LIGHTBRIDGE ACADEMY

EUCLID CORNERS - PARCEL 'A'
CHILD DAYCARE FACILITY
PLAT NUMBER 19262-19263
SITE DEVELOPMENT PLAN

GENERAL NOTES

1. THE SUBJECT PROPERTY IS ZONED CE/CLI PER THE 10-06-2013 COMPREHENSIVE ZONING PLAN.

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

3. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST (FIVE) 5 WORKING DAYS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK AND RECEIVE CONFORMATION THAT ALL UTILITIES HAVE BEEN MARKED BEFORE PROCEEDING WITH SITE WORK.

4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD).

5. ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

6. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.

7. THE CONTOURS SHOWN HEREON HAVE BEEN TAKEN FROM FIELD RUN TOPOGRAPHIC SURVEYS AT 2' INTERVAL. THE TOPOGRAPHY WAS PREPARED BY BENCHMARK ENGINEERING, INC. DATED JUNE, 2020.

8. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NOS. 38D5 AND 38D6 WERE USED FOR THIS PROJECT.

9. BOUNDARY SURVEY FOR THIS PROJECT WAS PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT APRIL, 2003.

10. WATER AND SEWER FOR THIS SUBDIVISION IS PUBLIC. SEWER & WATER CONTRACT Nos. ARE # 23-S AND # 14-4320-D.

11. THE WETLANDS DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED JANUARY 05, 2001.

12. FOREST CONSERVATION OBLIGATION FOR THIS PROJECT WAS ADDRESSED UNDER F-06-46. FOREST CONSERVATION IS NOT REQUIRED SINCE THIS IS A REVISION THAT CREATES NO ADDITIONAL LOTS, SEE SECTION 16.1202(B)(1)(vii). THE FOREST CONSERVATION OBLIGATION FOR THIS PROPERTY IS SHOWN ON F-06-046, AND FULFILLED BY CREATING A 0.40 AC. ONSITE FOREST CONSERVATION EASEMENT CONTAINING 0.30 AC. OF RETENTION AND 0.10 AC. OF REFORESTATION AND A PAYMENT OF $9583.20 TO THE HOWARD COUNTY CONSERVATION FUND FOR THE REMAINING OBLIGATION OF 0.44 AC./19,166.4 S.F. OF REFORESTATION. SEE F-06-046 FOR THE FOREST CONSERVATION PLAN. THE LOCATION OF SPECIMEN TREE #3 IS SHOWN TO ATTEMPT TO PROTECT THE CRITICAL ROOT ZONE. OTHER SPECIMEN TREES ARE NOT SHOWN AS THE FOREST CONSERVATION WAS ADDRESSED UNDER THE PREVIOUS PLAN AND THOSE TREES WERE WITHIN THE LIMIT OF DISTURBANCE.

13. A TRAFFIC STUDY HAS BEEN PREPARED BY TRAFFIC CONCEPTS, DATED AUGUST, 2021, AND HAS BEEN APPROVED BY MARYLAND STATE HIGHWAY ADMINISTRATION.
DATE OF REPORT: AUGUST, 2021.
DATE OF COUNT(S): JANUARY 9, 2020 AND MARCH 25, 2021
REPORT SUBMITTED AS PART OF MDOT SHA ACCESS PERMIT PLAN NUMBER 21APH0012xx AND HOWARD COUNTY FILE SDP-22-056.
TRAFFIC COUNTS PREFORMED ON JANUARY 9, 2020 WERE PRE-COVID WHEN SCHOOLS WOULD HAVE BEEN IN SESSION.
TRAFFIC COUNTS PREFORMED MARCH 25, 2021 WERE ADJUSTED PER THE APPROVED TRAFFIC IMPACT STUDY.
PER THE TRAFFIC IMPACT STUDY THE KEY INTERSECTIONS, WITH AM AND PM LEVEL OF SERVICE IN 2024, ARE:
- US 1 (Washington Blvd) @ Montgomery Road, LOS = D/D
- US 1 (Washington Blvd) @ Ducketts Lane, LOS = B/D
- US 1 (Washington Blvd) @ Loudon Avenue, LOS = D/C
- US 1 (Washington Blvd) @ Proposed Site Access, LOS = B/C

ALL KEY INTERSECTIONS ARE STATE JURISDICTION.

THE LEVEL OF SERVICE AT THE HORIZON YEAR OF 2041 FOR EACH INTERSECTION:
- US 1 (Washington Blvd) @ Montgomery Road LOS = F
- US 1 (Washington Blvd) @ Ducketts Lane LOS = F
- US 1 (Washington Blvd) @ Loudon Avenue LOS = F

NO MITIGATION IS NECESSARY OR PROPOSED.

14. GEOTECHNICAL REPORT HAS BEEN PREPARED BY MARSHALL ENGINEERING, INC. DATED DECEMBER, 2004.

15. EXISTING UTILITIES WERE LOCATED BY RECORD DRAWINGS AND FIELD LOCATIONS BY BENCHMARK ENGINEERING INC., DATED JUNE, 2020.

16. UNLESS NOTED AS "PRIVATE" ALL EASEMENTS ARE PUBLIC. CONTRACTOR SHALL ADJUST ALL UTILITIES, RIM ELEVATIONS AND INVERT ELEVATIONS AS NEEDED TO MATCH THIS PLAN.

17. ALL EXTERIOR LIGHTING SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993), ZONING SECTION 134 AND AS SHOWN ON THESE PLANS.

18. ALL HANDICAP RAMPS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STD. DETAIL R-4.01 AND ALL CURRENT ADA REQUIREMENTS.

19. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF $11,400.00 FOR THE REQUIRED 21 SHADE TREES, 18 EVERGREEN TREES AND 80 SHRUBS SHALL BE PAID AS PART OF THE DPW DEVELOPER'S AGREEMENT.

20. THE FLOOD PLAIN LIMITS SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM EXISTING FLOODPLAIN INFORMATION TAKEN FROM THE HOWARD COUNTY DEEP RUN FLOOD PLAIN STUDY FOR THE AREA OF THIS SHALLOW RUN, TRIBUTARY D-5. GENERAL COUNTY PROJECT GC 0119 WITH REVISION DATED 1/97. ADDITIONAL FLOODPLAIN AREA HAS BEEN PROVIDED TO ENCOMPASS THE FLOODPLAIN LIMITS AS SHOWN ON THE CURRENT DIGITAL FLOOD INSURANCE RATE MAP.

21. NO CLEARING GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.

22. A PARKING NEEDS STUDY WAS APPROVED WITH THE APPROVAL OF THE SITE DEVELOPMENT PLAN ON MAY 11, 2023. A TOTAL OF 35 PARKING SPACES WAS APPROVED BASED ON THE PARKING NEEDS STUDY.

23. PROPOSED BUILDING WILL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.

24. THE REQUIRED PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON MARCH 1, 2022. THE MEETING WAS VIRTUALLY AND ONLY THE ENGINEER AND OWNER WERE IN ATTENDANCE. A PRIOR VIRTUAL COMMUNITY INPUT MEETING WAS HELD ON OCTOBER 27, 2020. THIS MEETING WAS VIRTUAL, THESE MINUTES HAVE BEEN PROVIDED TO HOWARD COUNTY.

25. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.

26. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS OF FIRE AND EMERGENCY VEHICLE PER THE FOLLOWING MINIMUM REQUIREMENTS:
a. WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
b. SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM);
c. GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT TURNING RADIUS;
d. STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
e. DRAINAGE ELEMENTS - SAFELY PASSING THE 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
f. MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.

27. PREVIOUS DEPARTMENT OF PLANNING AND ZONING REFERENCE NUMBERS INCLUDE: F-06-046, SDP-06-022, WP-10-114, WP-11-163, WP-14-135, WP-15-147, WP-17-041, WP-20-100, WP-21-024, WP-22-080, WP-22-085, F-24-046, WP-24-049

28. ALTERNATIVE COMPLIANCES WP-10-114, WP-11-163, WP-14-135, WP-15-147, WP-17-041, WP-20-100, WP-21-024 HAVE EXPIRED AND ARE NO LONGER VALID.

29. ALTERNATIVE COMPLIANCE, WP-22-080, TO SECTION 16.128(C)(1), TO ALLOW THE PETITIONER TO HOST A VIRTUAL PRESUBMISSION COMMUNITY MEETING DURING THE COVID-19 HOWARD COUNTY STATE OF EMERGENCY, WAS CONDITIONALLY APPROVED BY THE DIRECTOR OF PLANNING AND ZONING ON FEBRUARY 3, 2022. THE CONDITION OF APPROVAL IS:
1. PETITIONER MUST COMPLY WITH THE DEPARTMENT OF PLANNING AND ZONING'S VIRTUAL PRESUBMISSION MEETING GUIDELINES FOR APPLYING AND HOSTING A VIRTUAL PUBLIC MEETING.

30. ALTERNATIVE COMPLIANCE, WP-22-085, TO SECTION 16.156(O)(2), TO REACTIVATE SDP-06-022 TO DO AN EXTENSIVE RED-LINE REVISION TO THE SDP AND APPLY FOR BUILDING PERMITS, WAS DENIED BY THE DIRECTOR OF PLANNING AND ZONING ON MARCH 29, 2022.

31. THE FRONTAGE IMPROVEMENTS ARE IN ACCORDANCE WITH DMV IV, STANDARD DETAIL R-6.09 AND THE COMPLETE STREETS MANUAL.

32. THIS SITE DEVELOPMENT PLAN CONFORM TO THE ROUTE 1 MANUAL BY PROVIDING AN ARCHITECTURALLY APPEALING ROUTE 1 FACE, PROVIDING BIKE PARKING SPACES, BY ENHANCING THE LANDSCAPE, AND BY PROVIDING A SHARED USE PATHWAY.

33. A SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN WAS APPROVED BY DEVELOPMENT ENGINEERING DIVISION PER LETTER DATED JUNE 17, 2020. THE SIMPLIFIED ENVIRONMENTAL CONCEPT PLAN REVIEW PROCESS WAS USED DUE TO THE DEVELOPMENT BEING A REVISION OF AN APPROVED STORMWATER PLAN.

34. STORMWATER MANAGEMENT SHALL BE PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUMES I & II AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007. ENVIRONMENTAL SITE DESIGN METHODS SHALL BE UTILIZED, INCLUDING MICRO-BIORETENTION (M-6), WATER QUALITY INLET, AND SAND FILTER (F-1) PRACTICES. THIS PROJECT IS WITHIN THE DEEP RUN WATERSHED, 10-YR AND 100-YR MANAGEMENT IS PROVIDED.

35. THE DESIGN ADVISORY PANEL REVIEWED AND APPROVED THE PLAN IN A MEETING HELD ON MARCH 10, 2021. THE APPROVAL INCLUDED FOUR MOTIONS FOR RECOMMENDATIONS.
1. FOR THE APPLICANT TO TAKE ANOTHER LOOK AT THE LANDSCAPE PLAN TO SOFTEN UP THE EDGES OF THE PARKING LOT WITH EMPHASIS ON SHADE TREE PLACEMENT.
2. THAT THE APPLICANT LOOK AT REDUCING THE VERTICALITY AND SCALE OF THE BUILDING, PARTICULARLY FROM THE ROUTE 1 SIDE.
3. THAT THE APPLICANT STRIVES TO USE AT LEAST 50% NATIVE PLANT MATERIALS IN TERMS OF TREES, SHRUBS, AND PERENNIALS IN THE PROPOSED LANDSCAPE PLAN.
4. FOR THE APPLICANT TO REVIEW THE ROUTE 1 DESIGN GUIDELINES AND WORK WITH DPZ AND MARYLAND STATE HIGHWAYS TO DO IMPROVEMENTS CAN BE DONE ALONG THE ROUTE 1 FRONTAGE.

36. A REVISION PLAT FOR EUCLID CORNERS, PARCEL 'A', HAS BEEN REVIEWED AS AN ORIGINALS ONLY REQUEST. THE REQUEST WAS APPROVED AND THE PLAT RECORDING REFERENCE IS 26610-26611.

37. FIRE DEPARTMENT CONNECTION FOR FIRE PROTECTION SYSTEMS SHALL BE LOCATED: (A.) ON THE SIDE OF THE STRUCTURE DISPLAYING THE ADDRESS CLEARLY VISIBLE TO THE RESPONDING UNITS; (B.) WITHIN 100 FT. OF A FIRE HYDRANT;(II) THE APPROPRIATE SIGN SHALL BE MOUNTED ON THE BUILDING'S WALL BETWEEN 8 AND 12 FEET ABOVE THE FIRE DEPARTMENT CONNECTION; (III) A FREE-STANDING FIRE DEPARTMENT CONNECTION SHALL HAVE THE SIGN MOUNTED ON A POLE DIRECTLY BEHIND THE CONNECTION APPROXIMATELY 6 FEET HIGH; (IV) SIGNS SHALL HAVE A WHITE REFLECTIVE BACKGROUND WITH A RED REFLECTIVE BORDER, RED REFLECTIVE LETTERS AND A RED REFLECTIVE ARROW. THE BORDER SHALL HAVE A 3/8" STROKE. THE LETTERS SHALL BE 6" HIGH WITH A 1" STROKE. THE ARROW SHALL HAVE A STROKE NOTE LESS THAN 2". THE OVERALL SIGN MEASUREMENTS SHALL BE 12" BY 18"; (V) ANY OBSTRUCTION OR CONDITION THAT DETERS OR HINDERS ACCESS TO A FDC IS PROHIBITED. A MINIMUM CLEAR SPACE OF 15 FEET (7.5 FEET ON ALL SIDES) SHALL BE MAINTAINED.

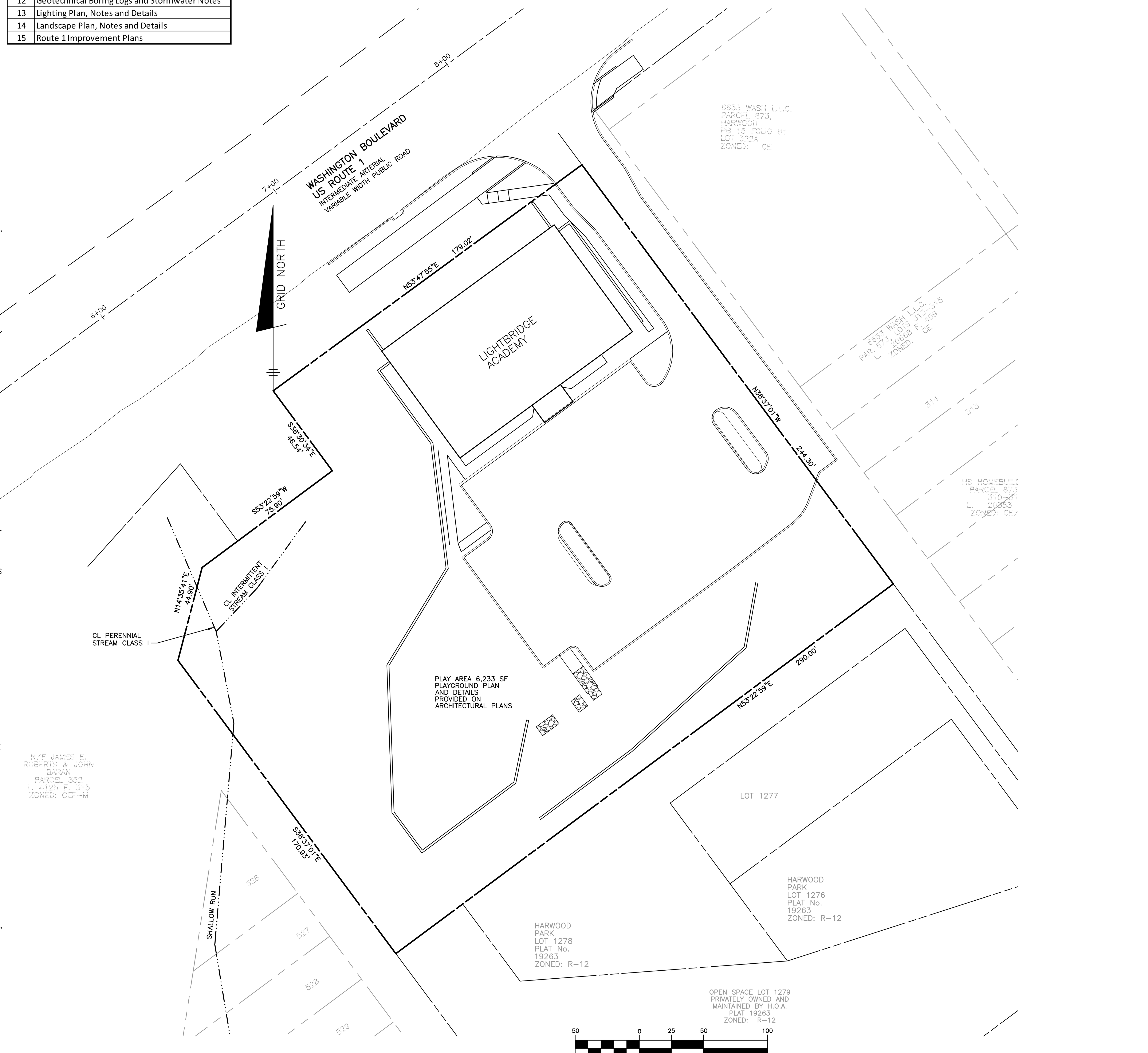
38. KNOX BOXES SHALL BE LOCATED WITHIN 6' TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4-5' IN HEIGHT. THE CONTRACTOR SHOULD CONTACT THE OFFICE OF THE FIRE MARSHAL PRIOR TO PURCHASING AND INSTALLING KNOX BOXES TO DETERMINE IF ADDITIONAL KNOX BOXES WILL BE REQUIRED AS WELL AS TO VERIFY THE LOCATION(S) WHERE THEY ARE TO BE MOUNTED.

39. IN ACCORDANCE WITH SECTION 128.0.A.11 OF THE ZONING REGULATIONS, SETBACKS FOR ZONING BOUNDARIES DOES NOT APPLY TO THIS PARCEL BECAUSE IT IS PART OF THE INTEGRATED DEVELOPMENT AS INDICATED BY F-06-046 AND PLAT Nos. 19363 AND 19263.

40. ALTERNATIVE COMPLIANCE, WP-24-029, TO SECTION 16.156(l) AND (m), TO REACTIVATE SDP-06-022 TO EXTED THE NOVEMBER 7, 223 DUE DATE BY 90 DAYS TO COMPLETE THE DEVELOPER AGREEMENTS, PAY FEEDS AND TO SUBMIT THE SITE DEVELOPMENT PLAN (SDP) ORIGINAL MYLAR FOR SIGNATURES, WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING ON DECEMBER 20, 2023. APROVAL OF THE ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING TWO (2) CONDITIONS:
1. THE PETITIONER MUST COMPLETE THE DEVELOPER'S AGREEMENTS (WHICH INCLUDES THE PAYMENT OF FEES AND THE POSTING OF ALL REQUIRED SURETIES) AND SUBMIT THE ELECTRONIC SITE DEVELOPMENT PLAN (SDP-22-056) ORIGINALS FOR SIGNATURES WITHIN 90 DAYS FROM THE NOVEMBER 7, 2023 DEADLINE DATE (TO FEBRUARY 5, 2024).
2. PROVIDE A GENERAL NOTE ON THE SDP THAT REFERENCES THIS ALTERNATIVE COMPLIANCE PETITION APPROVAL.

41. THE DAYCARE FACILITY WILL COMPLY WITH ALL REQUIRED HEALTH DEPARTMENT WATER SAMPLING TESTS.

Sheet Index	
Sheet	Description
1	Cover Sheet
2	Geometry Plan and Water House Connection & Sewer House Connection Profiles
3	Site Development Plan
4	Grading and Sediment & Erosion Control Plan
5-6	Sediment and Erosion Control Notes and Details
7	Storm Drain Drainage Area Map
8	Storm Drain Profiles, Notes and Details
9	Retaining Wall Plan and Profile
10	Stormwater Management Drainage Area Map
11	Stormwater Management Notes and Details
12	Geotechnical Boring Logs and Stormwater Notes
13	Lighting Plan, Notes and Details
14	Landscape Plan, Notes and Details
15	Route 1 Improvement Plans



BENCH MARKS

HO. CO. #38D5 (NAD '83) ELEV. 193.71

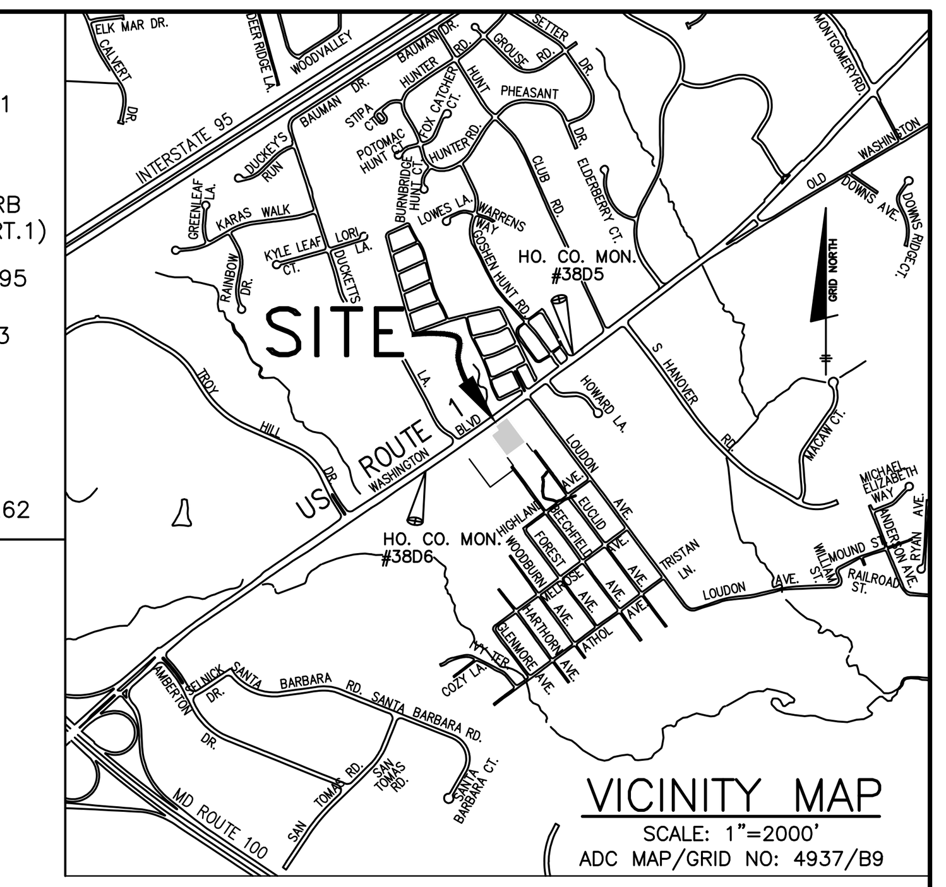
STAMPED DISC ON CONCRETE MONUMENT BEING 38.8 SOUTHEAST OF A FIRE HYDRANT, 5.6' NORTH OF THE EXISTING CONCRETE CURB ALONG NORTH SIDE OF WASHINGTON BLVD (RT.1)

N 558,378.581 E 1,386,524.195

HO. CO. #38D6 (NAD '83) ELEV. 175.23

STAMPED DISC ON CONCRETE MONUMENT BEING 44' SOUTHWEST OF A LIGHT POLE & 148' NORTH OF THE GATE AT ATLANTIC SUPPLY CO.

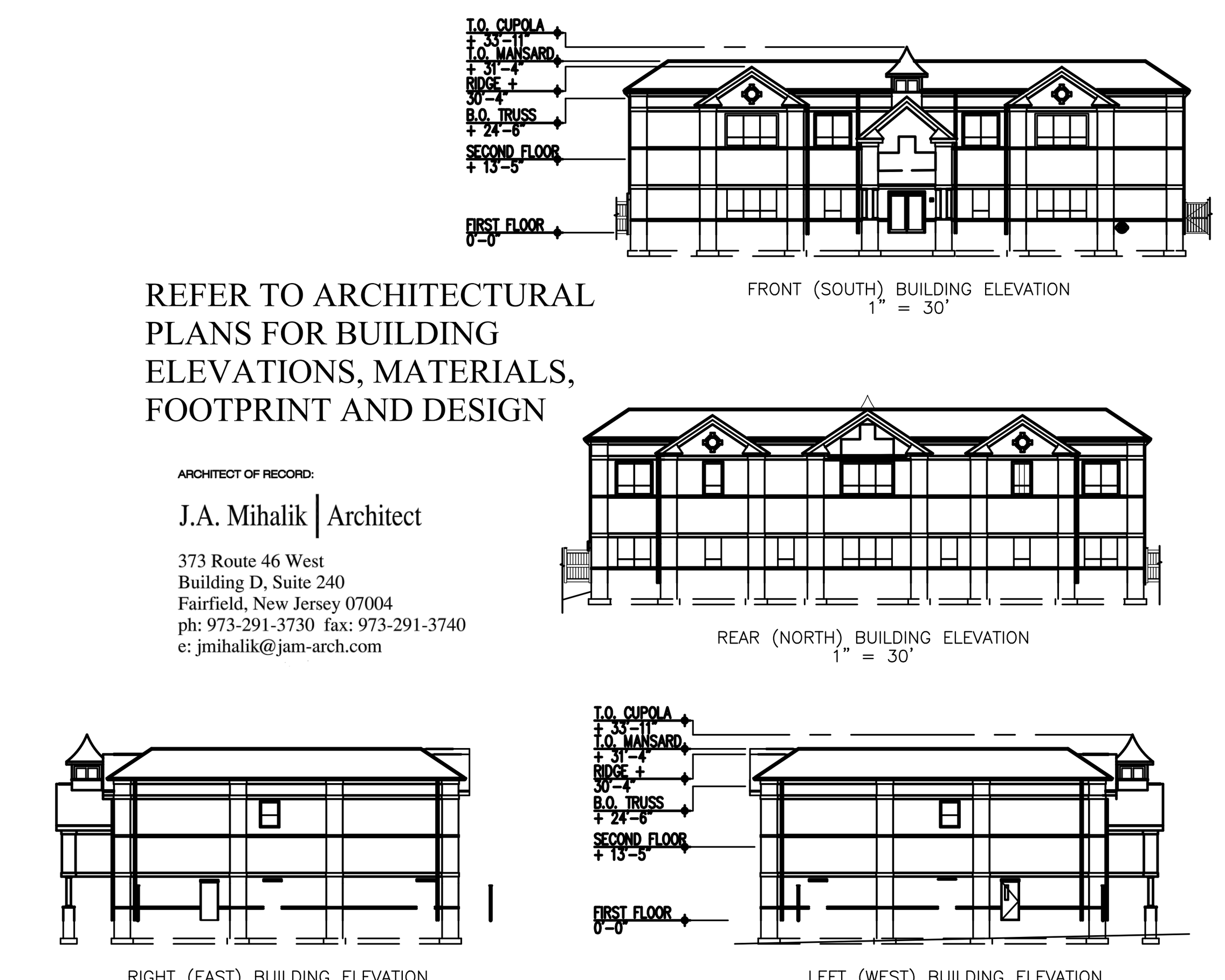
N 557,155.459 E 1,384,992.262



VICINITY MAP
SCALE: 1"=2000'
ADC MAP/GRID NO: 4937/B9

REFER TO ARCHITECTURAL PLANS FOR BUILDING ELEVATIONS, MATERIALS, FOOTPRINT AND DESIGN

ARCHITECT OF RECORD:
J.A. Mihalik | Architect
373 Route 46 West
Building D, Suite 240
Fairfield, New Jersey 07004
ph: 973-291-3730 fax: 973-291-3740
e: jmihalik@jam-arch.com



BUILDING ELEVATIONS

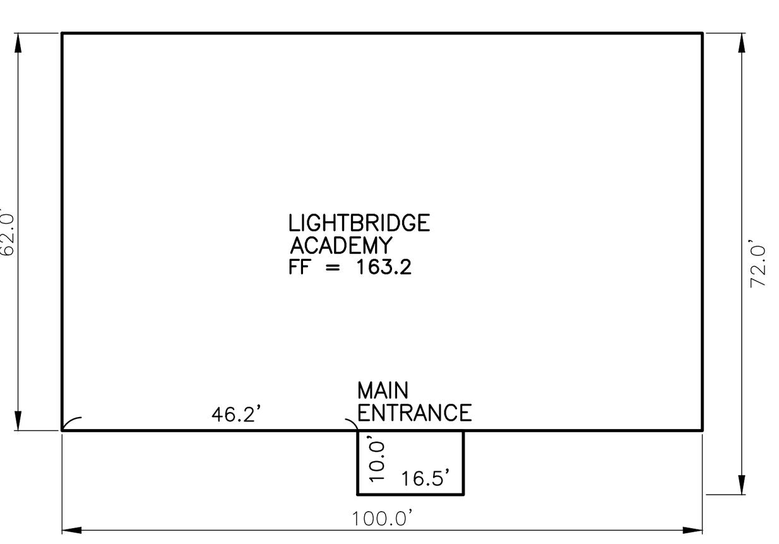
STORMWATER MANAGEMENT STORAGE CHART			
STORM (yr)	EXISTING RUNOFF (cfs)	DEVELOPED RUNOFF (cfs)	STORAGE (cf)
10	7.16	6.98	4,296
100	16.36	16.13	6,566

STORMWATER MANAGEMENT INFORMATION					
Lot/Parcel Designation	Facility Name & Number	Type (quantity)	Ownership	Maintenance	Notes
A	Micro-Bioretention (M-5)	1	Private	Private	
A	Surface Sand Filter (F-1)	1	Private	Private	
A	Bioscape #1	1	Private	Private	

SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA: 1.50 AC.±
B.) AREA OF PLAN SUBMISSION: 1.50 AC.±
C.) LIMIT OF DISTURBANCE AREA: 1.44 AC.±
D.) PRESENT ZONING: CE-CLI
E.) PROPOSED USES FOR SITE AND STRUCTURES: CHILD DAYCARE FACILITY
F.) TOTAL GROSS FLOOR AREA 12,730 SF
1ST FLOOR AREA 6,365 SF
2ND FLOOR AREA 6,365 SF
G.) TOTAL NET FLOOR AREA 12,400 SF
1ST FLOOR AREA 6,200 SF
2ND FLOOR AREA 6,200 SF
PARKING ANALYSIS:
REQUIRED: 3.0 PARKING SPACES PER 1,000 SF OF NET FLOOR AREA, 12,400 SF NET FLOOR AREA
REQUIRED: 38 PARKING SPACES
PROVIDED: 35 PARKING SPACES INCLUDING 2 HANDICAP PARKING SPACE

H.) NUMBER OF PARKING SPACES REQUIRED BY HOWARD COUNTY ZONING REGULATIONS (PER SECTION 133.D OF THE ZONING REGULATIONS AT 3.0 PARKING SPACES PER 1,000 SF OF BUILDING): 38 SPACES
I.) NUMBER OF PARKING SPACES PROVIDED ON SITE: 35 SPACES
(INCLUDING 2 HANDICAPPED PARKING SPACES)
* SEE GENERAL NOTE 22 REGARDING PARKING NEEDS STUDY
J.) BUILDING COVERAGE OF SITE: 0.146 AC./1.50 AC. (9.7%)
K.) APPLICABLE DPZ FILE REFERENCES: F-06-046, SDP-06-022, WP-10-114, WP-11-163, WP-14-135, WP-15-147, WP-17-041, WP-20-100, WP-21-024, WP-22-080, WP-22-085, WP-24-049, F-24-046
L.) NO CHANGE IN USE IS PERMITTED UNLESS IT COMPLIES WITH THE PARKING REQUIREMENTS OF ZONING SECTION 133 AND IS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. THE SITE USER HAS SUPPLIED A PARKING NEEDS STUDY WHICH STATES THAT THIS SITE WILL NEED 35 PARKING SPACES.



BUILDING FOOTPRINT
1" = 30'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499... — 5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DocuSigned by: 1EB75478A22B49A... — 5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DocuSigned by: Lynda Eisenberg 4220B635863942E... — 5/13/2024
DIRECTOR — DATE

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS:

DocuSigned by: Michael Davis A099773D5AB5423... — 5/13/2024
HOWARD COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

ADDRESS CHART	
LOT/PARCEL#	STREET ADDRESS
PARCEL 'A'	6701 WASHINGTON BLVD.

USE TABULATION		
LOT/PARCEL	USE	AREA
PARCEL 'A'	CHILD DAY CARE	1.50 AC.

