# SUPPLEMENTAL PLAN LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

ZONING: R-12

TAX MAP No. 35 GRID No. 13 PARCEL No. 56

MODERATE INCOME HOUSING CH	IART (MIHU) APPLICATION EXEMPTION
	RACKING
TOTAL NUMBER OF LOTS/UNITS PROPOSED	1 PROPOSED (4 FUTURE)
NUMBER OF MIHU REQUIRED	1
NUMBER OF MIHU PROVIDED ONSITE	
(EXEMPT FROM APFO ALLOCATIONS)	0
NUMBER OF APFO ALLOCATIONS REQUIRED	
(REMAINING LOTS/UNITS)	5
MIHU FEE-IN-LIEU	
(INDICATE LOT/UNIT NUMBERS)	LOT 1

Y.I.H.U. Note: Please Note That Lot 1 In This Subdivision Is Subject To Section 13.402(c)(e) Of The Howard County Subdivision And Land Development Regulations for The Moderate Income Housing Unit (M.I.H.U.) Fee-In-Lieu Requirement That Is o Be Calculated And Paid To The Department Of Inspections, Licenses And Permits At The Time Of Building Issuance By The Permit Applicant.

MI	NIMUM	LOT	SIZE	CHART
LOT No.	GROSS AREA	Р	IPESTEM AREA	MINIMUM LOT SIZE
1	13,275 5q.	F†. 1,2	212 Sq.Ft.	12,055 Sq.

	ROADWAY INF	ORMATION (	CHART	
ROAD NAME	CLASSIFICATION	DESIGN SPEED	EASEMENT WIDTH	PAVING SECTION
DRIVEWAY	PRIVATE USE-IN-COMMON DRIVEWAY	15 M.P.H.	24'	P-2

CO	ORDINATE	TABLE
POINT	NORTH	EAST
1	556,949.16	1,330,739.85
2	556,695.53	1,330,485.71
3	556,730.55	1,330,467.95
4	556,873.30	1,330,398.65
5	557,034.93	1,330,558.62
6	557,130.13	1,330,652.83
	-	

STRE	ET ADDRESS CHAR
LOT No.	STREET ADDRESS
1	6301 GUILFORD ROAD

|--|

REFER TO HOWARD CO. ADC MAP 31 E-3

### VICINITY MAP 5CALE: 1" = 2000"

### GENERAL NOTES CONTINUED:

- 35. THE DEVELOPER IS RESPONSIBLE FOR A FEE-IN-LIEU PAYMENT FOR PUBLIC SIDEWALK ALONG GUILFORD ROAD WITH THIS F-PLAN. THE FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$ 4,115.00 HAS BEEN PAID AS PART OF DEVELOPER'S AGREEMENT. THE FEE-IN-LIEU PAYMENT WILL BE CREDITED TO CAPITAL PROJECT No. K-5061
- 36. THIS PLAN IS SUBJECT TO WAIVER PETITION WP-19-092 FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.1205(a)(10), WHICH IDENTIFIES SPECIMEN TREES AS A FOREST RETENTION PRIORITY. THIS WAIVER HAS BEEN APPROVED BY THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING ON MAY 28, 2019 SUBJECT TO THE FOLLOWING CONDITIONS:
- 1. THE REMOVAL OF THE SILVER MAPLE SPECIMEN TREES #2 AND #3 MUST BE MITIGATED WITH A 2:1 REPLACEMENT OF A NATIVE SPECIES MEASURING AT LEAST 242"-3" CALIPER AT THE TIME OF PLANTING (4 TOTAL TREES). IF POSSIBLE, THEY SHOULD BE REPLACED WITH A RED MAPLE OR OTHER SPECIES OF MAPLE.
- 2. THIS ALTERNATIVE COMPLIANCE DOES NOT PERMIT REMOVAL OF ANY OTHER SPECIMEN TREES. ADDITIONAL APPROVAL WILL BE
- REQUIRED IF ADDITIONAL SPECIMEN TREES ON-SITE ARE REMOVED DURING THE DEVELOPMENT OF THIS PROPERTY. 3. THE REVISED PLANS FOR 5P-18-002 MUST BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 30-DAYS OF THE
- ORIGINAL MAY 16, 2019 DEADLINE (ON OR BEFORE JUNE 16, 2019). 4. IN ACCORDANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND REGULATIONS, SECTION 16.144.(i)(2) STATES THAT IF THE DEPARTMENT OF PLANNING AND ZONING OR THE REVIEW COMMITTEE INDICATES THAT ADDITIONAL INFORMATION IS NEEDED IN ORDER TO DECIDE WETHER TO APPROVE THE PRELIMINARY PLAN, THE DEVELOPER
- SHALL PROVIDE THE INFORMATION WITHIN 45 DAYS OF RECEIVING SUCH INDICATION. THIS PLAN IS SUBJECT TO DESIGN MANUAL WAIVER FOR AN ALTERNATIVE TEE-TURN AROUND OF HOWARD COUNTY DESIGN MANUAL IV. STANDARD DETAIL R-3.05 TO ALLOW FOR A NON-STANDARD TEE-TURN AROUND AT THE END OF THE USE-IN-COMMON DRIVEWAY. THIS
- APPROVAL LETTER IS DATED MAY 30, 2019. 38. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT
- 9. THIS PLAN IS SUBJECT TO WAIVER PETITION WP-22-003. ON AUGUST 30, 2021 AND PURSUANT TO SECTION 16.104, THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING.
- CONSIDERED YOUR APPLICATION AND PROVIDES THE FOLLOWING DETERMINATIONS:
- Denial for your request for alternative compliance with respect to Section 16.132(a)(3)(ii)c.1 of the Subdivision and Land Development Regulations for road construction.
- Alternative compliance action is not required to collect a fee in lieu for sidewalks according to Section 16.134(a)(1)(ii). The applicant is advised to request and process the request to pay a fee for sidewalk construction through DED who will coordinate with DPW.
- Street lighting is not required under Section 16.135. A separate approval through the alternative compliance process is not necessary for this action.

# FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	STORM	WATER MANAGEN	MENT I	INFORM	ATION	
Lot/Parcel No.	Facility Name & Number	Practice Type (Quantity)	Public	Private	HOA Maintained	Misc.
Lot 1	DRY WELL #1	M-5 - (1)		Х	Х	Standard Dry Well
#6301 GUILDFORD ROAD	E5D #2	M-6 - (1)		Х	X,	Micro Bio-Retention

STORMWATER MANAGEMENT INFORMATION						
Lot/Parcel No.	Facility Name & Number	Practice Type (Quantity)	Public	Private	HOA Maintained	Misc.
Non-Buildable Bulk Parcel 'A'	ESD #1	F-6 - (1)		Х	X	Bio-Retention

STORMWATER	MANAGEME	NT PRACTIC	CE5
LOT/PARCEL No.	MICRO BIO-RETENTION M-6 (NUMBER)	BIO-RETENTION F-6 (NUMBER)	DRY WELLS M-5 (NUMBER)
Lot 1 #6301 GUILDFORD ROAD	YE5 - (1)	NO	YE5 - (1)
Non-Buildable Bulk Parcel 'A'	NO	YE5 - (1)	NO

Owner & Developer

Mr. Lutfi On 8434 HIGH RIDGE ROAD ELLICOTT CITY, MARYLAND 21043 410-531-3300



"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. 20748, Expiration Date 2-22-23."

APPROVED: DEPAR	TMENT OF PUBLIC WORKS		
CHIEF, BUREAU OF	HIGHWAYS MK	61/26/2022 DATE	. —
	TMENT OF PLANNING AND ZONING		
CHIEF, DIVISION	OF LAND DEVELOPMENT	Clo/22 Date	.,
CHIEF, DEVELOPME	ENT ENGINEERING DIVISION	//31/22 DATE	
	REVISIONS		
NO.	DESCRIPTION		DATE
		***************************************	

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION

- AT 410-313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK. 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEASE 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 4. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED. 5. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY FISHER,
- COLLINS & CARTER, INC. DATED JULY 17, 2017.
- 6. THE COORDINATES ARE BASED ON NAD 83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 34-FB AND NO. 34-FE. HOWARD COUNTY MONUMENT NO. 34-FB - N 557,439.9130 E 1,330,191.3224 ELEV. (NAVD88) = 406.148 HOWARD COUNTY MONUMENT NO. 34-FE - N 558,339.6005 E 1,329,709.0245 ELEV. (NAVD88) = 431.118
- 7. PROPOSED WATER IS PUBLIC (CONTRACT NUMBER 34-5076-D) PROPOSED SEWER IS PUBLIC (CONTRACT NUMBER 34-5076-D) 8. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH THE NEW MDE, CHAPTER 5 REGULATIONS AND THE NEW HOWARD COUNTY SWM MANUAL ADOPTED ON OR AROUND MAY 4, 2010. RECHARGE VOLUME WILL BE PROVIDED THROUGH THE USE OF A STONE
- RESERVOIR. WATER QUALITY AND CHANNEL PROTECTION VOLUME WILL NOT BE NEEDED FOR THIS PROJECT. OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUMES ARE NOT REQUIRED FOR THIS SITE. THE STORMWATER MANAGEMENT FACILITY WILL BE PRIVATELY OWNED BY H.O.A. AND JOINTLY MAINTAINED BY H.O.A. AND HOWARD COUNTY. A MAINTENANCE AGREEMENT WILL BE PART OF THE FINAL DEVELOPER AGREEMENT.
- 9. EXISTING UTILITIES ARE BASED ON CONT. No. 34-4918-D (8"5) & 44-3299-D (12"W) 10. FLOODPLAIN INFORMATION IS BASED ON FEMA FLOOD MAPS DATED 10/16/12. IT DOES NOT APPEAR THAT THERE IS A FLOODPLAIN ON THIS PROPERTY. 11. THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC.
- DATED MARCH, 2017. THERE ARE NO WETLANDS ON-SITE. 12. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP DATED MAY 2016 AND APPROVED ON DECEMBER 26, 2018.
- 13. NO NOISE STUDY IS REQUIRED FOR THIS PROJECT, 14. THE GEO-TECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS-CARNES, ENGINEERING ASSOCIATE INC. DATED SEPTEMBER 13, 2018.
- 15. BACKGROUND INFORMATION:
- a. SUBDIVISION NAME: LUFTI PROPERTY b. TAX MAP NO. 35
- c. PARCELS NO. 56 d. ZONING R-12
- e. ELECTION DISTRICT: FIFTH f. TOTAL AREA OF TRACT = 1.56 ACRES
- a. NUMBER OF PROPOSED LOTS: 1 h. NUMBER OF NON-BUILDABLE BULK PARCELS: 1
- i. AREA OF BUILDABLE LOTS = 0.31 ACRES J. AREA OF NON-BUILDABLE BULK PARCEL: 1.18 ACRES
- k. AREA OF ROADWAY TO BE DEDICATED: 0.07 ACRES 1. PREVIOUS FILE NUMBERS: ECP 17-038 (Formerly SUNDSTROM PROPERTY), WP-18-080, WP-19-092, SP-18-002, WP-22-003
- m. AREA OF FLOODPLAIN = 0.00 ACRES n. AREA OF 25% AND GREATER SLOPES = 0.05 ACRES
- o. NET AREA OF TRACT = 1.51 AC.± 16. THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2004 ZONING REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO 75-2003 NAD THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT
- 17. SUBJECT PROPERTY IS ZONED R-12 PER THE COMPREHENSIVE ZONING PLAN.
- 18. OPEN SPACE REQUIREMENTS:
- a. AREA OF OPEN SPACE REQUIRED = 1.56 X 8% = 0.125 ACRES b. AREA OF OPEN SPACE PROVIDED = 0.00 ACRES. A FEE-IN-LIEU PAYMENT OF \$6000.00 (4 LOTS x \$ 1,500.00) IS PROPOSED TO BE PAID
- 19. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-180.
- 20. EXISTING STRUCTURES LOCATED ON SITE ARE TO BE RAZED AS SHOWN ON THIS PLAN PRIOR TO PLAT RECORDATION.
- 1. BOUNDARY OUTLINE BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. DATED JULY 17, 2017. 22. THERE IS ONE AREA OF STEEP SLOPES LOCATED ON THIS PROPERTY AS DEFINED BY THE HOWARD COUNTY SUBDIVISION AND LAND
- DEVELOPMENT REGULATIONS, SECTION 16.116.b., (0.18 Ac.)
- 23. THE FOREST CONSERVATION ACT REQUIREMENTS FOR THIS SUBDIVISION WILL BE MET THROUGH A FEE-IN-LIEU PAYMENT OF 16,335.00. (0.30 AC. x 43560 SQ.FT. x \$1.25 PER SQ.FT.) FOR THE REQUIRED 0.30 ACRES OF AFFORESTATION OBLIGATION. "No Clearing, Grading or Construction is Permitted Within The Forest Conservation Easement, However, Forest Management Practices As Defined In The Deed Of Forest Conservation Easement Are Allowed."
- 24. THIS PROPERTY IS LOCATED WITH THE METROPOLITAN DISTRICT. 25. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE
- FLAG OR PIPESTEM AND THE ROAD R/W LINE AND NOT THE PIPESTEM LOT DRIVEWAY.
- 26. NO CEMETERIES OR HISTORIC STRUCTURES EXIST WITHIN THIS SUBDIVISION.
- 27. THE LANDSCAPE SURETY IN THE AMOUNT OF \$7,800 FOR THE REQUIRED 21 Shade Trees, 9 Evergreen Trees & 5 Shrubs) PER SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL HAVE BEEN POSTED WITH THE DEVELOPER'S AGRÉEMENT FOR THIS SUBDIVISION. (DEVELOPER IS PROVIDING 21 SHADE TREES, 16 EVERGREEN TREES & 5 SHRUBS) ADDITIONAL LANDSCAPING AND SURETY WILL BE REQUIRED WITH THE RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'A'.
- 28. SIGN POSTS: 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. 29. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE FIRE AND EMERGENCY VEHICLES PER
- a. WIDTH 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)
- b. SURFACE SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. c. GEOMETRY - MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 TURNING RADIUS.
- d. STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING) e. DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN Î-FOOT DEPTH OVER THE DRIVEWAY SURFACE.
- 9. MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- 30. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS.
- 31. FOR THE USE IN COMMON DRIVEWAY FOR LOT 1 AND FUTURE LOTS 2-5, A PRIVATE RANGE ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATE.
- 32. SOILS INFORMATION TAKEN FROM SOIL SURVEY MAP NO. 23, HOWARD COUNTY, MARYLAND. 33. THIS PLAN IS SUBJECT TO WAIVER PETITION WP-18-080 FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.1205(a)(10), WHICH IDENTIFIES SPECIMEN TREES AS A FOREST RETENTION PRIORITY. THIS WAIVER HAS BEEN APPROVED BY THE DIRECTOR OF THE DEPARTMENT
- OF PLANNING AND ZONING ON APRIL 12, 2018 SUBJECT TO THE FOLLOWING CONDITIONS: 1. THE REMOVAL OF SPECIMEN TREE #1 MUST BE MITIGATED WITH A 3:1 REPLACEMENT OF A NATIVE SPECIES MEASURING AT LEAST 2" CALIPER AT PLANTING. IF POSSIBLE, IT SHOULD BE REPLACED WITH A SPECIES OF MAPLE. SILVER MAPLES ARE
- PROHIBITED FOR PLANT USE PER A POLICY MEMO DATED JULY 1, 2010. 2. THE REMOVAL OF SPECIMEN TREE #5 MUST BE MITIGATED WITH A 2:1 REPLACEMENT OF A NATIVE SPECIES MEASURING AT LEAST 1 1/2" TO 2" CALIPER AT PLANTING. IF POSSIBLE, IT SHOULD BE REPLACED WITH A RED OAK OR OTHER SPECIES OF OAK.
- 3. THIS ALTERNATIVE COMPLIANCE DOES NOT PERMIT REMOVAL OF ANY OTHER SPECIMEN TREES. ADDITIONAL APPROVAL WILL BE REQUIRED IF ADDITIONAL SPECIMEN TREES ON-SITE ARE REMOVED DURING THE DEVELOPMENT OF THIS PROPERTY.
- 4. PROVIDE A DETAILED NOTE ON ALL SUBSEQUENT PLANS DETAILING THIS ALTERNATIVE COMPLIANCE REQUEST, INCLUDING SECTIONS, DATE AND CONDITIONS OF APPROVAL. 34. LOT 1 AND FUTURE LOTS 2-5 ARE SUBJECT TO SECTION 109.0.E OF THE ZONING REGULATIONS. AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE
- INCOME HOUSING UNITS (MIHU) OR AN ALTERNATIVE COMPLIANCE WILL BE PROVIDED. THE DEVELOPER SHALL EXECUTE AN M.I.H.U. AGREEMENT WITH THE DEPARTMENT OF HOUSING TO INDICATE HOW THE M.I.H.U. REQUIREMENT WILL BE MET. THE M.I.H.U. AGREEMENT AND COVENANTS WILL BE RECORDED SIMULTANEOUSLY WITH THE RECORD PLAT IN THE OFFICE OF HOWARD COUNTY, MARYLAND. THIS DEVELOPMENT WILL MEET M.I.H.U. ALTERNATIVE COMPLIANCE BY A PAYMENT OF A FEE-IN-LIEU TO THE DEPARTMENT OF HOUSING FOR EACH REQUIRED UNIT. MODERATE INCOME HOUSING UNIT (M.I,H,U,) TABULATION: a. M.I.H.U. REQUIRED =  $(5 \text{ LOTS } \times 10\%) = 1 \text{ M.I.H.U.}$ 
  - b. M.I.H.U. PROPOSED = DEVELOPER WILL PURSUE ALTERNATIVE COMPLIANCE BY PAYING A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE UNITS REQUIRED BY THE DEVELOPMENT.
  - C. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED AND WILL BE RECORDED
  - AND WILL BE RECORDED SIMULTANEOUSLY WITH THE RECORD PLAT.



