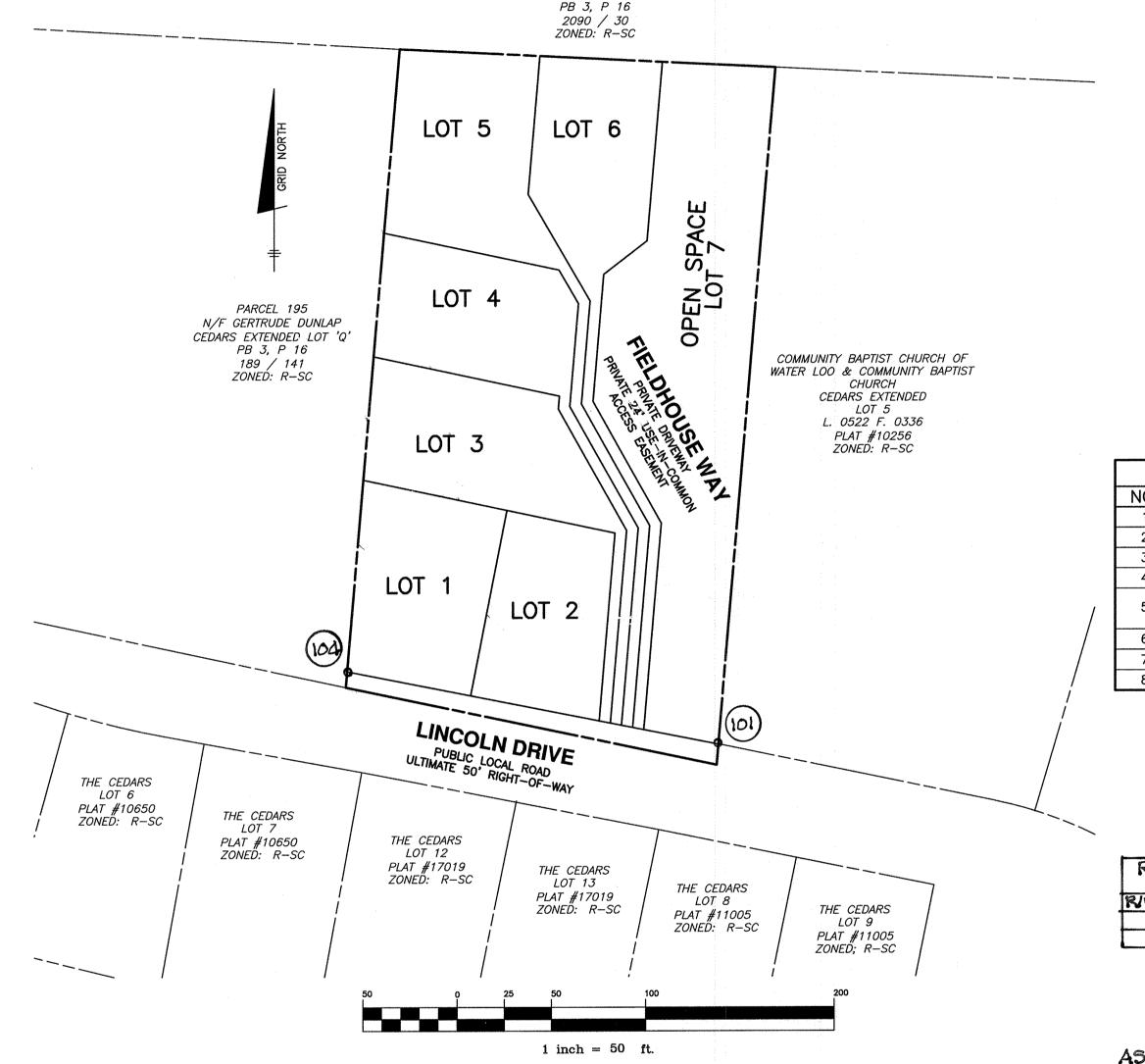
THE CEDARS EXTENDED

LOTS 1 thru 6 AND OPEN SPACE LOT 7
A RESUBDIVISION OF LOT 'R' OF THE CEDARS EXTENDED
PB 3 P 16

FINAL ROAD CONSTRUCTION PLANS

N/F WILLIAM S. BROWN

CEDARS EXTENDED LOT 'O'



AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT"
Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

Professional Certification. 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. 21443 __ Expiration Date: 12-21-20



MINIMUM LOT SIZE CHART									
LOT	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE						
3	8,417	1,691	6,726						
4	7,950	1,098	6,852						
5	9,750	2,020	7,730						
6 8,227 1,505 6,722									
MINIMUM LOT SIZE ALLOWED PER ZONING (SECTION 110.0.D.2): 6,000 SF									

SHEET INDEX									
NO.	TITLE								
1	COVER SHEET								
2	ROAD IMPROVEMENT, MAINTENANCE OF TRAFFIC, GRADING PLAN, AND DETAILS								
3	STORM DRAIN AND STORMWATER MANAGEMENT PROFILES AND DETAILS								
4	STORM DRAIN DRAINAGE AREA MAP								
5	PERIMETER LANDSCAPE AND STREET TREE PLAN AND FOREST CONSERVATION PLAN								
6	SOIL BORING LOGS AND FOREST CONSERVATION NOTES AND DETAILS								
7	SEDIMENT AND EROSION CONTROL PLAN.								
8	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS								

RIGHT OF WAY BLEVATION CHART NAD 83 RIWPTNO. DESCRIPTION BLEVATION 101 REBARGAP 25032' 104 REBARGAP 257.05'

AS BUILT NOTES:

- 1.) HORIZONTAL DATUM FOR THIS AS-BUILT
 15 BASED ON THE MARYLAND STATE
 REFERENCE SYSTEM NAD 83/ ADJ 07
 AS PROJECTED FROM HO.CO. GEODETIC
 CONTROL STATION 43EB AND 43EC.
 VERTICAL DATUM FOR THIS AS-BUILT
 15 NORTH AMERICAN VERTICAL DATUM
 NGVD 88 AS PROJECTED FROM THE ABOVE
 MENTIONED HOWARD COUNTY GEODETIC
 CONTROL STATIONS
- 2.) THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE AS" TOTAL STATION AND PRISM.
- 3.) THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING. INC.

STORMWATER MANAGEMENT SUMMARY TABLE													
		DA to practice	Imp Area to		Af (s.f.)			ESDv			R		
Practice		(sf)	practice (sf)	Pe	Required	Provided		Required	Provided	Pe Provided	Required	Provided	Ownership
(F-1) Surface Sand Filter	#1	39,000	17,085	1.6	339	1042	PASS	2796	2796	1.6	227 cf or 0.06 acres	250 cf	Private
					Li		,			1			
Total Treated		39,000	17,085		339	1042		2796	2796				

Date: 1-30-19

		Storm	2-year	10-year	25-year
	Site Discharge Comparison	pre-developed	6.78 cfs	15.59 cfs	18.06 cfs
		post-developed	6.19 cfs	14.90 cfs	17.94 cfs
R MANAGEMENT PRACTICE(S)					

SURFACE SAND FILTER 1.1

(QUANTITY)

STORMWATER

ADDRESS

LINCOLN DRIVE

- 1. Rev is provided via 0.6' deep stone chamber below outfall pipe within the (F-1) Surface Sand Filter.