PERMIT INFORMATION CHART					
SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL#	
EUCLID CORNERS		N/A		PARCEL 'A'	
PLAT No.	GRID No.	ZONE	TAX MAP	ELEC. DIST.	CENSUS
26610-26611	13	CE/CLI	38	1st	6012.00
WATER CODE	A02		SEWER CODE	2152209	

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND JOHN M. CARNEY 45577 PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney
04/24/2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

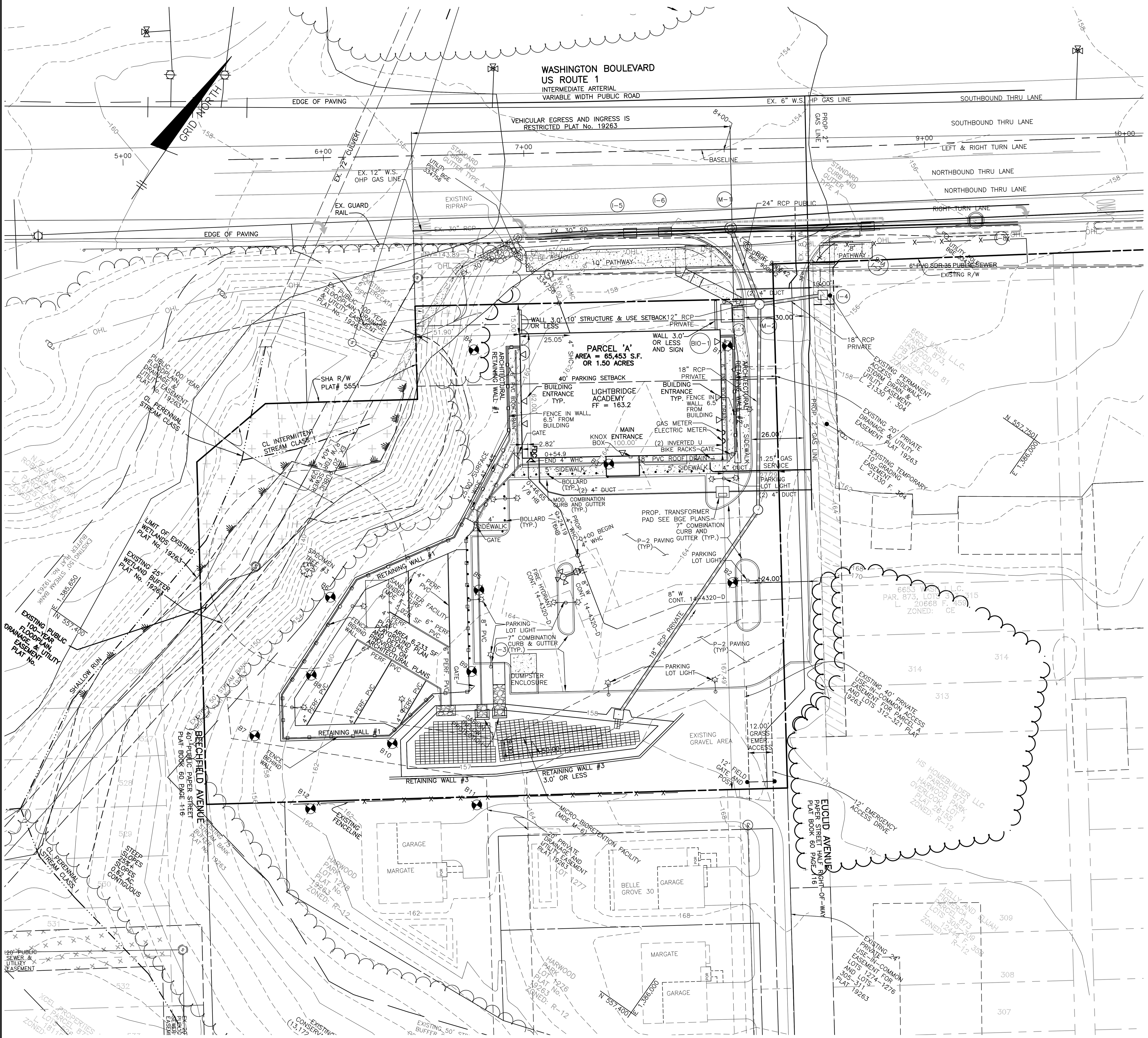
PROJECT: EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

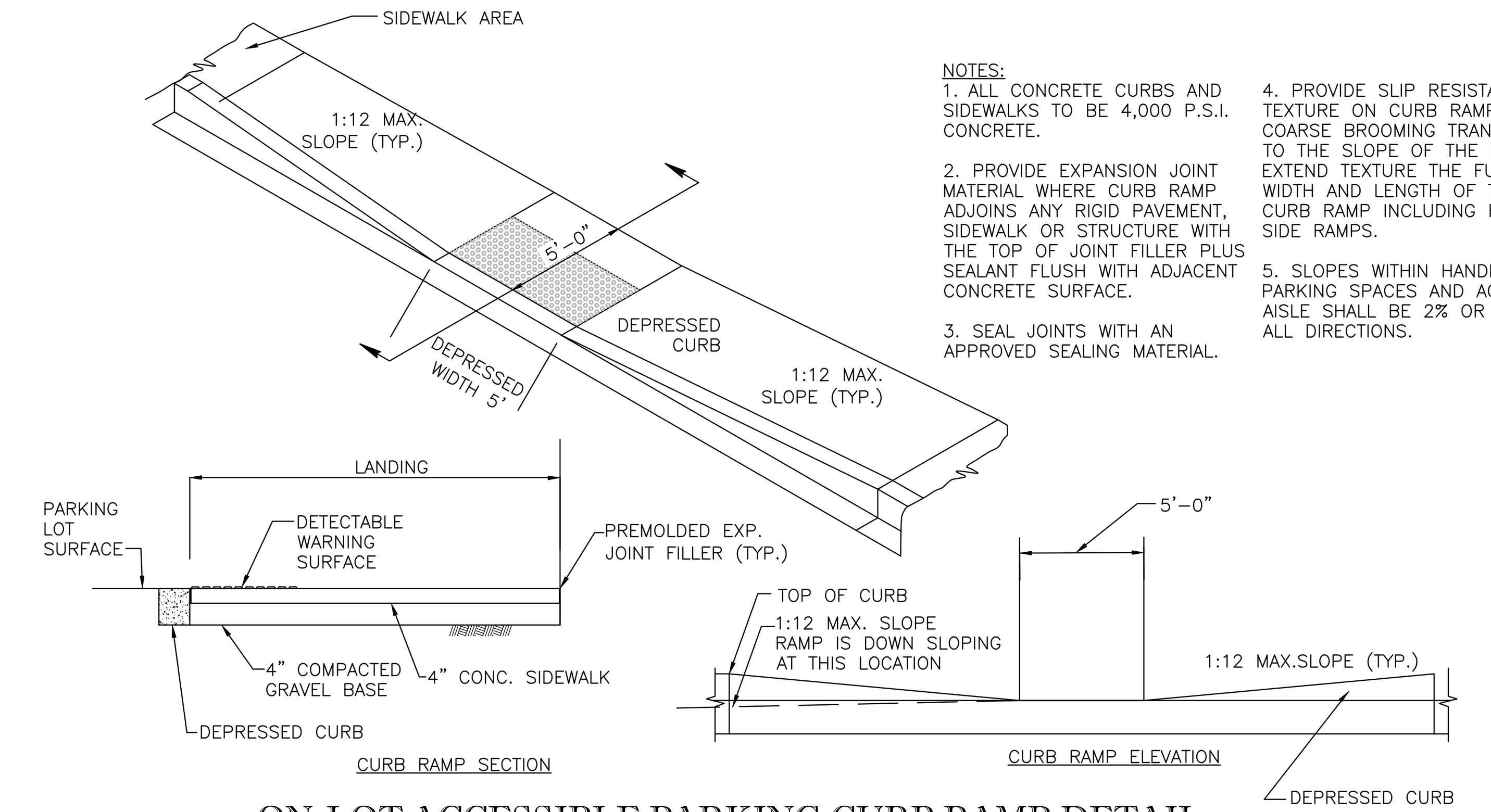
LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PARCEL A
COVER SHEET

DATE: JANUARY, 2024 — PROJECT NO. 1465

DRAFT: JC — DESIGN: JC — CHECK: JC — SCALE: AS SHOWN — SHEET 1 OF 15





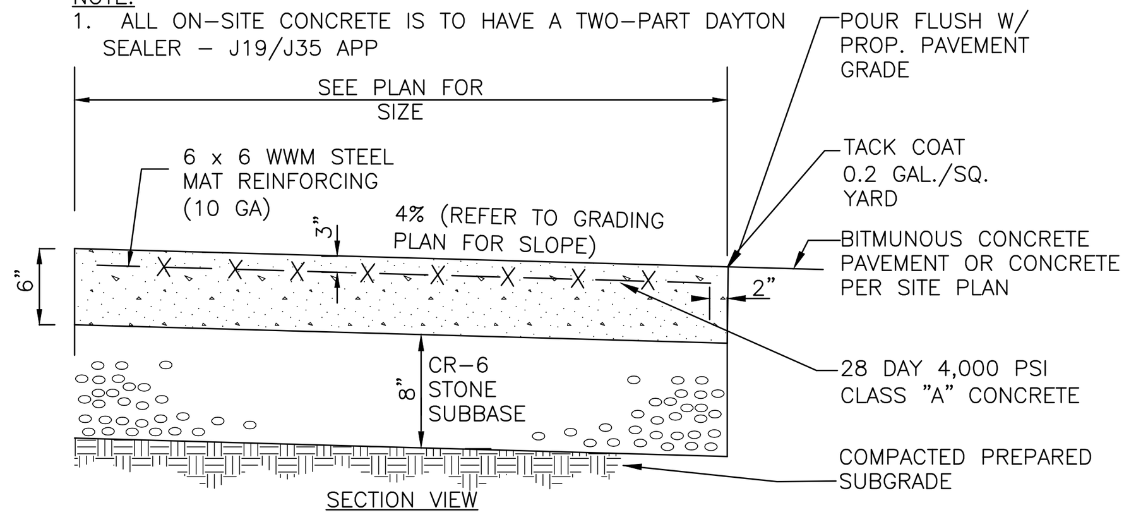
NOTES:

1. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4,000 P.S.I. CONCRETE.
2. PROVIDE EXPANSION JOINT MATERIAL WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER PLUS SEALANT FLUSH WITH ADJACENT CONCRETE SURFACE.
3. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
4. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.
5. SLOPES WITHIN HANDICAP PARKING SPACES AND ACCESS AISLE SHALL BE 2% OR LESS IN ALL DIRECTIONS.

ON-LOT ACCESSIBLE PARKING CURB RAMP DETAIL

NOT TO SCALE

NOTE:
1. ALL ON-SITE CONCRETE IS TO HAVE A TWO-PART DAYTON SEALER – J19/J35 APP

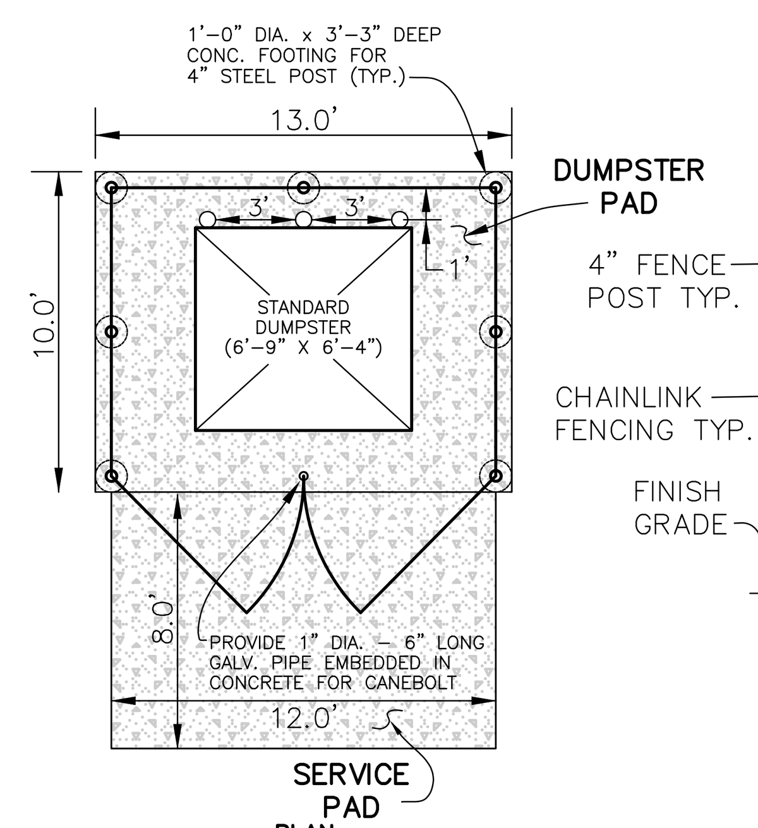


CONCRETE PAD DETAIL @ TRASH ENCLOSURE

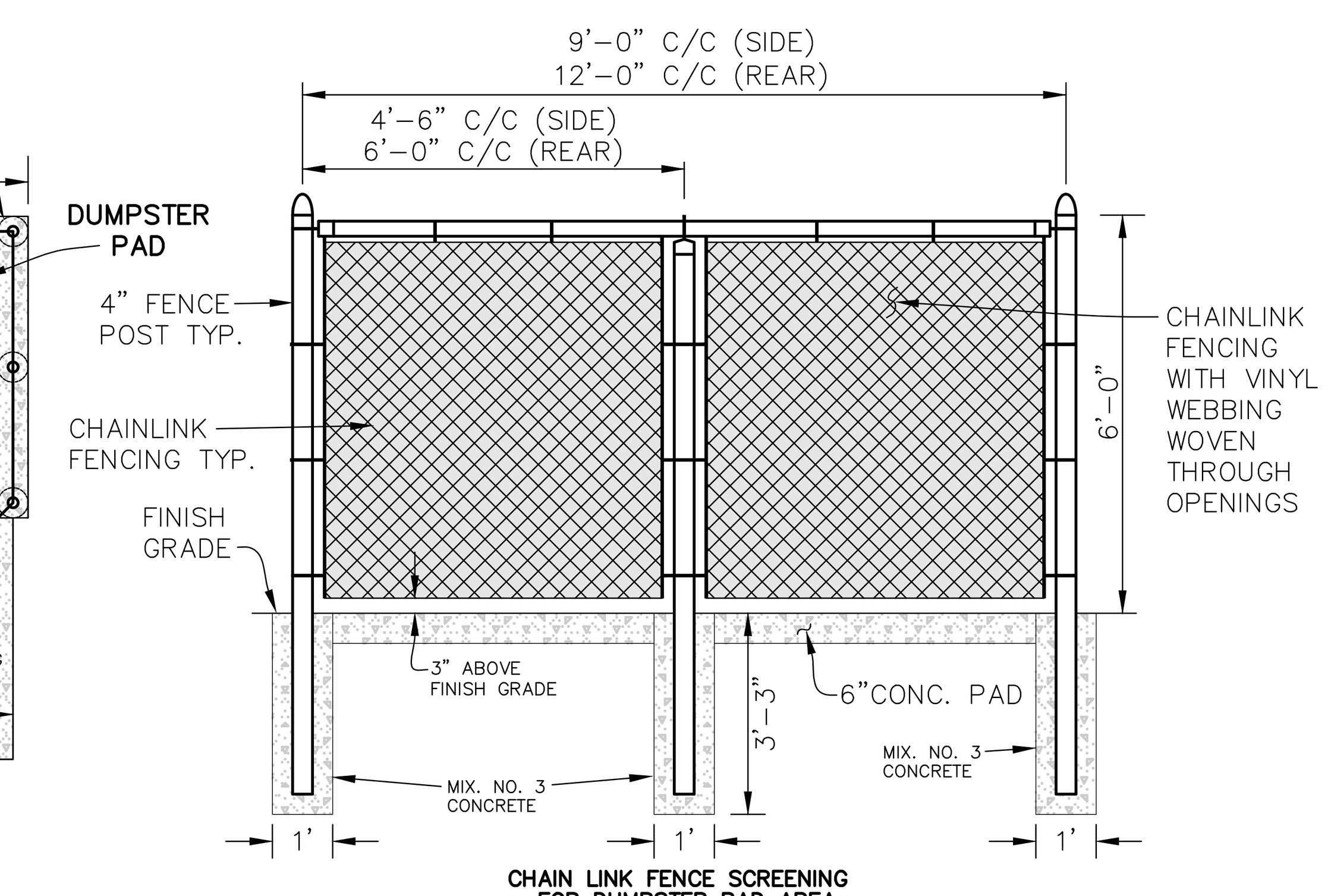
NOT TO SCALE

LEGEND

SOILS CLASSIFICATION	GgB
SOILS DELINEATION	
EXISTING CONTOURS	480 / 478
EXISTING TREE LINE	
EXISTING UTILITY POLE	
EXISTING 100 YR FLOODPLAIN EASEMENT PLAT 19263	
SLOPES 15% TO 14.99%	
SLOPES 25% OR GREATER	
SLOPES 25% OR GREATER	
LIMIT OF DISTURBANCE	
PRIVATE EASEMENT PLAT 19263	
PUBLIC EASEMENT PLAT 19263	
PROPOSED STRUCTURE	
EFFECTIVE AREA	
BGE GREEN ZONE	
BGE YELLOW ZONE	
BUILDING ENTRANCE	▽



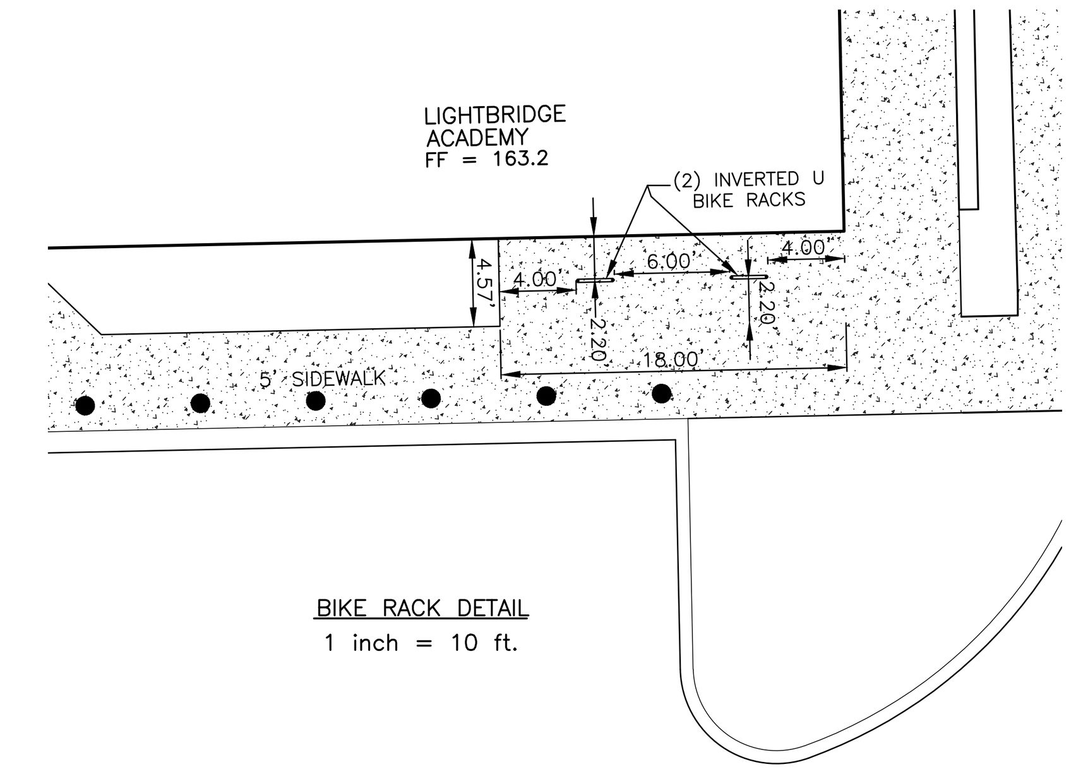
PLAN
DUMPSTER ENCLOSURE
NOT TO SCALE



CHAIN LINK FENCE SCREENING FOR DUMPSTER PAD AREA
NOT TO SCALE

NOTE: BASED ON HO. CO. STD. R-11.02

DUMPSTER ENCLOSURE DETAILS



BIKE RACK DETAIL
1 inch = 10 ft.

HOWARD COUNTY BIKE RACKS TYPE AND PLACEMENT GUIDANCE

PRODUCED BY THE HOWARD COUNTY OFFICE OF TRANSPORTATION
BASED ON THE ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS'
ESSENTIALS OF BIKE PARKING, USED UNDER CC-BY-NC 4.0

BIKE RACK TYPE SPECIFICATIONS

THE RACK MUST:
- SUPPORT THE BICYCLE FRAME IN AT LEAST 2 PLACES, ALLOWING THE FRAME AND WHEEL TO BE LOCKED USING A U-LOCK OR CABLE LOCK
- PREVENT THE WHEEL OF THE BICYCLE FROM TIPPING OVER
- NOT DAMAGE THE BICYCLE
- BE DURABLE AND SECURELY ANCHORED
- ALLOW FRONT-IN OR BACK-IN PARKING

ACCEPTABLE BIKE RACK TYPES

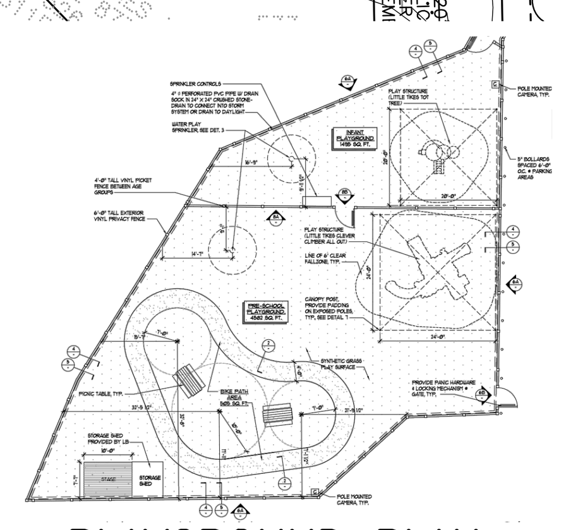
INVERTED U ALSO CALLED STAPLE, LOOP — COMMON STYLE APPROPRIATE FOR MANY USES; TWO POINTS OF GROUND CONTACT. CAN BE INSTALLED IN SERIES ON RAILS TO CREATE A FREE-STANDING PARKING AREA IN VARIABLE QUANTITIES. AVAILABLE IN MANY VARIATIONS.

POST & RING — COMMON STYLE APPROPRIATE FOR MANY USES; ONE POINT OF GROUND CONTACT. COMPARED TO INVERTED-U RACKS, THESE ARE LESS PRONE TO UNINTENDED PERPENDICULAR PARKING. PRODUCTS EXIST FOR CONVERTING UNUSED PARKING METER POSTS.

UNACCEPTABLE BIKE RACK TYPES

WAVE ALSO CALLED UNDULATING OR SERPENTINE — NOT INTUITIVE OR USER-FRIENDLY; REAL-WORLD USE OF THIS STYLE OFTEN FALLS SHORT OF EXPECTATIONS; SUPPORTS BIKE FRAME AT ONLY ONE LOCATION EVEN WHEN USED AS INTENDED

SCHOOLYARD ALSO CALLED COMB, GRID — DOES NOT ALLOW LOCKING OF FRAME AND CAN LEAD TO WHEEL DAMAGE

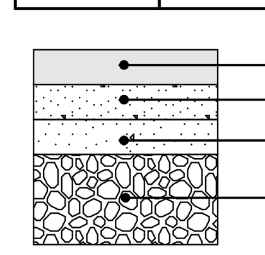


PLAYGROUND PLAN

NOT TO SCALE

(IN FEET)
1 inch = 30 ft.

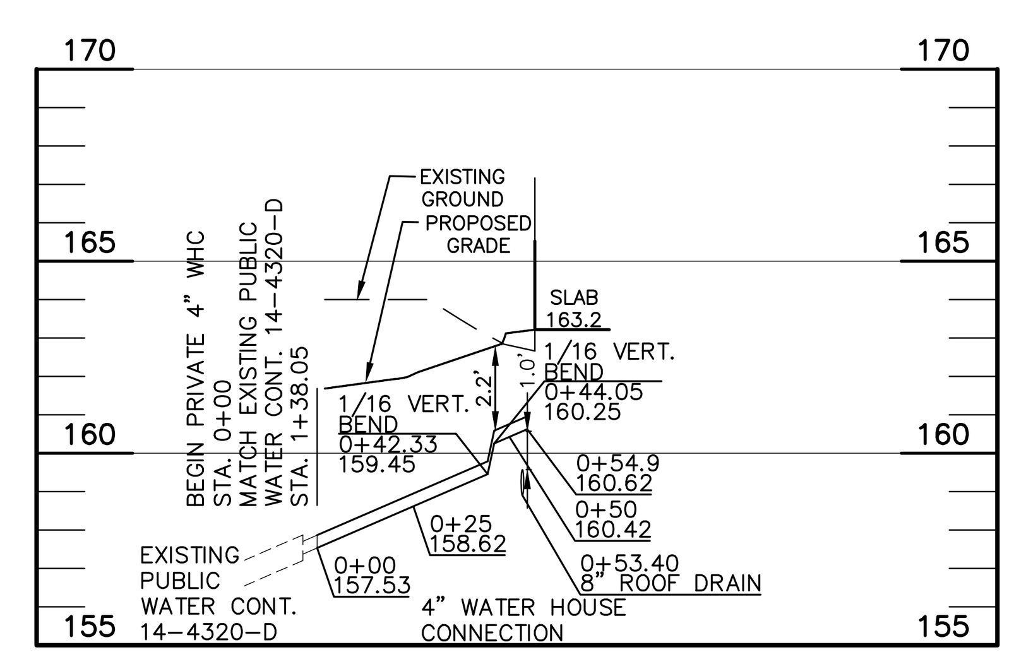
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY; LOCAL ROADS: ACCESS PLACE, ACCESS STREET; CUL-DE-SAC: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM PG 64-22, LEVEL 1 (LOW ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0



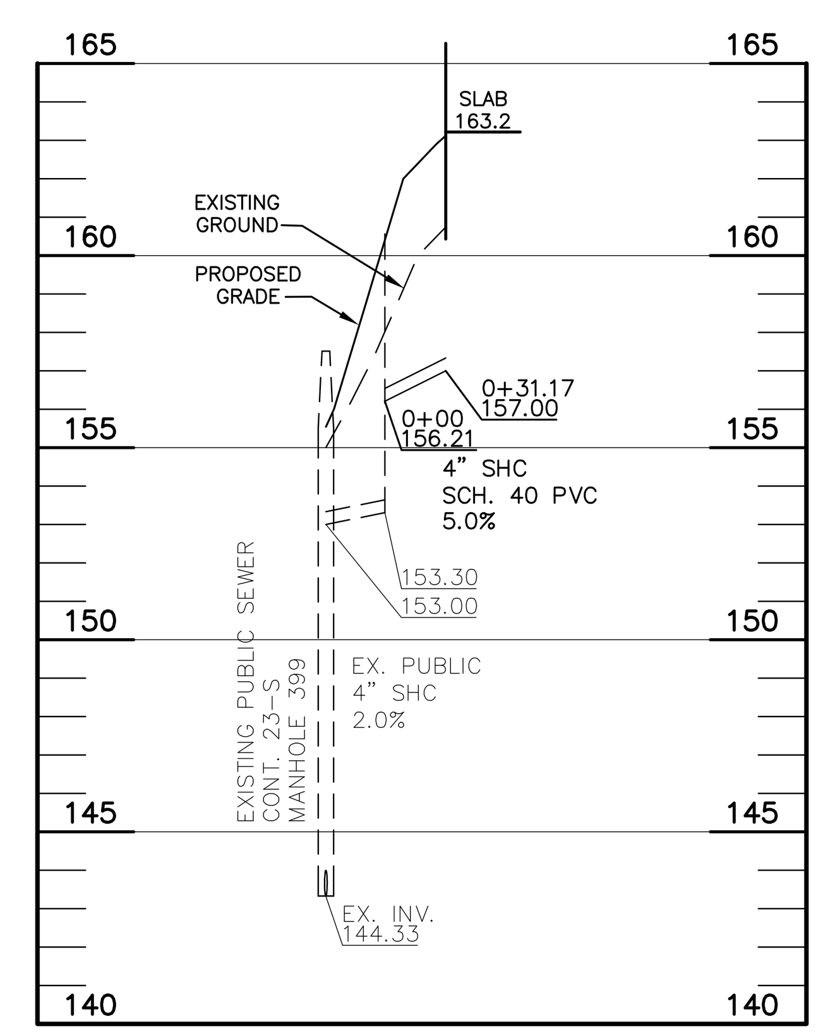
P-2 PAVING DETAIL

SOILS CHART HOWARD SOIL SURVEY PAGE 20				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME	k-VALUE
Fa*	YES	D	FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24
RsD		C	RUSSETT FINE SANDY LOAM, 10 TO 15 PERCENT SLOPES	0.43
SrE		B	SASSAFRAS AND CROOM SOIL, 15 TO 25 PERCENT SLOPES	0.32
UcB		D	URBAN LAND- CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	
UtD		D	URBAN LAND-UDORTHENTS COMPLEX, 0 TO 15 PERCENT SLOPES	

** HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES
TAKEN FROM THE NRCS WEB SOIL SURVEY MARCH, 2021, MAP 20.



WATER HOUSE CONNECTION
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



SEWER HOUSE CONNECTION
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499...	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: 1EB75478A22B49A...	5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Lynda Eisenberg 4220B635863942E...	5/13/2024
DIRECTOR	DATE

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney
04/24/2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

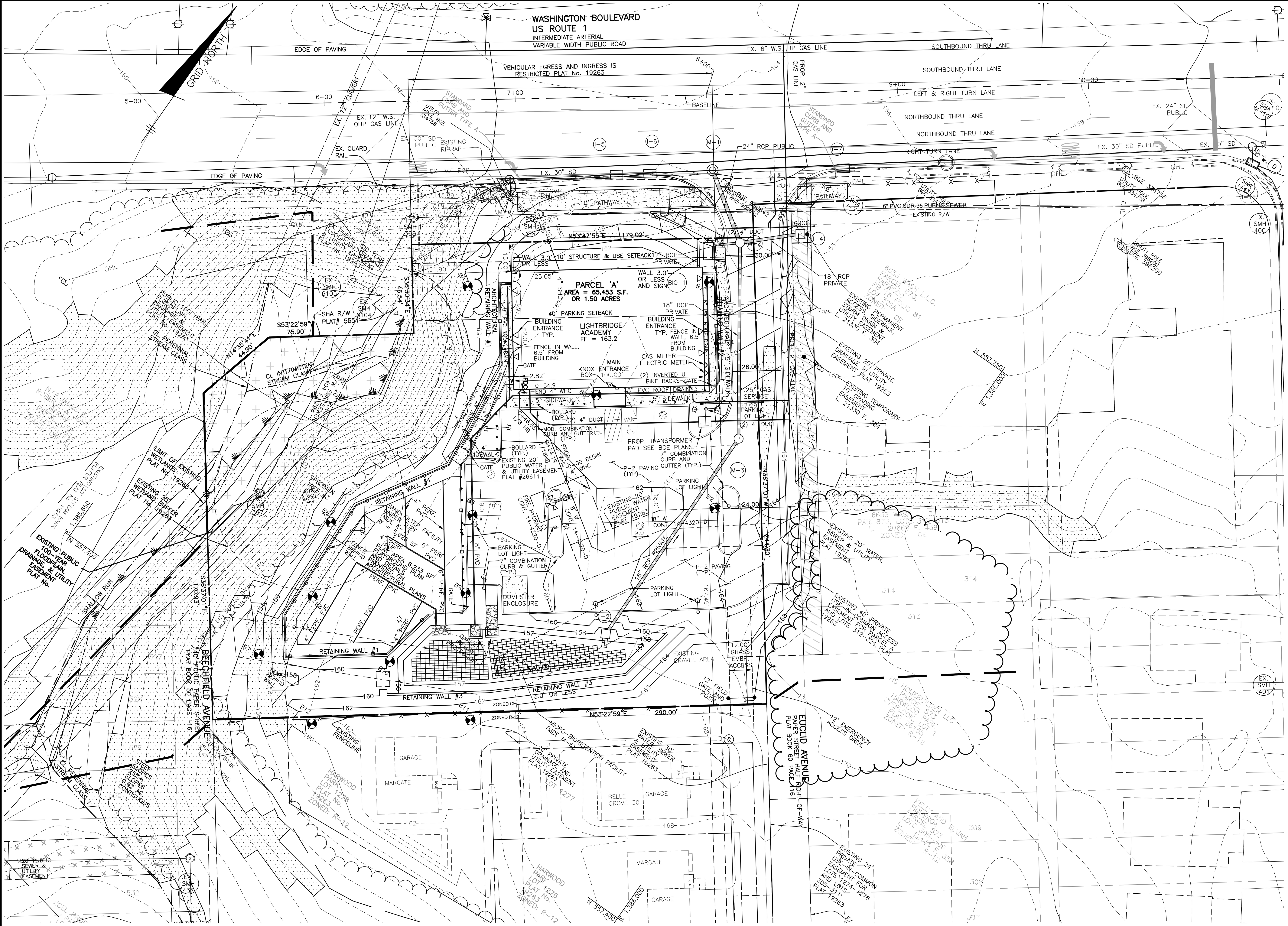
LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **PARCEL 'A' GEOMETRY PLAN AND WATER HOUSE CONNECTION & SEWER HOUSE CONNECTION PROFILES**

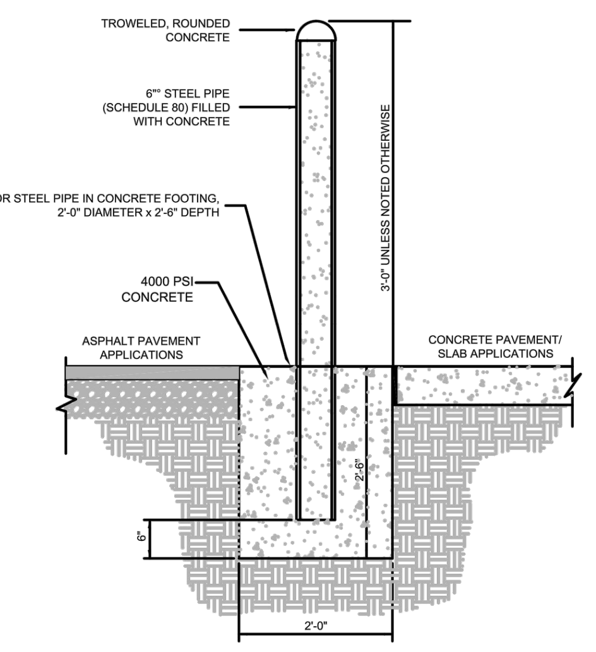
DATE:	JANUARY, 2024	PROJECT NO.	1465
SCALE:	AS SHOWN	SHEET 2	OF 15