### TITLE SHEET LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY)

Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland Scale: As Shown Date: November 22, 2021

Sheet 1 Of 11

F-21-021

FISHER, COLLINS & CARTER, INC.

ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

NOTES:

\* Hydric soils and/or contains hydric inclusions

\*\* May contain hydric inclusions

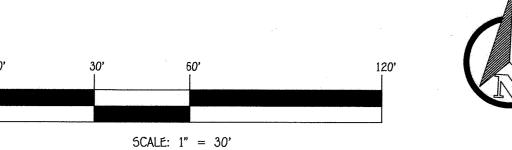
† Generally only within 100-year floodplain areas

	LEGEND
SYMBOL	DESCRIPTION
<del></del>	EXISTING CONTOUR 2' INTERVAL
<del></del>	EXISTING CONTOUR 10' INTERVAL
-///	SLOPES (25% AND GREATER)
	50IL5 LIMIT
XXXX	TO BE RAZED/REMOVED
	SLOPES (15% TO 24.9%)
$\sim\sim\sim$	EXISTING TREELINE



EXISTING HOUSE PHOTO

NOT TO SCALE





Owner & Developer

ELLICOTT CITY, MARYLAND 21043 410-531-3300

"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. 20748, Expiration Date 2-22-23."

EXISTING HOUSE & DRIVEWAY TO BE REMOVED

ST-5 TO BE REMOVED

EX. DRIVEWAY (TO BE REMOVED)

N\_556,750

DEMOLITION PLAN LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A' (FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY)

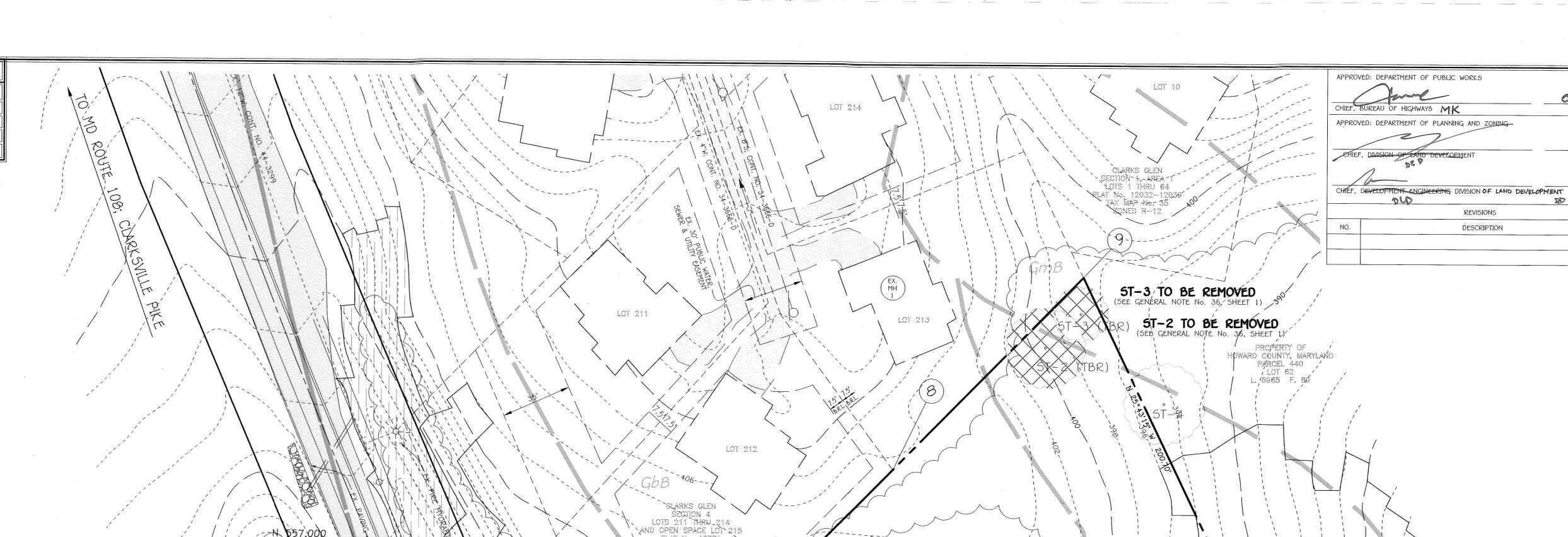
01/24/2522

DATE

**REVISIONS** DESCRIPTION

Zoned: R-12 Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland Scale: As Shown Date: November 22, 2021 Sheet 2 Of 11

FISHER, COLLINS & CARTER, INC. ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855