 2. The 2,282 sf of impervious area not draining to the (F-1) Surface Sand Filter is the individual Lincoln Drive improvements, driveways for Lot 1 and 2 and the beginning portion of the use-in-common
- driveway. This area will drain into Lincoln Drive. There is not sufficient room between the garage and public right-of-way for ESD practice. Overcompensation has been provided within (F-1) Surface Sand Filter for this area. The total ESDv required for the site is provided.

19,367

BENCH MARKS (NAD83)

HO. CO. No. 43EB ELEV. 216.312' WEST SIDE OF ROUTE 1. 6.7' FROM FACE OF CURB. 78 FEET NORTH FROM CENTERLINE OF HICK ROAD.

N 545963.613

HO. CO. No. 43EC ELEV. 219.698'
EAST SIDE OF ROUTE 1. 2.5' FROM FACE
OF CURB. 500 FEET SOUTH FROM CENTERLINE
OF ROUTE 175.
N 547821.247 E 1372882.507

SITE

SITE

WICINITY MAP

ADC MAP: 34

VICINITY MAP

SCALE: 1" = 2000'

ADC MAP: 34

ADC GRID: C8

SITE ANALYSIS DATA CHART

GENERAL SITE DATA	
1.) PRESENT ZONING:	R-SC
2.) APPLICABLE DPZ FILE REFERENCES:	ECP-16-009 S-16-002 WP-16-072
3.) PROPOSED USE OF SITE:	RESIDENTIAL — SI
/	

AREA TARIII ATION

AREA TABULATION	
1.) GROSS TRACT AREA	1.62± AC.
2.) AREA WITHIN 100-YEAR FLOODPLAIN	0.00 AC.
3.) TOTAL AREA OF 25% OR GREATER STEEP SLOPES	0.00 AC. 0.00 AC.
4.) NET TRACT AREA	1.62± AC.

- 5.) TOTAL NUMBER OF LOTS ALLOWED PER ZONING_____6
 (4.0 DWELLING UNITS PER NET ACRE)
- 6.) TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS
 PROPOSED ON THIS SUBMISSION_____

4.) PROPOSED WATER AND SEWER SYSTEMS:

7.) TOTAL OPEN SPACE REQUIRED (25% OF NET AREA)_0.41 AC.

- AREA OF PUBLIC RIGHT-OF-WAY_______0.04± AC.

NO. DATE REVISION

Professional Certification. I hereby certify that these documents are also as a second certification. I hereby certify that these documents are also as a second certification. I hereby certify that these documents are also as a second certification. I hereby certify that these documents are also as a second certification. I hereby certify that these documents are also as a second certification. I hereby certify that these documents are also as a second certification.

BENCHMARK

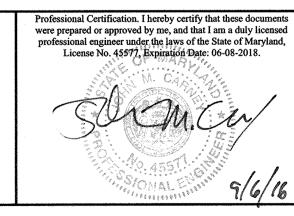
ENGINEERS & LAND SURVEYORS & PLANNERS

ENGINEERING, INC.

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644

WWW.BEI-CIVILENGINEERING.COM



OWNER:

CEDARS EXTENDED LOT 'R' LLC
8369 OLD FREDERICK ROAD
ELLICOTT CITY, MARYLAND 21043
443-812-4806

(A R

DEVELOPER:

CEDARS EXTENDED LOT 'R' LLC
8369 OLD FREDERICK ROAD
ELLICOTT CITY, MARYLAND 21043
443-812-4806

DESIGN: JMC/DBT DRAFT: DBT

THE CEDARS EXTENDED
LOTS 1 thru 6 AND OPEN SPACE LOT 7

(A RESUBDIVISION OF LOT 'R' OF THE CEDARS EXTENDED PB 3 P 16)