DRAFT: JC | DESIGN: JC | CHECK: JC

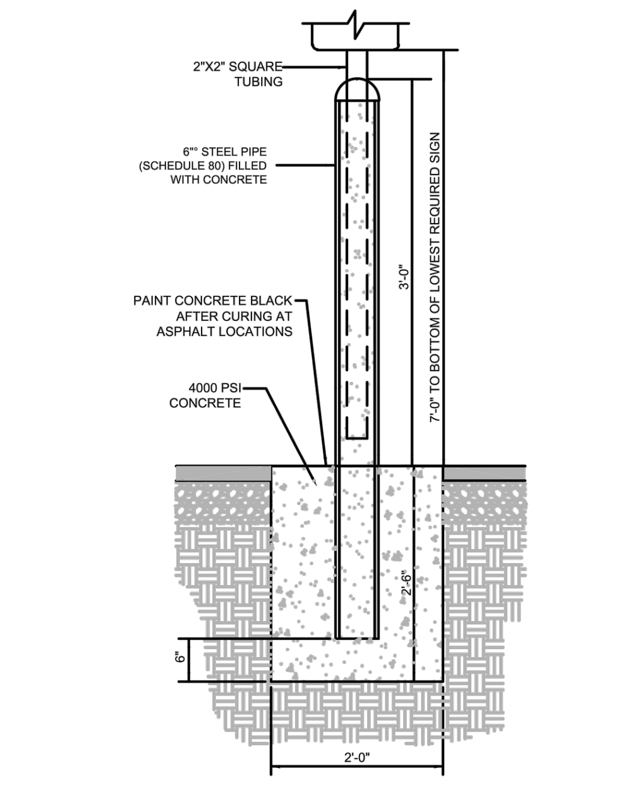
SDP-22-056



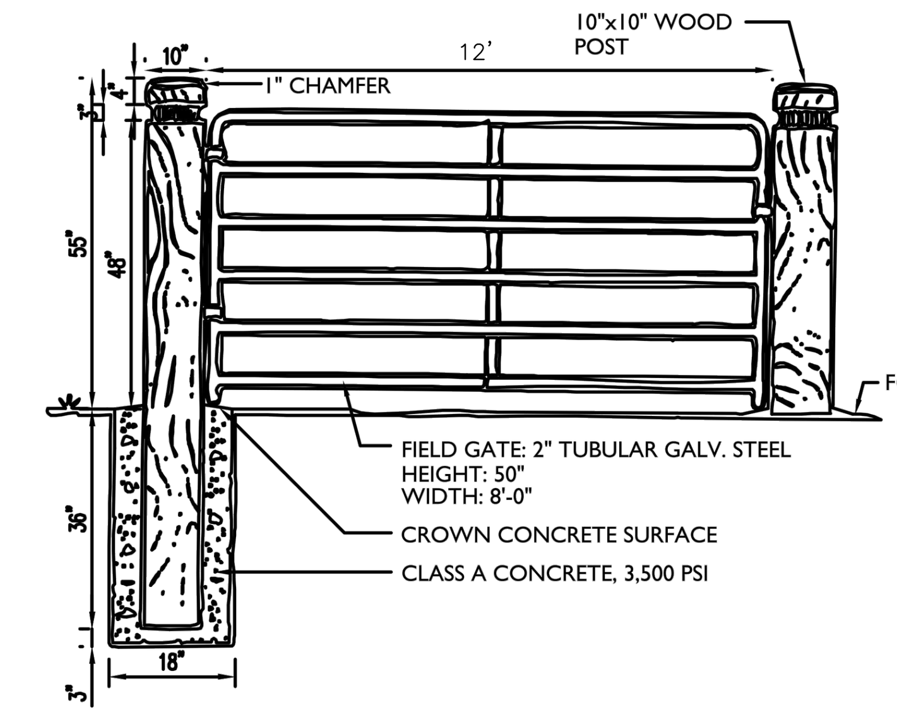
PLAN VIEW
1" = 30'



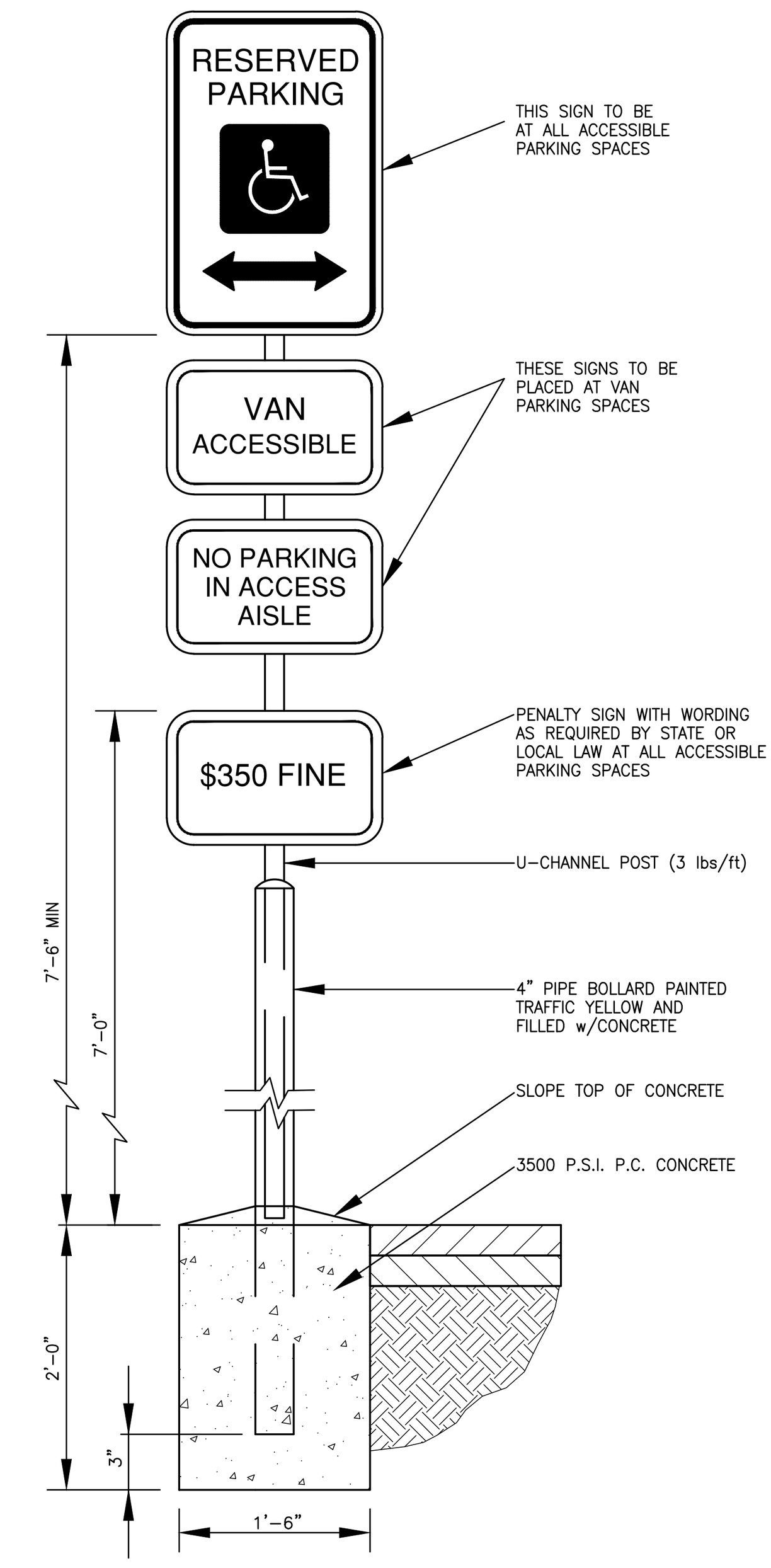
CONCRETE BOLLARD
N.T.S



BOLLARD MOUNTED SIGN DETIAL
N.T.S

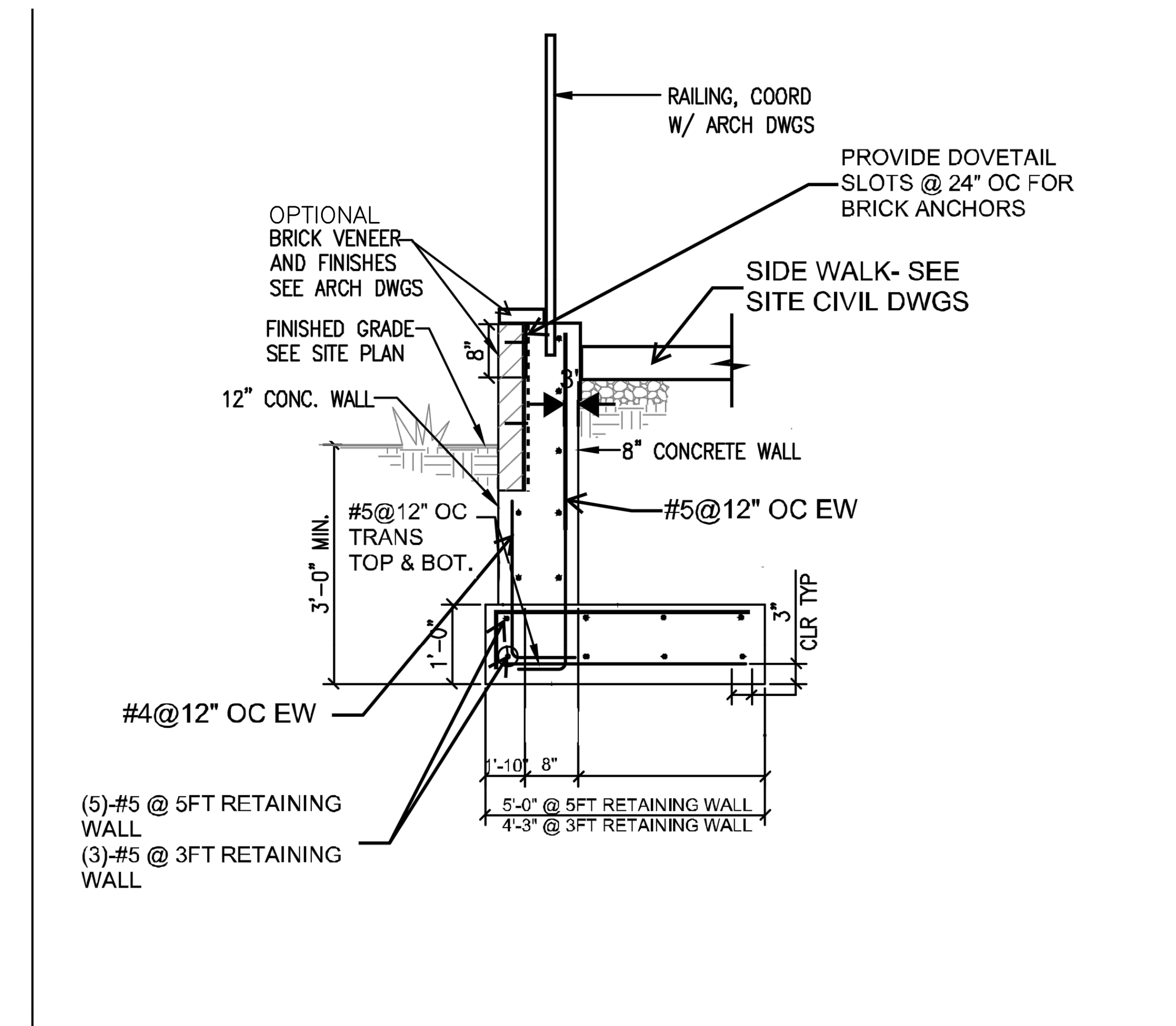


FIELD GATE & POST DETAIL
N.T.S.



POLE MOUNTED DETAIL

ADA POLE DETAIL
NOT TO SCALE



Client: JAM Architects
MPP Project # 21-0699

MPP Engineers LLC
34 S. Main Street, Suite D
Allentown, NJ 08501
Phone: (609) 489-5511

Site Retaining Wall Design Sketch

PLOT SCALE	DATE	DRAWN BY	DES. BY	SKETCH NO:
NONE	10/25/21	HS	HS	SK-S1

LEGEND

SOILS CLASSIFICATION	GgB
SOILS DELINEATION	
EXISTING CONTOURS	480 / 478
EXISTING TREE LINE	
EXISTING UTILITY POLE	
EXISTING 100 YR FLOODPLAIN EASEMENT PLAT 19263	
SLOPES 15% TO 14.99%	
SLOPES 25% OR GREATER	
SLOPES 25% OR GREATER	
LIMIT OF DISTURBANCE	
PRIVATE EASEMENT PLAT 19263	
PUBLIC EASEMENT PLAT 19263	
PROPOSED STRUCTURE	
EFFECTIVE AREA	
BUILDING ENTRANCE	

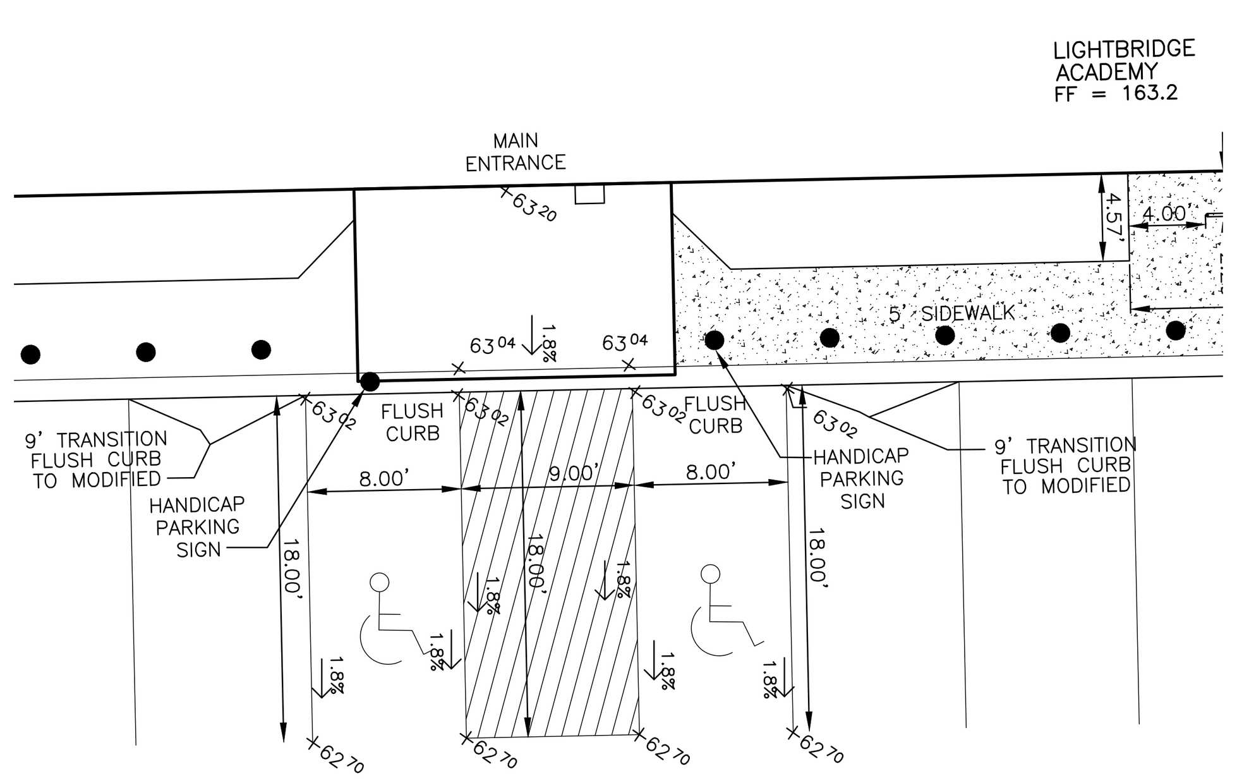
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

SOILS CHART HOWARD SOIL SURVEY PAGE 20				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME	k-VALUE
Fa*	YES	D	FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24
RsD		C	RUSSETT FINE SANDY LOAM, 10 TO 15 PERCENT SLOPES	0.43
SrE		B	SASSAFRAS AND CROOM SOIL, 15 TO 25 PERCENT SLOPES	0.32
UcB		D	URBAN LAND- CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	
UtD		D	URBAN LAND-UDORTHENTS COMPLEX, 0 TO 15 PERCENT SLOPES	

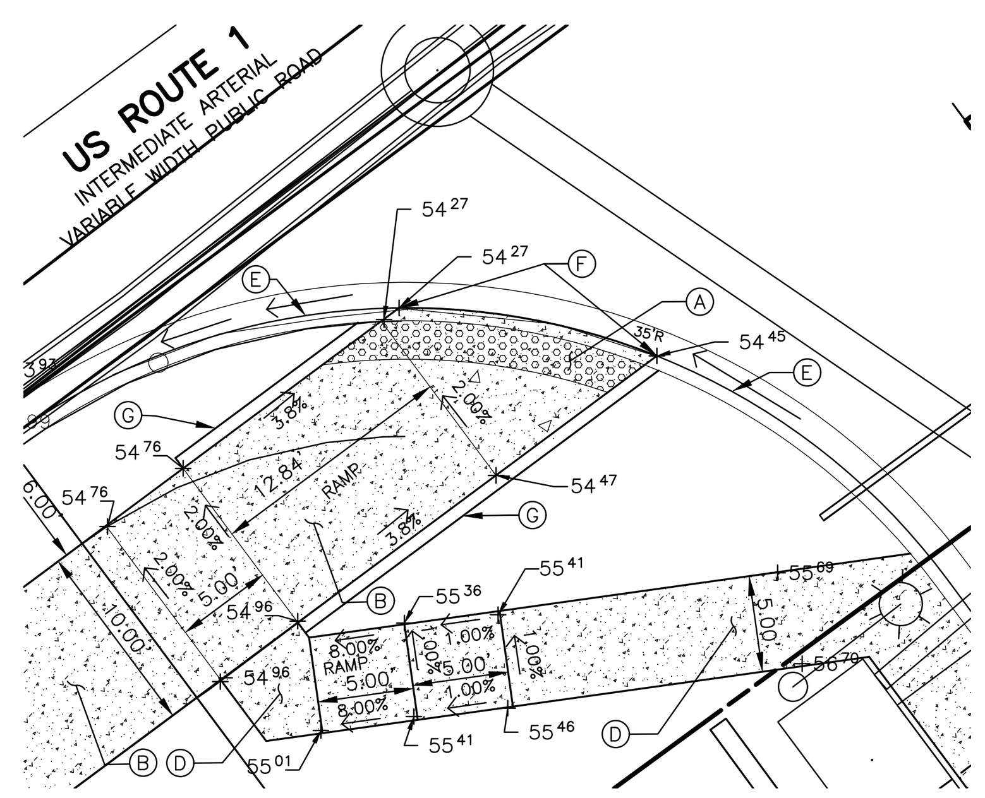
** HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY MARCH, 2021, MAP 20.

SIDEWALK RAMP CONSTRUCTION DETAILS

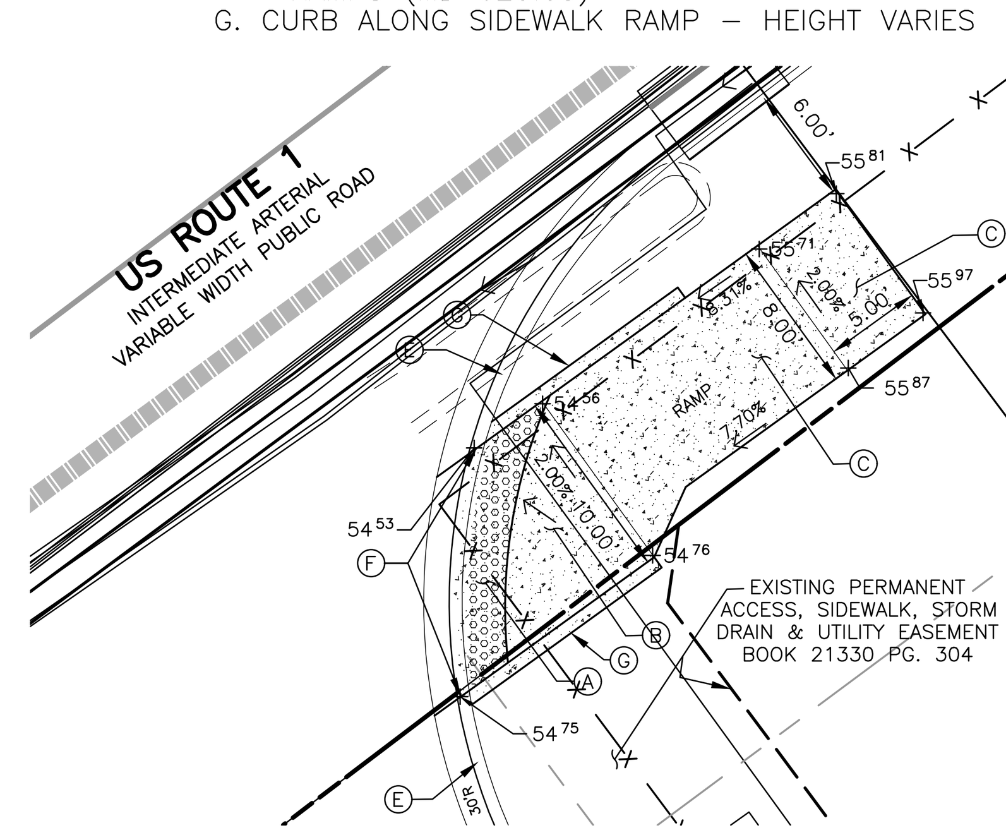
A. INSTALL SIDEWALK RAMPS PERPENDICULAR (MD 655.11) WITH DETECTABLE WARNING SURFACE (MD 655.40).
B. INSTALL 10' MULTI-USE PATHWAY.
C. INSTALL 8' MULTI-USE PATHWAY.
D. INSTALL 5' SIDEWALK.
E. INSTALL TYPE 'A' COMBINATION CURB AND GUTTER.
F. INSTALL DEPRESSED CURB FOR COMBINATION CONCRETE CURB & GUTTER FOR SIDEWALK RAMPS (MD 620.03)
G. CURB ALONG SIDEWALK RAMP – HEIGHT VARIES



HANDICAP PARKING SPACE AND ROUTE DETAIL
1" = 10'



SIDEWALK RAMP SOUTHWEST
1" = 10'



SIDEWALK RAMP SOUTHEAST
1" = 10'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499...	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: 1EB75478A22B49A...	5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Lynda Eisenberg 4220B635863942E...	5/13/2024
DIRECTOR	DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND – JOHN M. CARNEY – 45577 – PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney
04/24/2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

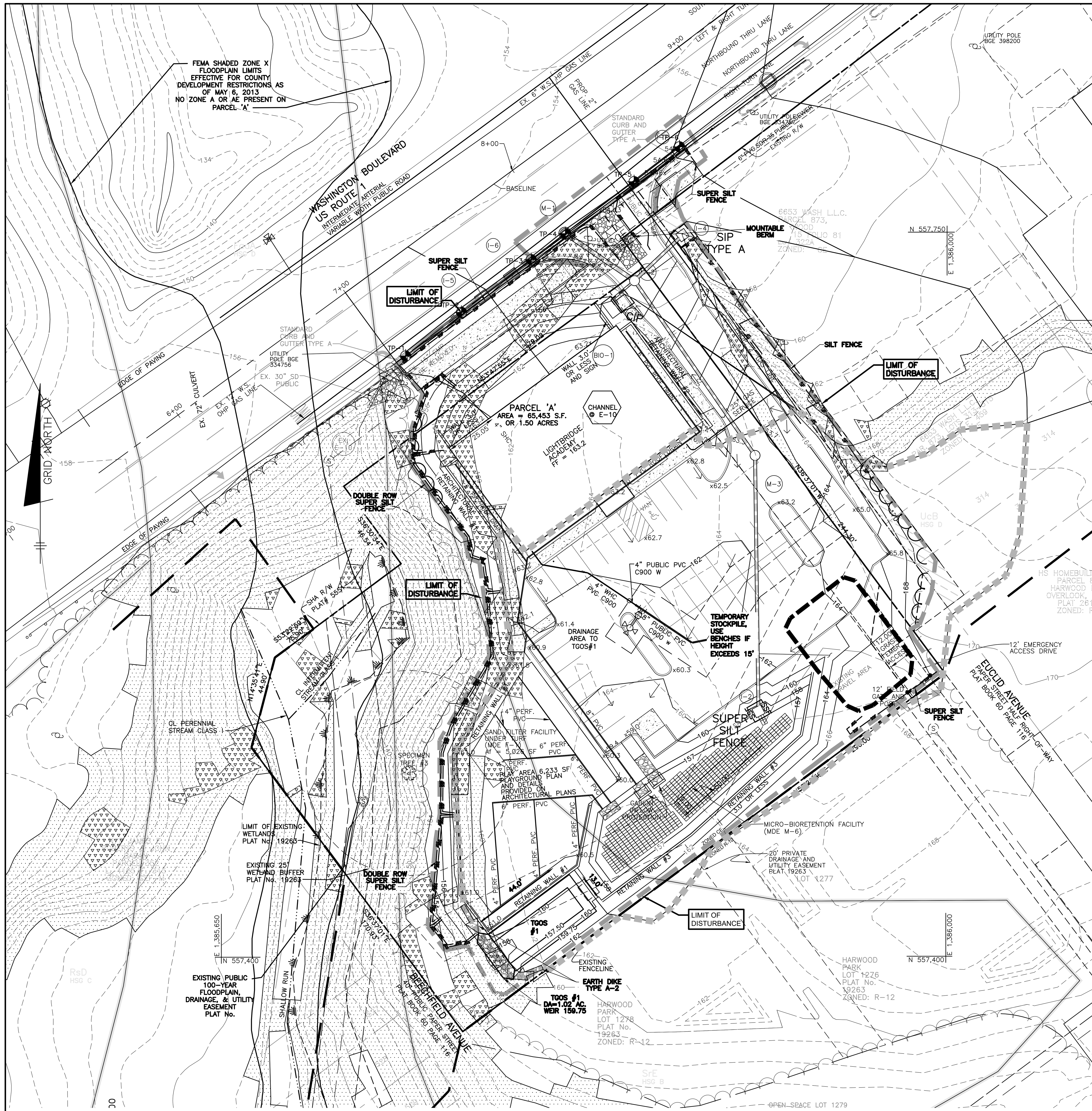
LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **PARCEL 'A' SITE DEVELOPMENT PLAN**

DATE:	JANUARY, 2024	PROJECT NO.	1465
SCALE:	AS SHOWN	SHEET 3	OF 15

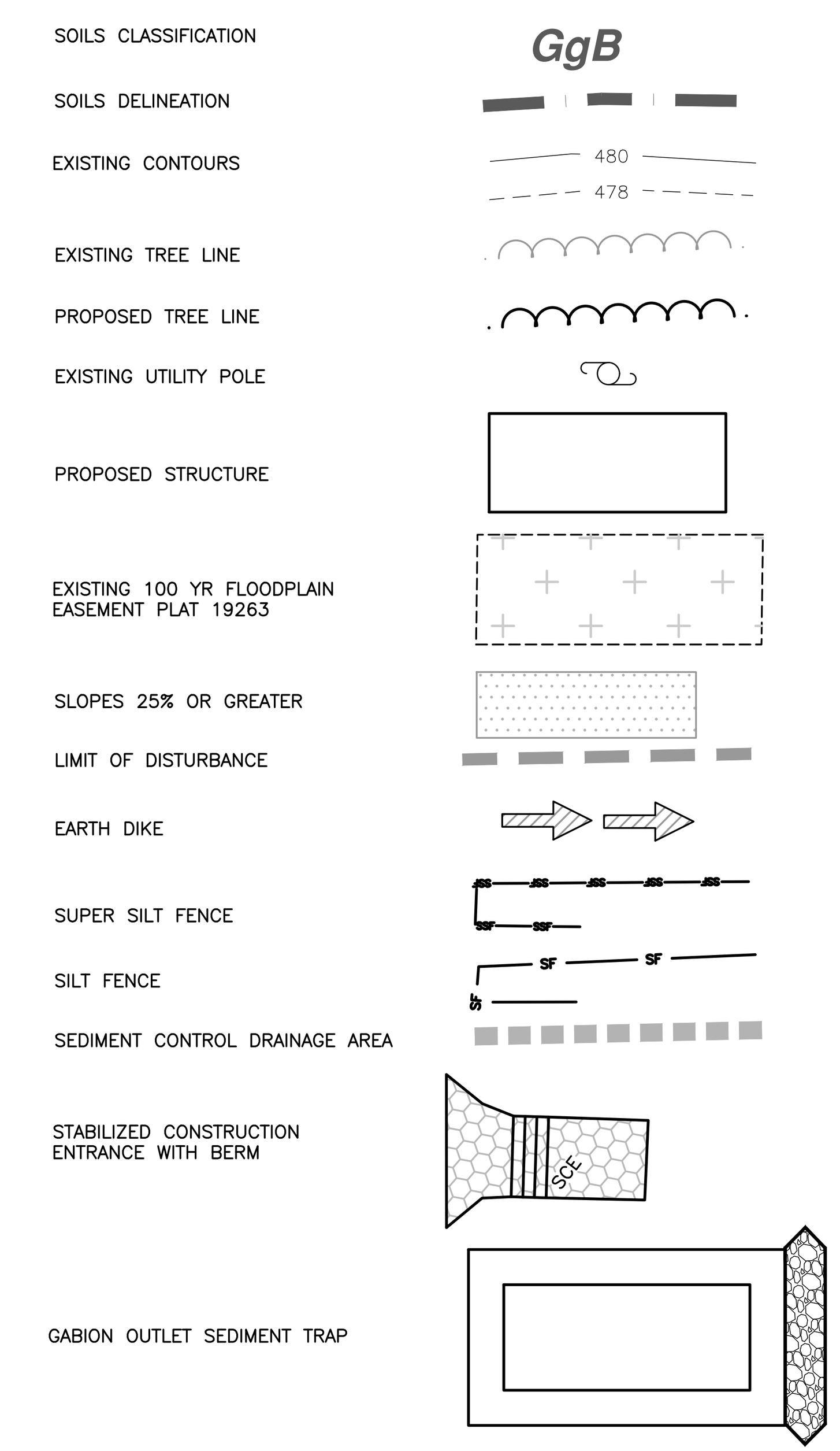
DRAFT: JC | DESIGN: JC | CHECK: JC

SDP-22-056



Temporary Stone/Gabion Outlet Structure												
Designation	Drainage Area		Practice	Volume	Ground	Embankment	Weir	Pond	Bottom Width	Bottom Length	Volume	Adequate
	SF	Acres		Required	Elev.	Elev.	Elev.	Bottom	at Weir	Uphill of Weir	Provided	Volume?
#1	44254	1.02	TGOS	1829	159.00	160.50	159.75	157.50	12.00	44.00	1846.125	Yes

LEGEND



SOILS CHART HOWARD SOIL SURVEY PAGE 20				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME	k-VALUE
Fa*	YES	D	FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24
RsD		C	RUSSETT FINE SANDY LOAM, 10 TO 15 PERCENT SLOPES	0.43
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** HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY MARCH, 2021, MAP 20.