PLAT No. 13371 TAX MAP No. 35 X ZONED R-12

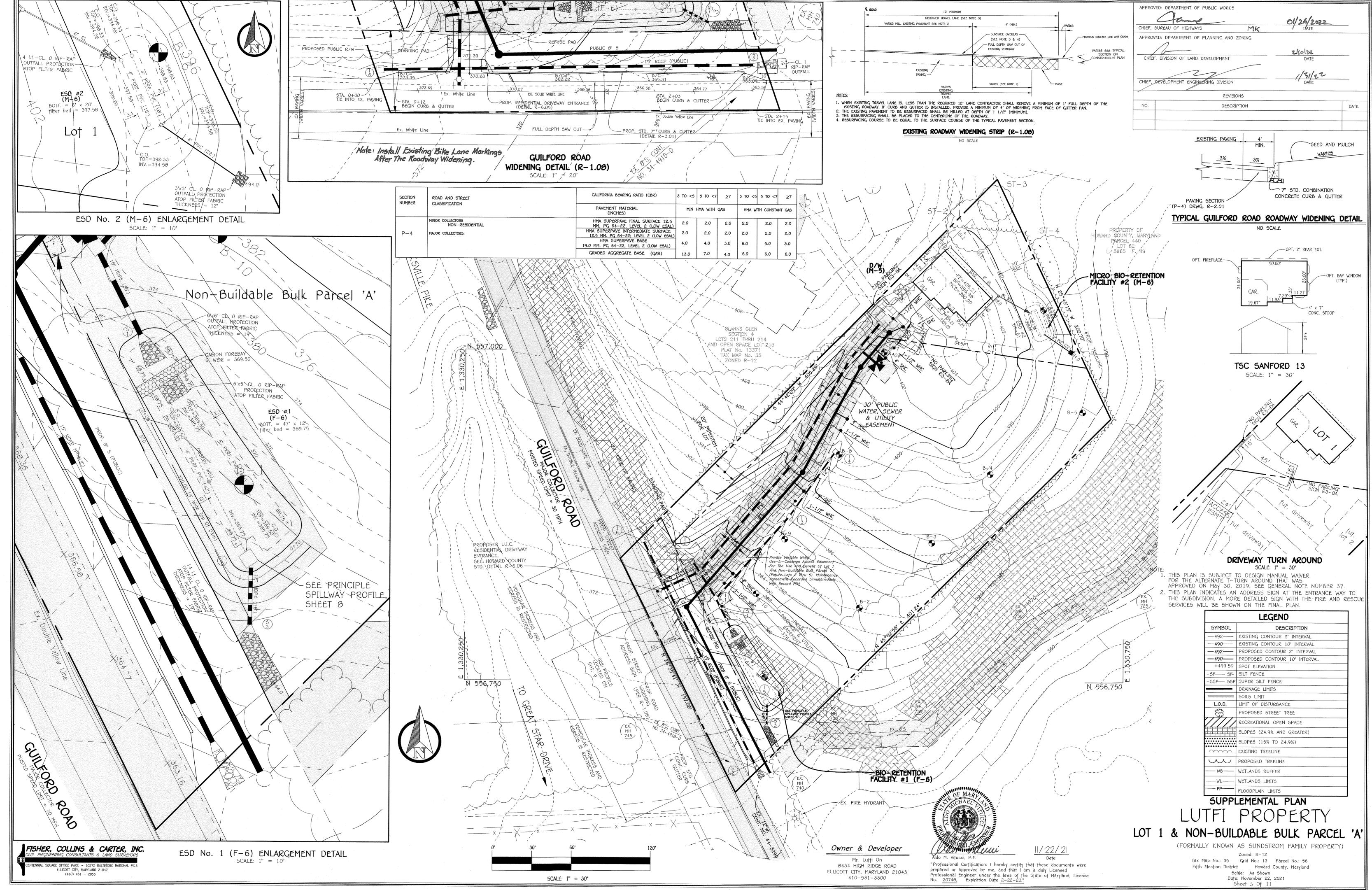
ST-1 TO BE REMOVED

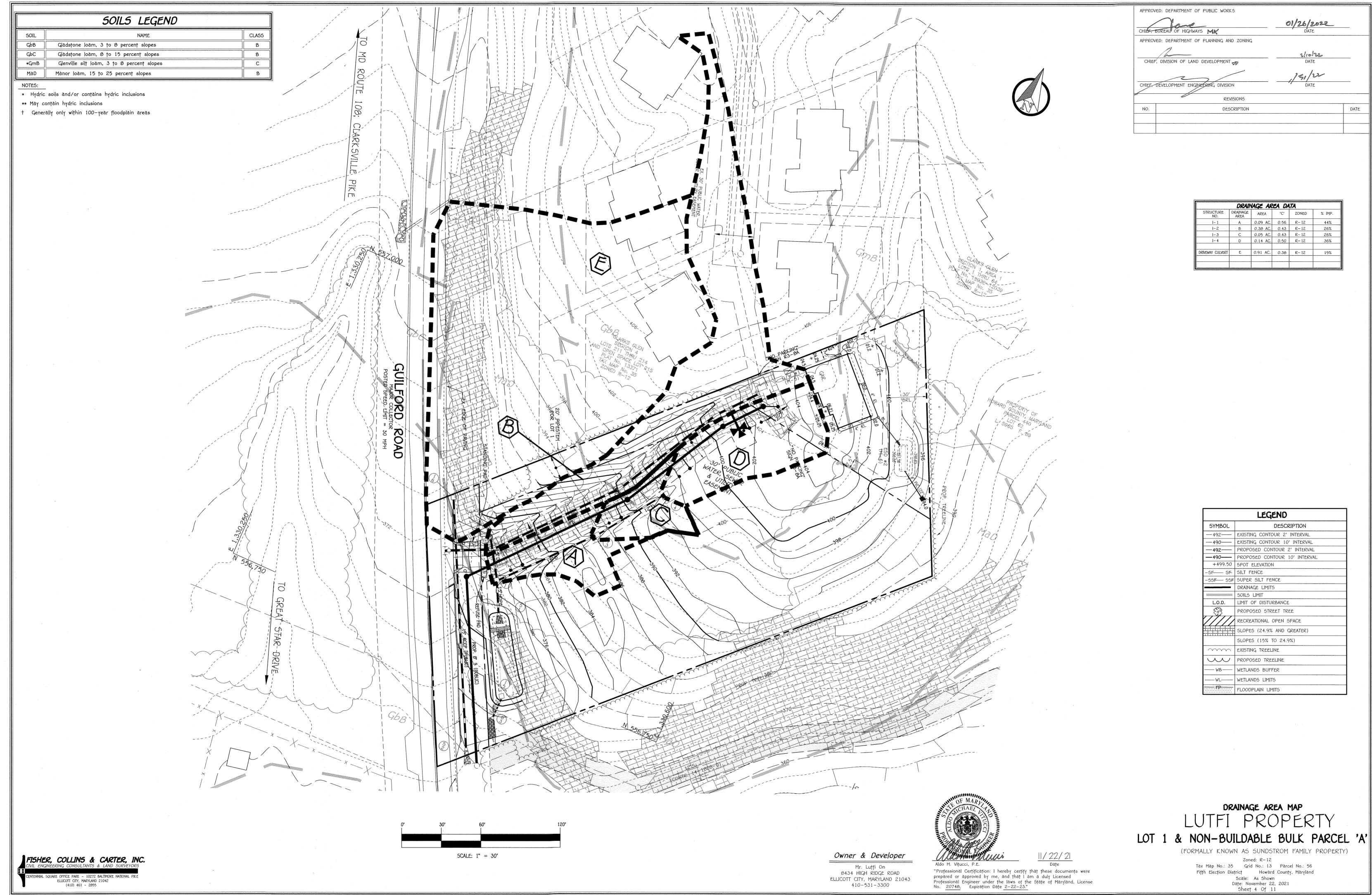
\$ **60**80

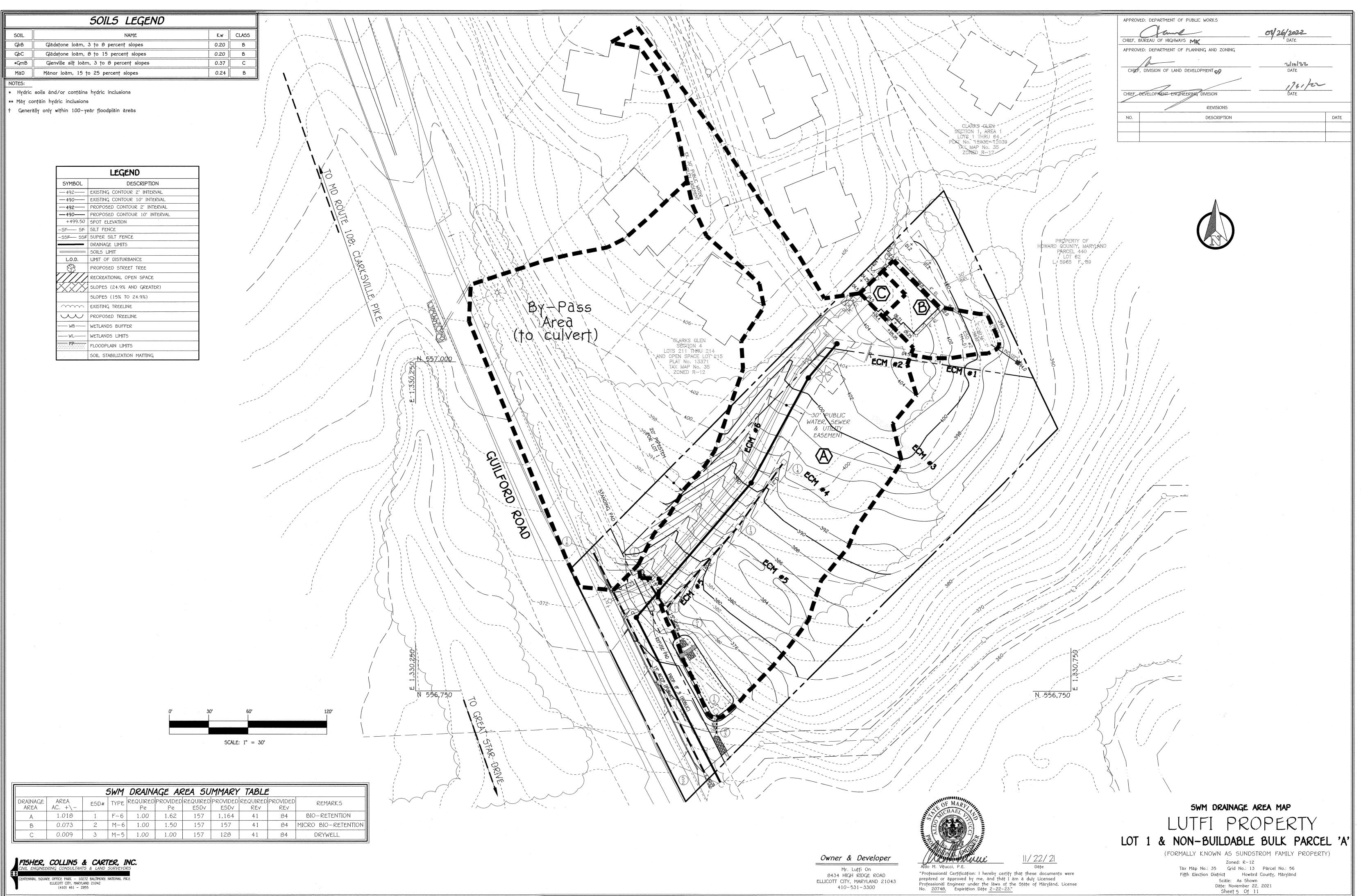


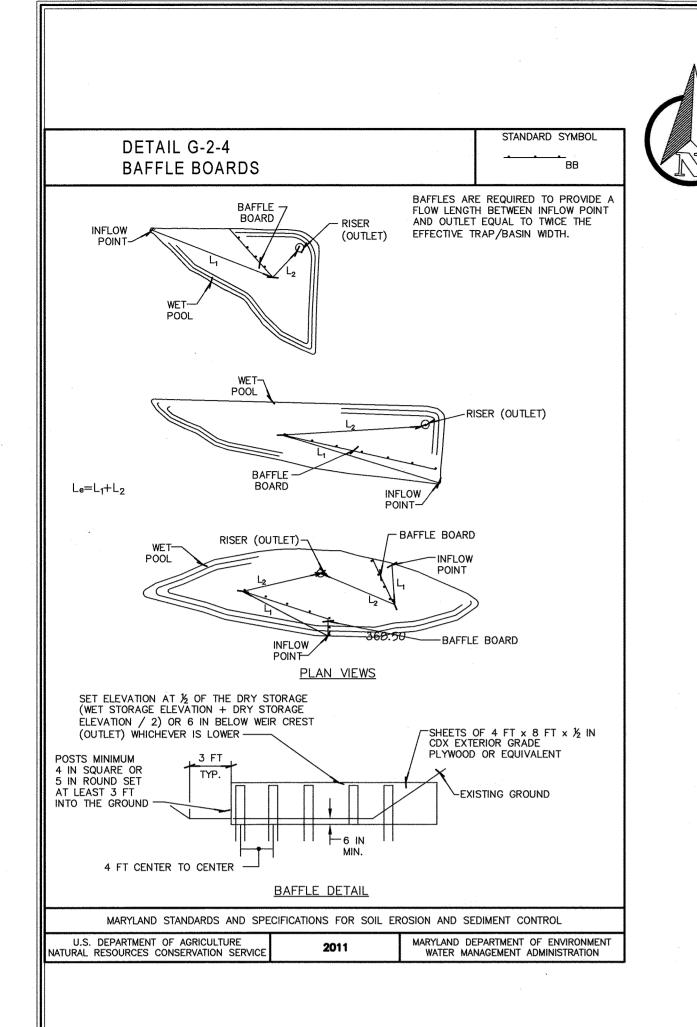


Mr. Lutfi On 8434 HIGH RIDGE ROAD









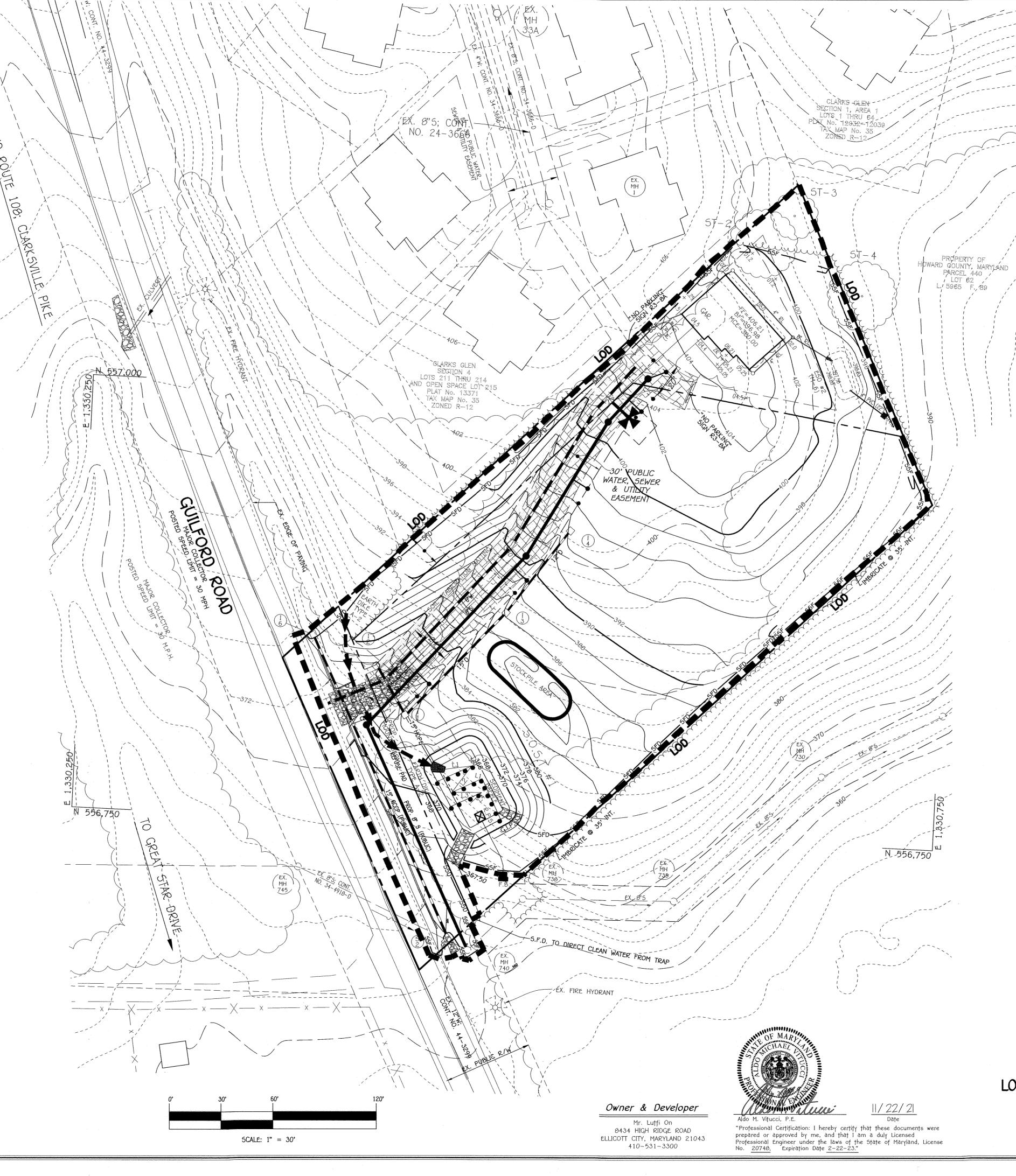
### BAFFLE DESIGN

A = SURFACE AREA AT WET STORAGE = 1,404 SQ.FT. EFFECTIVE WIDTH = WE =  $(A/2) \sim 0.5$  $= (1,404 / 2) \sim 0.5 = 26'$ FLOW LENGTH INFLOW TO OUTFLOW = 61' (L1 + L2 + L3 + L4 = 16' + 17' + 19' + 9' = 61' > 61' OR 2 X WE)