TAX MAP: 43 — GRID: 8 — PARCEL: 451

ZONED: R—SC

ELECTION DISTRICT NO. 6 — HOWARD COUNTY, MARYLAND

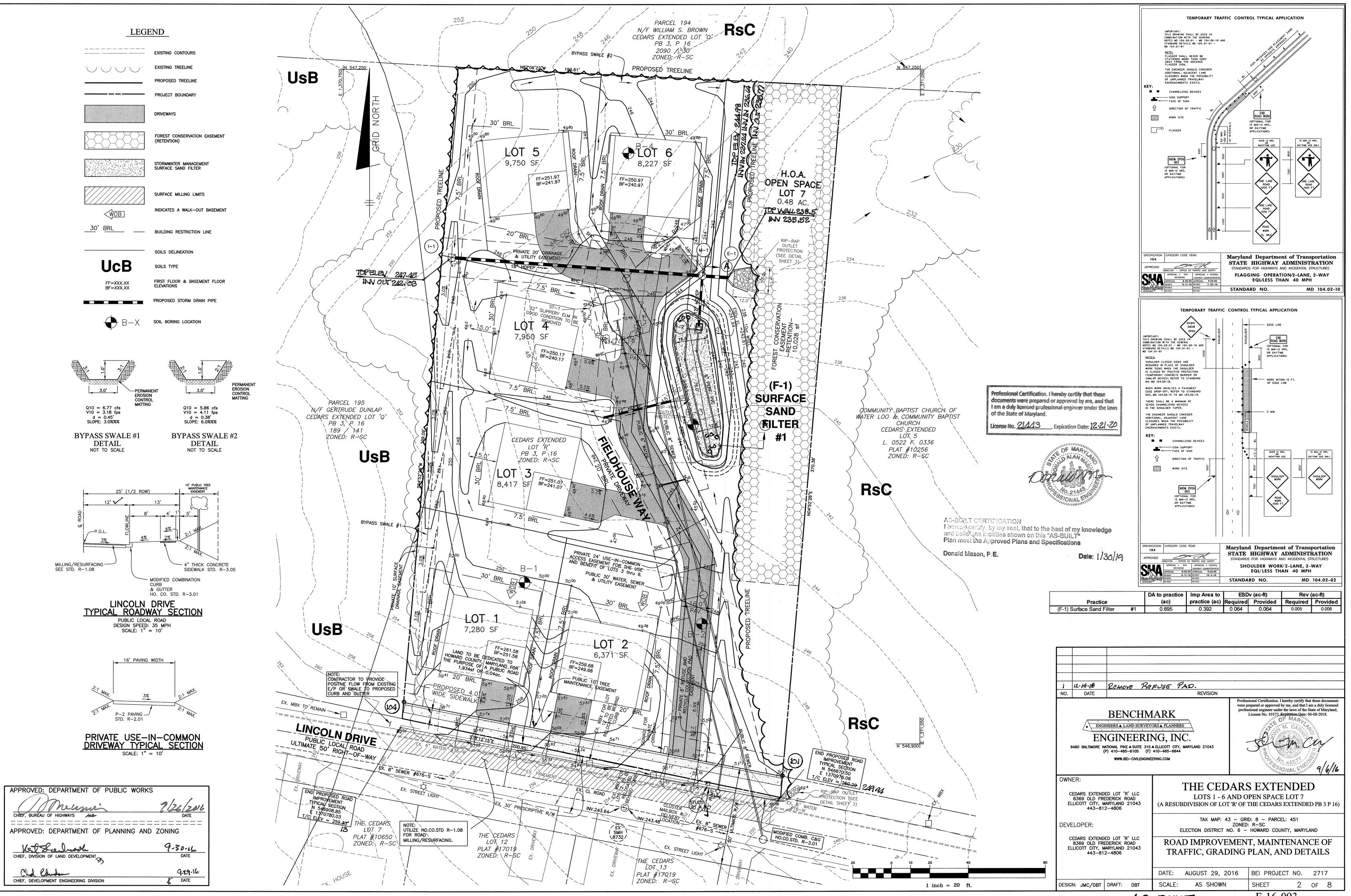
COVER SHEET

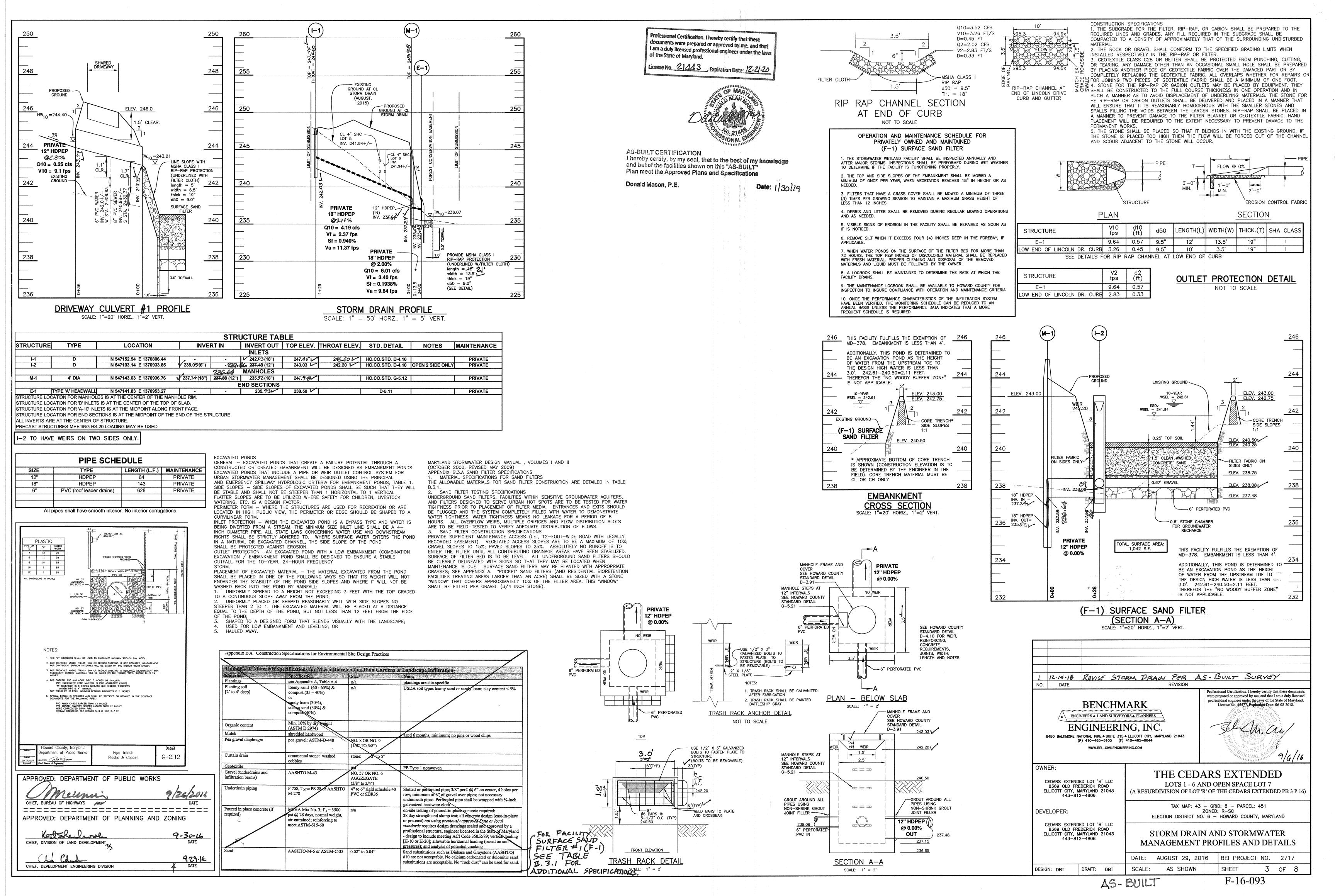
DATE: AUGUST 29, 2016 BEI PROJECT NO. 2717