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF ANY WORK.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

SILT FENCE MAY BE REPLACED BY SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

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

DocuSigned by: Alexander Bratchie 65648D5BA9B64C1... 5/7/2024
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499... 5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DocuSigned by: [signature] 1EB75478A22B49A... 5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DocuSigned by: Lynda Eisenberg 4220B635863942E... 5/13/2024
DIRECTOR — DATE

DEVELOPER'S CERTIFICATE

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

Robert B. Jones 1/31/2024
DEVELOPER — DATE

ENGINEER'S CERTIFICATE

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

John M. Carney 1/31/2024
ENGINEER – JOHN M. CARNEY # 45577 — DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT: **EUCLID CORNERS**
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

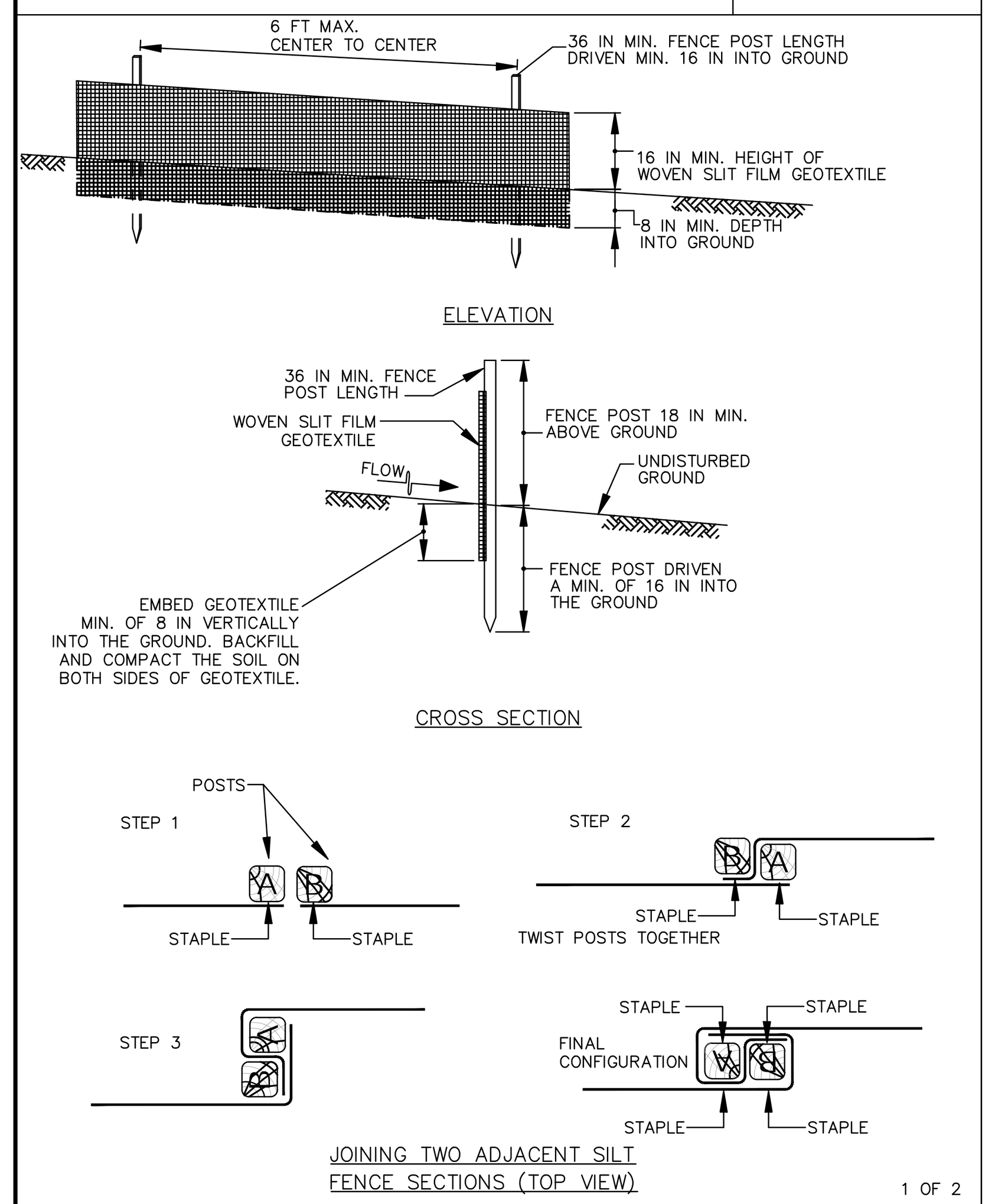
TITLE: **PARCEL 'A' GRADING AND SEDIMENT & EROSION CONTROL PLAN**

DRAFT: JC	DESIGN: JC	CHECK: JC	DATE: JANUARY, 2024	PROJECT NO. 1465	
			SCALE: AS SHOWN	SHEET 4	OF 15

SDP-22-056

DETAIL E-1 SILT FENCE

STANDARD SYMBOL ├──SF──┤



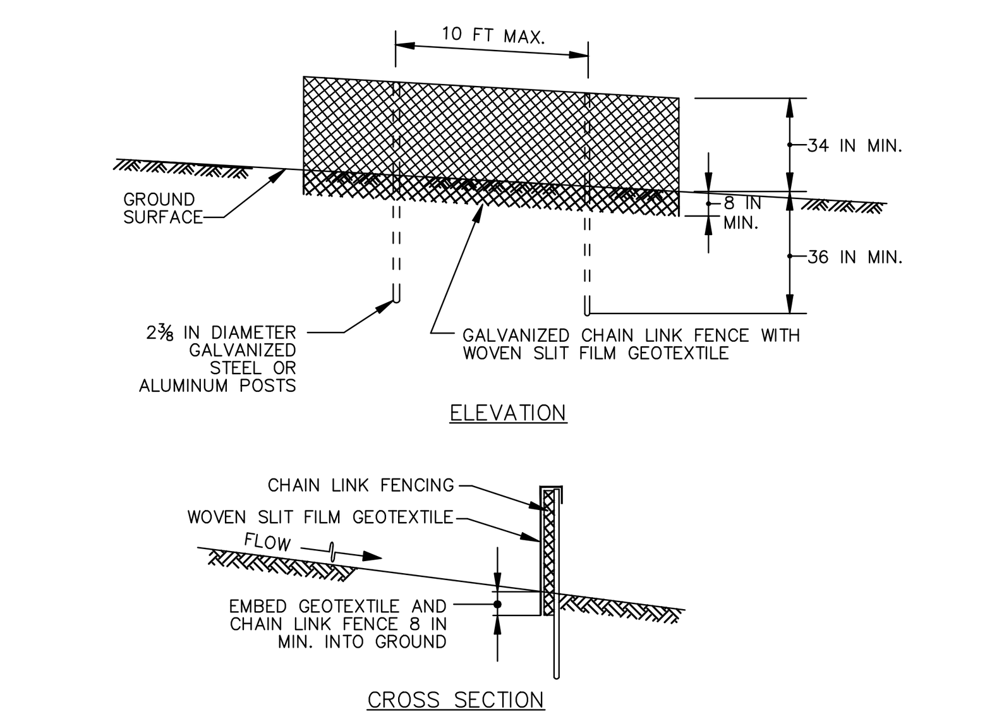
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL ├──SSF──┤



CONSTRUCTION SPECIFICATIONS

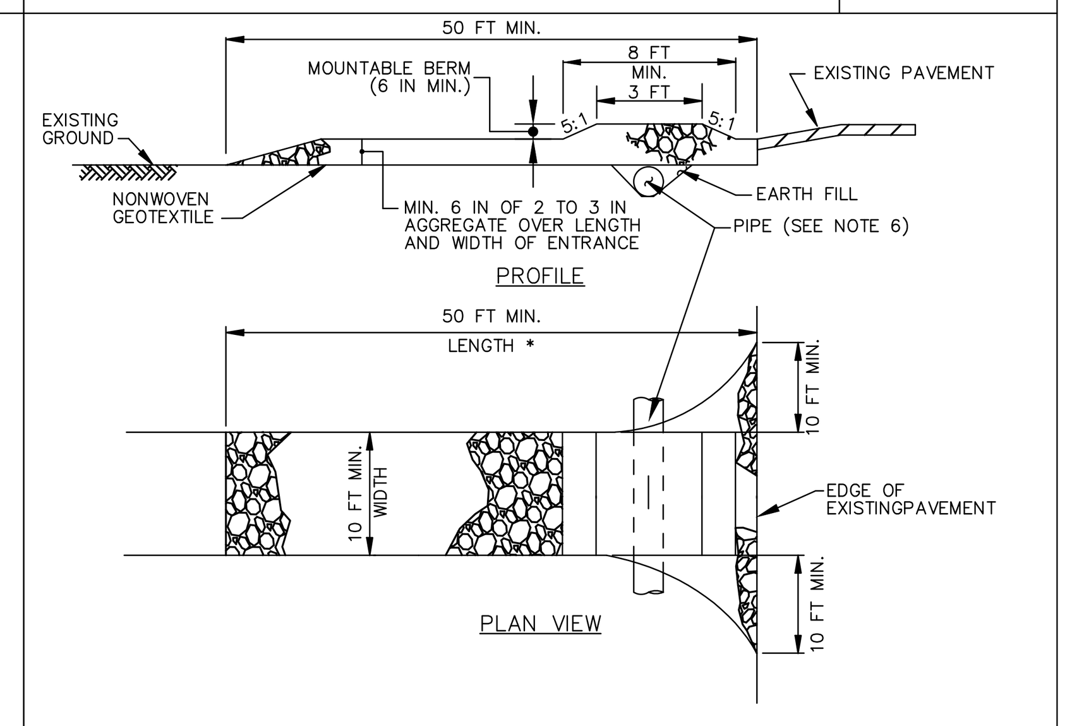
1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

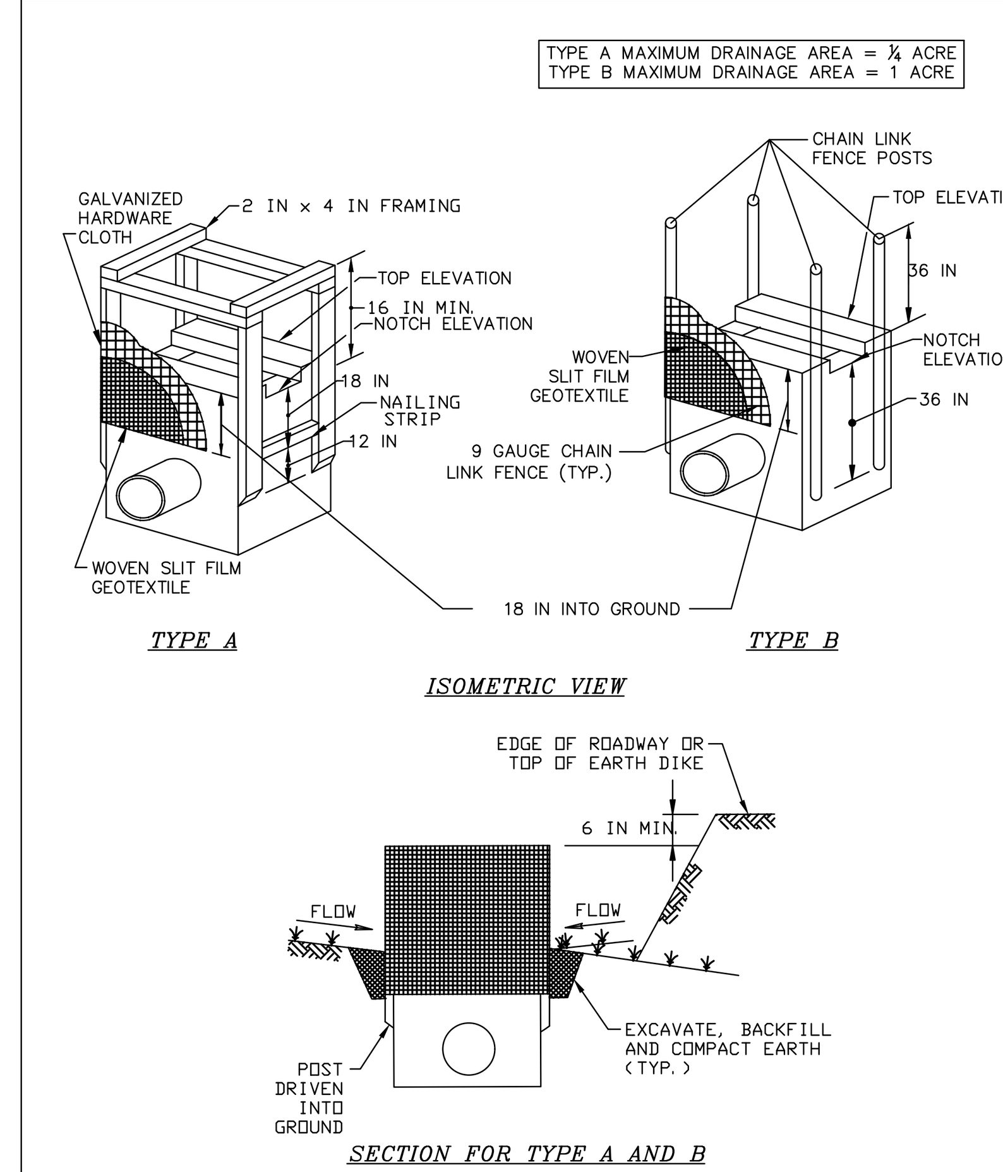
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

TYPE A MAXIMUM DRAINAGE AREA = ¼ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL ├──SF──┤

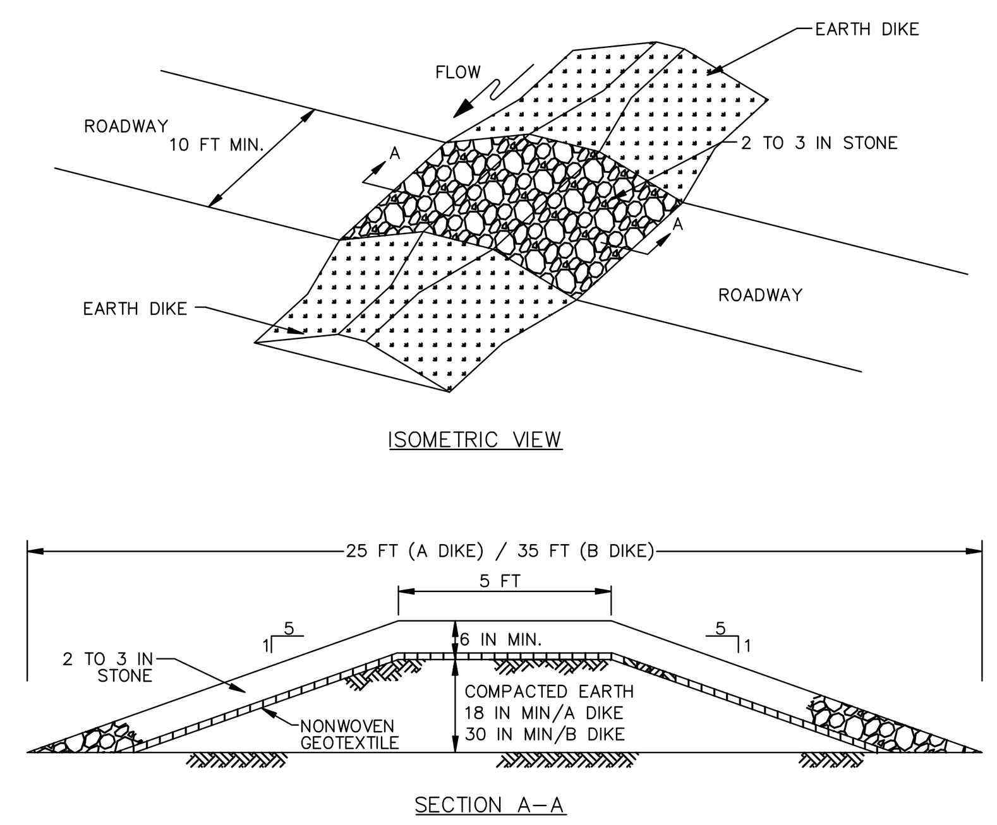
CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅟₁₆ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL MB



CONSTRUCTION SPECIFICATIONS

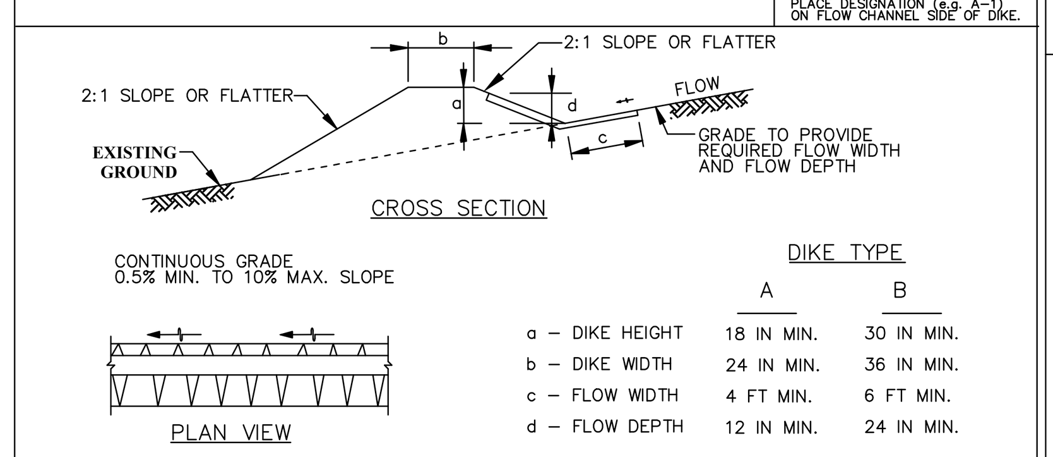
1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL C-1 EARTH DIKE

STANDARD SYMBOL A–1 PLACE DESIGNATION (e.g. A–1) ON FLOW CHANNEL SIDE OF DIKE.



DIKE TYPE

	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A–1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A–2/B–2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

A–3/B–3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

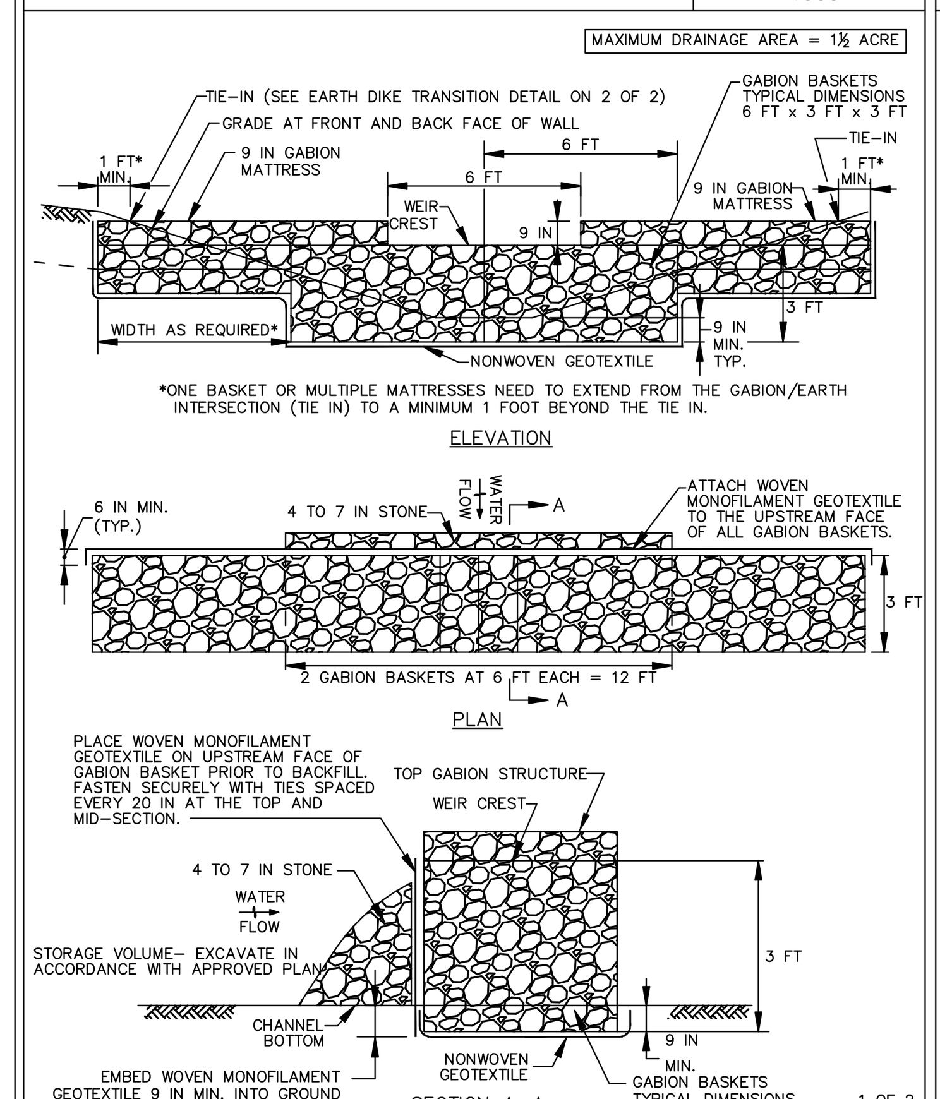
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL TGOS

MAXIMUM DRAINAGE AREA = 1½ ACRE



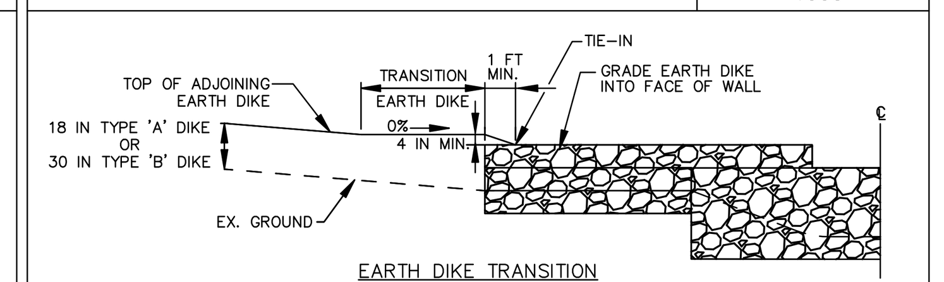
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE

STANDARD SYMBOL TGOS



NOTES:

1. PROVIDE TRANSITION LENGTH AND HEIGHT AS SPECIFIED ON PLAN. HEIGHT OF TRANSITION EARTH DIKE MUST EXCEED 4 INCH MINIMUM FREEBOARD ABOVE TOP OF GABION AND EXTEND AT THIS ELEVATION UNTIL IT INTERCEPTS THE TOP OF ADJOINING EARTH DIKE.
2. PROVIDE POSITIVE DRAINAGE ALONG EARTH DIKE TO GABION OUTLET STRUCTURE.
3. COMPACT FILL.
4. SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED ON PLAN. BANK PROJECTIONS OR IRREGULARITIES ARE NOT ALLOWED.

CONSTRUCTION SPECIFICATIONS

1. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
2. USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.
3. USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H–1 MATERIALS.
4. INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
5. EMBED THE GABION OUTLET STRUCTURE INTO THE SOIL A MINIMUM OF 9 INCHES. PROVIDE NONWOVEN GEOTEXTILE UNDER ALL GABIONS.
6. FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WIRE MESH.
7. MAKE THE WEIR CREST OF THE GABION OUTLET STRUCTURE 9 INCHES LOWER THAN THE TOP OF THE ADJACENT GABIONS.
8. PROVIDE A MINIMUM WEIR CREST OF 6 FEET.
9. ATTACH WOVEN MONOFILAMENT GEOTEXTILE TO THE UPSTREAM FACE OF GABION BASKETS AND COVER WITH 4 TO 7 INCH STONE.
10. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 12 INCHES OF THE WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO FUNCTION. MAINTAIN LINE, GRADE, AND CROSS SECTION.
11. UPON REMOVAL OF GABION OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

2 OF 2

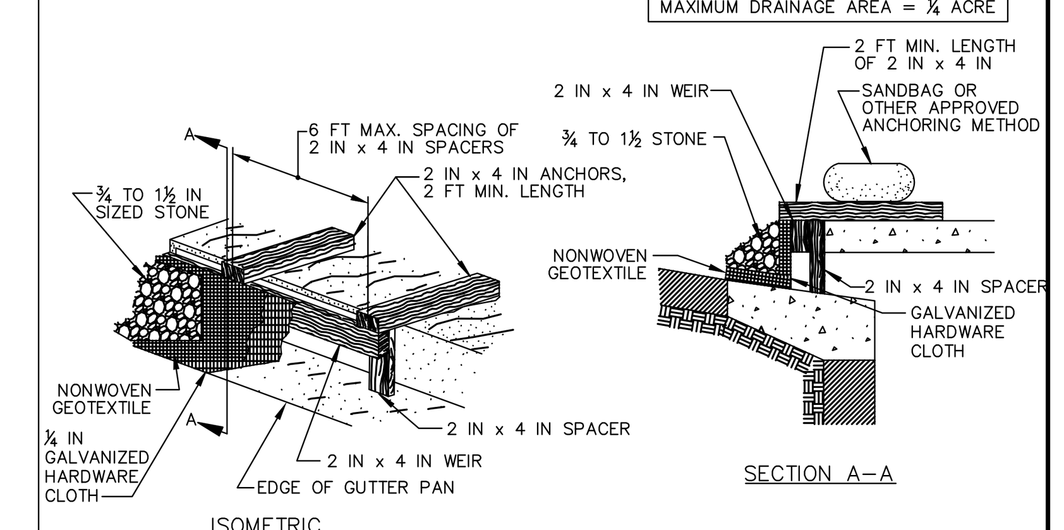
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON–SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

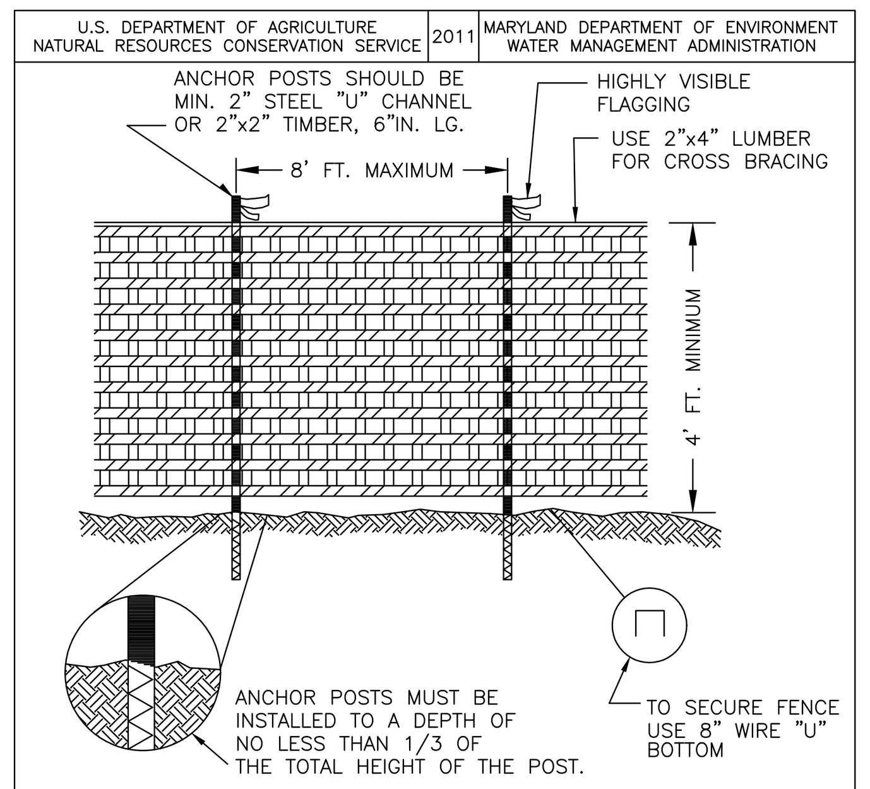
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF ANY WORK.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

SILT FENCE MAY BE REPLACED BY SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

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



NOTES:

1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
4. AVOID ROOT DAMAGE WHEN PLACING ANCHOR POSTS.
5. DEVICE SHOULD BE PROPERLY MAINTAINED DURING CONSTRUCTION
6. PROTECTIVE SIGNAGE IS ALSO REQUIRED.

TEMPORARY TREE PROTECTION FENCE

SCALE: NTS

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

DocuSigned by: Alexander Bratchie 65648D5BA9B64C1... 5/7/2024

HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499... 5/10/2024

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DocuSigned by: [signature] 1EB75478A22B49A... 5/8/2024

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DocuSigned by: Lynda Eisenberg 4220B635863942E... 5/13/2024

DIRECTOR — DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON–SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Robert B. Jones 1/31/2024

DEVELOPER — DATE

ENGINEER'S CERTIFICATE

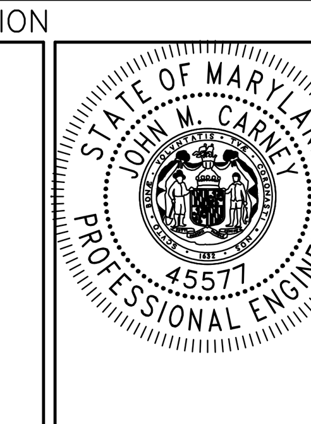
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John M. Carney 1/31/2024

ENGINEER – JOHN M. CARNEY # 45577 — DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410–465–6105 (F) 410–465–6644
WWW.BEI–CIVILENGINEERING.COM



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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410–977–3015

PROJECT: **EUCLID CORNERS**
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **PARCEL 'A' SEDIMENT AND EROSION CONTROL NOTES AND DETAILS**

DATE: JANUARY, 2024	PROJECT NO. 1465
SCALE: AS SHOWN	SHEET 5 OF 15

DRAFT: JC	DESIGN: JC	CHECK: JC

SDP–22–056

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Definition: Using vegetation as cover to protect exposed soil from erosion.
Purpose: To promote the establishment of vegetation on exposed soil.
Conditions Where Practice Applies: On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.
Effects on Water Quality and Quantity: Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.
1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

Definition: Establishment of vegetative cover on cut and fill slopes.
Purpose: 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.
Criteria:
A. Incremental Stabilization - Cut Slopes
1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
2. Construction sequence example (Refer to Figure B.1):
a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

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

B. Incremental stabilization - fill slopes
1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. prepare seedbed and apply seed and mulch on all slopes as the work progresses.
2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
3. 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.
4. Construction sequence example (refer to figure b.2):
a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. construct silt fence on low side of fill unless other methods shown on the plans address this area.
b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface 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.
e. Place final phase fill, prepare seedbed, and stabilize. overseed previously seeded areas as necessary.

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 application of temporary stabilization. figure b.

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

Definition: The process of preparing the soils to sustain adequate vegetative stabilization.
Purpose: To provide a suitable soil medium for vegetative growth.
Conditions Where Practice Applies: Where vegetative stabilization is to be established.
Criteria
A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
i. Soil pH between 6.0 and 7.0.
ii. 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 love-grass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
iv. Soil contains 1.5 percent minimum organic matter by weight.
v. Soil contains sufficient pore space to permit adequate root penetration.
b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where 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 contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass,Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
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 analyses.
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. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition: The application of seed and mulch to establish vegetative cover.
Purpose: To protect disturbed soils from erosion during and at the end of construction.
Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.
Criteria:
A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
b.Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
d.Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.
2. Application
d. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
ii.Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
ii.Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
ii.Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
iii. Mix seed and fertilizer on site and seed immediately and without interruption.
iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood celluloseprocessed into a uniform fibrous physical state.
i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
ii.WCFM, including dye, must contain no germination or growth inhibiting factors.
iii.WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
iv.WCFM material must not contain elements or compounds atconcentration levels that will be phyto-toxic.
v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
2. Application
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-5 STANDARDS AND SPECIFICATION FOR PERMANENT STABILIZATION

Definition: To stabilize disturbed soils with permanent vegetation.
Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.
Conditions Where Practice Applies: Exposed soils where ground cover is needed for 6 months or more.
Criteria:
A. Seed Mixtures
1. General Use
a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guild, Section 342 - Critical Area Planting.
c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the PermanentSeeding Summary. The summary is to be placed on the plan.
i. Kentucky Bluegrass: Full sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 30 percent of the total mixture by weight.
iii.Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 ½ to 3 pounds per 1000 squarefeet.
Notes:Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b,6a)
Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b).
d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B. Sod: to provide quick cover on disturbed areas (2:1 grade or flatter).
1. General Specifications
a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.
3. Sod Maintenance
a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABLIZATION

Definition: To stabilize disturbed soils with vegetation for up to 6 months.
Purpose: To use fast growing vegetation that provides cover on disturbed soils.
Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are req'd.
Criteria:
1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
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 season.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition: A mound or pile of soil protected by appropriately designed erosion and sediment control measures.
Purpose: To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.
Conditions Where Practice Applies: Stockpile areas are utilized when it is necessary to salvage and store soil for later use.
Criteria:
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 than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3.Runoff from the stockpile area must drain to a suitable sediment control practice.
4.Access the stockpile area from the upgrade side.
5.Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance:
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

Definition: Controlling the suspension of dust particles from construction activities.
Purpose: To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.
Conditions Where Practice Applies: Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.
Specifications:
1. Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing.
2. Vegetative Cover: See Section B-4-4 Temporary Stabilization.
3. Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
4. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.
5. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing.
6. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

SEQUENCE OF CONSTRUCTION

DAY 1 OBTAIN GRADING PERMIT, REVIEW PERMIT(S) OBLIGATIONS AND HOLD A PRE-CONSTRUCTION MEETING. STEP DURATION 1 DAY.

DAY 2 THE CONTRACTOR(S) IS TO IDENTIFY AND MARK ANY HAZARDOUS CONDITIONS THAT MAY EXIST ONSITE, SUCH AS OVERHEAD POWERLINES, OLD WELLS, GAS LINES, ELECTRIC LINES, ETC. INSTALL TRAFFIC CONTROL SIGNS. STEP DURATION 1 DAY.

DAY 3-7 INSTALL THE MAINTENANCE OF TRAFFIC PLAN AND THE STABILIZED CONSTRUCTION ENTRANCE WITH BERM. UTILIZING THE EXISTING ROUTE 1 ENTRY POINT AS THE ONLY ACCESS POINT, CLEAR AND GRUB THE AREA NEAR THE LIMIT OF DISTURBANCE FOR THE INSTALLATION OF PERIMETER CONTROLS. INSTALL TGOS, AND SUPER SILT FENCE FOR THE LIMIT OF DISTURBANCE. STEP DURATION 5 DAYS.

DAY 8-19 UTILIZING THE ROUTE 1 ACCESS POINT ONLY AS THE ACCESS POINT CLEAR AND GRUB THE REMAINDER OF THE SITE LIMIT OF DISTURBANCE. GRADE THE SITE AND STABILIZE THE DISTURBED AREA IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES. STEP DURATION 12 DAYS.

DAY 20-31 INSTALL THE WATER LINES, FIRE HYDRANT, AND STORM DRAIN STRUCTURES AND CULVERTS. INSTALL UTILITY CONDUITS AND GRADE TRANSFORMER PAD. DO NOT INSTALL FLOW THRU INLETS AT THIS STEP. STABILIZE THE DISTURBED LOT AREAS IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES. STEP DURATION 12 DAYS.

DAY 32-34 INSTALL THE BUILDING FOOTERS AND FOUNDATION. STEP DURATION 3 DAY

DAY 35-50 INSTALL THE RETAINING WALLS AND FENCES ON TOP OF WALLS, CONTINUE BUILDING CONSTRUCTION. STABILIZE THE DISTURBED AREA BETWEEN WALL #1 AND THE STREAM BUFFER IN ACCORDANCE WITH PERMANENT SEEDBED NOTES. STABILIZE THE DISTURBED AREA ABOVE WALL #1 IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES. STEP DURATION 16 DAYS.

DAY 60-70 CONSTRUCT MICRO-BIORETENTION FACILITY BUT DO NOT INSTALL THE MULCH AND HIGH FLOW MEDIA. PLACE FILTER FABRIC OVER THE PLANTING SOIL. CONSTRUCT THE INFLOW PROTECTIONS. CONSTRUCT THE ROOF DRAIN AND SAND FILTER UNDERDRAIN SYSTEM, DO NOT PLACE THE SAND. COVER THE PLAYGROUND AREA WITH FILTER FABRIC. STEP DURATION 11 DAYS

DAY 71-85 FINE GRADE THE AREA OF FRONTAGE IMPROVEMENTS. FINE GRADE THE PARKING LOT AREA. INSTALL HOUSE CONNECTIONS AND ANY REMAINING UTILITIES FOR BUILDING, PARKING LOT LIGHTS, ETC. CONSTRUCT THE CURB AND GUTTER FOR SITE AND ROUTE 1 IMPROVEMENTS, INSTALL FLOW THRU INLET. CONSTRUCT THE MULTI-USE PATHWAY AND ROUTE 1 SIDEWALK, STABILIZE ANY REMAINING ROUTE 1 FRONTAGE AREAS THAT WERE DISTURBED IN ACCORDANCE WITH PERMANENT SEEDBED NOTES. STEP DURATION 15 DAYS.

DAY 86-95 COMPLETE THE ROUTE 1 IMPROVEMENTS. PAVE THE ACCESS AISLE AND PARKING LOT. INSTALL REMAINING SITE IMPROVEMENTS SUCH AS DUMPSTER ENCLOSURE, SIDEWALKS, LIGHT POLES, ETC. INSTALL BIOSCAPE STORMWATER FACILITY NEAR I-1. STEP DURATION 10 DAYS.

DAY 96-106 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE THE FILTER FABRIC FROM ON TOP OF THE MICRO-BIORETENTION FACILITY, COMPLETE THE FACILITY CONSTRUCTION INCLUDING THE HIGH FLOW MEDIA, MULCH AND PLANTINGS. REPLACE THE FILTER FABRIC ON TOP OF THE SAND FILTER AREA AND INSTALL THE SAND AND PLAYGROUND SURFACE. INSTALL PLAYGROUND EQUIPMENT. STEP DURATION 11 DAYS.

DAY 107-109 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ANY ON-LOT TGOS AT THIS TIME. REMOVE PERIMETER CONTROLS AND PERMANENTLY STABILIZE ANY DISTURBED AREAS. INSTALL SOD OR PERMANENT MATTING IN ANY PERMANENT SWALES. STEP DURATION 3 DAYS.

DAY 110-111 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. PERMANENTLY STABILIZE AS REQUESTED. STEP DURATION 2 DAYS.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF ANY WORK.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

SILT FENCE MAY BE REPLACED BY SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:

a. Prior to the start of earth disturbance,
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
c. Prior to the start of another phase of construction or opening of another grading unit,
d. Prior to the removal or modification of sediment control practices.

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

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

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization 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.

6. Site Analysis:

Total Area of Site:	1.50	Acres
Area Disturbed:	1.44	Acres
Area to be roofed or paved:	0.84	Acres
Area to be vegetatively stabilized:	0.60	Acres
Total cut:	2,000*	Cu Yds
Total fill:	2,000*	Cu Yds
Off-site waste/borrow area location:	SITE WITH AN ACTIVE GRADING PERMIT	

*CUT/FILL NUMBERS ARE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR TO VERIFY.