	LEGEND
SYMBOL	DESCRIPTION
492	EXISTING CONTOUR 2' INTERVAL
490	EXISTING CONTOUR 10' INTERVAL
<del></del>	PROPOSED CONTOUR 2' INTERVAL
<del></del>	PROPOSED CONTOUR 10' INTERVAL
+499.50	SPOT ELEVATION
-5F 5F	SILT FENCE
-55F 55F	SUPER SILT FENCE
	DRAINAGE LIMITS
	SOILS LIMIT
L.O.D.	LIMIT OF DISTURBANCE
E83	PROPOSED STREET TREE
	RECREATIONAL OPEN SPACE
	SLOPES (24.9% AND GREATER)
· · · · · · · · · · · · · · · · · · ·	SLOPES (15% TO 24.9%)
~~~	EXISTING TREELINE
	PROPOSED TREELINE
WB	WETLANDS BUFFER
WL	WETLANDS LIMITS
—— FP——	FLOODPLAIN LIMITS
<b>X</b> R.P.5.	REMOVABLE PUMPING STATION
***************************************	

FISHER, COLLINS & CARTER, INC. NNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

F.B. FILTER BAG



DESIGN CERTIFICATION I Hereby Certify That This Plan Has Been Designed In Accordance With ent Maryland Engine And Sediment Control Laws, Regulations And Ms A Practical And Workable Plan Based On My. Site, And That It Was Prepared In Accordance OF The Howard Soil Conservation District.

P.E., R.L.S., or R.L.A. (circle one OWNER/DEVELOPER CERTIFICATION

05/05/55

01/26/2022

"I/We 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 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

Owner's Developer's Signature 11-29-21

Printed Name & Title

Approved: This Plan Is Approved For Soil Erosion And Sediment Control By The Howard Soil Conservation District.

Approved: Department Of Planning And Zoning

1/10/22 Chief, Division Of Land Development Date

1/8/22 Date Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways MK

**REVISIONS** DESCRIPTION DATE

### STONE OUTLET SEDIMENT TRAP #1 DATA

- . TYPE OF TRAP: STONE OUTLET 2. INITIAL DRAINAGE AREA: 0.75 AC. ±
- 3. FINAL DRAINAGE AREA: 0.78 AC.±
  4. TOTAL STORAGE REQUIRED: 2,808 CU.FT.
  5. TOTAL STORAGE PROVIDED: 3,174 CU.FT.
- WET STORAGE REQUIRED: 1,404 CU.FT.
- WET STORAGE PROVIDED: 1,652 CU.FT. @ 367.50
- 8. DRY STORAGE REQUIRED: 1,404 CU.FT. 9. DRY STORAGE PROVIDED: 1,522 CU.FT. @ 369.00 10. EXISTING GROUND ELEVATION AT OUTLET = 367.50 F
- (WET STORAGE ELEVATION)
  11. TRAP BOTTOM ELEVATION: 366.00 FT.
- 12. TRAP BOTTOM DIMENSIONS: 22' x 40' 13. WEIR LENGTH: 6'
- 14. WEIR CREST ELEVATION: 369.00 FT. (DRY STORAGE ELEVATION)
- 15. CLEANOUT ELEVATION: 366.60 FT. 16. TOP OF EMBANKMENT ELEVATION: 370.00 FT. 17. SIDE SLOPE: 2:1
- 19. OUTLET PROTECTION LENGTH: 20 FT.
- 20. OUTLET PROTECTION DEPTH: 19 IN.

EROSION & SEDIMENT CONTROL PLAN LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY)

Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland 5cale: As 5hown Date: November 22, 2021 Sheet 6 Of 11

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

mean 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:

 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

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.

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.

. 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 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.

### 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 gradation. 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 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.

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 cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 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.

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 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.

c. 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

### 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. Soil samples taken for engineering purposes may also be used for chemical

2. 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. ertilizers 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 burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestor must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by

5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of

### TEMPORARY SEEDING NOTES (B-4-4)

To stabilize disturbed soils with vegetation for up to 6 months.

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, permanent stabilization practices are required.

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

eeding 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 performed, 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.A.1.b and maintain until the next seeding Temporary Seeding Summary

Irdiness Zo eed Mixture	ne (from Figure B. (from Table B.1):	3):6b		Fertilizer Rate (10-20-20)	Lime Rate	
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths			
BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436 lb/ac	2 tons/de	
OATS	72	3/1 - 5/15, 8/15 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)	
RYE	112	3/1 - 5/15, 8/15 - 10/15	1"			

### PERMANENT SEEDING NOTES (8-4-5)

### A. Seed Mixtures

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

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 Guide, Section 342 - Critical Area Planting.

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. Turfordss 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 Bluearass: 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 turt 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

Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prope 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 auality, 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 1/2 to 3

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 quarantee 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

d. Till dreas 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 1/2 inches in diameter. The resulting seedbed must be in such condition that future moving of grasses will pose no

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 especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse

		e (from Figure B. (from Table B.3):		Fertiliza	Lime Rațe				
No.	Species	Application Rate (lb/ac)		Seeding Dates	Seeding Depths	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> 0	
8	TALL FESCUE	100	Mar. Aug.	1-May 15 1-Oct. 15	1/4-1/2 in.	45 lbs. per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
						,			

### STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN

a.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND b.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED

### STANDARDS AND SPECIFICATIONS STOCKPILE AREA (B-4-6)

The 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. Conditions Where Practice Applies

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 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 tha 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

Runoff from the stockpile area must drain to a suitable sediment control practice. Access the stockpile area from the upgrade side. Clear water runoff into the stockpile area must be minimized by use of a diversion 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.

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. 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

### ROCK OUTLET PROTECTION

### Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

The rock or gravel shall conform to the specified grading

limits when installed respectively in the rip-rap or filter.

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to

the stone will occur.

### STANDARDS AND SPECIFICATIONS SEEDING AND MULCHING (8-4-3)

Definition

<u>Criteria</u>

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

a. All seed must meet the requirement 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 o 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 keetp inoculant as cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals

used for weedcontrol until sufficient time has elapsed (14 days min.) to permit dissipation of

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. 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. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

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

east 1/4 inch of soil covering. Seedbed must be firm after planting. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). 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; P 0 (phosphorus),