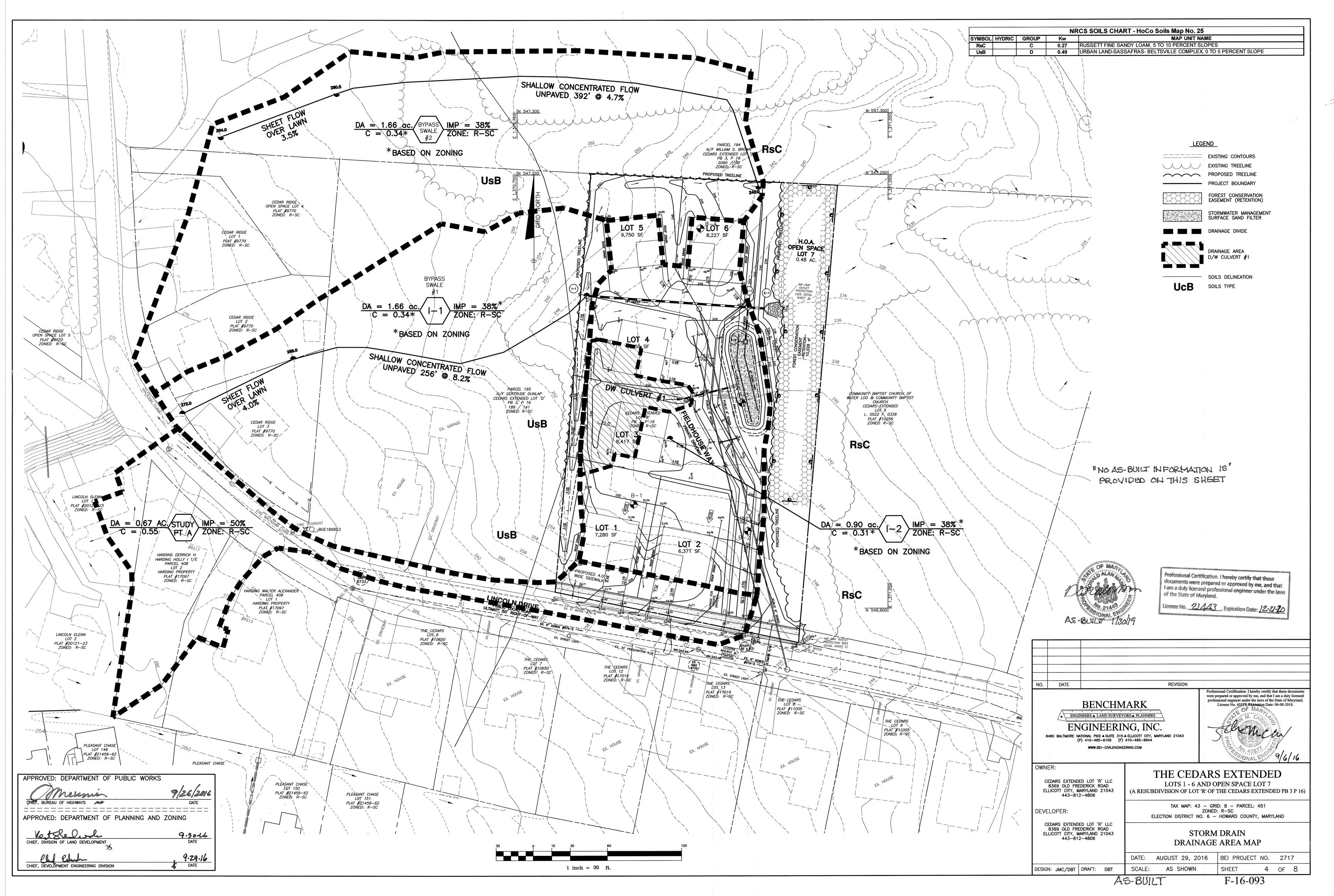
SCALE: AS SHOWN SHEET 1 OF 8

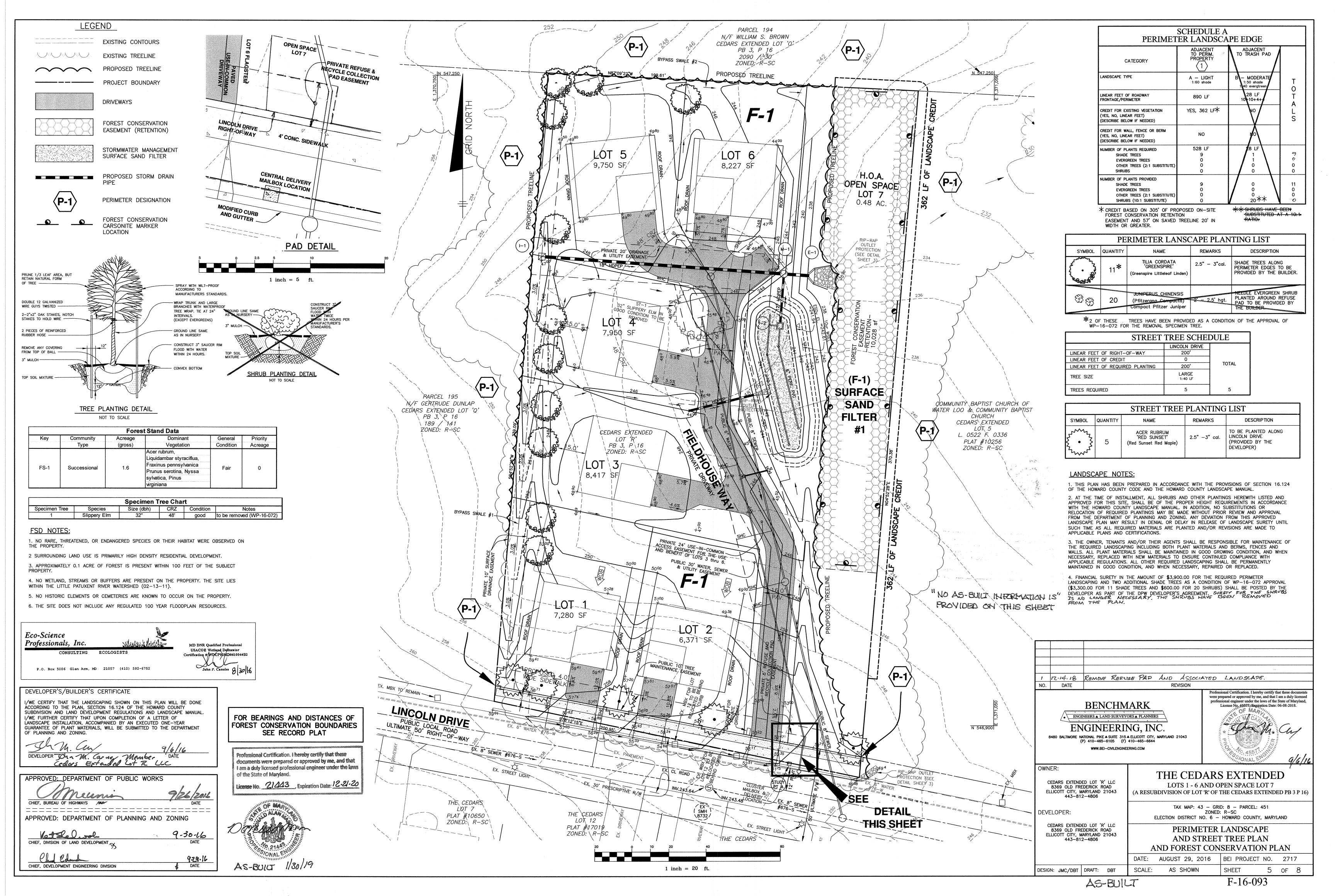
AS-BUILT

F-16-093









во	RII	NG LOG				GEOLAB, INC.	ВО	RIN	G LOG				GEOLAB, INC.
Report No	ν:				Date: 3/	11/2016	Report No	u:				Date: 3/	11/2016
		hmark Engineering							ark Engineering				
Project:	The C	Cedars Extended			Project i	No. 116-025			lars Extended			Project I	ю. 116-025
Boring No					e Borin	g Location Plan	Boring No	: B-2	(1 of 1) Total Depth 7 Elev: 248.0 +/-		Location: S	ee Borin	g Location Plan
Type of B	oring:	Hand-auger Started: 3/2/2016 Com	pleted: 3/2/2		Driller: L	. Kaler	Type of B	oring: Ha	nd-auger Started: 3/2/2016 Com	pleted: 3/2/2	016	Driller: L	. Kaler
levation		(Classification)	*Sample Blows	Sample Depth (Feet)	Moisture Content	REMARNS	Elevation		DESCRIPTION OF MATERIALS (classification)	*Sample Blows	Sample Depth (Feet)	Moisture Content	REMARKS
248	0.0	Forest litter and root matter with organic soil Tan to red and off-white silty CLAY, moist (CL, USDA: Silty Clay)	Blows	3.0 3.5	30.9	Perch water encountered at a depth of 0.5 feet.	248 247.5 ⁻ 241.5 ⁻ 241 ⁻	0.5		Blows	1.0 (Feet) -1.5	Content	Perch water encountered at a depth of 0.5 feet.
umber o	f blow 5" inc	ows required for a 15 lb hammer dropping 20" to drive 1.5" norements. The sum of the last two increments of penetrat	diameter c	one with a	45 degr	se vertex angle a total of 6 inche netration resistance, N.	*Number o	f blows:	required for a 15 lb hammer dropping 20" to drive 1.5" ments. The sum of the last two increments of penetrat:	diameter coion is term	one with a	45 degreandard per	se vertex angle a total of 6 inc metration resistance, N.

BOI	RIN	IG LOG				GEOLAB, INC.	BORIN	IG LOG			GEOLAB, INC.
Report No.	:				Date: 3/	11/2016	Report No.:			Date: 3	11/2016
Client: B e	enchn	nark Engineering			************		Client: Benchr	nark Engineering			
Project: T	he Ce	edars Extended				lo. 116-025	*************************************	edars Extended		Project	No. 116-025
Boring No.:						g Location Plan	Boring No.: B-4				g Location Plan
Type of Bo	ring: H		pleted: 3/2/2		Driller: L	Kaler	Type of Boring: H				. Kaler
Elevation		DESCRIPTION OF MATERIALS (classification)	*Sample Blows	Sample Depth (Feet)	Moisture Content	REMARKS	Elevation Depth	DESCRIPTION OF MATERIALS (classification)	*Sample Sample Depth (Feet)	Moisture Content	KENIAKAS
241	0.5	Forest litter and root matter with organic soil Tan to red and off-white silty CLAY, moist to saturated (CL, USDA: Silty Clay)				Perch water encountered at a depth of 2.0 feet.	243.5 - 0.5	Forest litter and root matter with orga Tan to red and off-white silty CLAY, r USDA: Silty Clay)		25.0	Boring dry during drilling and at completion.
236.5	4.5	Tan fine sandy silty CLAY some gravel, moist (CL, USDA: Clay Loam)		6.5	24.5				6.5	17.9	
234	7,0	Light tan and gray fine sandy SILT, moist (ML, USDA: Loam)		7 7.5 8	11.1				7		
*Number of		End of Boring required for a 15 lb hammer dropping 20" to drive 1.5" ements. The sum of the last two increments of penetrat	diameter c	one with a	45 degr	se vertex angle a total of 6 inche	234 - 10.0 -	End of Boring required for a 15 lb hammer dropping 20" tements. The sum of the last two increments	o drive 1.5" diameter cone with	a 45 degr	ee vertex angle a total of 6 inch

APPROVED: DEPARTMENT OF PUBLIC WORKS neuma CHIEF, BUREAU OF HIGHWAYS APPROVED: DEPARTMENT OF PLANNING AND ZONING Ketslehood 9-30-16 CHIEF, DIVISION OF LAND DEVELOPMENT 4.29.16 DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION

CONSTRUCTION PERIOD PROTECTION PROGRAM

- A. Forest Protection Techniques
- 1. Soil Protection Area (Critical Root Zone)

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of a its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface. Temporary fencing shall be placed around the critical root zone of the forest in areas where the forest limits occur within 25 feet of the limit of disturbance.

2. Fencing and Signage

Existing forest limits occurring within 25 feet of the limits of disturbance shall be protected using temporary protective fencing. Permanent signage shall be placed around the afforestation area prior to plant installation, as shown on the plan.