7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:

- Inspection date
- Inspection type (routine, pre-storm event, during rain event)
- Name and title of inspector
- Weather information (current conditions as well as time and an=mount of last recorded precipitation
- Brief description of project's status (e.g. percent complete) and/or current activities
- Evidence of sediment discharges
- Identification of plan deficiencies
- Identification of sediment controls that require maintenance
- Identification of missing or improperly installed sediment controls
- Compliance status regarding the sequence of construction and stabilization requirements
- Photographs
- Monitoring/sampling
- Maintenance and/or corrective action performed
- Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

9. 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 work day, whichever is shorter.

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

11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.

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

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 (inclusive):

- 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.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/ lb/ac	Seeding Rate 1/ lb/1000 ft2	Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/ 5b and 6a	6b	7a and 7b
Cool-Season Grasses						
Annual Ryegrass (Lolium perenne ssp. Multiflorum	40	1.0	0.5		**Mar 1 to May 15; Aug 1 to Oct 31**	
Barley (Hordeum vulgare)	96	2.2	1.0		**Mar 1 to May 15; Aug 1 to Oct 31**	
Oats (Avena sativa)	72	1.7	1.0		**Mar 1 to May 15; Aug 1 to Oct 31**	
Wheat (Triticum aestivum)	120	2.8	1.0		**Mar 1 to May 15; Aug 1 to Oct 31**	
Cereal Rye (Secale cereale)	112	2.8	1.0		**Mar 1 to May 15; Aug 1 to Nov 15**	
Warm-Season Grasses						
Foxtail Millet (Serataria italica)	30	0.7	0.5		**May 16 to Jul 31**	
Pearl Millet (Pennisetum glaucum	20	0.5	0.5		**May 16 to Jul 31**	

Notes:
1/ Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b
Seed Misture (from Table B.3): Tall Fescue/Kentucky Bluegrass

No.	Species	Application Rate (lb/ac.)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20) N	P2O5	K2O	Lime Rate
9	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds per acre (1.0 lb/ 100 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac 2 lb/ 1000 sf)	2 tons/ac (90lb/ 1000 sf)
	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in				
				1/4 - 1/2 in				

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

DocuSigned by: Alexander Bratchie 5/7/2024
65648D5BA9B64C1...
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 5/10/2024
7063F754EF41499...
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DocuSigned by: [signature] 5/8/2024
1EB75478A22B49A...
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DocuSigned by: Lynda Eisenberg 5/13/2024
4220B635863942E...
DIRECTOR — DATE

DEVELOPER'S CERTIFICATE

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

Robert B. Jones 1/31/2024
DEVELOPER — DATE

ENGINEER'S CERTIFICATE

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

John M. Carney 1/31/2024
ENGINEER - JOHN M. CARNEY # 45577 — DATE

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
3300 NORTH RIDGE ROAD▲ SUITE 140▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PARCEL 'A' SEDIMENT AND EROSION CONTROL MOTES AND DETAILS

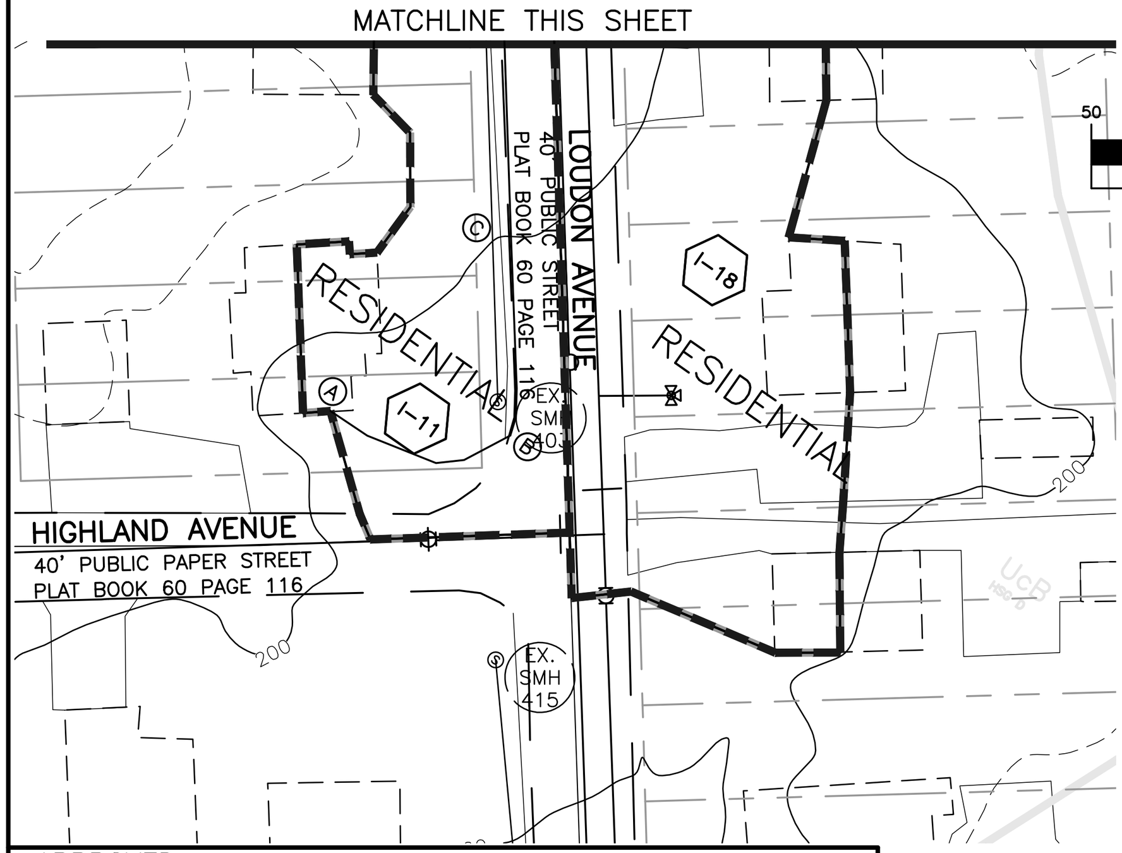
			DATE: JANUARY, 2024	PROJECT NO. 1465
DRAFT: JC	DESIGN: JC	CHECK: JC	SCALE: AS SHOWN	SHEET 6 OF 15

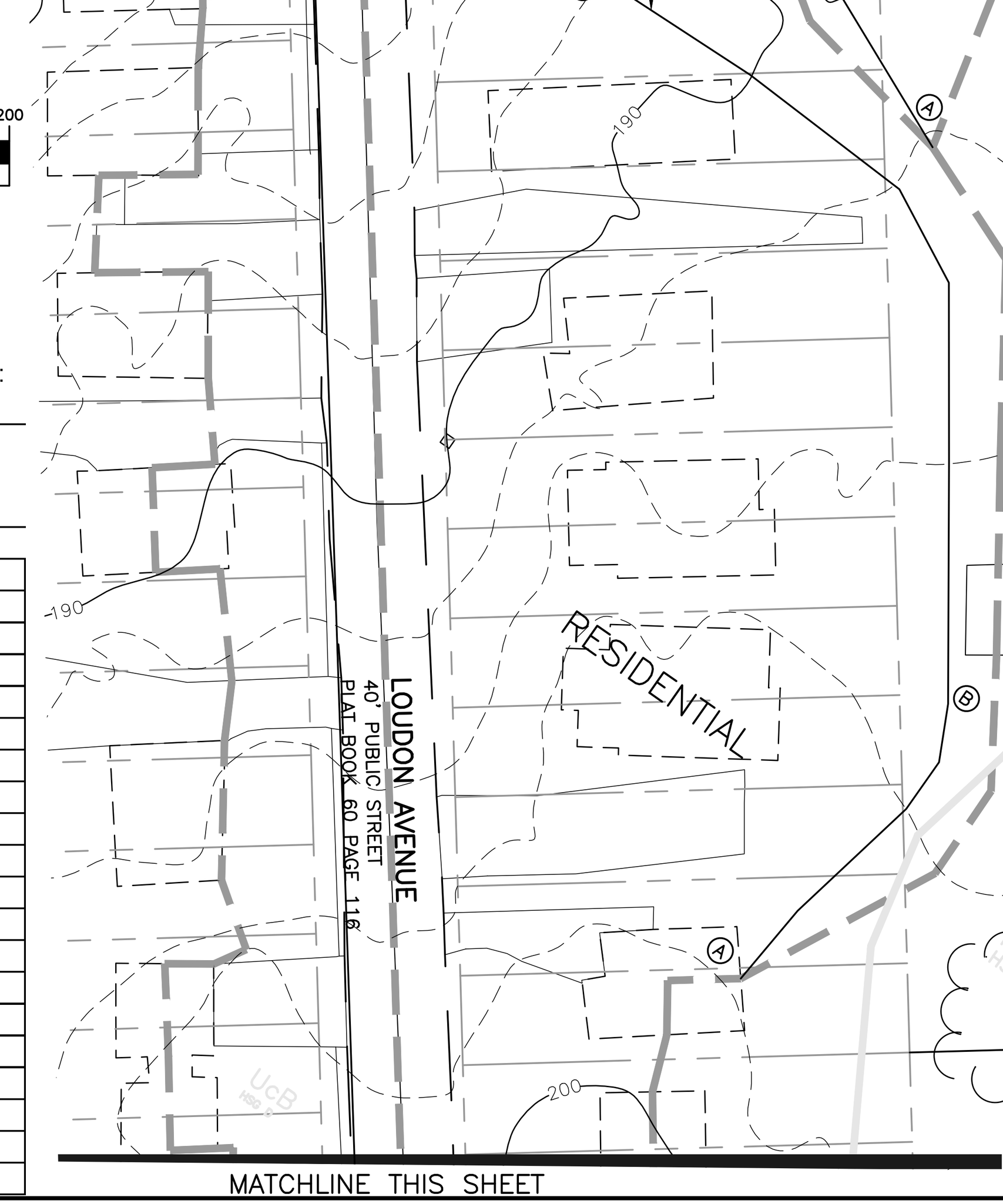
SDP-22-056

SOILS CHART HOWARD SOIL SURVEY PAGE 20				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME	k-VALUE
Fa*	YES	D	FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT	0.24
RsD		C	RUSSETT FINE SANDY LOAM, 10 TO 15 PERCENT SLOPES	0.43
SfE		B	SASSAFRAS AND CROOM SOIL, 15 TO 25 PERCENT SLOPES	0.32
UcB		D	URBAN LAND- CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	
UtD		D	URBAN LAND-UDORTHENTS COMPLEX, 0 TO 15 PERCENT SLOPES	

** HIGHLY ERODIBLE, K>0.35, AND STEEPER THAN 5% OR 15% AND GREATER SLOPES
TAKEN FROM THE NRCS WEB SOIL SURVEY MARCH, 2021, MAP 20.


WASHINGTON BOULEVARD
US ROUTE 1
INTERMEDIATE ARTERIAL
VARIABLE WIDTH PUBLIC ROAD
IMPERVIOUS
EDGE OF PAVING
LIGHTBRIDGE ACADEMY
FF = 163.2
COMMERCIAL
PARCEL 'A'
AREA = 65,453 S.F. OR 1.50 ACRES
HOWARD LANE
60' PUBLIC STREET
PLAT BOOK 10 PAGE 50
LOUDON AVENUE
40' PUBLIC STREET
PLAT BOOK 60 PAGE 116
RESIDENTIAL
SYCAMORE AVENUE
40' PUBLIC PAPER STREET
PLAT BOOK 60 PAGE 116
SYCAMORE AVENUE
20' PUBLIC PAPER STREET
PLAT BOOK 60 PAGE 116
BEECHFIELD AVENUE
EUCLID AVENUE
40' PUBLIC LOCAL ROAD
44-4





(IN FEET)
1 inch = 50 ft.

RUNOFF COMPUTATIONS

PROJECT : EUCLID AVE PAR. A DATE :

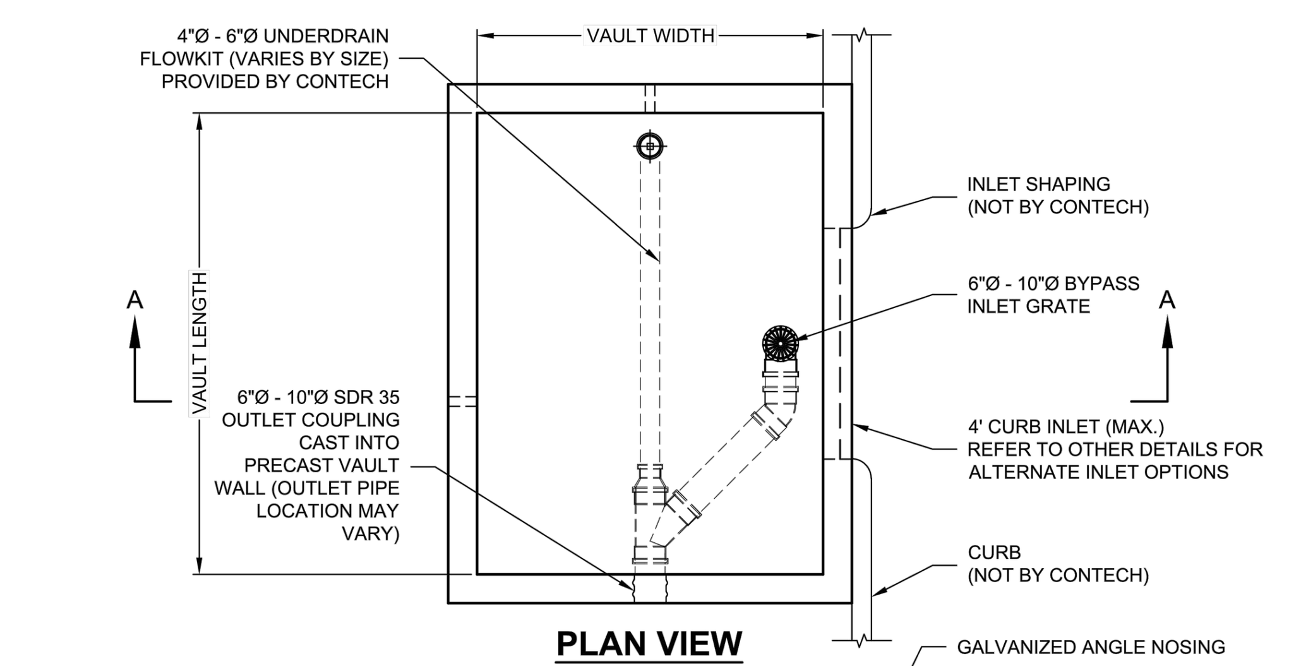
D.A. #	AREA (Ac.)	"C" (< 25 Yr)	"C" (> 25 Yr)	tc (min)*
PROPOSED				
I-7	0.32	0.72	0.88	5.0
I-1	0.06	0.80	0.93	5.0
I-2	1.12	0.71	0.88	5.0
I-3	0.55	0.73	0.83	5.0
I-5	0.09	0.79	0.93	5.0
Ch @ E-10	0.09	0.81	0.93	5.0
I-4	0.26	0.72	0.89	5.0
I-6	0.30	0.79	0.93	5.0
I-8	0.62	0.78	0.93	5.0
EXISTING				
I-11	1.45	0.54	0.64	11.9
I-12	1.09	0.77	0.92	5.0
I-13	0.72	0.64	0.79	5.0
I-14	1.69	0.72	0.89	5.0
I-15	1.14	0.72	0.89	5.0
I-16	2.29	0.72	0.89	9.0
I-17	1.16	0.54	0.67	12.7
I-18	2.30	0.44	0.53	15.9
Ch @ E-10	2.24	0.75	0.90	5.0

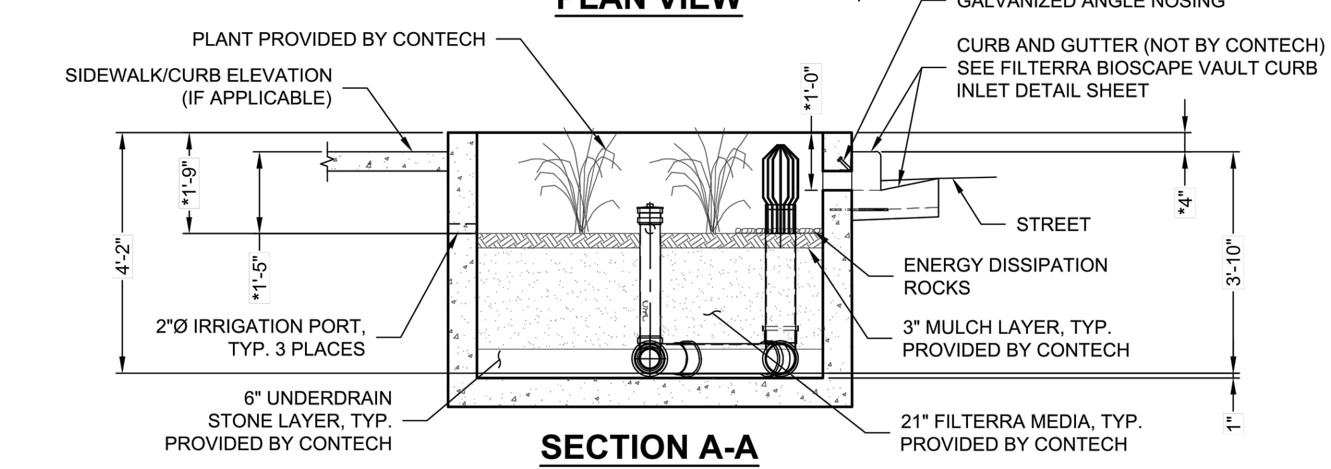
APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

Lynda Eisenberg 5/13/2024
DIRECTOR — DATE

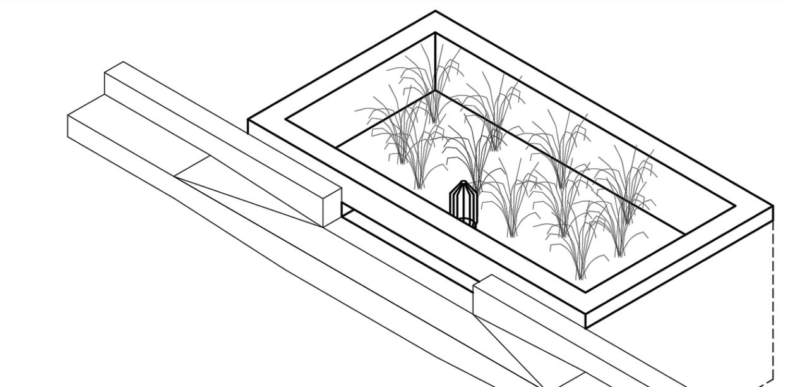

VAULT WIDTH
4"Ø - 6"Ø UNDERDRAIN FLOWKIT (VARIES BY SIZE) PROVIDED BY CONTECH
INLET SHAPING (NOT BY CONTECH)
6"Ø - 10"Ø BYPASS INLET GRATE
6"Ø - 10"Ø SDR 35 OUTLET COUPLING CAST INTO PRECAST VAULT WALL (OUTLET PIPE LOCATION MAY VARY)
4' CURB INLET (MAX.) REFER TO OTHER DETAILS FOR ALTERNATE INLET OPTIONS
CURB (NOT BY CONTECH)
VAULT LENGTH
A
PLAN VIEW


PLANT PROVIDED BY CONTECH
GALVANIZED ANGLE NOSING
CURB AND GUTTER (NOT BY CONTECH) SEE FILTERRA BIOSCAPE VAULT CURB INLET DETAIL SHEET
SIDEWALK/CURB ELEVATION (IF APPLICABLE)
STREET
ENERGY DISSIPATION ROCKS
3" MULCH LAYER, TYP. PROVIDED BY CONTECH
2"Ø IRRIGATION PORT, TYP. 3 PLACES
6" UNDERDRAIN STONE LAYER, TYP. PROVIDED BY CONTECH
21" FILTERRA MEDIA, TYP. PROVIDED BY CONTECH

SECTION A-A
(SLOTTED THROAT INLET - TOP EXTENDS 4" ABOVE CURB FOR ADJACENT SIDEWALKS)

FTBSVIB CONFIGURATION

MEDIA BAY SIZE	VAULT SIZE (L x W)	LONG SIDE INLET DESIGNATION	SHORT SIDE INLET DESIGNATION	AVAILABILITY	MAX. OUTLET / BYPASS PIPE DIA.	MAX. BYPASS FLOW (CFS)	UNDERDRAIN PIPE DIA. (PERF)	MIN. NO. OF INLET PIPES (-P ONLY)
7.83 x 4.5	7.83 x 4.5	FTBSVIB078045	FTBSVIB045078	DE,MD,NJ,PA,VA.WV ONLY	8" SDR 35	1.89	4" SDR 35	1



FTBSVIB
SLOTTED THROAT INLET - TOP EXTENDS 4" ABOVE CURB FOR ADJACENT SIDEWALKS

CONTECH ENGINEERED SOLUTIONS LLC
FILTERRA BIOSCAPE VAULT INTERNAL BYPASS (FTBSVIB) SITE LAYOUTS

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney
04/24/2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

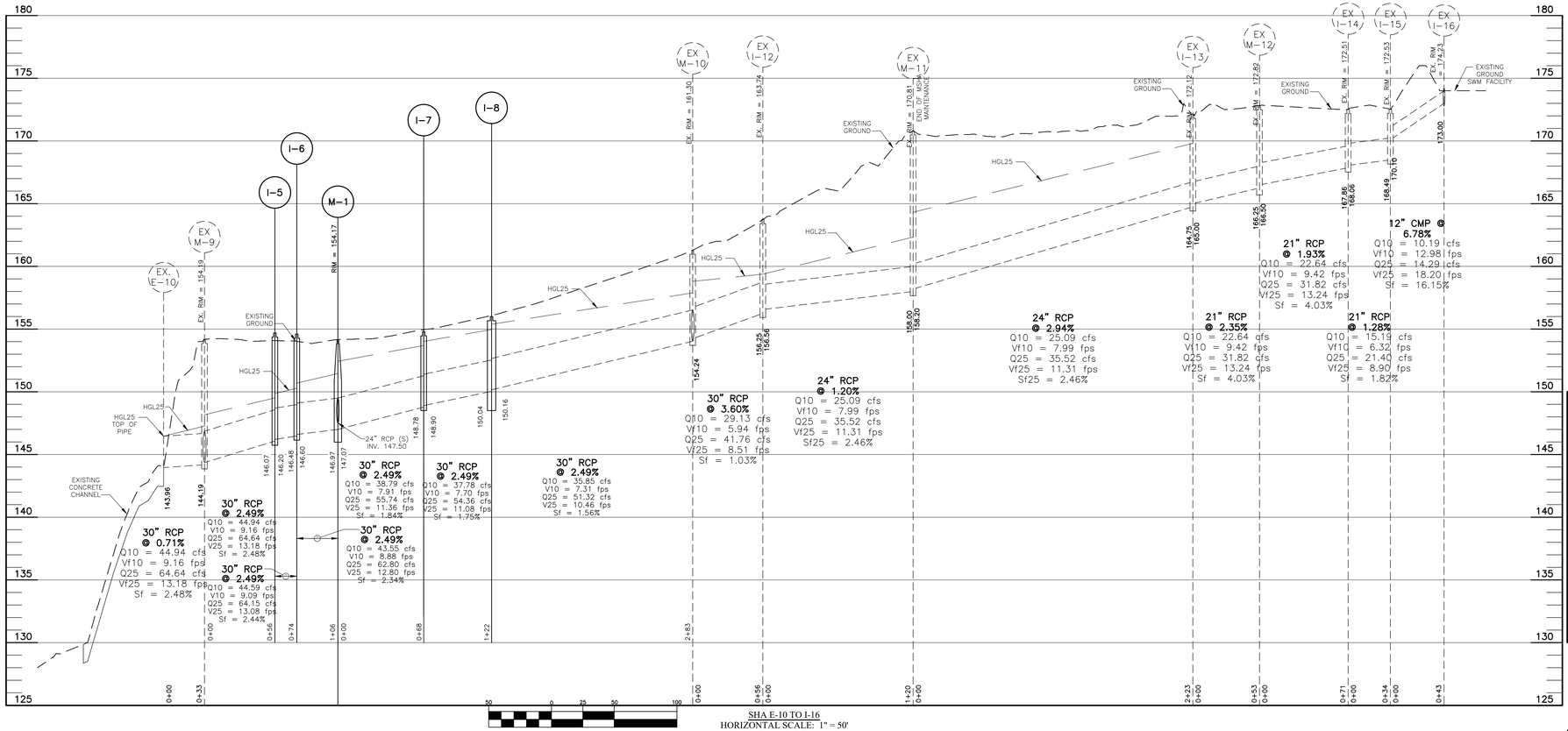
LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
DEVELOPED CONDITIONS STORM DRAIN DRAINAGE MAP

DATE: JANUARY, 2024	PROJECT NO. 1465
SCALE: AS SHOWN	SHEET 7 OF 15

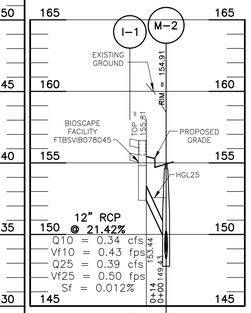
DRAFT: JC | DESIGN: JC | CHECK: JC

SDP-22-056

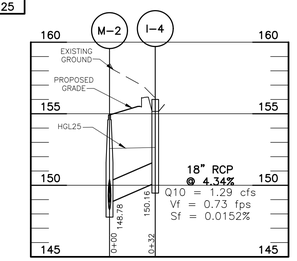


SHA E-10 TO I-16
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

(IN FEET)
1 inch = 50 ft.



M-2 TO I-1
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



M-2 TO I-4
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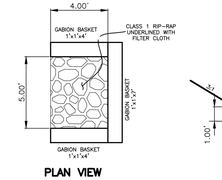
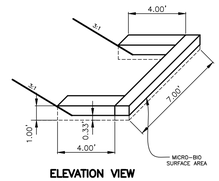
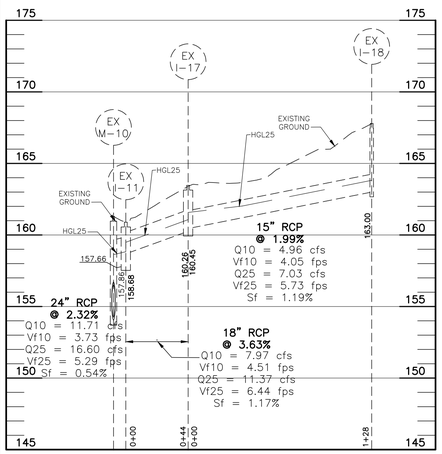
VERTICAL SCALE: 1" = 5'





GABION INFLOW DETAIL
SCALE: 1" = 5'

GABION BASKETS TO BE RECESSED 4 INCHES MAXIMUM. THEY SHOULD EXTEND 8 INCHES ABOVE THE STORMWATER PRACTICE SURFACE.
GABIONS MAY BE CUSTOM SIZES.



SHA M-10 TO I18
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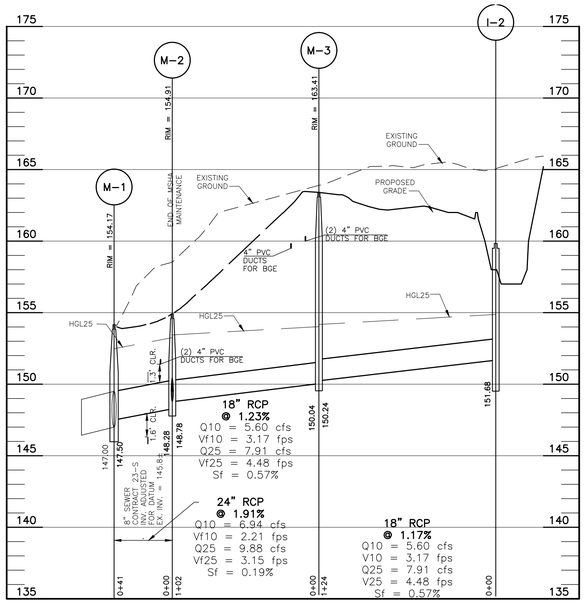
VERTICAL SCALE: 1" = 5'



M-1 TO I-2
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

PIPE STRUCTURE SCHEDULE			
DIAMETER	MATERIAL	OWNER	LENGTH
24"	RCP CLASS IV	SHA	41'
12"	RCP CLASS IV	PRIVATE	14'
18"	RCP CLASS IV	PRIVATE	258'

STRUCTURE TABLE

NUMBER	TYPE	LOCATION	INVERT IN	INVERT OUT	TOP ELEV.	STD. DETAIL	OWNER	REMARKS
BIO-1	FTBSVIB078045	N 557713.3714, E 1385838.5241			155.81	FTBSVIB078045	PRIVATE	WATER QUALITY INLET
I-1	INLET FLOW THROUGH	N 557715.5971, E 1385844.0340			155.91	D-4.35	PRIVATE	MODIFIED FOR SWM
I-2	MODIFIED D TYPE INLET FOR STORMWATER CONTROL	N 557518.4069, E 1385909.3524		151.68(18")	159.83	D-4.10	PRIVATE	
I-3	INLET FLOW THROUGH	N 557500.8672, E 1385848.6335			164.03	D-4.35	PRIVATE	
I-4	TYPE K INLET DOUBLE OPENING	N 557748.3253, E 1385872.6985		150.16(18")	156.00	MD-378.11	PRIVATE	
I-5	COMBINATION TYPE S DOUBLE	N 557718.5502, E 1385776.1897	146.20	146.07	154.70	MD-374.67	MSHA	
I-6	COMBINATION TYPE S DOUBLE	N 557728.9530, E 1385790.1831	146.60	146.48	154.60	MD-374.67	MSHA	
I-7	COMBINATION TYPE S DOUBLE	N 557789.2711, E 1385871.3998	148.90	148.78	154.79	MD-374.31	MSHA	
I-8	TYPE S DOUBLE SUB. 435-ALT	N 557822.6748, E 1385913.9109	150.16	150.04	156.00		MSHA	CONTRACTORS PRECAST CORP
M-1	48" SQUARE STANDARD SHALLOW MANHOLE	N 557749.2607, E 1385815.9259	147.50(24")	147.00 (ex.)	154.17	MD-383.00	MSHA	EXISTING 30" RCP INV. 147.00
M-2	48" DIAMETER PRECAST MANHOLE	N 557726.3323, E 1385849.5290	148.78(18") 149.43(12") 148.78(18")	148.28(24")	154.91	MD-384.01	PRIVATE	
M-3	48" DIAMETER PRECAST MANHOLE	N 557641.9634, E 1385907.7010	150.24(18")	150.04(18")	163.41	MD-384.01	PRIVATE	

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: (Chad) Edmondson 5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

DocuSigned by: 5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

DocuSigned by: Lynda Eisenberg 5/13/2024
DIRECTOR — DATE

NO.	DATE	REVISION

BENCHMARK
ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

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. 45577, Expiration Date: 06/08/2024.