ii. Lime: Use only ground agricultural limestone (up to 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. Mix seed and fertilizer on site and seed immediately and without interruption When hydroseeding do not incorporate seed into the soil.

200 pounds per acre;  $K^2O^5$ (potassium), 200 pounds per acre.

### B. Mulching

Mulch Materials (in order of preference) 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 uniform fibrous physical state. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate colot to facilitate visual inspection of the uniformly spread slurry. WCFM, including dye, must contain no germination or growth inhibiting factors. 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 b 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

Apply mulch to all seeded areas immediately after seeding. 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. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per

1.6 percent maximum and water holding capacity of 90 percent minimum.

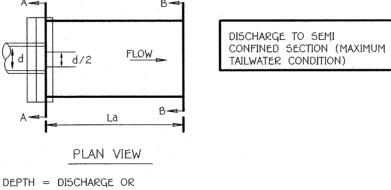
acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. Anchorina Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon

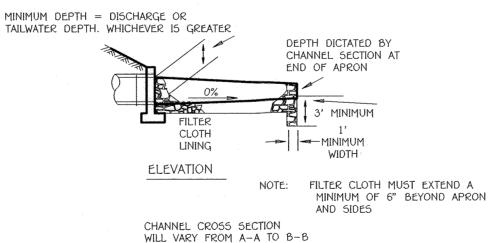
the size of the area and erosion hazard: A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas but is limited to flatter slopes where equipment can operate safely. If used on sloping 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

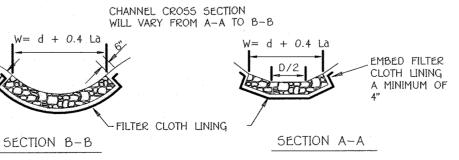
weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application 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

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

### ROCK OUTLET PROTECTION !







# SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND NOTE: FILTER CLOTH SHALL BE

GEOTEXTILE CLASS C

### B-4-1 STANDARDS AND SPECIFICATIONS FOR 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.

Construction sequence example (Refer to Figure B.1): 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

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 nterruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

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

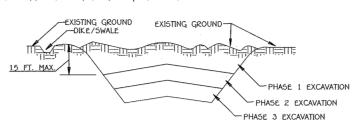


Figure B.1: Incremental Stabilization - Cut

B. Incremental Stabilization - Fill Slopes . 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 l. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading peration ceases as prescribed in the plans. 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept urface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2):

. 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 b. 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.

c. Place Phase 1 fill, prepare seedbed, and stabilize. d. Place Phase 2 fill, prepare seedbed, and stabilize . 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 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

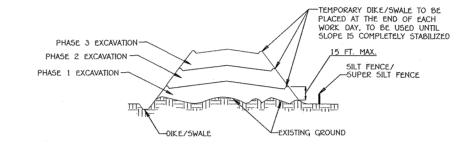


Figure B.2: Incremental Stabilization - Fill

### SEQUENCE OF CONTSRUCTION

1. OBTAIN GRADING PERMITS. (2 WEEKS)

application of temporary stabilization

2. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE ANY WORK AT 1-600-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1870 AT LEAST 24-HOURS

3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. CLEAN WATER DIVERSION PIPE & PERIMETER DIVERSION FENCE AND T.G.O.S. (3 DAYS) 4. CLEAR AND GRUB AREA TO INSTALL 5.0.5.T. #1, ASSOCIATED SUPER SILT FENCE, EARTH DIKES AND SOIL STABILIZATION MATTING AS NEEDED CLEAR & GRUB REMAINDER OF SITE. (2 WEEKS) STABILIZE ALL AREAS ASSOCIATED WITH THE S.O.S.T. #1 AND S.F.D./S.S.F. IMMEDIATELY

5. RAZE EXISTING DWELLING AND REMOVE EXISTING DRIVEWAY. (2 WEEKS)

6. GRADE SITE TO MASS GRADING CONTOURS FOR THE PRIVATE DRIVEWAY AND BUILDING PAGE OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING. INSTALL THE SOIL STABILIZATION MATTING AS SHOWN ON THE PLAN. (1 WEE

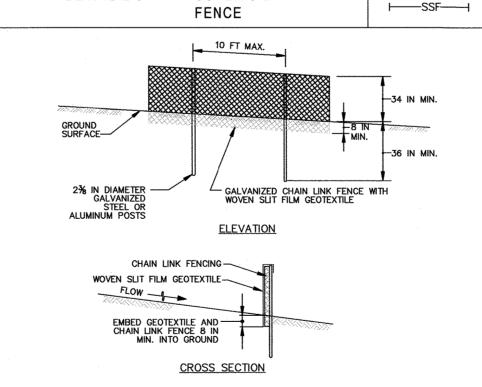
7. INSTALL THE PROPOSED STORM DRAIN SYSTEMS. (1 WEEK) 8. INSTALL THE PROPOSED SEWER AND WATER MAINS IN CONJUNCTION WITH THE ABOVE STORM

9. UPON PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED, INSTALL MACADAM DRIVEWAY BASE COURSE PAVING. (1 WEEK) 10. CONSTRUCTION OF THE HOUSE FOR LOT 1 WILL BE VIA A SEPARATE SOP. THE S.W.M. FACILITIES WILL BE CONSTRUCTION WITH THIS FINAL PLAN (2 WEEKS)

11. S.O.S.T. #1 AND DIVERSION FENCE SHALL REMAIN IN PLACE UNTIL THE FUTURE HOUSE CONSTRUCTION IS 12. STABILIZE LOT 1 WITH PERMANENT SEEDING OR OPTIONAL SODDING & ALL REMAINING DISTURBED AREAS ONSITE WITH TEMPORARY SEEDING. (3 DAYS)

13. STANDARD NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR IN REGARDS TO THE REQUIREMENT THAT NO MORE THAN 20-ACRES OF "OPEN" GROUND SHALL BE DISTURBED AT ANY

GIVEN TIME, IF REQUIRED. THIS PROJECT AND THE ASSOCIATED L.O.D. IS LESS THAN 20-AC. IN SIZE. 14. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS. STANDARD SYMBOL SUPER SILT DETAIL E-3



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

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. 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

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, OLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE A GREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS

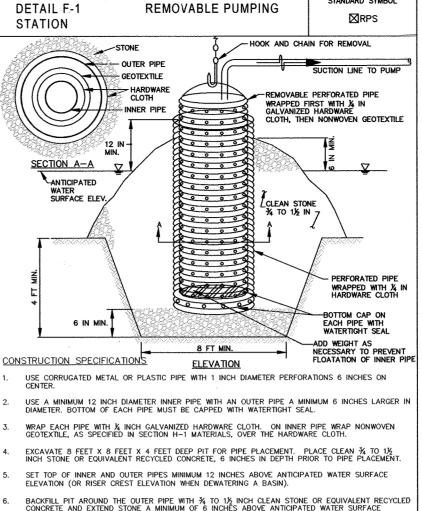
PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE

CHAIN LINK FENCING AND GEOTEXTILE.

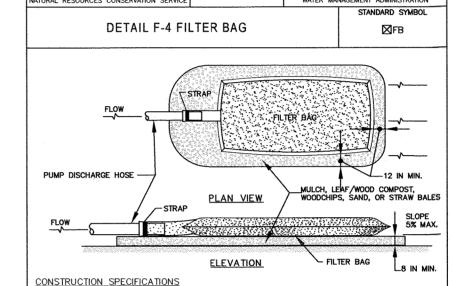
### Owner & Developer

Mr. Lutfi On 8434 HIGH RIDGE ROAD ELLICOTT CITY, MARYLAND 21043 410-531-3300



BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION: DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.

A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSIO MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL 2011



TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, O STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.

REMOVE AND PROPERT INSPOSE OF FILER BAG POIN COMPLETION OF POMPING DEPARTIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZ

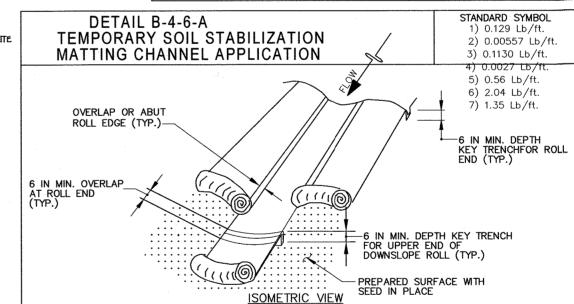
REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OF

GRAB TENSILE PUNCTURE FLOW RATE 250 LB 150 LB 70 GAL/MIN/FT<sup>2</sup> ASTM D-4632 ASTM D-4833 ASTM D-4491 ASTM D-4491 70% STRENGTH @ 500 HOURS ASTM D-4355 APPARENT OPENING SIZE (AOS) 0.15-0.18 MM SEAM STRENGTH 90%

REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



J.S. DEPARTMENT OF AGRICULTURE RAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATIONS USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. 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 SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. 6 STATE OF THE STATE

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 PLAN. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

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

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

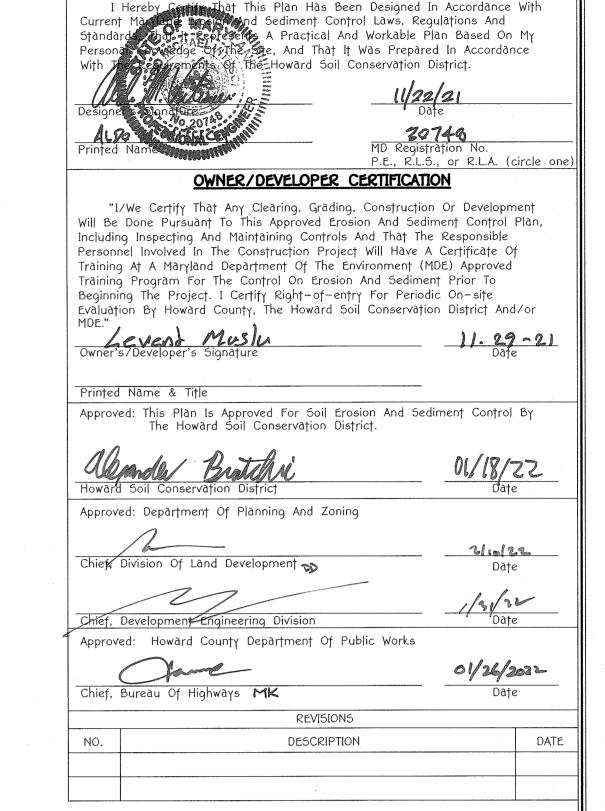
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT 2011 IATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



"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. 20748, Expiration Date 2-22-23."

11/22/21



DESIGN CERTIFICATION

### 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). 410-313-1655 after the future LOD and protected areas are marked clearly in the field. A minimum of 40 hour notice to CID must be given at the following stages: a. Prior to the start of earth

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 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. . Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required withir three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, an 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. 4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 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 ft. must be benched with stable outlet. All oncentrated 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 permission for their removal has been obtained from the CID.

Total Area of Site: \_\_ Acre 1.62 Acres Area Disturbed: \_\_\_\_0.25 Acres Area to be roofed or paved: Area to be vegetatively stabilized: \_\_\_\_\_1.37\_\_ Acres 5,600 Cu. Yds. 5,600 Cu. Yds. Total Fill: ONSITE