B. Pre-Construction Meeting

Upon staking of limits of disturbance, a pre-construction meeting will be held between the developer, contractor and appropriate County inspector. The purpose of the meeting will be to verify that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the FCP.

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas outside of the proposed Forest Conservation Easement. Cleaning of equipment will be limited steps: to area within the LOD of the proposed homesites. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into environmentally sensitive

D. Sequence of Construction

The following timetable represents the proposed timetable for development. The items outlined in the Forest Conservation Plan will be enacted within two (2) years of subdivision approval.

Below find a proposed sequence of construction.

- 1. Install all signage and sediment control devices.
- 2. Hold pre-construction meeting between developer, contractor and County inspector.
- 3. Build access roads, install well and septic systems, and construct houses. Stabilize all disturbed areas accordingly.
- 4. Begin multiflora rose removal. Install permanent protective signage for Easements and initiate plantings in accordance with Forest Conservation Plan. Plantings will be completed within two (2) years of subdivision approval.

Remove sediment control.

6. Hold post-construction meeting with County inspectors to assure compliance with FCP. Submit Certification of Installation.

7. Monitor and maintain plantings for 2 years.

E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan.

F. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that afforestation plantings have been installed.

POST-CONSTRUCTION MANAGEMENT PLAN

Howard County requires a two year post-construction management plan be prepared as part of the forest conservation plan. The plan goes into effect upon acceptance of the construction certification of completion by the County. Eco-Science Professionals, or another qualified professional designated by the developer, will be responsible for implementation of the post-construction management plan.

The following items will be incorporated into the plan:

A. Fencing and Signage

Permanent signage indicating the limits of the retention/reforestation area shall

B. General Site Inspections/Maintenance of Plantings

Site inspections will be performed a minimum of three times during the growing season. The purpose of the inspections will be to assess the health of the afforestation plantings. Appropriate measures will be taken to rectify any problems

In addition, maintenance of the afforestation plantings will involve the following

- Watering All plant material shall be watered twice a month during the 1st growing season, more or less frequently depending on weather conditions. During the second growing season, once a month during May-September, if needed.
- Removal of invasive exotics and noxious weeds. Old field successional species will be retained.
- Identification of serious plant pests and diseases, treatment with appropriate agent.
- Pruning of dead branches.
- After 12 and 24 months, replacement of plants, if required, in accordance with the Guarantee Requirements shown on the FCP.

C. Education

The developer will provide appropriate materials to property owners informing them of the location and purpose of the afforestation area. Materials may include site plans and information explaining the intent of the forest conservation law.

D. Final Inspection

For more information or to eport violations, please call Howard County Department of Recreation and Parks, Natural

> Resources Division 410-313-4725 TTY 410-313-4665

DECAL SPECIFICATIONS

Eco-Science

Professionals, Inc.

Howard ounty MARYLAND

At the end of the two year post-construction management period, Eco-Science Professionals, or another qualified professional, will submit to the administrator of the Howard County Forest Conservation Program certification that all retention/afforestation requirements have been met. Upon acceptance of this certification, the County will release the developer from all future obligations and release the developer's bond.