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

John M. Carney 01.31.2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

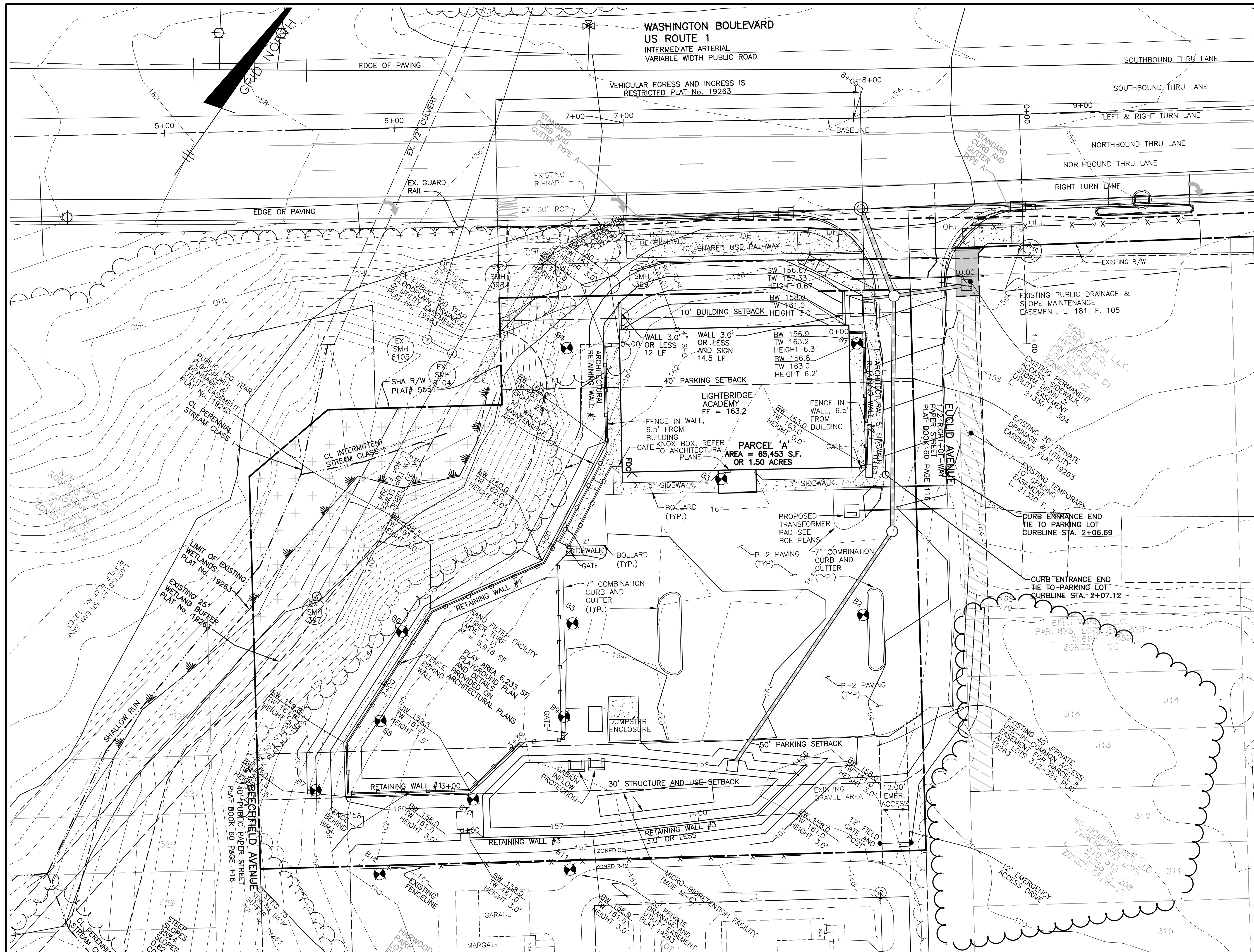
LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

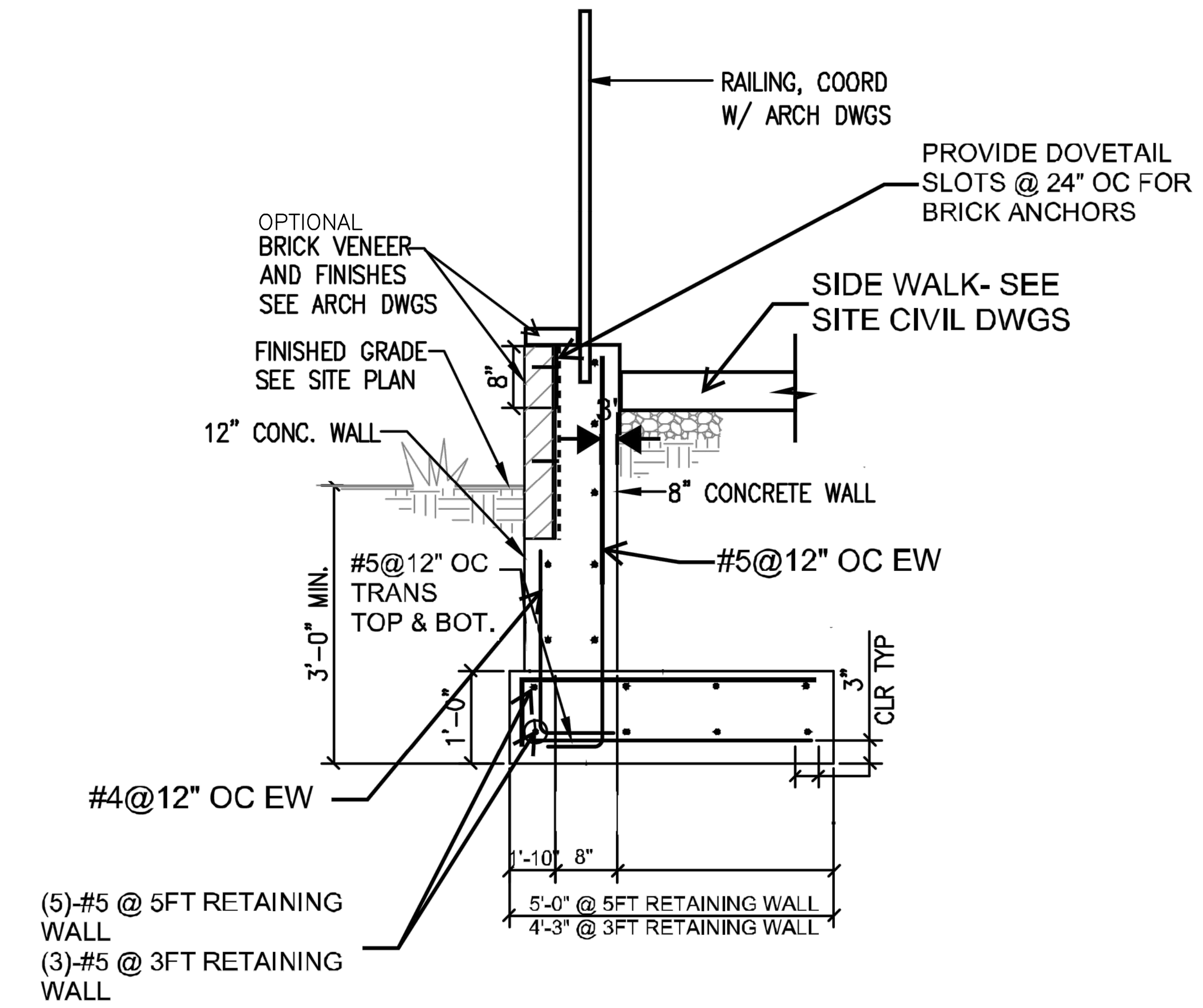
TITLE: STORM DRAIN PROFILE NOTES AND DETAILS

DRAFT: JC | DESIGN: JC | CHECK: JC

DATE: JANUARY, 2024 | PROJECT NO. 1465
SCALE: AS SHOWN | SHEET 8 OF 15

SDP-22-056





Client: JAM Architects
MPP Project # 21-0699

MPP Engineers LLC
34 S. Main Street, Suite D
Allentown, NJ 08501
Phone: (609) 489-5511

Site Retaining Wall Design Sketch

PLOT SCALE	DATE	DRAWN BY	DES. BY	SKETCH NO:
NONE	10/25/21	HS	HS	SK-S1

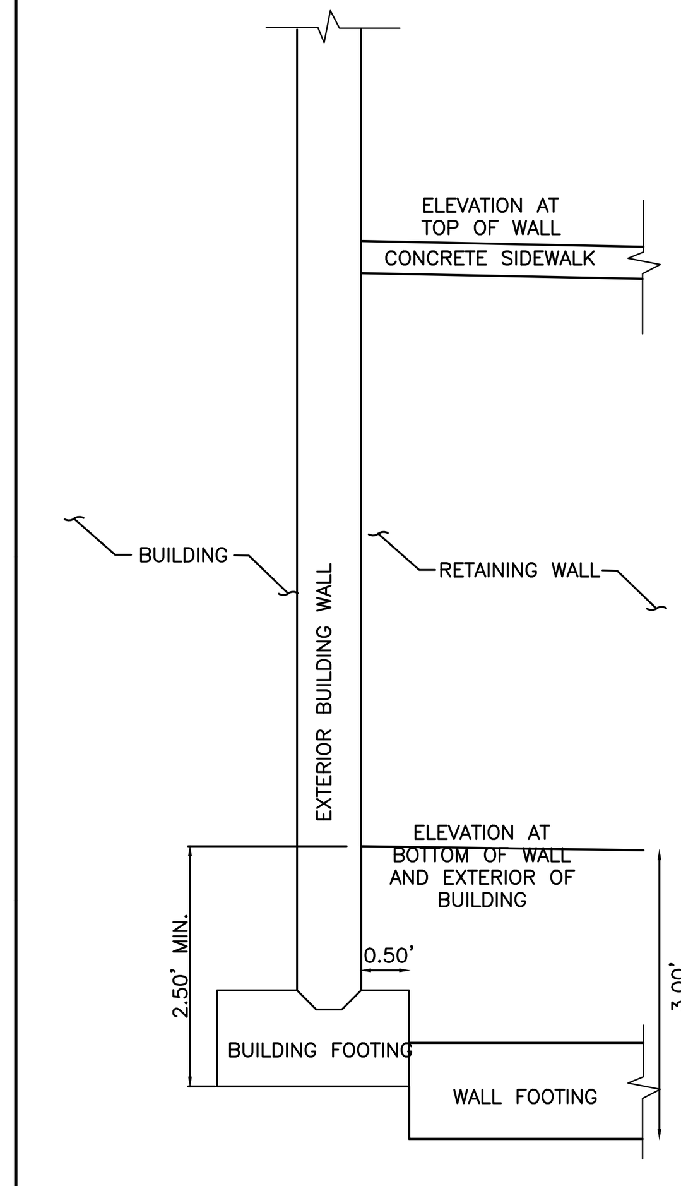
NOTES:

A. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN

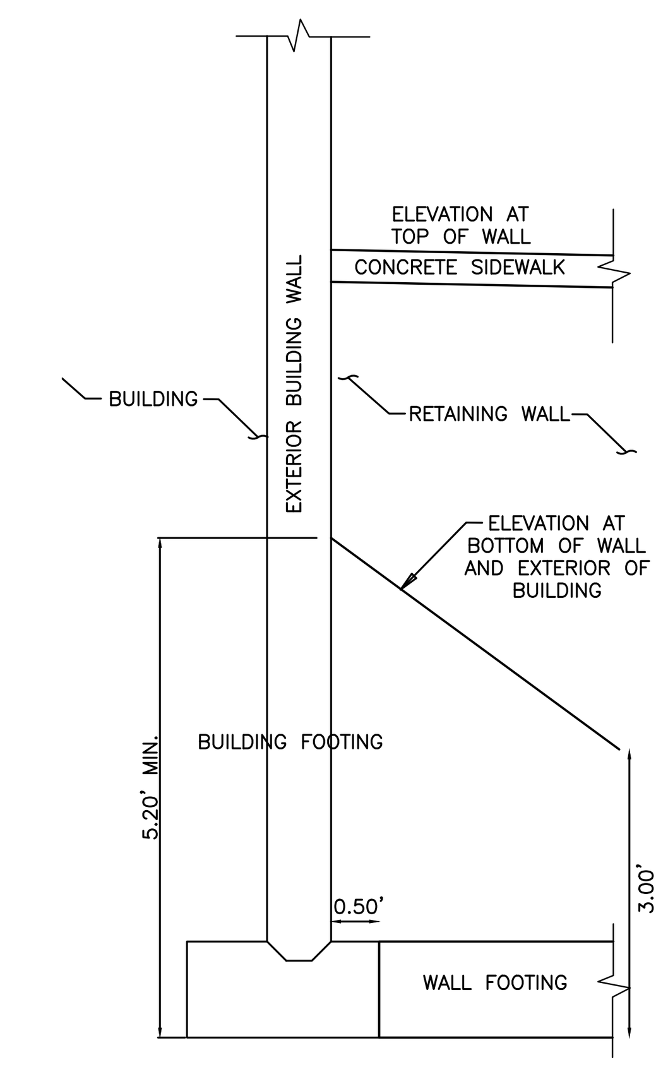
B. THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SPOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399 C. THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ONSITE SOILS TECHNICIAN. EACH EIGHT 98) INCH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTER DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION

D. FOR "CRITICAL" WALLS, ONE SOIL BORING SHALL BE REQUIRED EVERY 100' ALONG THE ENTIRE LENGTH OF THE WALL. COPIES OF ALL BORING REPORTS SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION

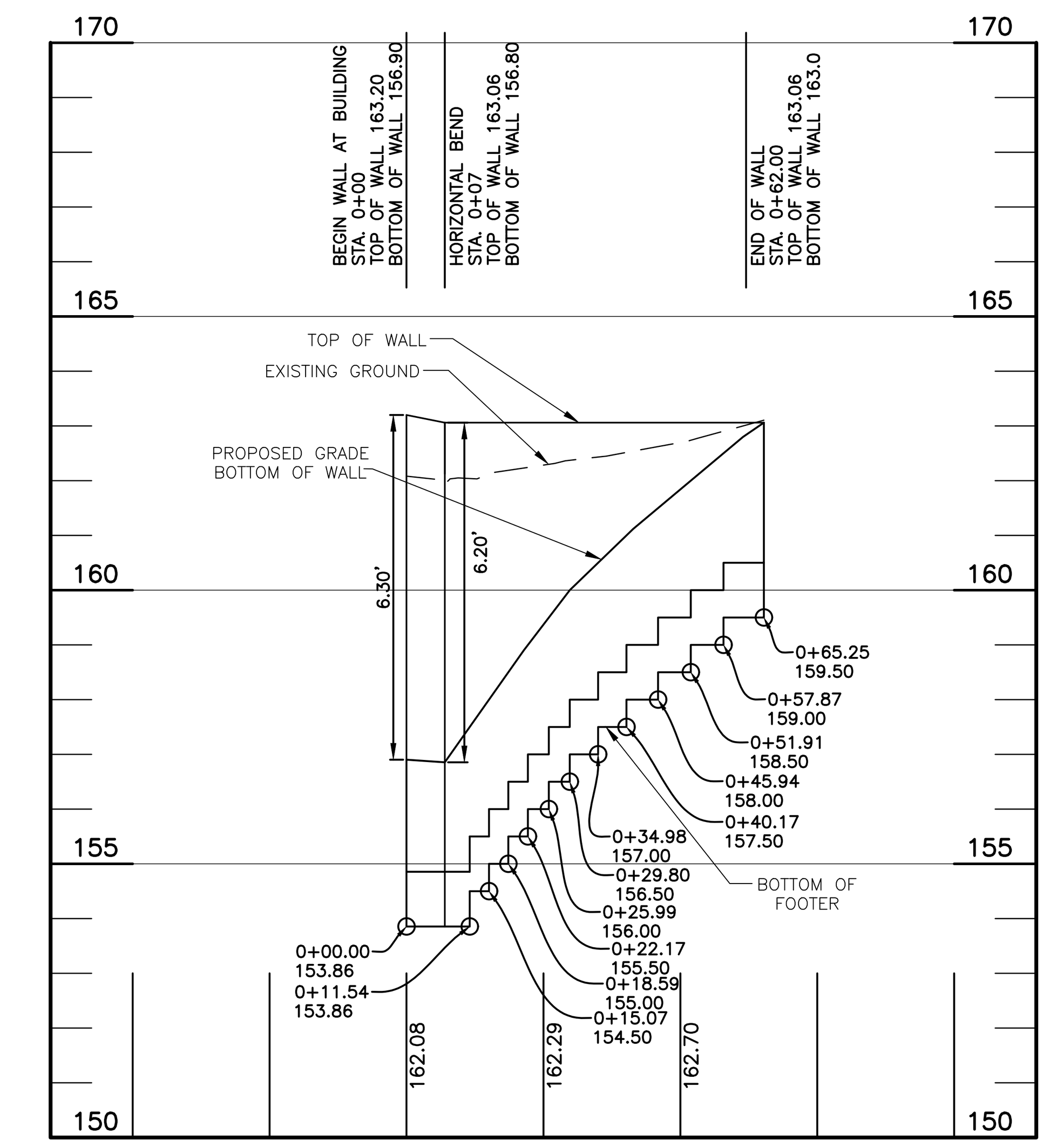
E. IF NO SURCHARGE LOADS ARE CONSIDERED ADD A NOTE TO THE CROSS SECTION DETAILS STATING, "THIS WALL NOT DESIGNED FOR SURCHARGE LOADS."



RETAINING WALL 2 AT BUILDING WALL DETAIL
NOT TO SCALE

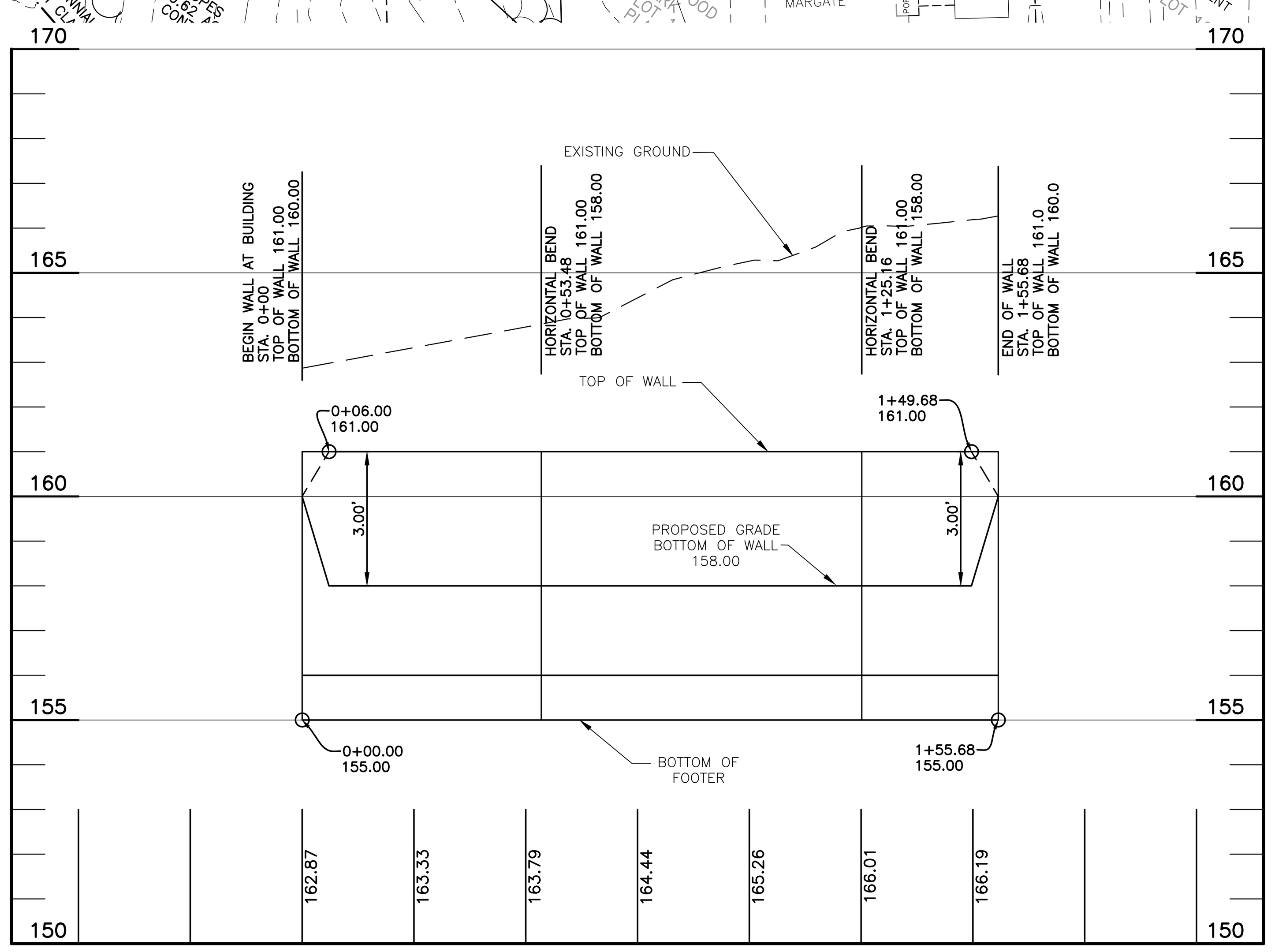


RETAINING WALL 1 AT BUILDING WALL DETAIL
NOT TO SCALE

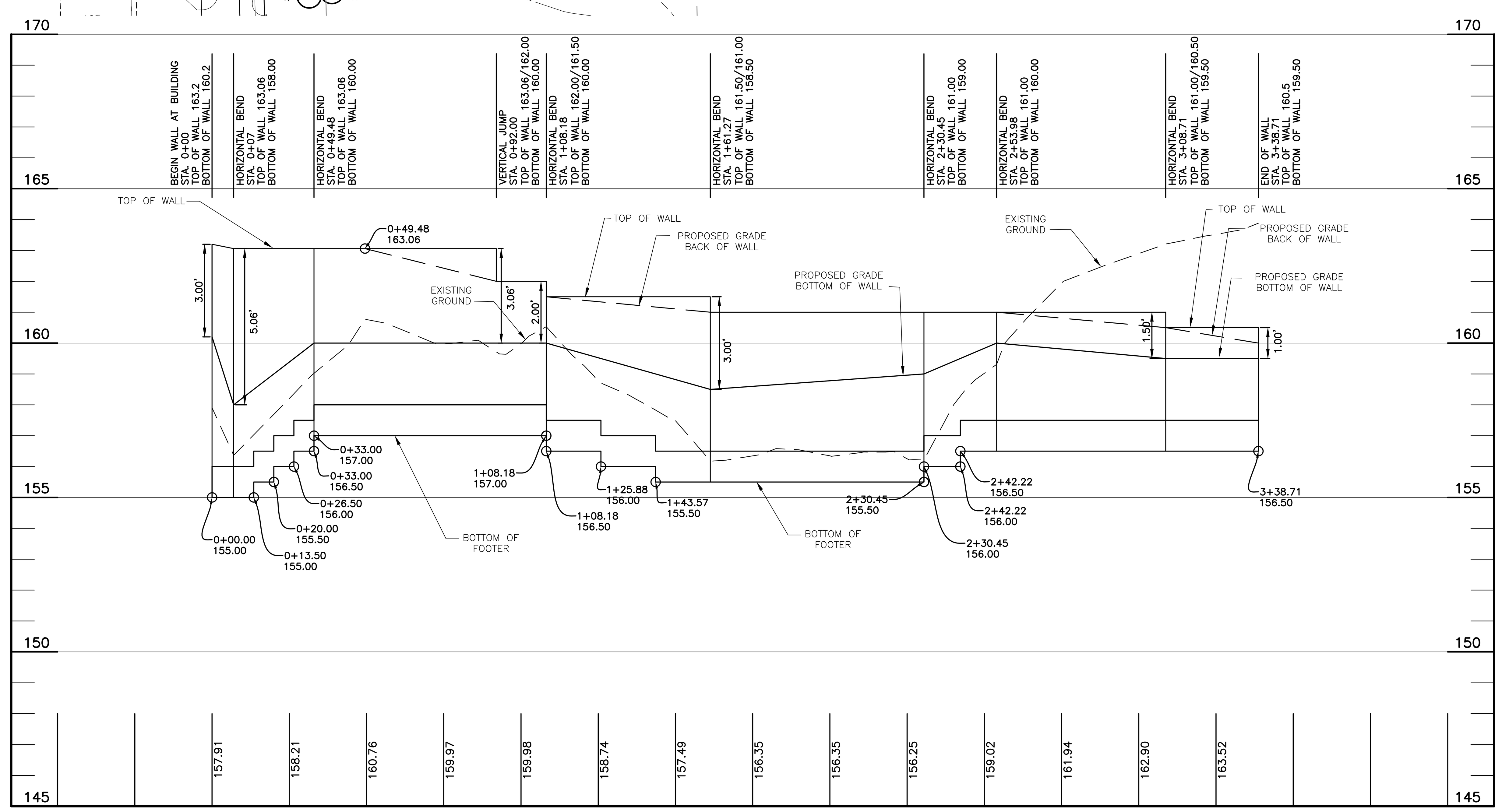


RETAINING WALL #2
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.



RETAINING WALL #3
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



RETAINING WALL #1
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499...	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: 1EB75478A22B49A...	5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Lynda Eisenberg 4220B635863942E...	5/13/2024
DIRECTOR	DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND JOHN M. CARNEY 45577 PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

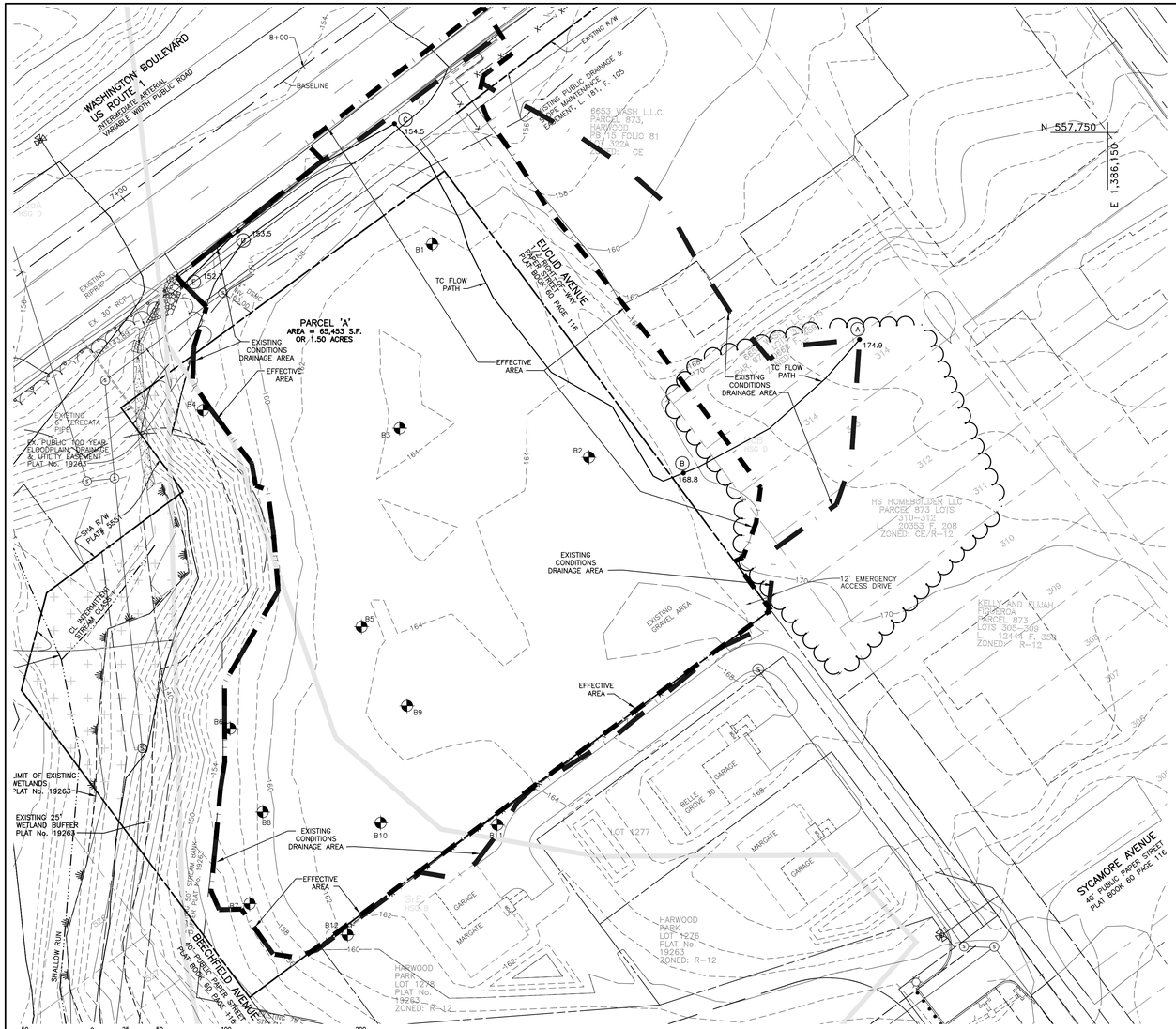
OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **RETAINING WALL PLAN AND PROFILE**

DRAFT: JC	DESIGN: JC	CHECK: JC	DATE: JANUARY, 2024	PROJECT NO. 1465
			SCALE: AS SHOWN	SHEET 9 OF 15



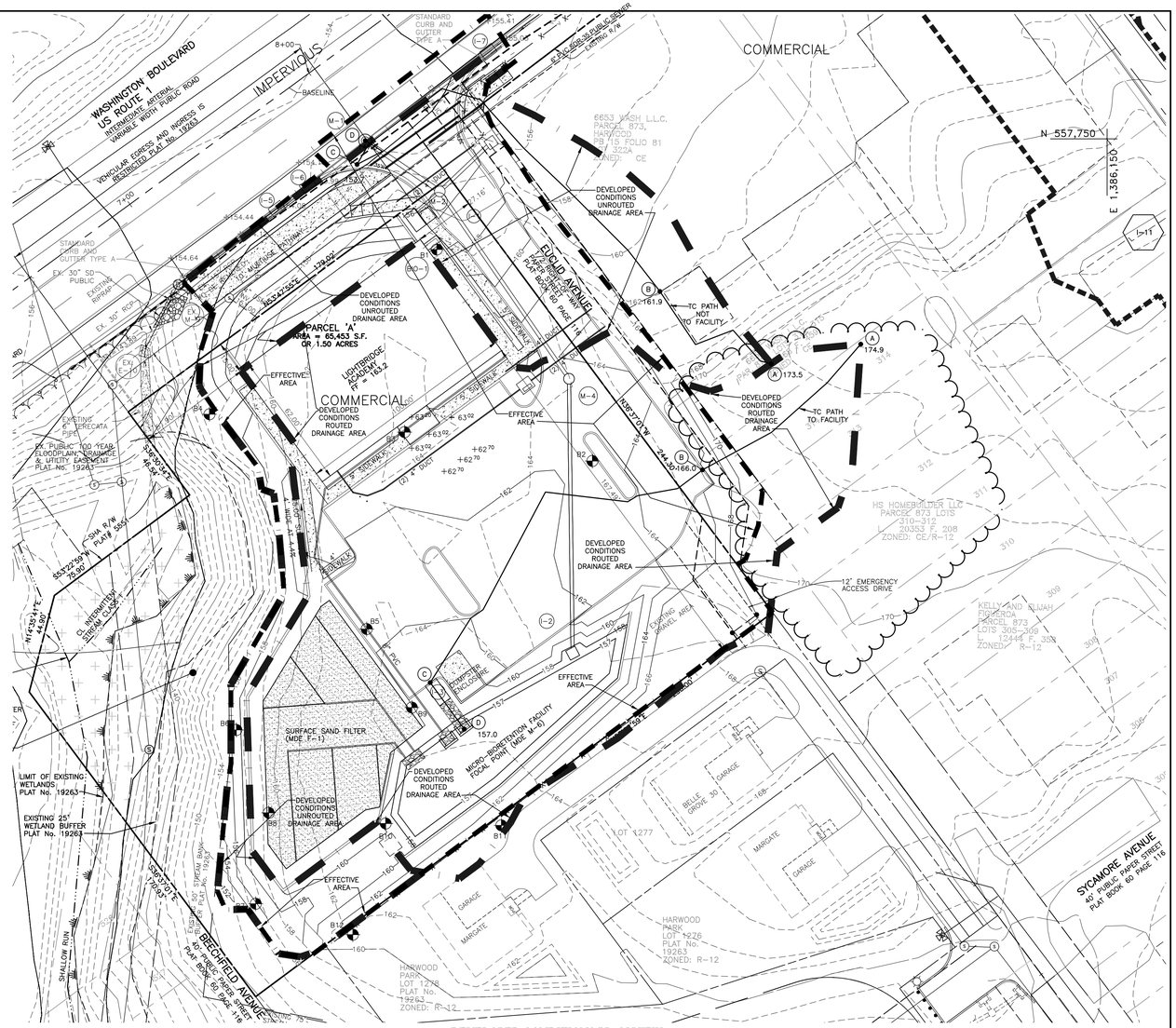
50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

EXISTING CONDITIONS PLAN VIEW
1" = 30'

100 YR EXISTING CONDITIONS TC PATH SUMMARY

SEGMENT A-B	100 FT SHEET FLOW AT	6.0%	
SEGMENT B-C	214 FT SHALLOW CONCENTRATED FLOW AT	7.0%	
	VELOCITY =	4.3	FPS
SEGMENT C-D	85 FT CHANNEL FLOW AT	11.0%	
	VELOCITY =	1.0	FPS
SEGMENT D-E	35 FT CHANNEL FLOW AT	3.0%	
	VELOCITY =	10.2	FPS



DEVELOPED CONDITIONS PLAN VIEW
1" = 30'

100 YR UNROUTED DEVELOPED CONDITIONS TC PATH SUMMARY

SEGMENT A-B	70 FT SHEET FLOW AT	16.6%	
SEGMENT B-C	188 FT SHALLOW CONCENTRATED FLOW AT	4.0%	
	VELOCITY =	4.1	FPS
SEGMENT C-D	22 FT CHANNEL FLOW AT	30.5%	
	VELOCITY =	13.7	FPS

100 YR ROUTED DEVELOPED CONDITIONS TC PATH SUMMARY

SEGMENT A-B	92 FT SHEET FLOW AT	9.7%	
SEGMENT B-C	176 FT SHALLOW CONCENTRATED FLOW AT	4.0%	
	VELOCITY =	4.1	FPS
SEGMENT C-D	26 FT CHANNEL FLOW AT	7.7%	
	VELOCITY =	5.4	FPS

LEGEND

SOILS CLASSIFICATION — GgB
SOILS DELINEATION
EXISTING CONTOURS — 480, 478
EXISTING TREE LINE
PROPOSED TREE LINE
PROPOSED STRUCTURE
EFFECTIVE AREA
DRAINAGE DIVIDE
TC PATH — A 174.9
DRAINAGE DIVIDE TO FACILITY

STORMWATER MANAGEMENT INFORMATION

Lot/Parcel Designation	Facility Name & Number	Type (quantity)	Ownership	Maintenance	Notes
A	Micro-Bioretention (M-5)	1	Private	Private	
A	Surface Sand Filter (F-1)	1	Private	Private	
A	Filterra #1	1	Private	Private	

STORMWATER MANAGEMENT STORAGE CHART

STORM (yr)	EXISTING RUNOFF (cfs)	DEVELOPED RUNOFF (cfs)	STORAGE (cf)
10	7.16	6.98	4,296
100	16.36	16.13	6,566

PROJECT: **Euclid Corners Parcel A** DATE: 06/02/22
Facility Summary
Pe: 1.8 inches

BIORETENTION FACILITIES

Facility	Drainage Area	Impervious	I (%)	Rv	ESDv Req'd (cf)	Req'd Ponded Storage (75% or 25%)	Ponded Volume Provided (cf)	Req'd Stone Storage (cf)	Stone Storage Provided (cf)	Total ESDv	Pe Prov.	Rev (cf)	Notes
MB #1 (M-6)	48,761	30,155	62%	0.607	4511	1128	3123	226	226	4999	2.03	226	ESDv per SF
Surface Sand Filter (F-1)	6,437	6,437	100%	0.950	510	NA	0	127	503	503	0.99	503	
Filterra #1	2,629	2,629	100%	0.950	381	95	181	NA	NA	181	0.87	0	
TOTALS	39,221						3304		729	5683		729	

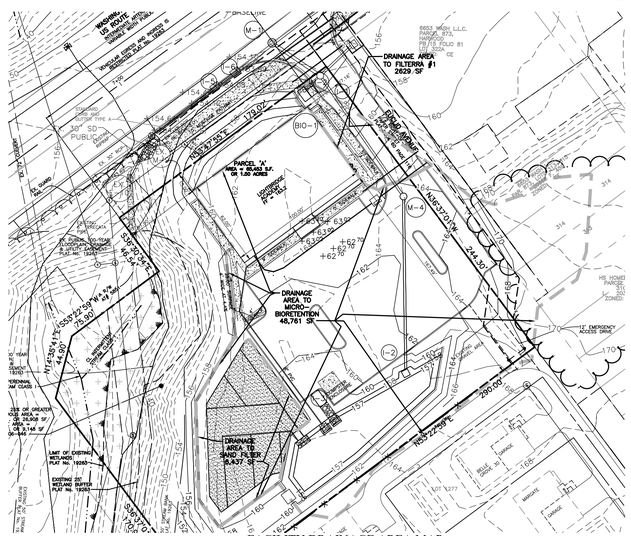
The total ESDv required by this design is: 5543 CF
The total Rev required by this design is: 282 CF

The total ESDv provided by this design is: 5683 CF
The total Rev provided by this design is: 729 CF

10 year existing discharge: 7.16 cfs
100 year existing discharge: 16.36 cfs

10 year developed discharge: 6.98 cfs
100 year developed discharge: 16.13 cfs

*The ESDv summary table portrays storage in excess of that required for Environmental Site Design requirements.