waste/borrow area location: \_\_\_\_ 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 CIO. 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

 Inspection type (routine, pre-storm event, during rain event) Name and title of inspector ther information (current conditions as well as time and amount 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

contractor, made available upon request, is part of every inspection and should include:

Maintenance and/or corrective action performed • Other inspection items as required by the General Permit for Stormwater Associated with Construction Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.

· Compliance status regarding the sequence of construction and stabilization requirements

10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCO prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes. 11. Disturbance shall not occur outside the LO.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

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

stabilized and approved by the HSCD. Unless otherwise specified and approved by the HSCD, no more than 30

14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated 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

 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 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

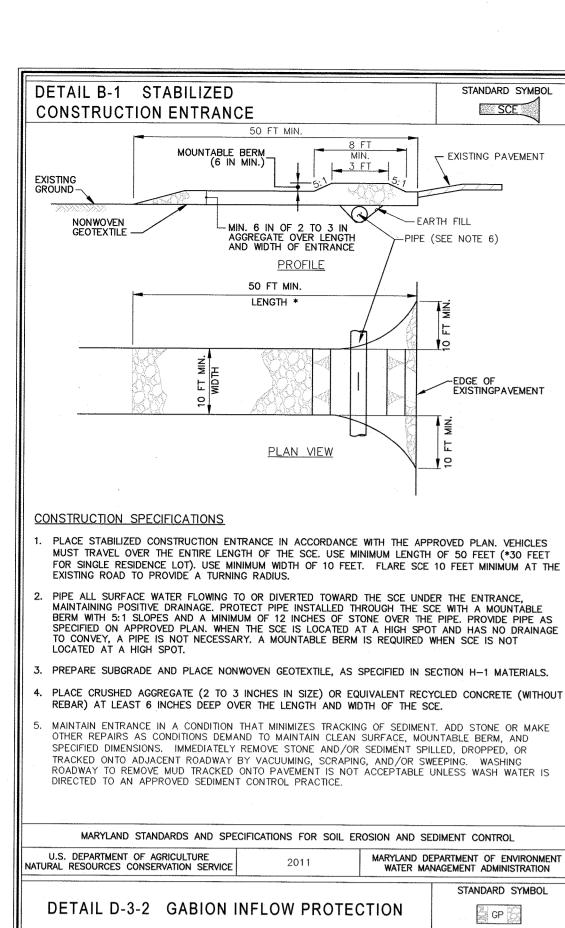
### SEDIMENT AND EROSION CONTROL NOTES & DETAILS LUTFI PROPERTY

## LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY) Zoned: R-12 Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland Scale: As Shown Date: November 22, 2021 Sheet 7 Of 11

INIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKI (410) 461 - 2855

FISHER, COLLINS & CARTER, INC.



COMPACTED TRAP/BASIN GABION BASKET SECTION -TRAP/BASIN 6 FT 12 IN GABION PROFILE ALONG CENTERLINE CROSS SECTION

### CONSTRUCTION SPECIFICATIONS

- PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL GABION BASKETS.
- USE BASKETS MADE OF MINIMUM 11 GAUGE WIRE
- CONSTRUCT GABION INFLOW PROTECTION BY ARRANGING 9 X 3 X 1 FOOT GABION BASKETS TO FORM A TRAPEZOIDAL SECTION WITH A 3 FOOT BOTTOM WIDTH, 1 FOOT MINIMUM DEPTH, 3 FOOT SIDE WALLS, AND 2:1 OR FLATTER SIDE SLOPES. FILL GABION BASKETS WITH 4 TO 7 INCH STONE OR
- EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WEIR MESH. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE
- . INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- 6. BLEND GABIONS INTO EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION

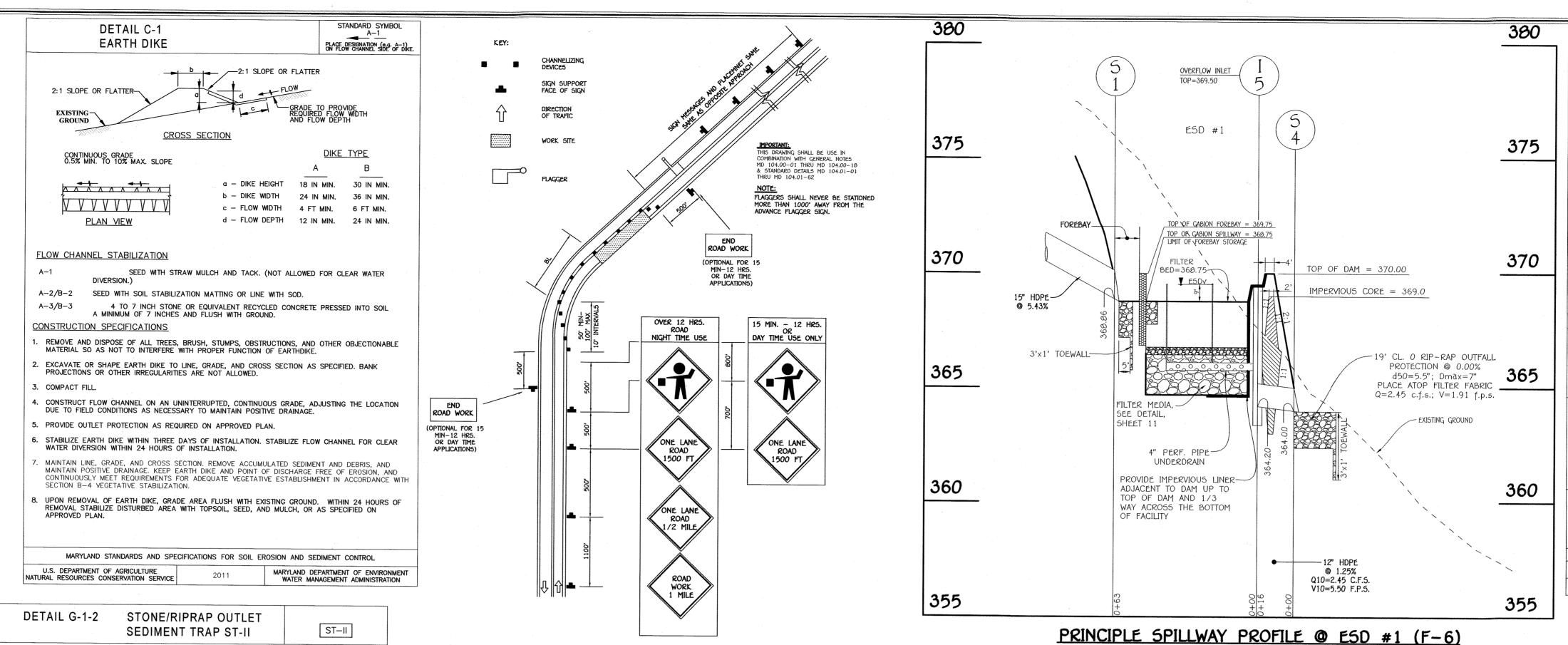
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

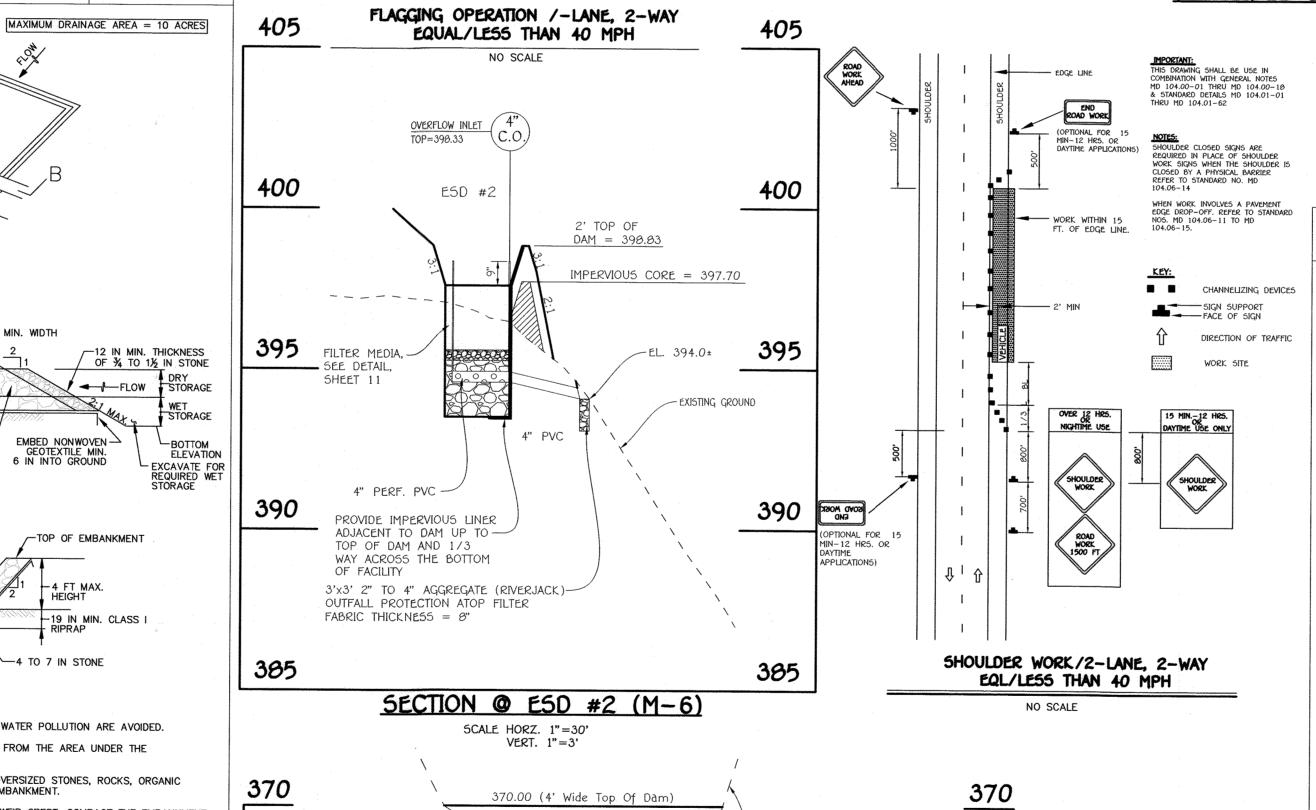
	S. DEPARTMENT OF AGRICULTURE L RESOURCES CONSERVATION SERVICE	20	11		ND DEPARTMENT OF ENVIR ER MANAGEMENT ADMINISTR	
	STONE/RIPRAP OUTLET	SEDIME	NT TRAP 5	T-II, TRA	NP NO. 1	7
	DRAINAGE AREA — INITIAL		0.75		ACRE5	
	DRAINAGE AREA - INTERIM				ACRES	
	DRAINAGE AREA ~ FINAL		0.78		ACRE5	1
	TOTAL STORAGE REQUIRED		2,808	3	CF	7
	TOTAL STORAGE PROVIDED		3,174		CF	7
	WET STORAGE REQUIRED		1,404	<b>-</b>	CF	1
	WET STORAGE PROVIDED		1,652		CF	
	DRY STORAGE REQUIRED		1,404	+	CF	
	DRY STORAGE PROVIDED		1,522		CF	
	EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)		367.5	0	FT	
	TRAP BOTTOM ELEVATION		366.0	0	FT	
	TRAP BOTTOM DIMENSIONS		22' X	40'	FT x FT	
	WEIR LENGTH		6'		FT	
	WEIR CREST (DRY STORAGE) ELEVATION		369.0	0	FT	
	CLEANOUT ELEVATION		366.6	0	FT	
	TOP OF EMBANKMENT ELEVATION		370.0	0	FT	
ĺ	SIDE SLOPE		2:1		H:V RATIO	
	EMBANKMENT TOP WIDTH		4'		FT .	1
	OUTLET PROTECTION - LENGTH		20'		PT	
-						

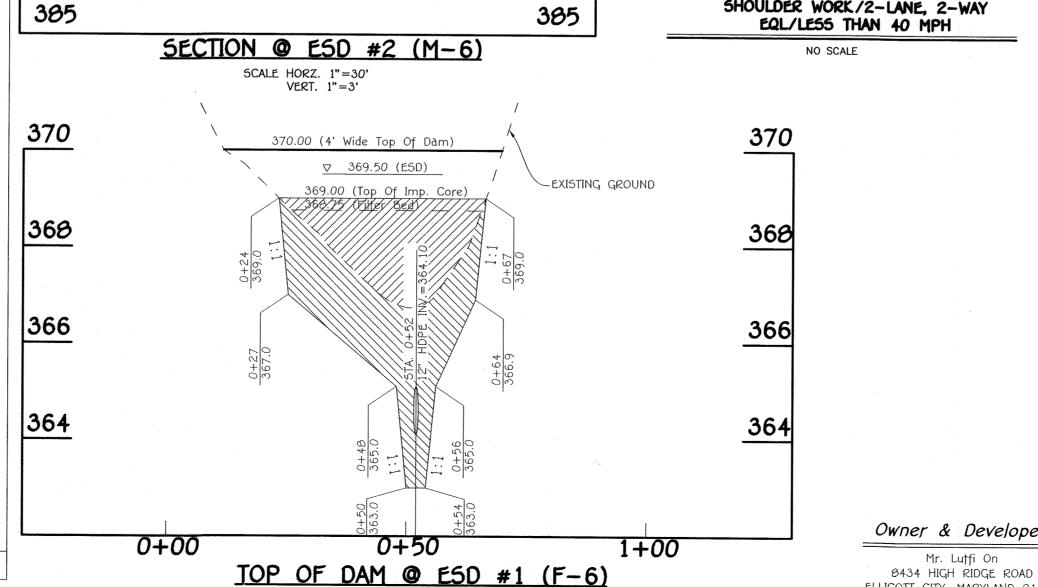
19

FISHER, COLLINS & CARTER, INC. 5QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PI ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

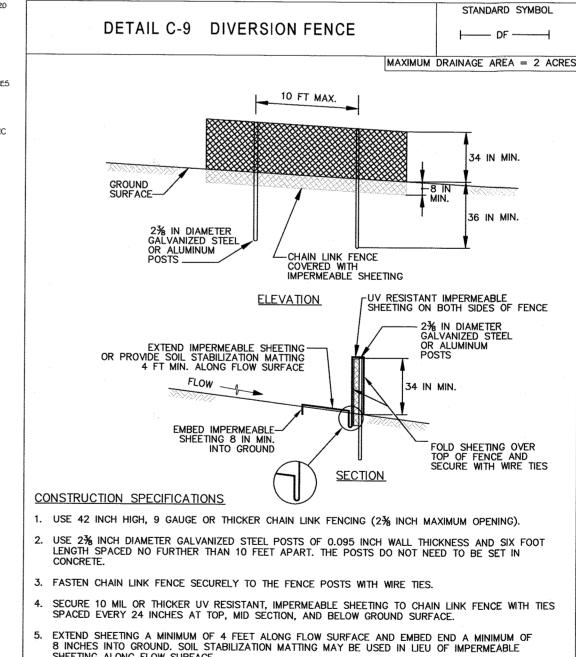
OUTLET PROTECTION - DEPTH







5CALE HORZ. 1"=20"



SCALE HORZ. 1"=30"

VERT. 1"=3"

WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT AND EROSION CONTROL NOTES, DETAILS & S.W.M. SECTIONS
LUTFI PROPERTY

DESIGN CERTIFICATION

I Hereby Certify That This Plan Has Been Designed In Accordance With

OWNER/DEVELOPER CERTIFICATION

"I/We 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 On Erosion And Sediment Prior To

Evaluation By Howard County, The Howard Soil Conservation District And/or

Approved: This Plan Is Approved For Soil Erosion And Sediment Control By

The Howard Soil Conservation District.

Howard County Department Of Public Works

REVISIONS

DESCRIPTION

PROPOSED GRADE

Approved: Department Of Planning And Zoning

FILTER BEI

= 397.58

FILTER MEDIA, -SEE DETAIL,

4" PERF. PVC

4" PERF. PVC-

SHEET 11

Chief Division Of Land Development

Beginning The Project. I Certify Right-of-entry For Periodic On-site

Levent Muslu

Printed Name & Title

NO.

398

396

And Sediment Control Laws, Regulations And

loward Soil Conservation District.

A Practical And Workable Plan Based On My

e, And That It Was Prepared In Accordance

P.E., R.L.S., or R.L.A. (circle one)

2/10/22

1/30/22

01/26/2022

DATE

400

398

394

IMPERVIOUS -

PROVIDE IMPERVIOUS LINER

ADJACENT TO DAM UP TO TOP OF DAM AND 1/3 WAY ACROSS THE BOTTOM OF FACILITY

SECTION @ ESD #2 (M-6)

SCALE HORZ. 1"=20' VERT. 1"=2'

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

Zoned: R-12 Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland Scale: As Shown Date: November 22, 2021 Sheet 8 Of 11

SHEETING ALONG FLOW SURFACE.

"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. 20748, Expiration Date 2-22-23."

(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY)

F-21-021

CONSTRUCTION SPECIFICATIONS

CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE

USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.

PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.

USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.

PLACE 1 FOOT OF CLEAN 3/4 TO 11/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.

CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.

O CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY.

WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL

3. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

\_4 FT MIN. WIDTH CREST ELEVATION-—12 IN MIN. THICKNESS 19 IN MIN. THICKNESS OF-OF 34 TO 11/2 IN STONE CLASS 1 RIPRAP OUTLET ELEVATION-**→** FLOW STORAGE STORAGE \_ APRON 10 FT MIN EMBED NONWOVEN --BOTTOM ELEVATION EXCAVATE FOR REQUIRED WET STORAGE 4 TO 7 IN STONE -SECTION A-A TOP OF EMBANKMENT WEIR LENGTH 1 FT MIN. -19 IN MIN. CLASS NONWOVEN GEOTEXTILE -4 TO 7 IN STONE

ISOMETRIC VIEW

SECTION B-B

COMPACTED FARTH-

DISCHARGE TO STABLE

AREA OR RECEIVING CHANNEL

CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT

BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.

SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT

O. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.

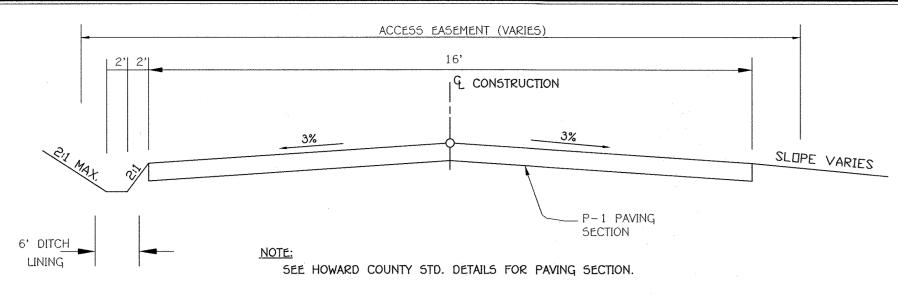
REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, MAINTAIN LINE, GRADE, AND CROSS SECTION.

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

Owner & Developer

ELLICOTT CITY, MARYLAND 21043

410-531-3300



### TYPICAL ROADWAY SECTION

NO SCALE

	ROADWAY INFO	RMATION	CHA	ART		
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	€ STATION	ЦМІТS	PAVING SECT
PRIVATE DRIVEWAY	USE-IN-COMMON DRIVEWAY	15 M.P.H.	R-12	0+00 TO	3+25	P-1

SECTION	ROAD AND STREET	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	GAB HMA WITH CO	5 TO <7	≥7	
NUMBER	CLASSIFICATION	PAVEMENT MATERIAL (INCHES)	MIN	HMA WITH	GAB	HMA WITH CONSTANT GAB		
	PARKING BAYS: RESIDENTIAL AND NON-RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64–22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
P-1	PARKING DRIVE AISLES:	HMA SUPERPAVE INTERMEDIATE SURFACE N/A	N/A	N/A	N/A	N/A	N/A	N/A
	RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE BASE 19.0 MM. PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0.	2.5
		GRADED AGGREGATE BASE (GAB)	8.5	7.0	5.0	4.0	4.0	4.0

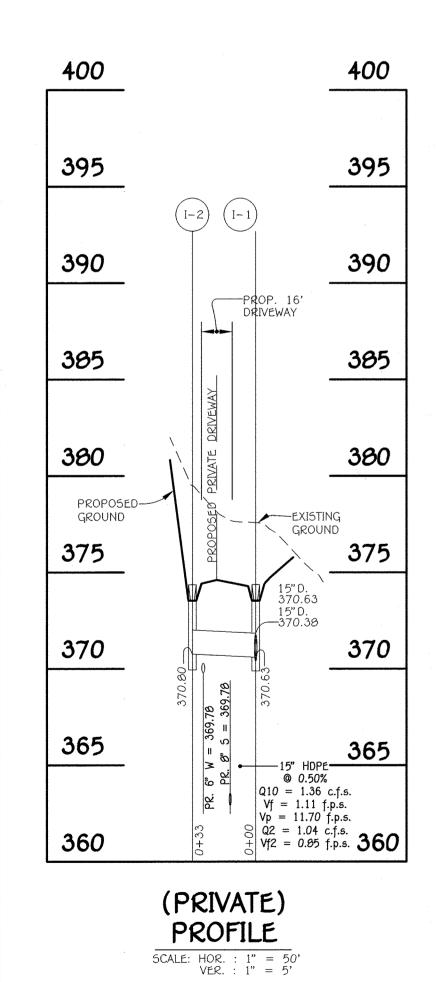
-	·		PRIVATE	STRUCTURE SCHE	DULE			
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARK5