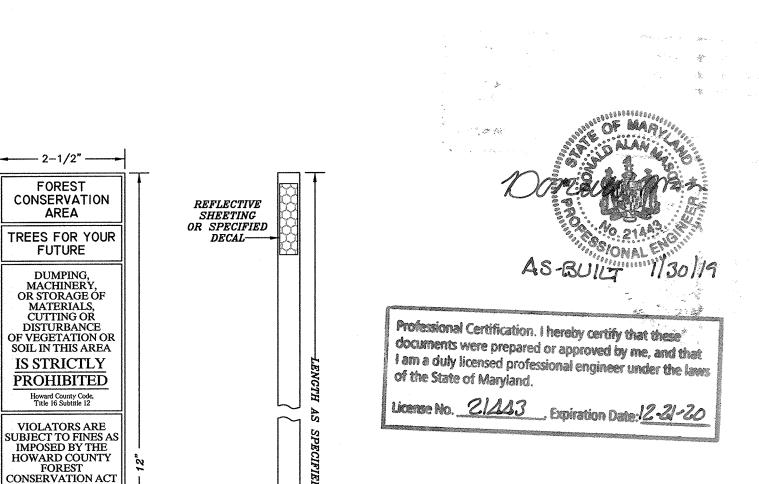
DEPTH

FCE SIGNAGE DETAIL (CARSONITE MARKER)

CONSULTING ECOLOGISTS

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

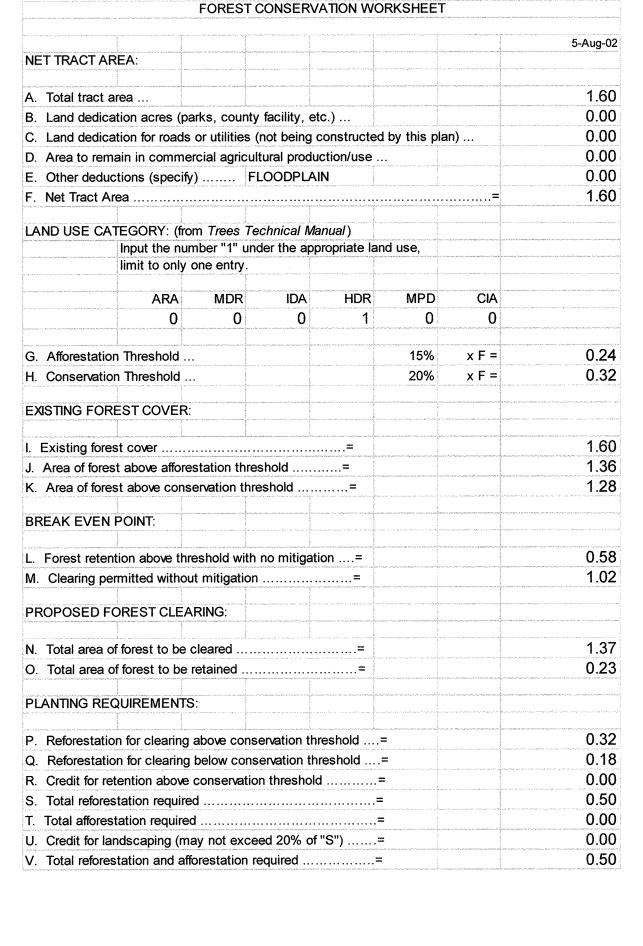
MARKER DETAIL



R=0.0625 -R=0.375

> MD DNR Qualified Professional USACOE Wetland Delineator Certification # WDQP93100610044B2

MARKER - SECTION VIEW



FOREST CONSERVATION NOTES:

1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF

2. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES

3. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.

4. PERMANENT SIGNAGE SHALL BE PLACED 50'-100' APART ALONG THE BOUNDARIES OF ALL FOREST CONSERVATION EASEMENTS. THIS SIGNAGE SHALL STAY IN PERPETUITY.

5. THIS SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION VIA THE ON-SITE RETENTION OF 0.23 ACRES OF FOREST WITHIN A FOREST CONSERVATION FASEMENT AND THE OFF-SITE RETENTION OF 0.50 ACRES WITHIN THE FOREST MITIGATION BANK ESTABLISHED UNDER PHELPS PROPERTY, SDP-14-026FC RECORDED AS PLAT #22843.

"NO AS-BUILT INFORMATION IS" PROVIDED ON THIS SHEET

NO.	DATE	REVISION	
84	ENGINE NI BALTIMORE N	BENCHMARK MEERS & LAND SURVEYORS & PLANNERS MICHAEL SUITE 315 & ELLICOTT CITY, MARYLAND 21043 P) 410-465-6105 (F) 410-465-6644	Professional Certification. I hereby certify that these document 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. 45577, Expiration Date: 06-08-2018.
		WWW.BEI-CIVILENGINEERING.COM	1550

CEDARS EXTENDED LOT 'R' LLC 8369 OLD FREDERICK ROAD ELLICOTT CITY, MARYLAND 21043

DEVELOPER:

443-812-4806

CEDARS EXTENDED LOT 'R' LLC 8369 OLD FREDERICK ROAD

ELLICOTT CITY, MARYLAND 21043

443-812-4806

THE CEDARS EXTENDED

LOTS 1 - 6 AND OPEN SPACE LOT 7 (A RESUBDIVISION OF LOT 'R' OF THE CEDARS EXTENDED PB 3 P 16)

TAX MAP: 43 - GRID: 8 - PARCEL: 451 ZONED: R-SC ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND

SOIL BORING LOGS AND FOREST CONSERVATION NOTES AND DETAILS BEI PROJECT NO. 2717 DATE: AUGUST 29, 2016

DESIGN: JMC/DBT | DRAFT: DBT

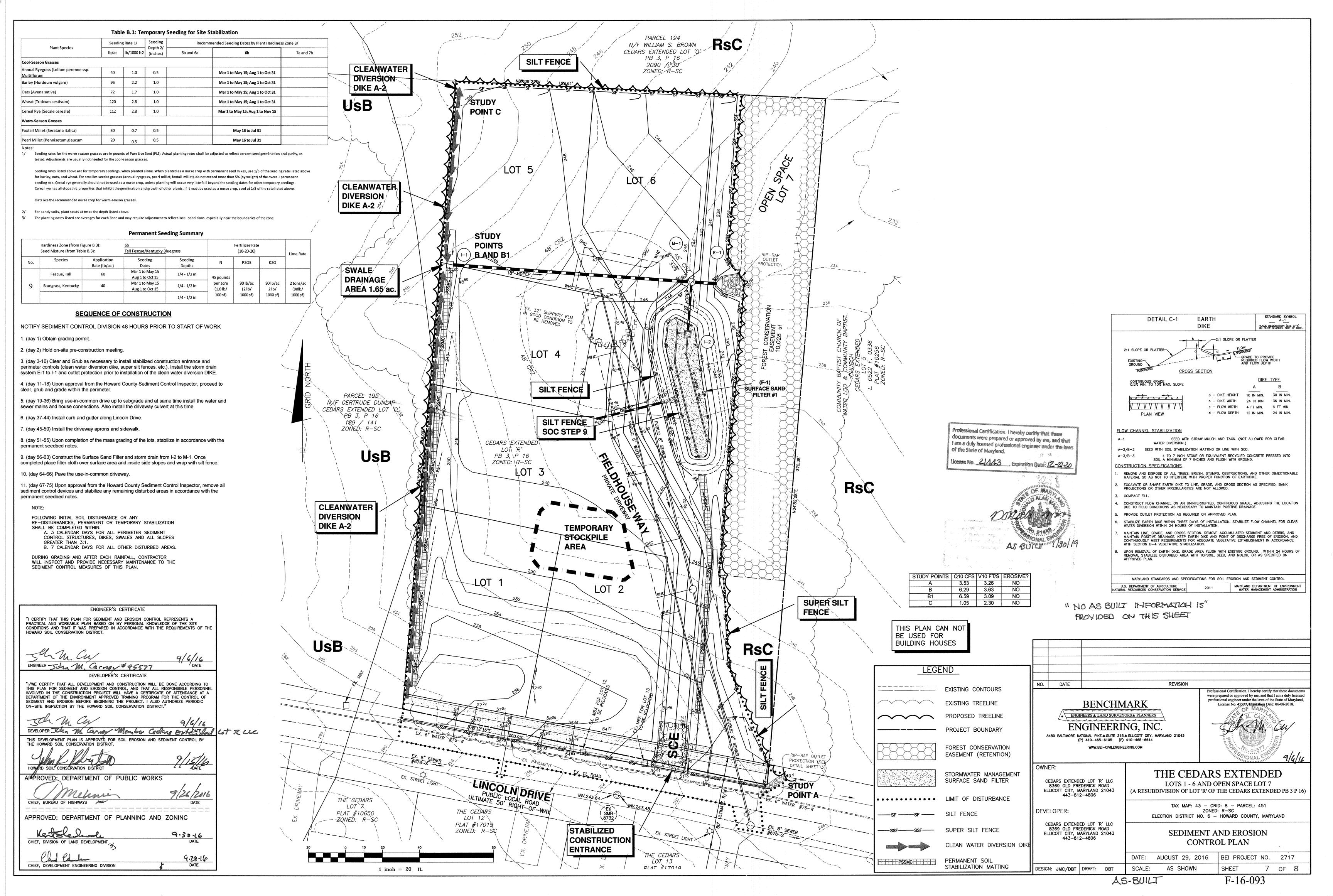
AS-BUILT

SCALE:

AS SHOWN

SHEET F-16-093

6 of 8



B-4 STANDARDS AND SPECIFICATIONS VEGETATIVE STABILIZATION

Definition

Using vegetation as cover to protect exposed soil from erosion.

To promote the establishment of vegetation on exposed soil. Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on

stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization: and permanent stabilizatio

Effects on Water Quality and Quantity Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall.

reducing sediment loads and runoff to downstream areas. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation

increase organic matter content and improve the water holding capacity of the soil and subsequent plant Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances

within the root zone Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment

Adequate Vegetative Establishment Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the

planting season. 1. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding. 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS

INCREMENTAL STABILIZATION Establishment of vegetative cover on cut and fill slopes.

To provide timely vegetative cover on cut and fill slopes as work progresses Conditions Where Practice Applies Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

A. Incremental Stabilization - Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.

2. Construction sequence example (Refer to Figure B.1): a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation

b. Perform Phase 1 excavation, prepare seedbed, and stabilize. c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as

d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization. B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading

operation ceases as prescribed in the plans. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.

Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans

address this area. b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface ranoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize.

d. Place Phase 2 fill, prepare seedbed, and stabilize. e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the C. completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

ENGINEER'S CERTIFICATE

DEVELÓPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO

THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNE

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. I ALSO AUTHORIZE PERIODIC

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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

ENGINEER JOhn M. Gruey =45577

ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.'

APPROVED: DEPARTMENT OF PUBLIC WORKS

HOWARD SOIL CONSERVATION DISTRICT.

The M. Cen

THE HOWARD SOIL CONSERVATION DISTRICT

B-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Purpose

To provide a suitable soil medium for vegetative growth Conditions Where Practice Applies

The process of preparing the soils to sustain adequate vegetative stabilization.

Where vegetative stabilization is to be established

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 rippers 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

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. Soluble 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 lovegrass 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. Application of amendments or topsoil is required if on-site soils do not meet the above

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 a 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 seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or 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 friable. Seedbed loosening may be unnecessary on newly disturbed areas.

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

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

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. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

The original soil to be vegetated contains material toxic to plant growth. The soil is so acidic 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:

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 cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified. 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.

Topsoil Application Erosion and sediment control practices must be maintained when applying topsoil. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. 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. Topsoil must not be placed if the topsoil 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 seedbed preparation.

Soil Amendments (Fertilizer and Lime Specifications) 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. Soil samples taken for

engineering purposes may also be used for chemical analyses. Fertilizers must be uniform in composition, free 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 Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains 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.

Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone

DETAIL B-1

NAME OF THE PARTY.

* DATE

1/15/16

at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of

STABILIZED CONSTRUCTION

ENTRANCE

SCE

- EXISTING PAVEMENT

1

-EARTH FILL -PIPE (SEE NOTE 6)

B-4-3 STANDARDS AND SPECIFICATIONS SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover. To protect disturbed soils from erosion during and at the end of construction. Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

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 sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags 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 thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less

d. Sod or seed must not be 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.

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 site-specific seeding summaries.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate

in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. i. Cultipacking seeders are required to bury the seed in such a fashion as to

provide at least 1/4 inch of soil covering. Seedbed must be firm after ii. Apply seed in two directions, perpendicular to each other. Apply half the

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble

nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium),

200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per agre 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. B. Mulching

seeding rate in each direction

1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth inhibiting

iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic. v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

a. Apply mulch to all seeded areas immediately after seeding.

Application

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per

acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind

or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net

dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-5 STANDARDS AND SPECIFICATIONS

PERMANENT STABILIZATION

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.

1. General Use

To stabilize disturbed soils with permanent vegetation.

a Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan. b Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or

for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guild, Section 342 - Critical Area Planting. c For sites having disturbed areas 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 ½ 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 mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. 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. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with 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 management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 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 Certified Fine Fescue and 60 to 70 percent. Seeding Rate:

1 ½ to 3 pounds per 1000 square feet. Notes:Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD:March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15

(Hardiness Zones: 7a, 7b) d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B. Sod: to provide quick cover on disturbed areas (2:1 grade or flatter). 1. General Specifications a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job

foreman and inspector. b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival. e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod. b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength.

Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface. d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and

soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and

irrigating for any piece of sod within eight hours. Sod Maintenance a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to b. After the first week, sod watering is required as necessary to maintain adequate moisture content.

c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by

the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless

B-4-4 STANDARDS AND SPECIFICATIONS

TEMPORARY STABLIZATION

To stabilize disturbed soils with vegetation for up to 6 months

permanent stabilization practices are required.

Purpose To use fast growing vegetation that provides cover on disturbed soils. Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time,

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness 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. . For sites having soil tests performed, use and show the recommended rates by the testing agency Soil tests are not required for Temporary Seeding.

When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

> **B-4-8 STANDARDS AND SPECIFICATIONS** STOCKPILE AREA

> > Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures. To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Stockpile areas are utilized when it is necessary to salvage and store soil for later use

1. The stockpile location and all related sediment control practices must be clearly indicated on the

Conditions Where Practice Applies

erosion and sediment control plan 2. The footprint of the 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 Land Grading. 3. Runoff from the stockpile area must drain to a suitable sediment control practice.

4. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as

Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. 8. 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 be covered with impermeable sheeting.

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 a 2:1 ratio. The stockpile area must be kept free of erosion. If 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.

> H-5 STANDARDS AND SPECIFICATIONS DUST CONTROL

Controlling the suspension of dust particles from construction activities.

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

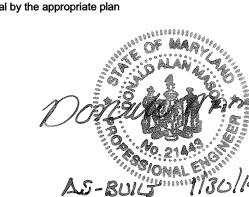
Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

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. <u>Vegetative Cover:</u> See Section B-4-4 Temporary Stabilization.

Fillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must

not be irrigated to the point that runoff occurs. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing.

Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan



Professional Certification. 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.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-3133-1855 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 earth disturbance. b. Upon completion of the installation of perimeter 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 d. Prior to the removal or modification of sediment control practices

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 <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

<u>CONTROL</u> 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 is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization

operative condition until permission for their removal has been obtained from the CID.

6. Site Analysis:

Area Disturbed:

1.41 Acres 0.19

CUT/FILL NUMBERS Area to be roofed or paved ARE FOR SEDIMENT 1.22 CONTROL PURPOSES Acres Area to be vegetatively stabilized: ONLY. CONTRACTOR 1,619 TO VERIFY. Total cut: Cu Yds

7. Any sediment control practice which is disturbed by grading activity for placement of

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

 Name and title of inspector • Weather information (current conditions as well as time and an=mount of last recorded precipitation • Brief description of project's 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 Monitorina/samplina

 Maintenance and/or corrective action performed • Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.

9. Trenches for the construction of utilities is limited to three pipe lengths or that which can

11. Disturbance shall not occur outside the L.O.D. 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 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the to more than 30 acres cumulatively may be disturbed at a given time.

12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be

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—contour, and be imbricated at

treated in a sediment basin or other approved washout structure.

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

• Use I and IP March 1 - June 15 • Use III and IIIP October 1 - April 30 • Use IV March 1 - May 31

16. A copy of this plan, the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and associated permits shall be on—site and available when

License No. 21443 Expiration Date: 1221-22

STANDARD SYMBOL H-SSF----I -34 IN MIN

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SI FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

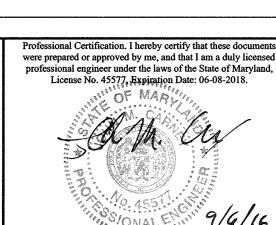
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION TURAL RESOURCES CONSERVATION SERVICE

PROVIDED ON THIS SHEET

NO. DATE **BENCHMARK** ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043

(P) 410-465-6105 (F) 410-465-6644

WWW.BEI-CIVILENGINEERING.COM



OWNER: CEDARS EXTENDED LOT 'R' LLC 8369 OLD FREDERICK ROAD ELLICOTT CITY, MARYLAND 21043 443-812-4806

CEDARS EXTENDED LOT 'R' LLC

8369 OLD FREDERICK ROAD

ELLICOTT CITY, MARYLAND 21043

443-812-4806

DESIGN: JMC/DBT DRAFT: DBT

THE CEDARS EXTENDED LOTS 1 - 6 AND OPEN SPACE LOT 7 (A RESUBDIVISION OF LOT 'R' OF THE CEDARS EXTENDED PB 3 P 16)

> ZONED: R-SC ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND

BEI PROJECT NO. 2717 AUGUST 29, 2016 SHEET SCALE: 8 OF 8

AS-BUILT

126[20] Menne CHIEF, BUREAU OF HIGHWAYS APPROVED: DEPARTMENT OF PLANNING AND ZONING CHIEF, DIVISION OF LAND DEVELOPMENT 9-30-16 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

PROFILE 50 FT MIN PLAN VIEW DEVELOPER JOHN M. Corney, Member Cedars Ext-DATE fal Lot R LLC

> PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.

PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIAL

PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR RACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL NATURAL RESOURCES CONSERVATION SERVICE

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING | PSSMC - *1. 1 16/ft2 CHANNEL APPLICATION (* INCLUDE SHEAR STRESS) ROLL END OVERLAP AT ROLL END (TYP.) CHANNEL WITH SEED IN PLACE ISOMETRIC VIEW CONSTRUCTION SPECIFICATIONS: SE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR

USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SLIEBCICENTS. PRODUCED OR SERVIN ON A MACHINE ALL OF THE MATERIAL TO AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINI WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

U.S. DEPARTMENT OF AGRICULTURE

MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMEN

16 IN MIN. HEIGHT OF WOVEN SLIT FILM GEOTEXTILE **ELEVATION** FENCE POST 18 IN MIN. — ABOVE GROUND WOVEN SLIT FILM----WANTE. NATHATATATA. EMBED GEOTEXTILE MIN. OF 8 IN VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF GEOTEXTILE. CROSS SECTION STEP 2 STEP 1 STAPLE----STAPLI TWIST POSTS TOGETHER STAPLE -STAPLE STEP 3 CONFIGURATION STAPLE--STAPLE JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW) 1 OF 2 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT

FENCE

DETAIL E-1

CENTER TO CENTER

FENCE GROUND SURFACE----118118118 -36 IN MIN. GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE **ELEVATION** CHAIN LINK FENCING -WOVEN SLIT FILM GEOTEXTILE-CROSS SECTION CONSTRUCTION SPECIFICATIONS

SUPER SILT

DETAIL E-3

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¾ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS

TAX MAP: 43 - GRID: 8 - PARCEL: 451

F-16-093

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

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

matting (Sec. B-4-6). 5. All sediment control structures are to remain in place, and are to be maintained in

1.62 Acres Total Area of Site:

4,578*

SITE WITH AN ACTIVE GRADING PERMIT

Off-site waste/borrow area location: utilities must be repaired on the same day of disturbance

inspection and should include: Inspection date •Inspection type (routine, pre-storm event, during rain event)

and shall be back filled and stabilized by the end of each work day, whichever is shorter.

I NO AS-BUILT INFORMATION IS