FACILITY DRAINAGE AREA MAP
1" = 50'

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
3300 NORTH RIDGE ROAD▲ SUITE 140▲ ELLICOTT CITY, MARYLAND 21043
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STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

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HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: Child Edmondson 5/10/2024
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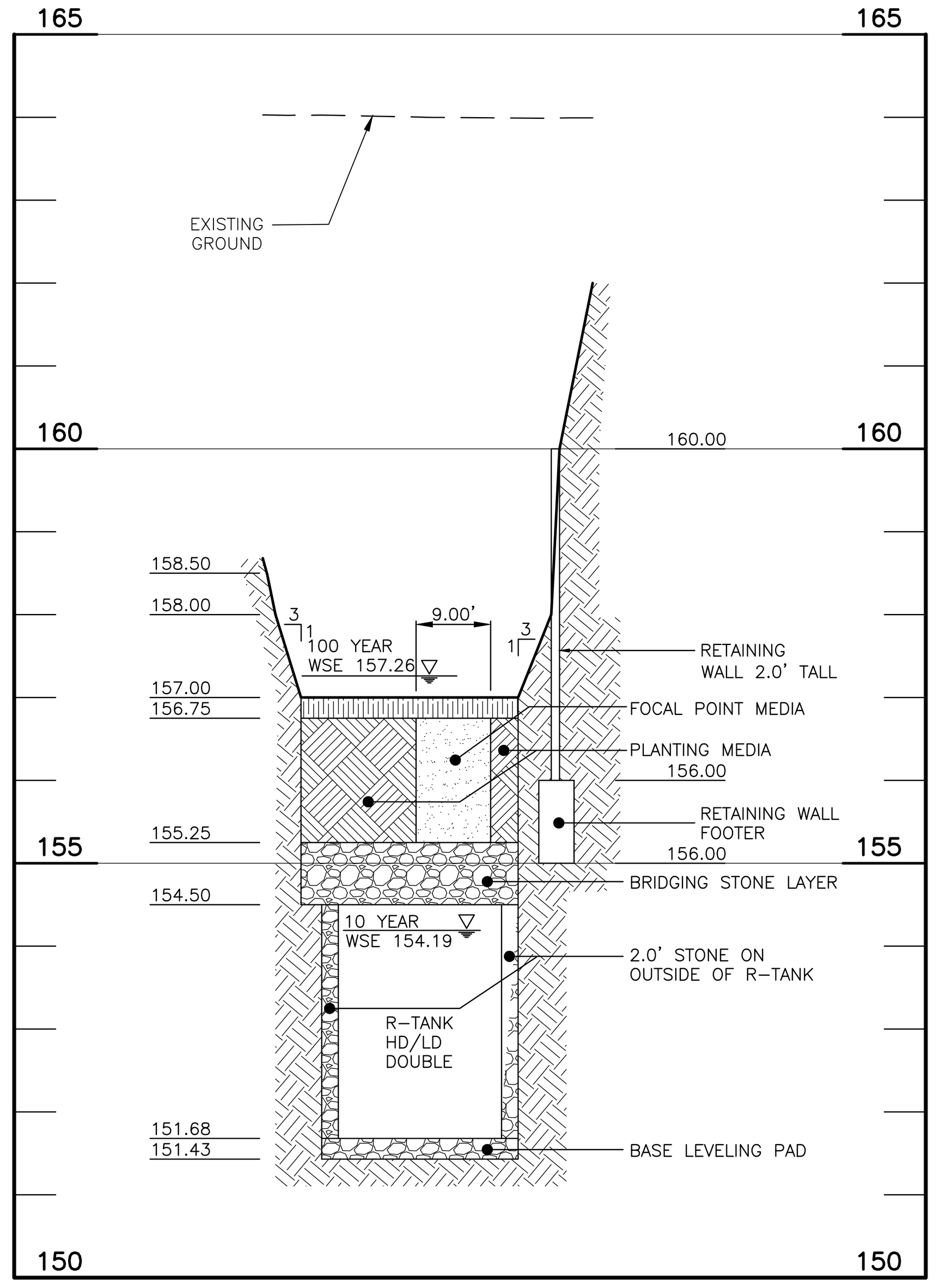
PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
STORMWATER MANAGEMENT DRAINAGE AREA MAP

DRAFT: JC | DESIGN: JC | CHECK: JC
DATE: JANUARY, 2024 | PROJECT NO. 1465
SCALE: AS SHOWN | SHEET 10 OF 15

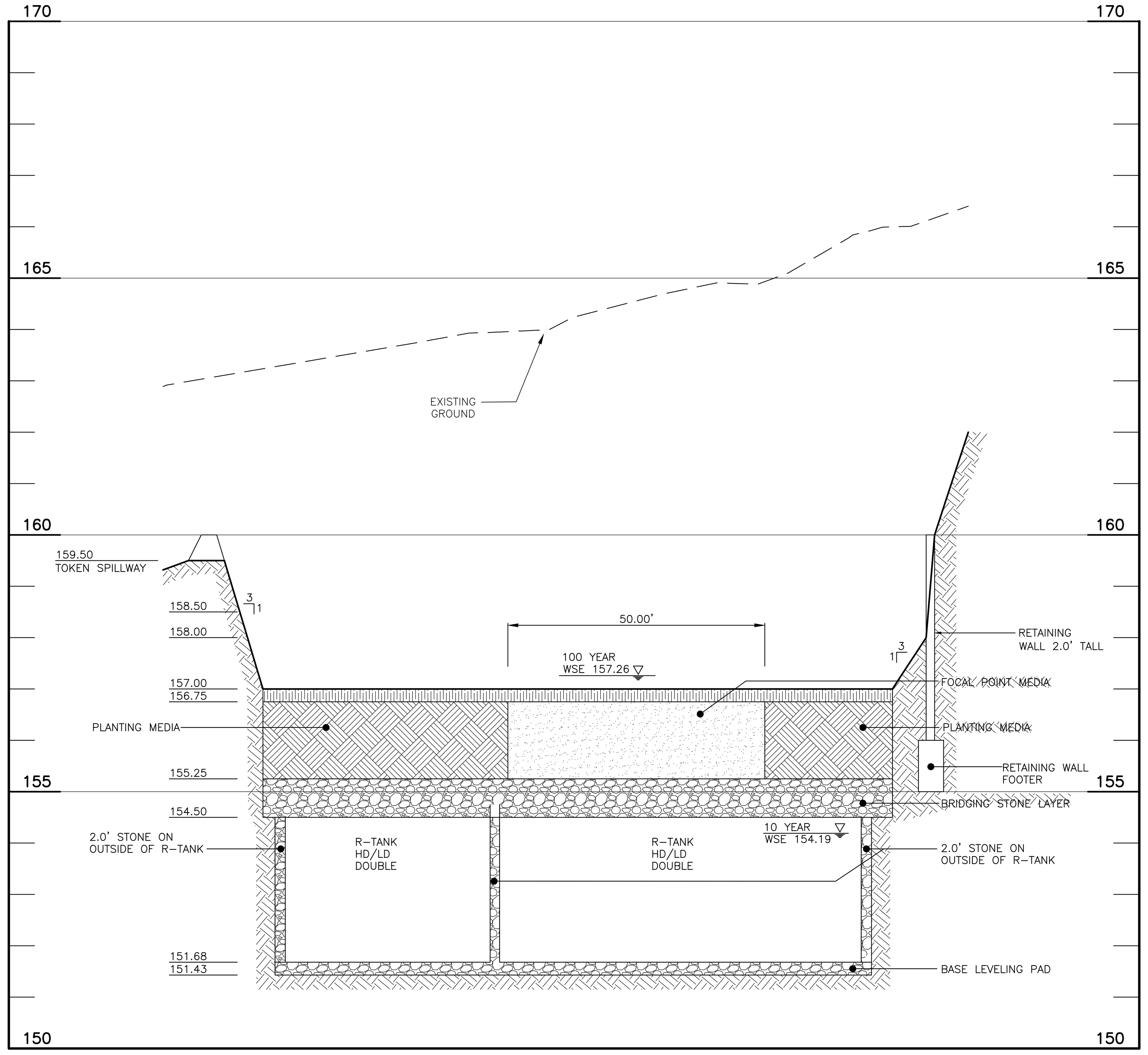
SDP-22-056



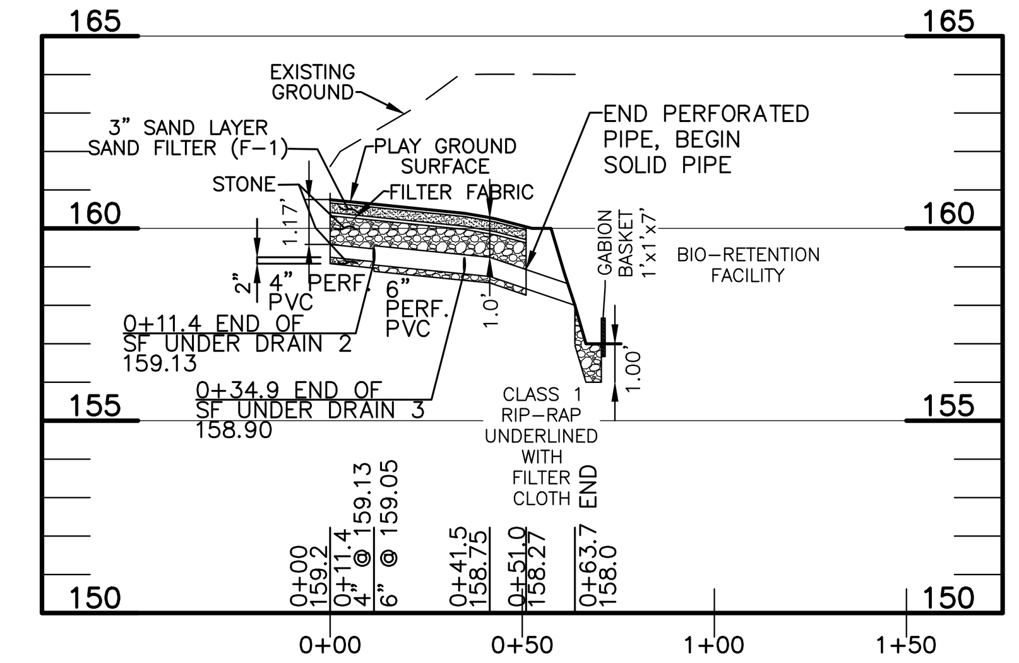
SWM SECTION A-A
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

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

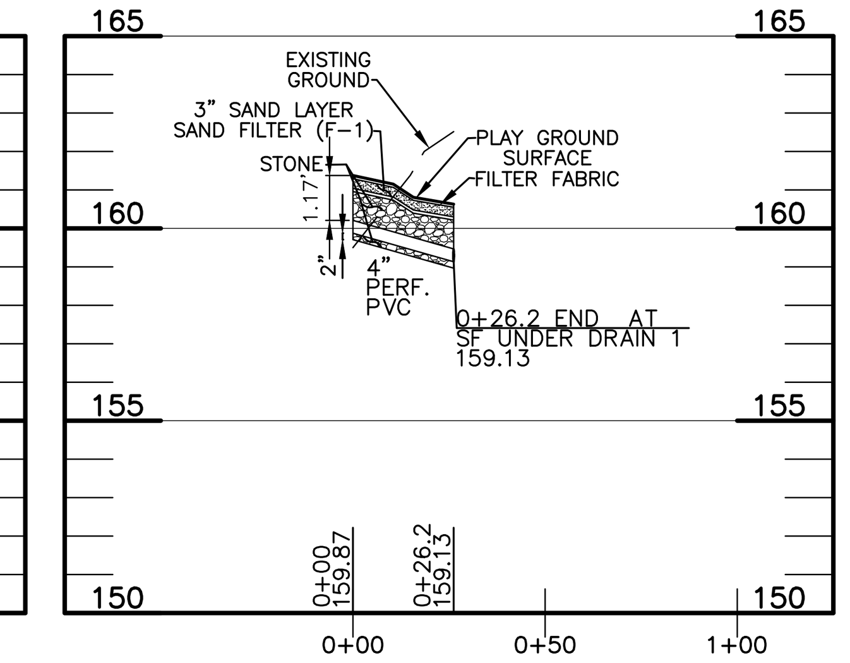
A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE 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.
B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
C. 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.
D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



SWM SECTION B-B
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

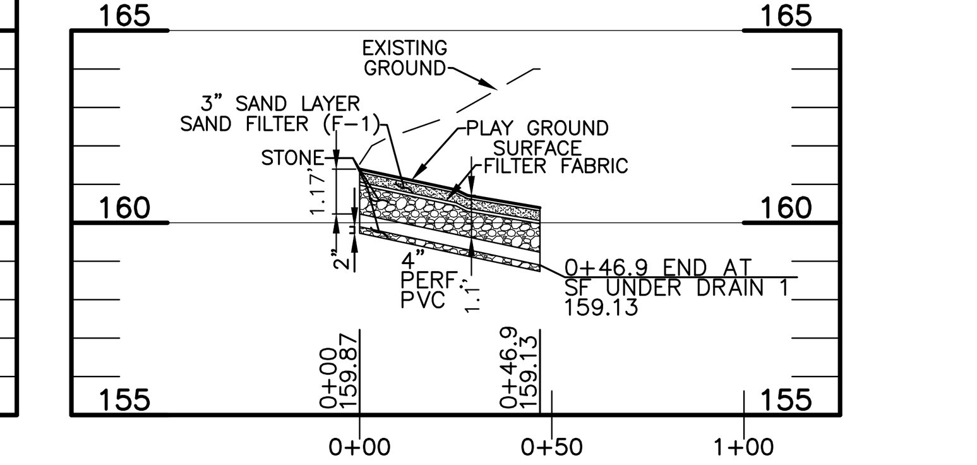


SF UNDER DRAIN 1
SCALE: 1"=50' HORIZ., 1"=5' VERT.

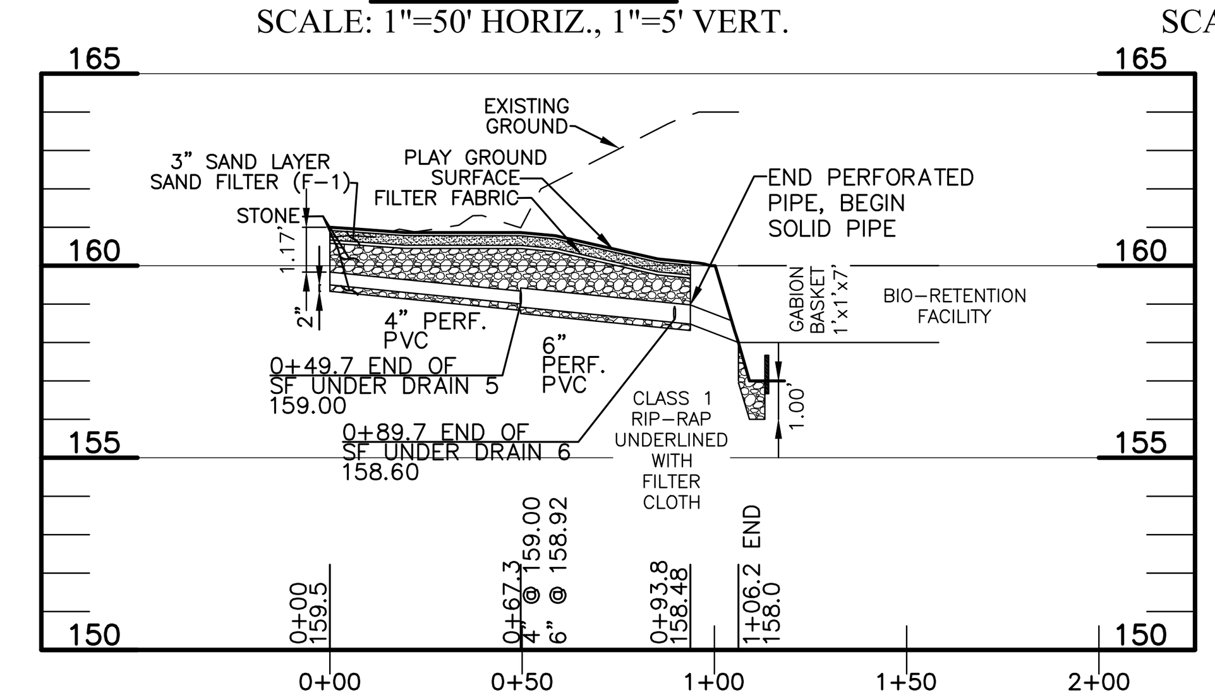


SF UNDER DRAIN 2
SCALE: 1"=50' HORIZ., 1"=5' VERT.

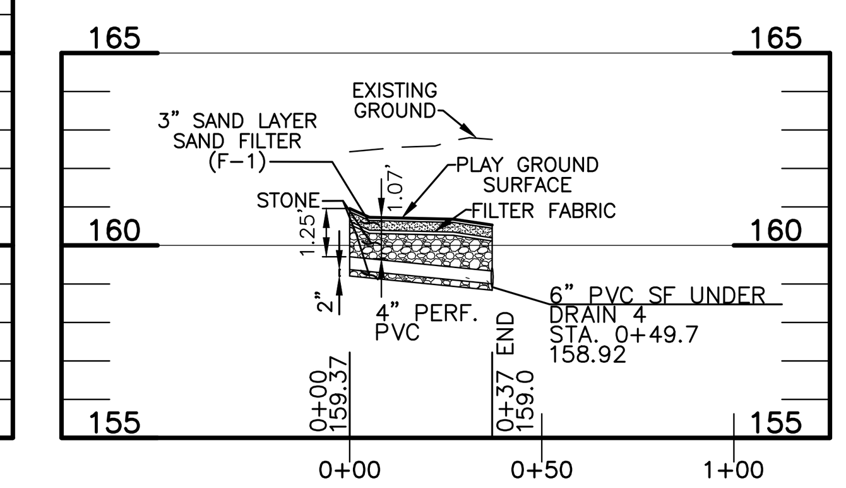
(IN FEET)
1 inch = 50 ft.



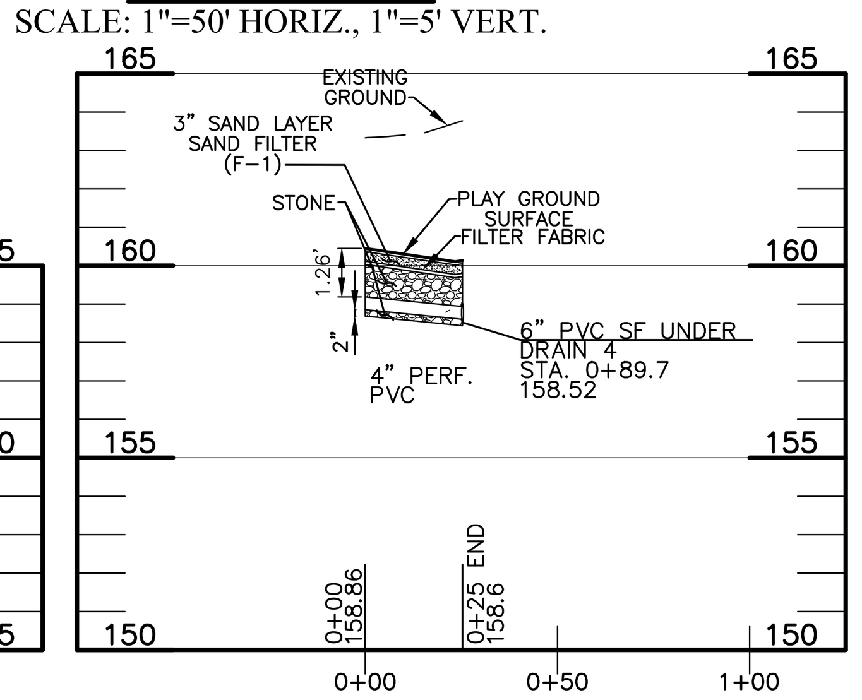
SF UNDER DRAIN 3
SCALE: 1"=50' HORIZ., 1"=5' VERT.



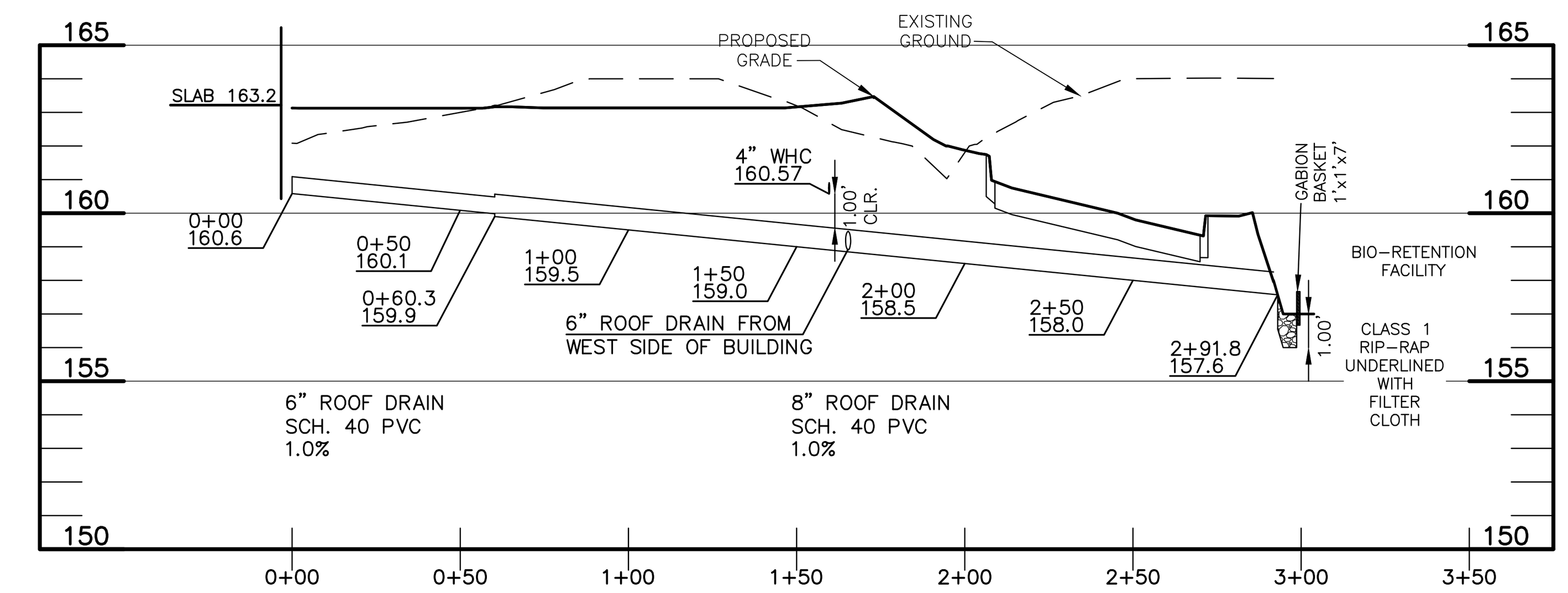
SF UNDER DRAIN 4
SCALE: 1"=50' HORIZ., 1"=5' VERT.



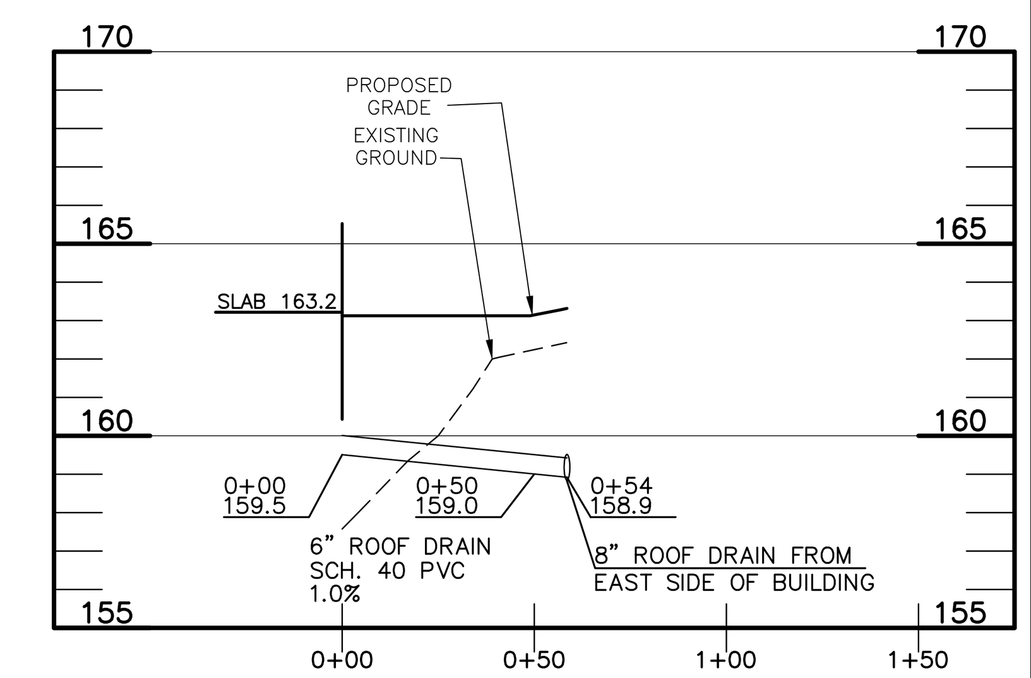
SF UNDER DRAIN 5
SCALE: 1"=50' HORIZ., 1"=5' VERT.



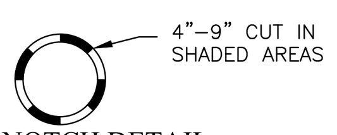
SF UNDER DRAIN 6
SCALE: 1"=50' HORIZ., 1"=5' VERT.



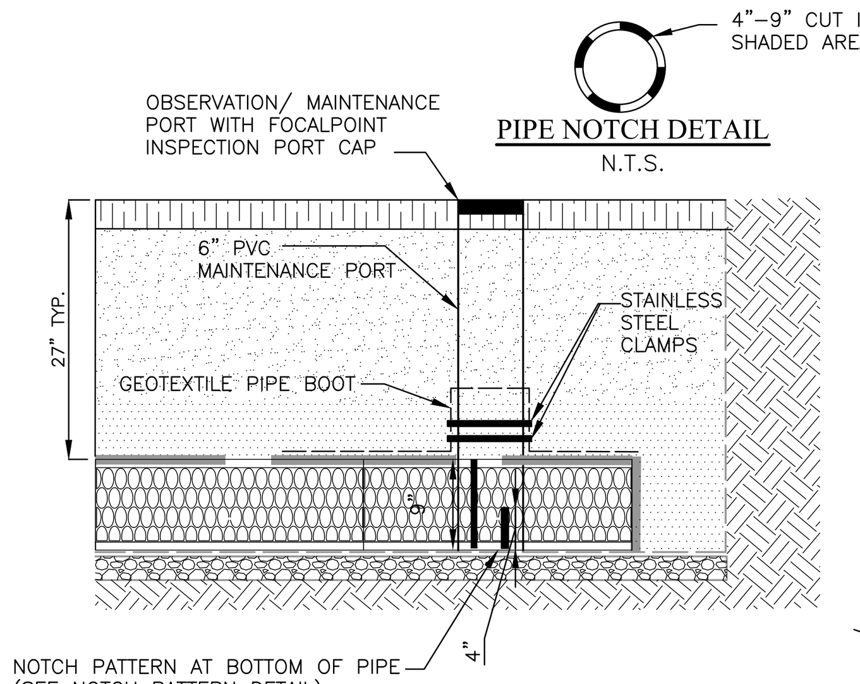
ROOF DRAIN
SCALE: 1"=50' HORIZ., 1"=5' VERT.



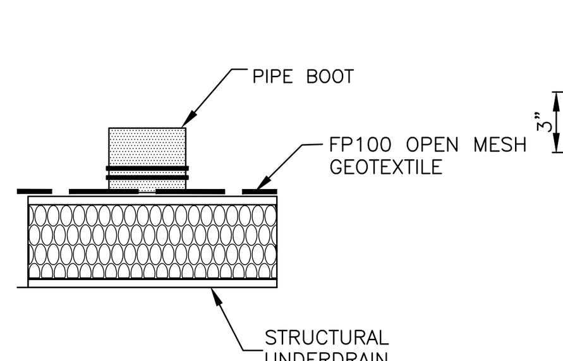
ROOF DRAIN WEST SIDE OF BUILDING
SCALE: 1"=50' HORIZ., 1"=5' VERT.

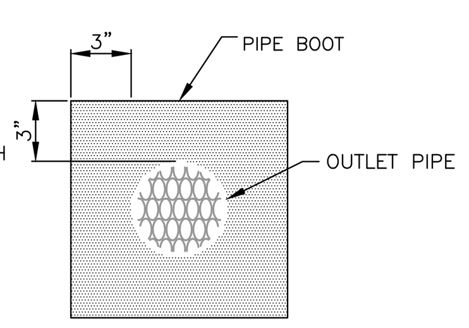


PIPE NOTCH DETAIL
N.T.S.



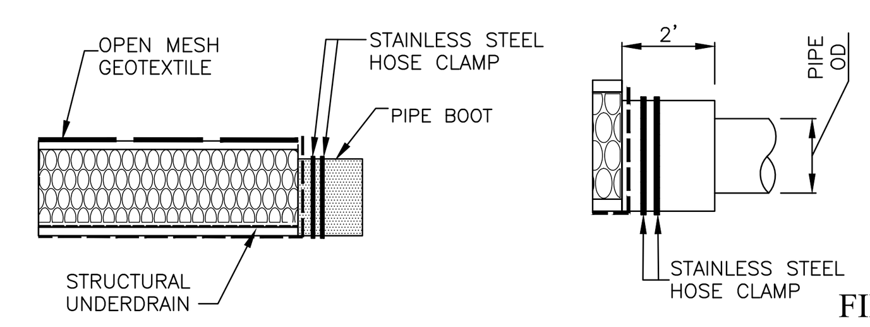
OBSERVATION/ MAINTENANCE PORT
N.T.S.



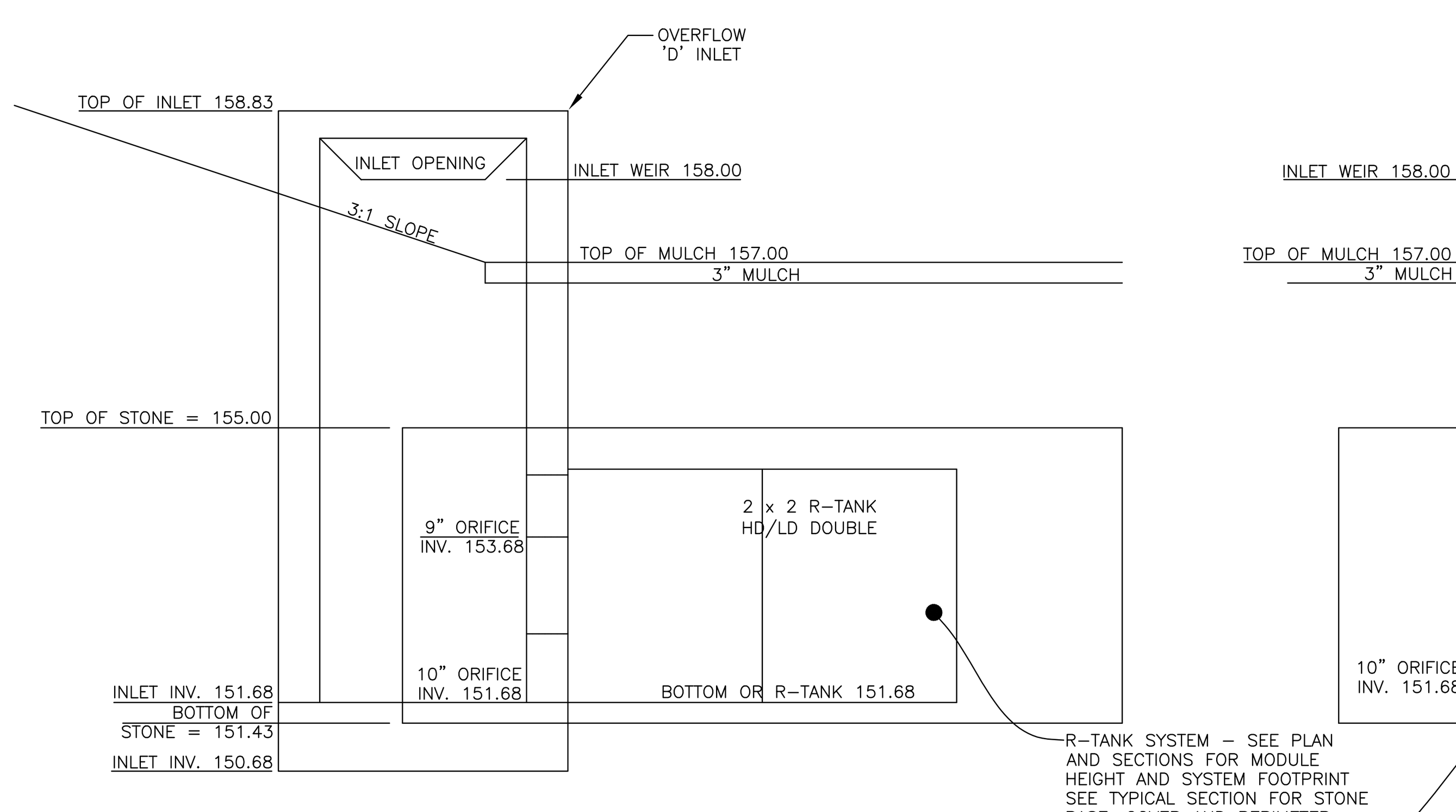


FRONT VIEW

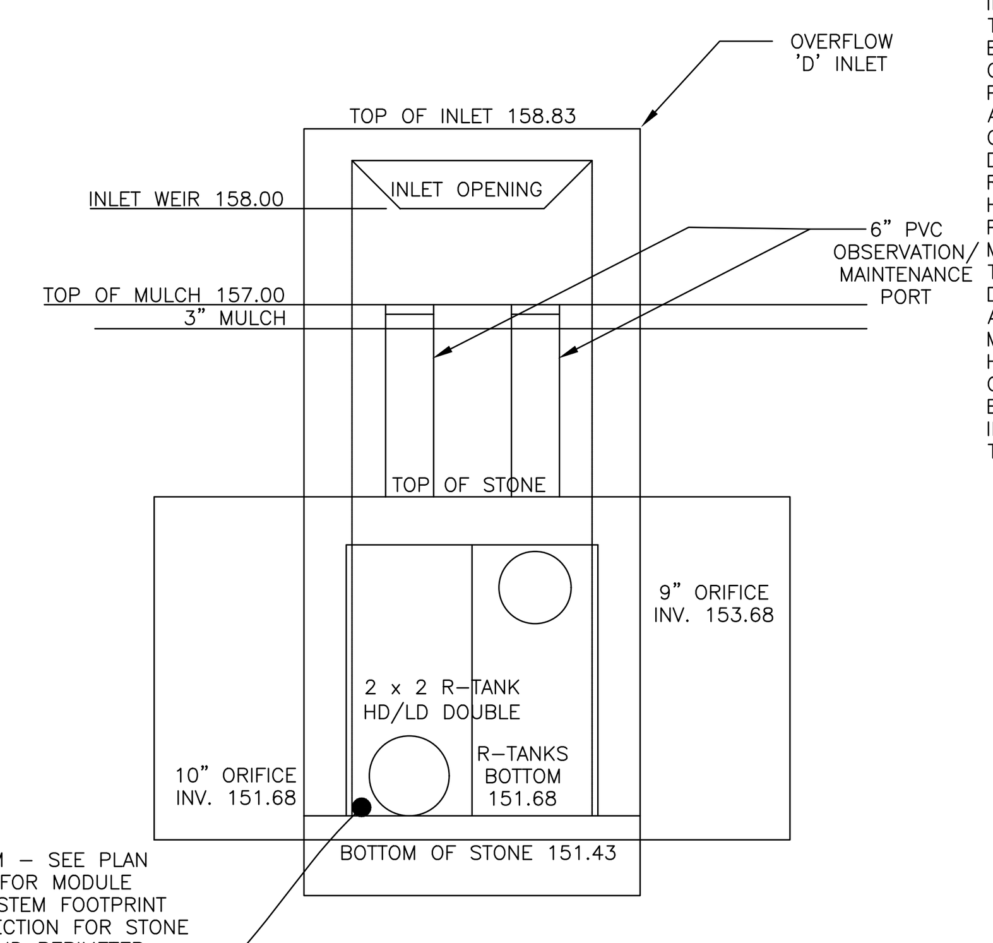
PIPE BOOT DETAIL
OBSERVATION/ MAINTENANCE PORT CONNECTION
N.T.S.