I-1	*373.46	370.63 (15"),370.63 (15")	370.38 (15")	N 556,812.62 E 1,330,440.24			'D' INLET	D-4.10
I-2	*373.53		370.80 (15")	N 556,914.19 E 1,330,490.49			'D' INLET	D-4.10
I-3	*385.06	383.95 (12")	383.70 (15")	N 556,874.69 E 1,330,496.06			'D' INLET	D-4.10
I-4	*393.26		385.25 (12")	N 556,923.69 E 1,330,530.94			'D' INLET	D-4.10
I-5	369.50	365.75 (4")	365.00 (12")	N 556,735.40 E 1,330,480.87		Marie Marie Marie Marie Marie	'5' INLET	D-4.24
				:				
5-1	370.11	369.96 (15")		N 556,010.26 E 1,330,437.04			15" HDPE END SECTION	ADS OR EQUAL
5-3	365.13	364.13 (12")		N 556,717.96 E 1,330,486.21			12" HDPE END SECTION	ADS OR EQUAL
							•	

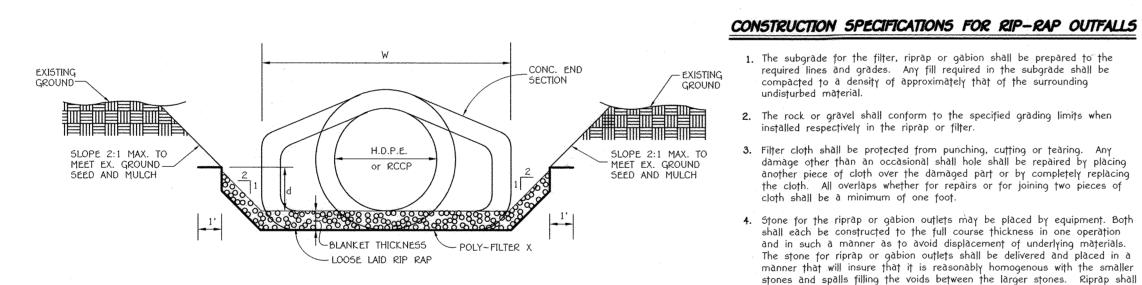
PUBLIC STRUCTURE SCHEDULE											
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARK5			
I-6	373.00		364.92 (15")	N 556,828.85 E 1,330,399.72			OPEN END GRATE	D-4.36			
5-2	363.35	362.10 (15")		N 556,010.26 E 1,330,437.04			15" CONC. END SECTION	D-5.51			

APPROVED: D	EPARTMENT OF PUBLIC WORKS		
	Jane -	07/26/2022	
CHIEF, BUREA	U OF HIGHWAYS MK	DATE	
APPROVED: D	EPARTMENT OF PLANNING AND ZONING		
CHIEF, DIVIS	SION OF LAND DEVELOPMENT D	2.166132 DATE	· · · · · · · · · · · · · · · · · · ·
CHIEF DEVEL	OPMENT ENGINEERING DIVISION	1/31/2V DATE	
	REVISIONS		
NO.	DESCRIPTION		DATE
			,

PRIVATE PIPE SCHEDULE									
SIZE	CLA55	LENGTH-							
12"	HDPE	57'							
15"	HDPE	139'							
4" 50LID	PVC 5CH.40	22'							
4" PERF.	PVC 5CH.40	114'							

PUB	LIC PIPE 50	CHEDULE
SIZE	CLA55	LENGTH
15"	RCCP, CL. IV	188'



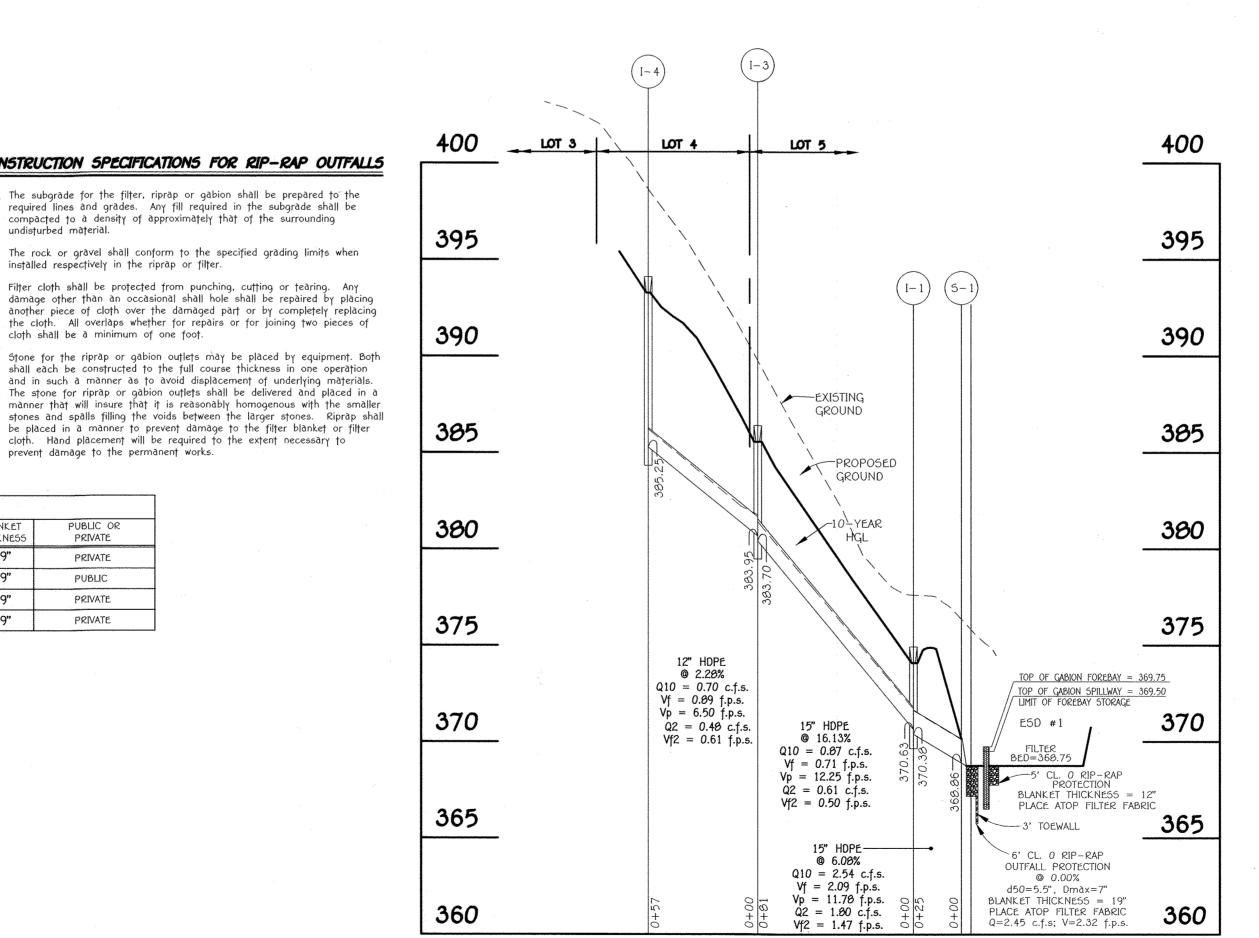


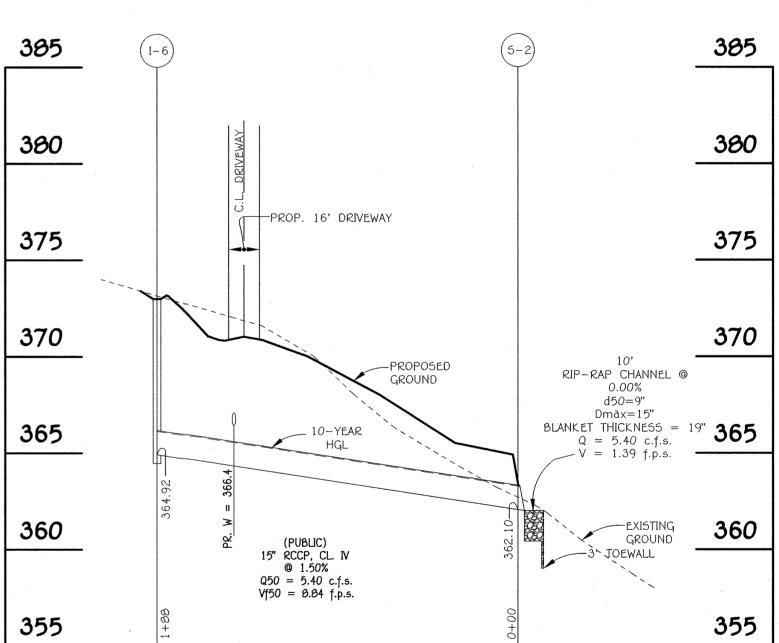
RIP-RAP	CHANNEL	DETAI
	NO SCALE	

	· · ·			* · · · · · · · · · · · · · · · · · · ·	RIP-	RAP CH	IANNE	L DE	5IGN	DATA	un market and a second		<del>-                                    </del>	<del></del>	
STRUCTURE	AREA	WETTEO PERIMETER	R	R 2/3	5	5 1/2	W	d	n	V (f.p.s.)	Q (c.f.s.)	RIP-RA D 50	D <sub>MAX</sub>	BLANKET THICKNESS	PUBLIC OR PRIVATE
5-1	1.80	4.74	0.38	0.52	0.005	0.0707	29"	0.52	0.04	1.36	2.45	5.5"	7"	19"	PRIVATE
5-2	3.28	6.52	0.50	0.63	0.005	0.0707	42"	0.68	0.04	1.65	5.40	9.5"	15"	19"	PUBLIC
5-3	3.28	6.52	0.50	0.63	0.005	0.0707	42"	0.68	0.04	1.65	5.40	9.5"	15"	19"	PRIVATE
5-4	2.30	5.22	0.44	0.58	0.005	0.0707	29"	0.63	0.04	1.52	3.50	5.5"	7"	19"	PRIVATE

cloth. Hand placement will be required to the extent necessary to

prevent damage to the permanent works.





(PUBLIC) PROFILE 5CALE: HOR. : 1" = 50' VER. : 1" = 5'

### (PRIVATE) PROFILE SCALE: HOR. : 1" = 50' VER. : 1" = 5'

Owner & Developer

Mr. Lutfi On 8434 HIGH RIDGE ROAD ELLICOTT CITY, MARYLAND 21043 410-531-3300



11/22/21

Aldo M. Vitucci, 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. 20748, Expiration Date 2-22-23."

### STORM DRAIN PROFILES & DETAIL SHEET LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

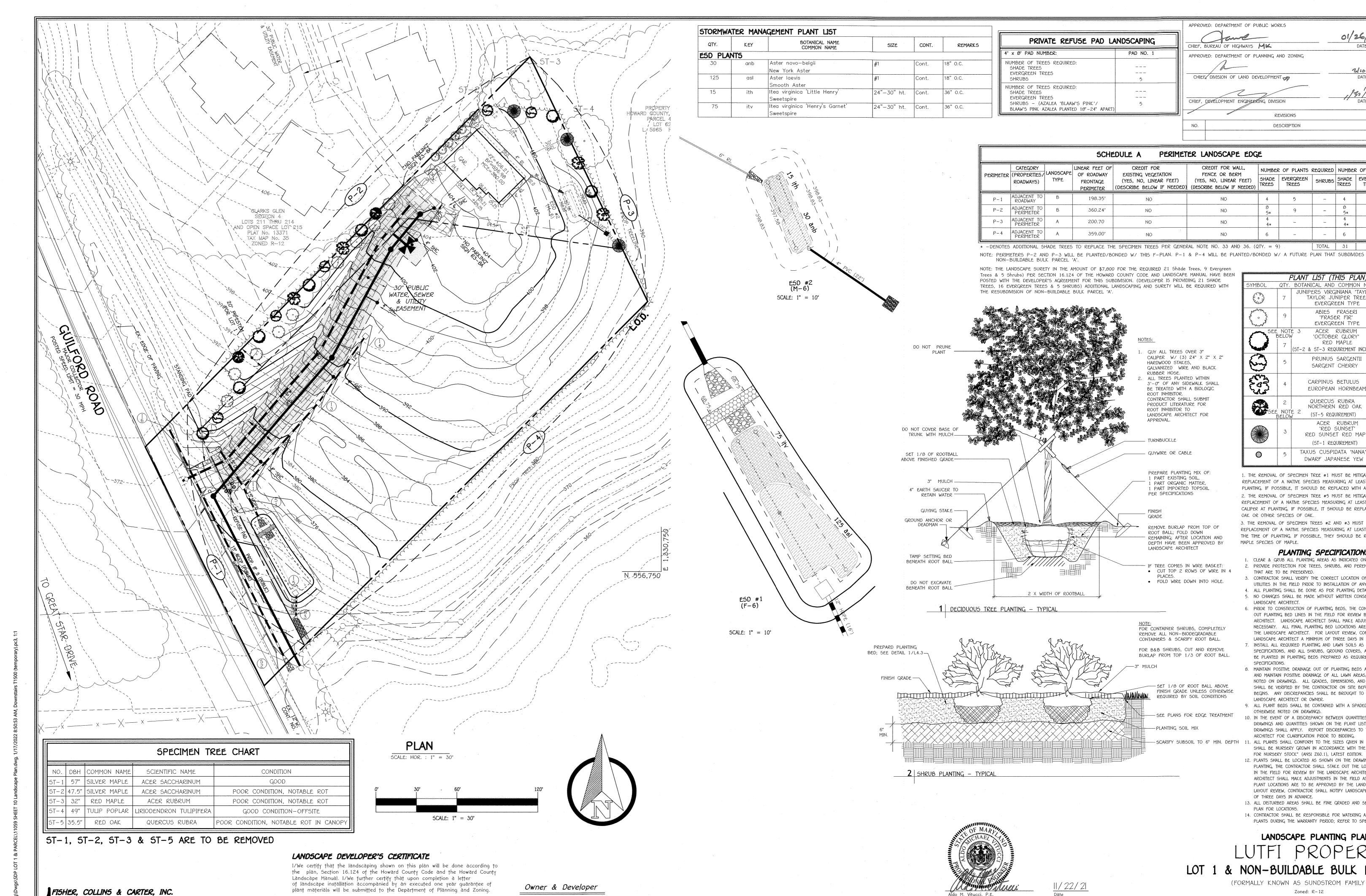
(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY) Zoned: R-12 Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland

Scale: As Shown

Sheet 9 Of 11

Date: November 22, 2021

FISHER, COLLINS & CARTER, INC. ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855



Mr. Lutfi On

8434 HIGH RIDGE ROAD

ELLICOTT CITY, MARYLAND 21043

410-531-3300

11-69-21

ELLICOTT CITY, MARYLAND 21042

TOTAL 31 14 PLANT LIST (THIS PLAN) YMBOL QTY. BOTANICAL AND COMMON NAME JUNIPERS VIRGINIANA 'TAYLOR' TAYLOR JUNIPER TREE EVERGREEN TYPE ABIES FRASERI 21/2-3" 'FRASER FIR' EVERGREEN TYPE ACER RUBRUM 2 1/2-3" 'OCTOBER GLORY' RED MAPLE (ST-2 & ST-3 REQUIREMENT INCLUDED) PRUNUS SARGENTII SARGENT CHERRY 2 1/2-3" CAL. CARPINUS BETULUS EUROPEAN HORNBEAM QUERCUS RUBRA 1/2"-NORTHERN RED OAK (ST-5 REQUIREMENT) ACER RUBRUM 'RED SUNSET' RED SUNSET RED MAPLE CAL.

NUMBER OF PLANTS REQUIRED NUMBER OF PLANTS PROVIDED

SHRUBS SHADE EVERGREEN

**REVISIONS** 

DESCRIPTION

SHADE EVERGREEN

01/26/2023

Uislee

DATE

1. THE REMOVAL OF SPECIMEN TREE #1 MUST BE MITIGATED WITH A 3:1 REPLACEMENT OF A NATIVE SPECIES MEASURING AT LEAST 2" CALIPER AT PLANTING. IF POSSIBLE, IT SHOULD BE REPLACED WITH A SPECIES OF MAPLE. 2. THE REMOVAL OF SPECIMEN TREE #5 MUST BE MITIGATED WITH A 2:1 REPLACEMENT OF A NATIVE SPECIES MEASURING AT LEAST 1 1/2" TO 2" CALIPER AT PLANTING. IF POSSIBLE, IT SHOULD BE REPLACED WITH A RED OAK OR OTHER SPECIES OF OAK.

(ST-1 REQUIREMENT) TAXUS CUSPIDATA 'NANA'

DWARF JAPANESE YEW

18" - 24"

3. THE REMOVAL OF SPECIMEN TREES #2 AND #3 MUST BE MITIGATED WITH A 2: REPLACEMENT OF A NATIVE SPECIES MEASURING AT LEAST 2 1/2"-3" CALIPER AT THE TIME OF PLANTING. IF POSSIBLE, THEY SHOULD BE REPLACED WITH A RED MAPLE SPECIES OF MAPLE.

### PLANTING SPECIFICATIONS

THAT ARE TO BE PRESERVED.

- 1. CLEAR & GRUB ALL PLANTING AREAS AS INDICATED ON THE DRAWINGS. 2. PROVIDE PROTECTION FOR TREES, SHRUBS, AND PERENNIALS/GROUND COVERS
- 3. CONTRACTOR SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
- 4. ALL PLANTING SHALL BE DONE AS PER PLANTING DETAILS AND SPECIFICATIONS. 5. NO CHANGES SHALL BE MADE WITHOUT WRITTEN CONSENT OF THE OWNER OR LANDSCAPE ARCHITECT.
- 6. PRIOR TO CONSTRUCTION OF PLANTING BEDS, THE CONTRACTOR SHALL STAKE OUT PLANTING BED LINES IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANTING BED LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE.
- INSTALL ALL REQUIRED PLANTING AND LAWN SOILS AS PER DETAILS AND SPECIFICATIONS, AND ALL SHRUBS, GROUND COVERS, AND PERENNIALS SHALL BE PLANTED IN PLANTING BEDS PREPARED AS REQUIRED BY THE DETAILS AND
- 8. MAINTAIN POSITIVE DRAINAGE OUT OF PLANTING BEDS AT A MINIMUM 2% SLOPE AND MAINTAIN POSITIVE DRAINAGE OF ALL LAWN AREAS, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL GRADES, DIMENSIONS, AND EXISTING CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE CONSTRUCTION BEGINS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT OR OWNER.
- 9. ALL PLANT BEDS SHALL BE CONTAINED WITH A SPADED EDGE UNLESS OTHERWISE NOTED ON DRAWINGS.
- 10. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE DRAWINGS AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE DRAWINGS SHALL APPLY. REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING. 11. ALL PLANTS SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND
- SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION. 12. PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. PRIOR TO
- PLANTING, THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS IN THE FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT. LANDSCAPE ARCHITECT SHALL MAKE ADJUSTMENTS IN THE FIELD AS NECESSARY. ALL FINAL PLANT LOCATIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT. FOR LAYOUT REVIEW, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT A MINIMUM OF THREE DAYS IN ADVANCE. 13. ALL DISTURBED AREAS SHALL BE FINE GRADED AND SEEDED OR SODDED; SEE
- PLAN FOR LOCATIONS. 14. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND MAINTAINING ALL
- PLANTS DURING THE WARRANTY PERIOD; REFER TO SPECIFICATIONS.

### LANDSCAPE PLANTING PLAN LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY)

Zoned: R-12 Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland Scale: As Shown Date: November 22, 2021 Sheet 10 Of 11

"Professional Certification: I hereby certify that these documents were

Professional Engineer under the laws of the State of Maryland, License

prepared or approved by me, and that I am a duly Licensed

No. 20748, Expiration Date 2-22-23."

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public

Design Constraints: Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching

the facility, thereby reducing the possibility of clogging.

> Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention acilities, see figure A.5 and Table A.4 for planting material guidance). > Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design. Test soil conditions to determine if soil amendments are necessary.

Plants shall be located so that access is possible for structure maintenance. Stabilize heavy flow areas with erosion control mats or sod. Temporarily divert flows from seeded areas until vegetation is established. See Table A.5 for additional design considerations.

### Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume [Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993]. Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other oxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. lacement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are resented in Table A.3.

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P205)	75 lbs. per acre, minimum
Potassium (potash -1(K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	0 to 5%
Silt	30 to 55%
5and	35 to 60%

### Mulch Layer

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge

is the highest elevation and generally supports plants adapted to dryer conditions. A sample of plant material should be flexible, but should follow the general principals described in Table A.5 The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive pretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.

Infiltration and Filter System Construction Specifications B.4.C Specifications for Micro-Bioretention. Rain Gardens. Landscape Infiltration & Infiltration Berms

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or Planting Soil The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.00.01.05.

The planting soil shall be tested and shall meet the following criteria: Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)

Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).

Clay Content - Media shall have a clay content of less than 5%. pH Range -Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

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

It is very important to minimize compaction of both the base of 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 track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to efracture 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 litts 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. 4. Plant Material

Recommended plant material for micro-bioretention practices can be found in Appendix A, 5. 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. Pine 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 aged (6 to

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8 th 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. horoughly 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 plugs shall be planted following the non-grass ground cover planting

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 defeats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

Underdrains should meet the following Efferia:

Pipe- Should be 47to 67diameter, slotted or perforated rigid plastic pipe (ASTMF 758. Type P5 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4"

Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6 center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or

Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.

The main collector pipe shall be at a minimum 0.5% slope.

A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and Monitor performance of the filter. A 4" layer of pea gravel (1/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

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

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

# TRENCH BOTTOM GROUND WATER V TYPICAL DRYWELL DETAIL (M-5)

\* THE EXACT NUMBER OF DRYWELLS REQUIRED AND THE

LENGTH AND WIDTH WILL BE DETERMINED AT FINAL ERMITS WHEN DOWNSPOUT DRAINAGE PATTERNS ARE

\_\_ROOF LEADER

### Operation And Maintenance Schedule For Drywells (M-5)

NO SCALE

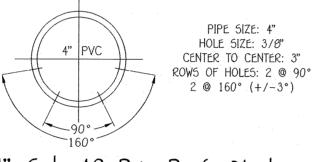
A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.

B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.

C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.

E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.

F. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.



For Horizontal Drain Pipe

ROUND PLASTIC

PROVIDE SOD-

ABOVE MULCH

3" MULCH LAYER -

24" PLANTING SOIL

CHARACTERISTICS)

4" PEA GRAVEL LAYER (1/8" - 3/8" STONE)

21" #57 WASHED STONE

4" PERF. PIPE UNDER -

(SEE PLANTING SOIL

ATRIUM GRATE

4" 5ch 40 Pvc Perforated Underdrain Pipe Detail

CLEAN-OUT

9" ESD ELEV.=

∇ ELEVATION

UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 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).

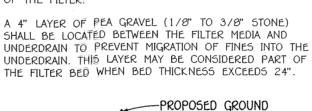
PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (No. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.

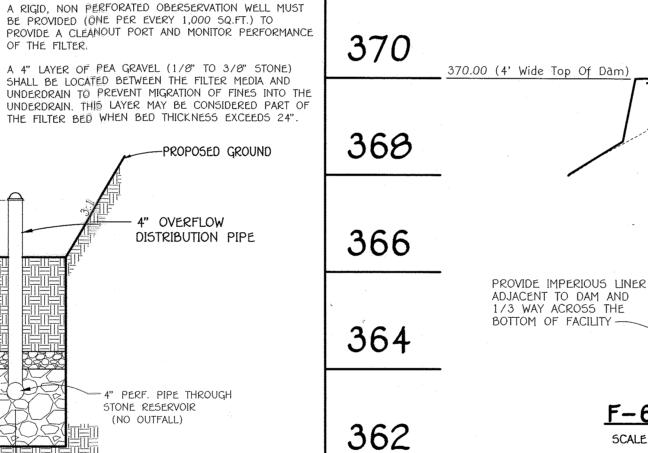
GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN. THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER. A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE)

STONE RESERVOIR

(NO OUTFALL)





NO SCALE

NOTE: ANCHOR MAY BE SUBSTITUTED WITH

(MUST BY APPROVED BY INSPECTOR)

ANCHOR DETAIL

NO SCALE

ANOTHER METHOD.

- / 4" x 4" x 1 / 2"

STEEL PLATE

PROPOSED GRADE

- FILTER MEDIA.

SEE DETAIL,

THIS SHEET

F-6 SECTION

SCALE HORZ. 1"=20' VERT. 1"=2'

370

366

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

Owner & Developer

Mr. Lutfi On

8434 HIGH RIDGE ROAD

ELLICOTT CITY, MARYLAND 21043

410-531-3300

PROVIDE 3/8" DIA. HOLES,

1/2" GAL. STEEL BOLT

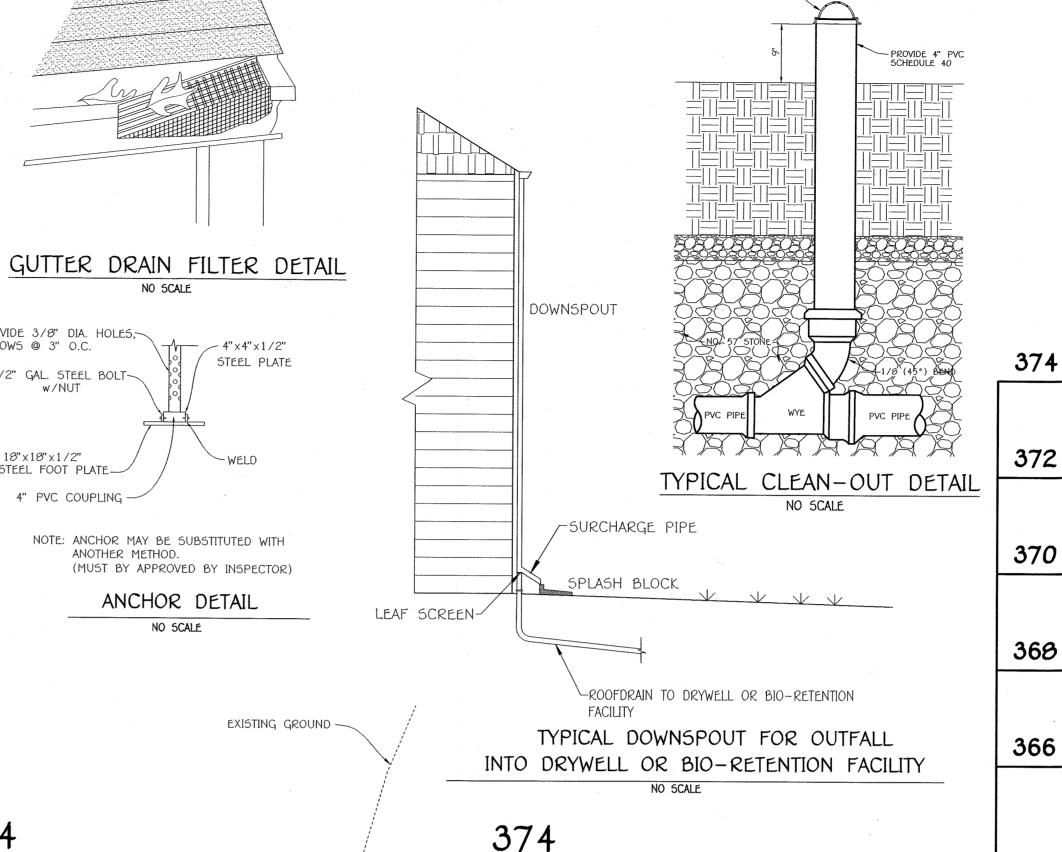
18"×18"×1/2"

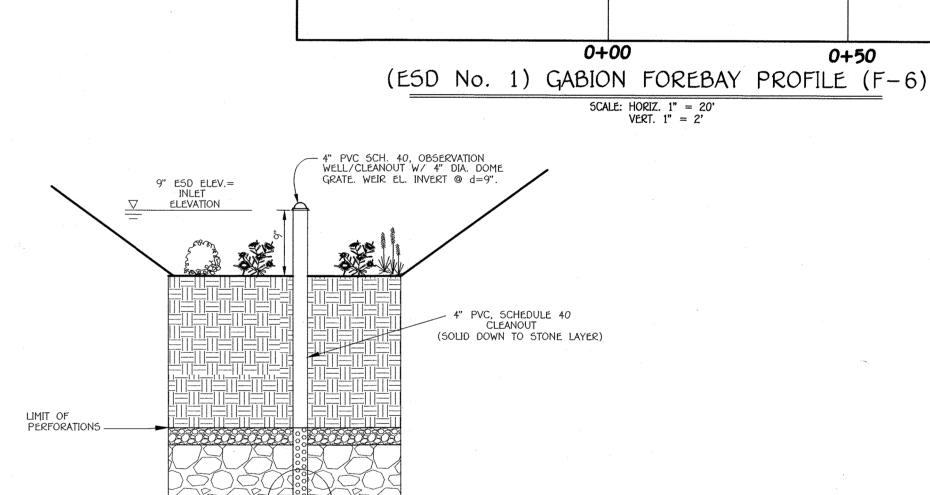
STEEL FOOT PLATE—

4" PVC COUPLING

w/NUT

4 ROWS @ 3" O.C.





THIS SHEET CLEANOUT/OBSERVATION WELL LOCATION NO SCALE

### Operation And Maintenance Schedule For Homeowners Association Owned & Maintained Bio-Retention Areas (M-6) & (F-6)

1. 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

2. The owner shall perform a plant in the spring and in the fall 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.

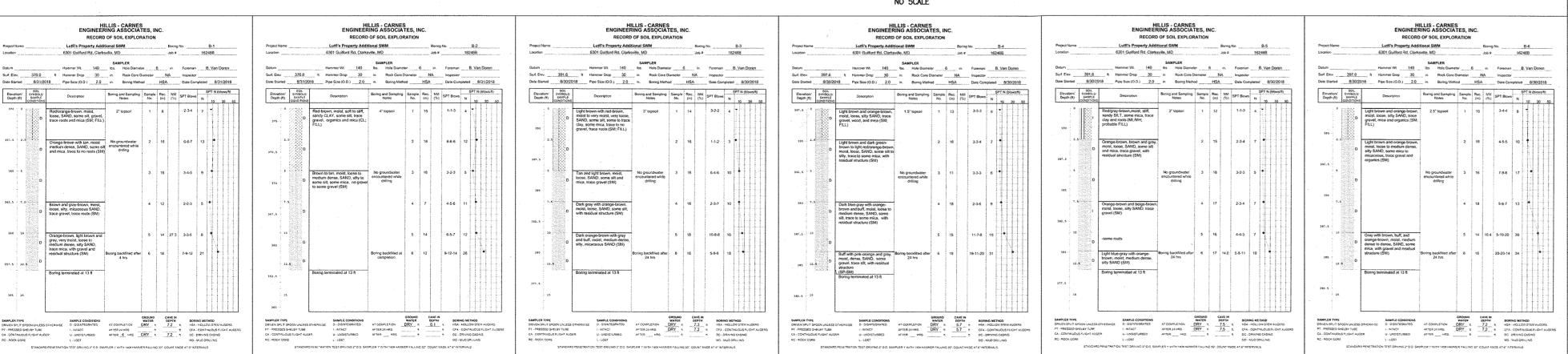
3. The owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years, The previous mulch layer shall be removed before the new layer is applied. 4. The owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy

5. The owner shall maintain all observation wells, clean—outs and perforated underdrains

6. Filter material must be replaced when water remains on the surface of the filter bed for more than 24 hours following a 1 or 2 year storm event or more than 48 hours following a 10 year storm event.

### MICRO BIO-RETENTION SECTION WITH 4" OVERFLOW DISTRIBUTION PIPE

(SEE PLANS)



RECORD OF SOIL EXPLORATION RECORD OF SOIL EXPLORATION Lutfi's Property Additional SWM 6301 Guiford Rd, Clarksville, MD SAMPLER
Hammer Wt. 140 Rbs. Hole Diameter 6 in Foreman B, Van Dorect 
 Start Etw
 404.0
 t
 Hammer Pois
 30
 n
 Rose Complete
 9
 n
 Frommar
 B, Van Dozen

 Surf Etw
 404.0
 t
 Hammer Pois
 30
 n
 Rose Core Diameter
 NA
 Improve Name
 NA
 Name
 Boring and Sampling Sample Rec. NAS SPT Blows N 10 20 50. Description

 Surf. Elev.
 402.8
 ft
 Harmoner Drop
 30
 in
 Rock Core Diameter
 NA
 Inspector

 Date Started
 8/31/2018
 Pipe Size (O.D.)
 2.0
 in
 Boring Method
 HSA
 Date Completed
 8/31/2018

Professional Certification: I hereby certify that these documents were

Professional Engineer under the laws of the State of Maryland, License

prepared or approved by me, and that I am a duly Licensed

No. 20748, Expiration Date 2-22-23."

SEE ANCHOR DETAIL, -

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

| Sample | S Date Started 8/31/2018 Pipe Size (O.D.) 2.0 in. Soring Method HSA Date Completed 8/31/2018 Boring and Sampling Sample Rec. NM SPY Blows N (blows/h) Description Soting and Sampling Sample Rec. NM SPT Blows No. (in) (%) SPT Blows N Description

HILLIS - CARNES ENGINEERING ASSOCIATES, INC

RECORD OF SOIL EXPLORATION

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION

EXISTING GROUND-

TOP OF DAM = 370.00 -

L x W x [

6' x 3' x

TOP OF GABION FOREBAY = 369.75

IMIT OF FOREBAY STORAGE

LETTER CODE

REVISIONS

DESCRIPTION

DATE

374

372

370

368

ERFLOW CONTROL

FOREBAY

EL. 368.75

-UNDERLAY W/ MIRAFI-1405 366

OR APPROVED EQUAL

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.

RECORD OF SOIL EXPLORATION

CHANNEL

CHIEF, BUREAU OF HIGHWAYS MK

Stormwater Management Notes And Details LUTFI PROPERTY

LOT 1 & NON-BUILDABLE BULK PARCEL 'A'

(FORMALLY KNOWN AS SUNDSTROM FAMILY PROPERTY) Zoned: R-12 Tax Map No.: 35 Grid No.: 13 Parcel No.: 56 Fifth Election District Howard County, Maryland Scale: As Shown

Date: November 22, 2021 Sheet 11 Of 11

FISHER, COLLINS & CARTER, INC.

ELLICOTT CITY, MARYLAND 21042