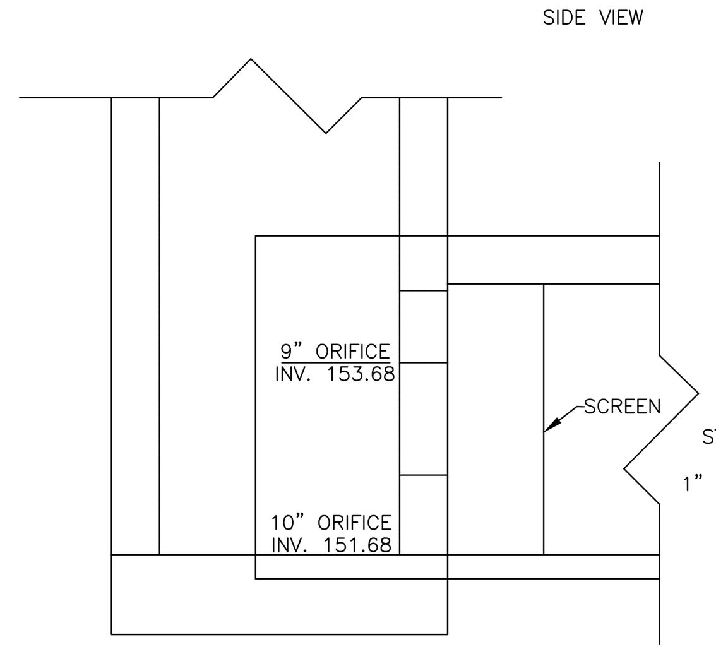
OUTLET/ INLET PIPE CONNECTION
N.T.S.

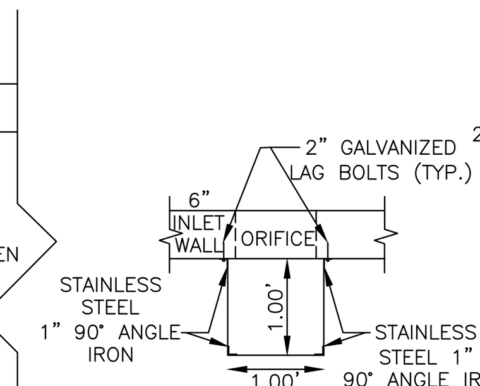


SIDE VIEW

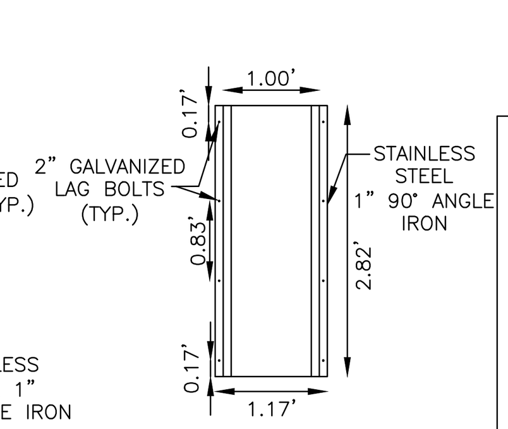


FRONT VIEW

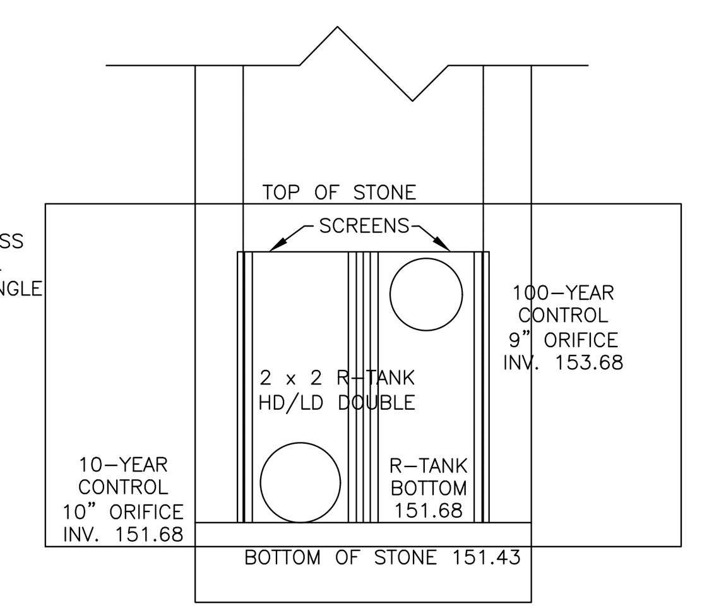




SCREEN TOP DETAIL



SCREEN FRONT DETAIL



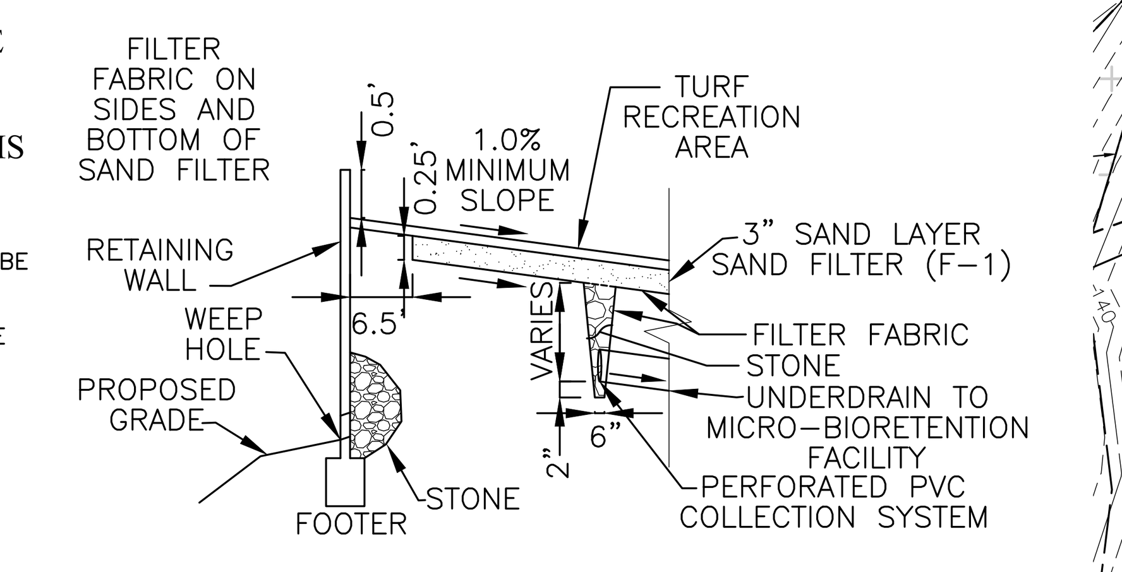
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED FILTERRA WATER QUALITY SYSTEMS

PRIVATELY OWNED AND MAINTAINED BY THE HOA
FLOW THRU INLET MAINTAINED BY HOWARD COUNTY, MARYLAND

A. THE FILTERRA WATER QUALITY STRUCTURE SHALL BE PERIODICALLY INSPECTED AND CLEANED TO MAINTAIN OPERATION AND FUNCTION. THE OWNER SHALL INSPECT THE FILTERRA UNIT YEARLY AT A MINIMUM, UTILIZING THE FILTERRA INSPECTION/MONITORING FORM. INSPECTIONS SHALL BE DONE BY USING A CLEAR PLEXIGLAS TUBE ("SLUDGE JUDGE") TO EXTRACT A WATER COLUMN SAMPLE. WHEN THE SEDIMENT DEPTHS EXCEED THE LEVEL SPECIFIED IN TABLE 6 OF THE FILTERRA TECHNICAL MANUAL, THE UNIT MUST BE CLEANED.
B. THE FILTERRA WATER QUALITY STRUCTURE SHALL BE CHECKED AND CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES.
C. THE MAINTENANCE OF THE FILTERRA UNIT SHALL BE DONE USING A VACUUM TRUCK WHICH WILL REMOVE THE WATER, SEDIMENT, DEBRIS, FLOATING HYDROCARBONS AND OTHER MATERIALS IN THE UNIT. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
D. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX MONTHS. IF OBSTRUCTIONS ARE FOUND THE OWNER SHALL HAVE THEM REMOVED. STRUCTURAL PARTS OF THE FILTERRA UNIT SHALL BE REPAIRED AS NEEDED.
E. THE OWNER SHALL RETAIN AND MAKE THE FILTERRA INSPECTION/MONITORING FORMS AVAILABLE THE HOWARD COUNTY OFFICIALS UPON THEIR REQUEST.

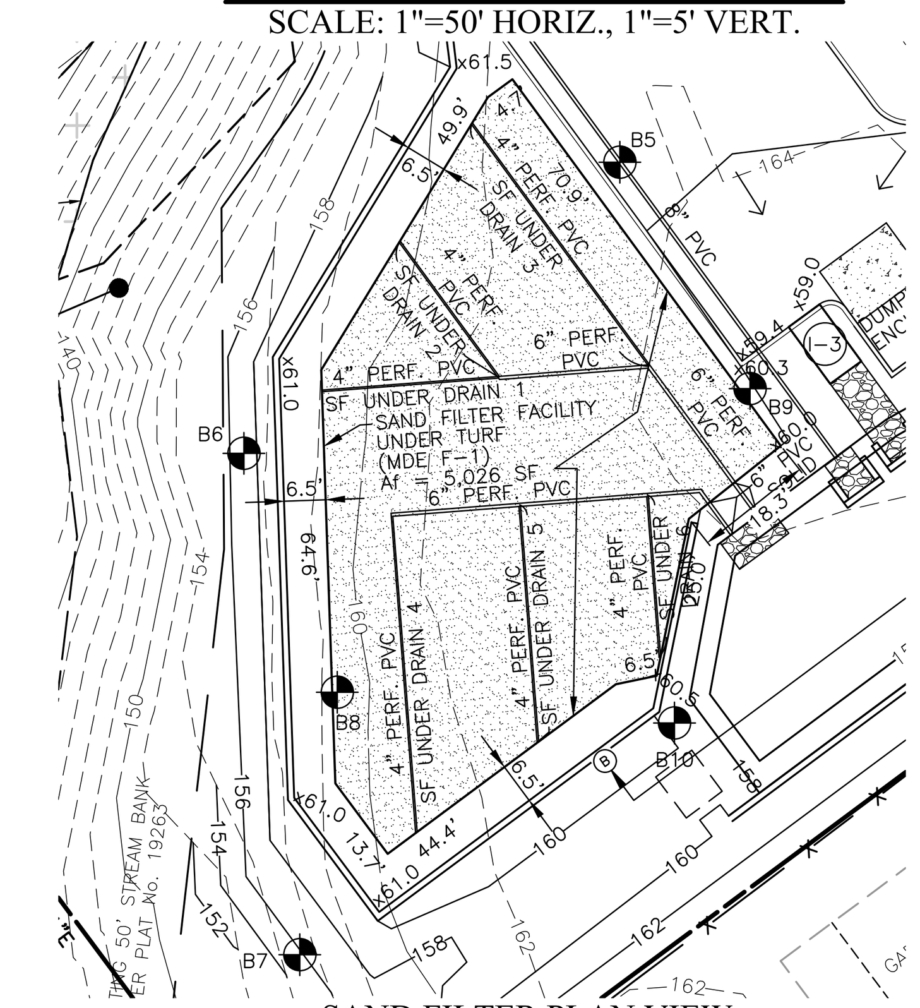
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SURFACE STORMWATER FILTRATION SYSTEMS (F-1)

1. THE STORMWATER WETLAND FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF ONCE PER YEAR, WHEN VEGETATION REACHES 18" IN HEIGHT OR AS NEEDED.
3. FILTERS THAT HAVE A GRASS COVER SHALL BE MOWED A MINIMUM OF THREE (3) TIMES PER GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 12 INCHES.
4. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
5. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
6. REMOVE SILT WHEN IT EXCEEDS FOUR (4) INCHES DEEP IN THE FOREBAY.
7. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
8. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
9. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
10. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM 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.

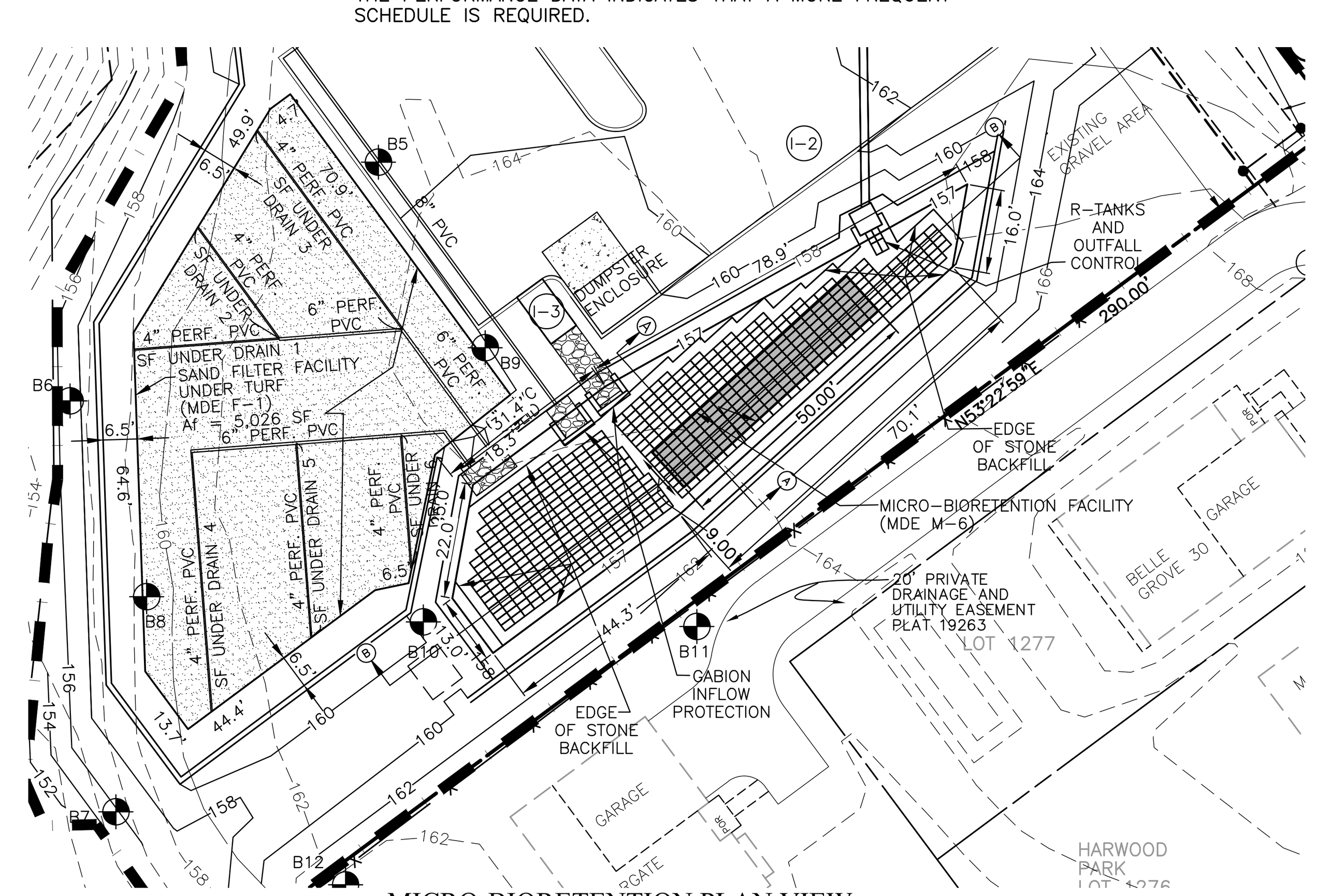


SAND FILTER UNDER PLAYGROUND DETAIL
NOT TO SCALE

SEE LANDSCAPE PLAN FOR PLANTINGS WITHIN STORMWATER MANAGEMENT FACILITIES



SAND FILTER PLAN VIEW
1" = 30'



MICRO-BIORETENTION PLAN VIEW
1" = 30'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499...	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
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STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT NOTES AND DETAILS

DATE:	JANUARY, 2024	PROJECT NO.	1465
SCALE:	AS SHOWN	SHEET 11	OF 15

DRAFT: JC | DESIGN: JC | CHECK: JC

SDP-22-056

DRILL HOLE LOG
BORING NO.: B-5

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER HOURS:
DEPTH TO CAVING> AT COMPLETION: 15.0' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/08/04
ELEVATION: 158.96'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
Fill	0–3.5	Moist Brown and Dark Brown loose f-m Silty Sand (SM) w/trace gravel and organics [Fill]	9	0'–1'6"	10
			9	2'6"–4'	15
ML	3.5–17.0	– medium dense below 2.5' Very Moist Brown and Light Tan stiff fine Sandy Silt (ML)	40	5'–6'6"	14
		– very stiff below 7.5'	37	7'6"–9'	23
		– reddish brown and light tan below 9.5'		10'–11'6"	22
		– hard below 15'		15'–16'6"	37
SM–ML	17.0–19.8	Moist Reddish Brown very dense f-m Silty Sand (SM) to very hard Sandy Silt (ML)		18'6"–19'9"	87+
	19.8	Bottom of Boring 19.8'			

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

DRILL HOLE LOG
BORING NO.: B-6

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER HOURS:
DEPTH TO CAVING> AT COMPLETION: 6.0' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/08/04
ELEVATION: 155.66'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
Fill	0–2.0	Very Moist Brown and Dark Brown very loose f-m Silty Clayey Sand (SC-SM) [Fill]	25	0'–1'6"	4
SM–ML	2.0–10.0	Intermixed Damp to Moist Brown, Dark Brown and Pale Red medium dense f-m Silty Sand (SM), stiff Sandy Clayey Silt (ML) and Sandy Silt (ML) w/trace gravel [Fill?]	13	2'6"–3'9"	59+
			14	5'–6'6"	16
		– dense/hard below 8.5'	7	8'6"–10'	38
	10.0	Bottom of Boring 10'			

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

DRILL HOLE LOG
BORING NO.: B-7

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER HOURS:
DEPTH TO CAVING> AT COMPLETION: 6.0' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/08/04
ELEVATION: 154.17'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
ML	0–2.0	Moist to Very Moist Brown stiff fine Sandy Clayey Silt (ML)	16	0'–1'6"	9
CL–ML	2.0–10.0	Layered Damp to Moist Pale Red hard fine Sandy Silt (ML) and Sandy Silty Clay (CL) w/trace gravel	8	2'6"–4'	46
			13	5'–6'6"	31
			13	8'6"–10'	50
	10.0	Bottom of Boring 10'			

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

DRILL HOLE LOG
BORING NO.: B-8

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER HOURS:
DEPTH TO CAVING> AT COMPLETION: 4.4' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/09/04
ELEVATION: 156.03'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
CL–ML	0–2.0	Moist Brown medium stiff Loam (CL-ML) w/trace gravel		0'–2'	6
CL	2.0–8.0	Moist Pale Red very stiff Clay Loam (CL)		2'–4'	19
		– w/trace gravel from 4' to 6'		4'–6'	23
			18	6'–8'	17
CL–ML	8.0–12.0	Moist Pale Red and Brown very stiff Loam (CL-ML) to Clay Loam (CL) w/trace gravel		8'–10'	25
			15	10'–12'	22
SM–ML	12.0–18.9	Layered Moist Reddish Brown and Gray very dense/very hard f-m Sandy Loam (SM) and Loam (SM-ML)		12'–13'11"	61
			15	14'–15'11"	92+
				16'–17'9"	94+
			14	18'–18'10"	51+
	18.9	Bottom of Boring 18.9'			

Note:
To perform infiltration test, advanced HSA to 17.0' and installed PVC pipe at location 10'± from this boring. Sealed around annulus space at bottom with bentonite pellets and water. Removed HSA.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

DRILL HOLE LOG
BORING NO.: B-9

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER HOURS:
DEPTH TO CAVING> AT COMPLETION: 12.0' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/09/04
ELEVATION: 160.65'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
SM–ML	0–2.0	Moist Brown loose/medium stiff fine Loam (SM-ML) w/ trace gravel [Fill?]		0'–2'	8
SM–ML	2.0–14.0	Layered Very Moist Brown, Light Tan and Reddish Brown very stiff fine Loam (ML) and medium dense Sandy Loam (SM)	34	2'–4'	17
				4'–6'	23
		– hard to very stiff/dense below 8'	35	6'–8'	19
				8'–10'	39
			30	10'–12'	28
				12'–14'	31
SC–SM	14.0–18.1	Layered Moist Reddish Brown and Gray very dense f-m Sandy Loam (SC-SM) and Sandy Clay Loam (SC)	17	14'–14'4"	51+
				16'–16'2"	51+
			12	18'–18'1"	51+
	18.1	Bottom of Boring 18.1'			

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

CONSTRUCTION SPECIFICATIONS

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

1. Material Specifications:

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

2. Filtering Media or Planting Soil:

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-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 15.08.01.05. The planting soil shall be tested and shall meet the following criteria:

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

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

3. Compaction:

It is very important to minimize compaction of both the base of 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 refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

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

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

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

4. Plant Material:

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

5. Plant Installation:

Compost is a better organic material source, is less likely to float, and should be placed in the 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 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

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

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

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the 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.

6. Underdrains:

Underdrains should meet the following criteria:

- Pipe- Should 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 - If perforated pipe is used, perforations should be ⅜" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a ¼" (No. 4 or 4x4) galvanized hardware cloth.
- Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain
- The main collector pipe shall be at a minimum 0.5% slope.
- A rigid, non-perforated observation well must be provided (one per every 1,0000 square feet) to provide a clean-out port and monitor performance of the filter.
- A 4" layer of pea gravel (⅛" to ⅜" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

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

7. Miscellaneous:

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

EXCAVATED PONDS

GENERAL – EXCAVATED PONDS THAT CREATE A FAILURE POTENTIAL THROUGH A CONSTRUCTED OR CREATED EMBANKMENT WILL BE DESIGNED AS EMBANKMENT PONDS EXCAVATED PONDS THAT INCLUDE A PIPE OR WEIR OUTLET CONTROL SYSTEM FOR URBAN STORMWATER MANAGEMENT SHALL BE DESIGNED USING THE PRINCIPAL AND EMERGENCY SPILLWAY HYDROLOGIC CRITERIA FOR EMBANKMENT PONDS, TABLE 1.
SIDE SLOPES – SIDE SLOPES OF EXCAVATED PONDS SHALL BE SUCH THAT THEY WILL BE STABLE AND SHALL NOT BE STEEPER THAN 1 HORIZONTAL TO 1 VERTICAL. FLATTER SLOPES ARE TO BE UTILIZED WHERE SAFETY FOR CHILDREN, LIVESTOCK WATERING, ETC. IS A DESIGN FACTOR.
PERIMETER FORM – WHERE THE STRUCTURES ARE USED FOR RECREATION OR ARE LOCATED IN HIGH PUBLIC VIEW, THE PERIMETER OR EDGE SHOULD BE SHAPED TO A CURVILINEAR FORM.
INLET PROTECTION – WHEN THE EXCAVATED POND IS A BYPASS TYPE AND WATER IS BEING DIVERTED FROM A STREAM, THE MINIMUM SIZE INLET LINE SHALL BE A 4–INCH DIAMETER PIPE. ALL STATE LAWS CONCERNING WATER USE AND DOWNSTREAM RIGHTS SHALL BE STRICTLY ADHERED TO. WHERE SURFACE WATER ENTERS THE POND IN A NATURAL OR EXCAVATED CHANNEL, THE SIDE SLOPE OF THE POND SHALL BE PROTECTED AGAINST EROSION.
OUTLET PROTECTION – AN EXCAVATED POND WITH A LOW EMBANKMENT (COMBINATION EXCAVATION / EMBANKMENT POND SHALL BE DESIGNED TO ENSURE A STABLE OUTFALL FOR THE 10–YEAR, 24–HOUR FREQUENCY STORM.
PLACEMENT OF EXCAVATED MATERIAL – THE MATERIAL EXCAVATED FROM THE POND SHALL BE PLACED IN ONE OF THE FOLLOWING WAYS SO THAT ITS WEIGHT WILL NOT ENDANGER THE STABILITY OF THE POND SIDE SLOPES AND WHERE IT WILL NOT BE WASHED BACK INTO THE POND BY RAINFALL:
1. UNIFORMLY SPREAD TO A HEIGHT NOT EXCEEDING 3 FEET WITH THE TOP GRADED TO A CONTINUOUS SLOPE AWAY FROM THE POND;
2. UNIFORMLY PLACED OR SHAPED REASONABLY WELL WITH SIDE SLOPES NO STEEPER THAN 2 TO 1. THE EXCAVATED MATERIAL WILL BE PLACED AT A DISTANCE EQUAL TO THE DEPTH OF THE POND, BUT NOT LESS THAN 12 FEET FROM THE EDGE OF THE POND;
3. SHAPED TO A DESIGNED FORM THAT BLENDS VISUALLY WITH THE LANDSCAPE;
4. USED FOR LOW EMBANKMENT AND LEVELING; OR
5. HAULED AWAY.

DRILL HOLE LOG
BORING NO.: B-10

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER 24 HOURS: Dry
DEPTH TO CAVING> AT COMPLETION: 14.4' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/09/04
ELEVATION: 160.99'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
ML	0–2.0	Moist Brown stiff Loam (ML) w/gravel		0'–2'	12
CL	2.0–6.0	Moist Reddish Brown very stiff Clay Loam (CL) w/trace gravel	20	2'–4'	16
				4'–6'	29
SM–ML	6.0–10.0	Layered Very Moist Brown and Light Tan dense/very stiff to hard Loam (SM-ML) and Sandy Loam (SM)	32	6'–8'	29
				8'–10'	41
SM	10.0–18.2	Moist Brown, Reddish Brown and Tan dense Sandy Loam (SM) w/thin Silt Loam (ML) layers	14	10'–12'	46
		– very dense below 12'		12'–13'4"	89+
		– gray and reddish brown below 16'	15	14'–15'5"	93+
				16'–17'5"	86+
			8	18'–18'3"	51+
	18.2	Bottom of Boring 18.2'			

Note:
To perform infiltration test, advanced HSA to 14.0' and installed PVC pipe at location 10'± from this boring. Sealed around annulus space at bottom with bentonite pellets and water. Removed HSA.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

DRILL HOLE LOG
BORING NO.: B-11

PROJECT: 6661 Washington Blvd.
CLIENT: Belle Grove Corporation
LOCATION: See Boring Plan
DRILLER: Geomatrix Inc.
DRILL RIG: Truck
DEPTH TO WATER> AT COMPLETION: Dry — AFTER 24 HOURS: Dry
DEPTH TO CAVING> AT COMPLETION: 15.0' — AFTER HOURS:

PROJECT NO.: 04293
DATE: 11/08/04
ELEVATION: 163.42'
LOGGED BY: RAO

USCS	Depth	Description	NM%	SPT Depth	N
CL	0–6.0	Moist Pale Red medium stiff Clay Loam (CL)		0'–2'	6
		– hard w/gravel below 2'	7	2'–4'	44
				4'–6'	31
SM–ML	6.0–13.0	Layered Very Moist Brown and Light Tan very stiff/medium dense Silt Loam (ML) and Loam (SM-ML)	39	6'–8'	18
				8'–10'	16
		– hard/dense below 12'	36	10'–12'	20
				12'–14'	36
SM–ML	13.0–19.3	Layered Very Moist Brown and Grayish Brown dense fine Sandy Clay Loam (SC) and Loam (ML)	30	14'–16'	26
		– medium dense w/thin ironstone layers below 16'		16'–18'	17
		– very dense below 18'	17	18'–19'4"	76+
	19.3	Bottom of Boring 19.3'			

Note:
To perform infiltration test, advanced HSA to 14.0' and installed PVC pipe at location 10'± from this boring. Sealed around annulus space at bottom with bentonite pellets and water. Removed HSA.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Marshall Engineering, Inc.

Concerning actual measured infiltration rates, reference is made to the Infiltration Test Summary in Appendix C. The following table summarizes the findings of our infiltration testing.

Boring	Test Depth	Test Elevation	Soil Description	Tested Infiltration Rate Range (in./hr.)
B-8	17'	139.03'	Sandy Loam (SM) and Loam (SM-ML)	0.24 to 0.12
B-10	14'	146.99'	Sandy Loam (SM) and Silt Loam (ML)	0.36 to 0.12
B-11	14'	149.42'	Sandy Clay Loam (SC) and Loam (ML)	0.36 to 0.12
B-13	10'	153.43'	Clay Loam (CL), Loam (SM-ML) and Sandy Loam (SM)	0.24

Based on the above, it is concluded that the entire subsurface profiles at the locations of the proposed SWM areas are unsuitable for the use of infiltration for SWM based on current MDE and Howard County SWM regulations. The profile is unsuitable due to soils with unsuitable infiltration rates and/or high soil moisture contents.

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John P. Marshall, P.E. — President
Robert A. O'Berry — Geotechnical Engineer
Lisa P. Carroll — Project Manager

December 22, 2004

CONSTRUCTION SPECIFICATIONS
B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS:
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
2. FILTERING MEDIA OR PLANTING SOIL:
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO–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 15.08.01.05. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
- SOIL COMPONENT – LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
- ORGANIC CONTENT – MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%–65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
- CLAY CONTENT – MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
- PH RANGE – SHOULD BE BETWEEN 5.5 – 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION:
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF 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 REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL:
RECOMMENDED PLANT MATERIAL FOR MICRO–BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION:
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE 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 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON–SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON–GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE 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.

6. UNDERDRAINS:
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
- PIPE– SHOULD 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 – IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE ⅜" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A ¼" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
- GRAVEL – THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN
- THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
- A RIGID, NON–PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN–OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
- A 4" LAYER OF PEA GRAVEL (⅛" TO ⅜" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN–OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS:
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED

MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II (OCTOBER 2000, REVISED MAY 2009)
APPENDIX B.3.A SAND FILTER SPECIFICATIONS
1. MATERIAL SPECIFICATIONS FOR SAND FILTERS
THE ALLOWABLE MATERIALS FOR SAND FILTER CONSTRUCTION ARE DETAILED IN TABLE B.3.1.
2. SAND FILTER TESTING SPECIFICATIONS
UNDERGROUND SAND FILTERS, FACILITIES WITHIN SENSITIVE GROUNDWATER AQUIFERS, AND FILTERS DESIGNED TO SERVE URBAN HOT SPOTS ARE TO BE TESTED FOR WATER TIGHTNESS PRIOR TO PLACEMENT OF FILTER MEDIA. ENTRANCES AND EXITS SHOULD BE PLUGGED AND THE SYSTEM COMPLETELY FILLED WITH WATER TO DEMONSTRATE WATER TIGHTNESS. WATER TIGHTNESS MEANS NO LEAKAGE FOR A PERIOD OF 8 HOURS. ALL OVERFLOW WEIRS, MULTIPLE ORIFICES AND FLOW DISTRIBUTION SLOTS ARE TO BE FIELD–TESTED TO VERIFY ADEQUATE DISTRIBUTION OF FLOWS.
3. SAND FILTER CONSTRUCTION SPECIFICATIONS
PROVIDE SUFFICIENT MAINTENANCE ACCESS (I.E., 12–FOOT–WIDE ROAD WITH LEGALLY RECORDED EASEMENT). VEGETATED ACCESS SLOPES ARE TO BE A MAXIMUM OF 10%; GRAVEL SLOPES TO 15%; PAVED SLOPES TO 25%. ABSOLUTELY NO RUNOFF IS TO ENTER THE FILTER UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED. SURFACE OF FILTER BED IS TO BE LEVEL. ALL UNDERGROUND SAND FILTERS SHOULD BE CLEARLY DELINEATED WITH SIGNS SO THAT THEY MAY BE LOCATED WHEN MAINTENANCE IS DUE. SURFACE SAND FILTERS MAY BE PLANTED WITH APPROPRIATE GRASSES; SEE APPENDIX A. "POCKET" SAND FILTERS (AND RESIDENTIAL BIORETENTION FACILITIES TREATING AREAS LARGER THAN AN ACRE) SHALL BE SIZED WITH A STONE "WINDOW" THAT COVERS APPROXIMATELY 10% OF THE FILTER AREA. THIS "WINDOW" SHALL BE FILLED PEA GRAVEL (3/4 INCH STONE).

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499...	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: [signature] 1EB75478A22B49A...	5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Lynda Eisenberg 4220B635863942E...	5/13/2024
DIRECTOR	DATE

SCALE: 30 0 15 30 60 120 (IN FEET) 1 inch = 30 ft.

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD▲ SUITE 140▲ ELLICOTT CITY, MARYLAND 21043
(P) 410–465–6105 (F) 410–465–6644
WWW.BEI–CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

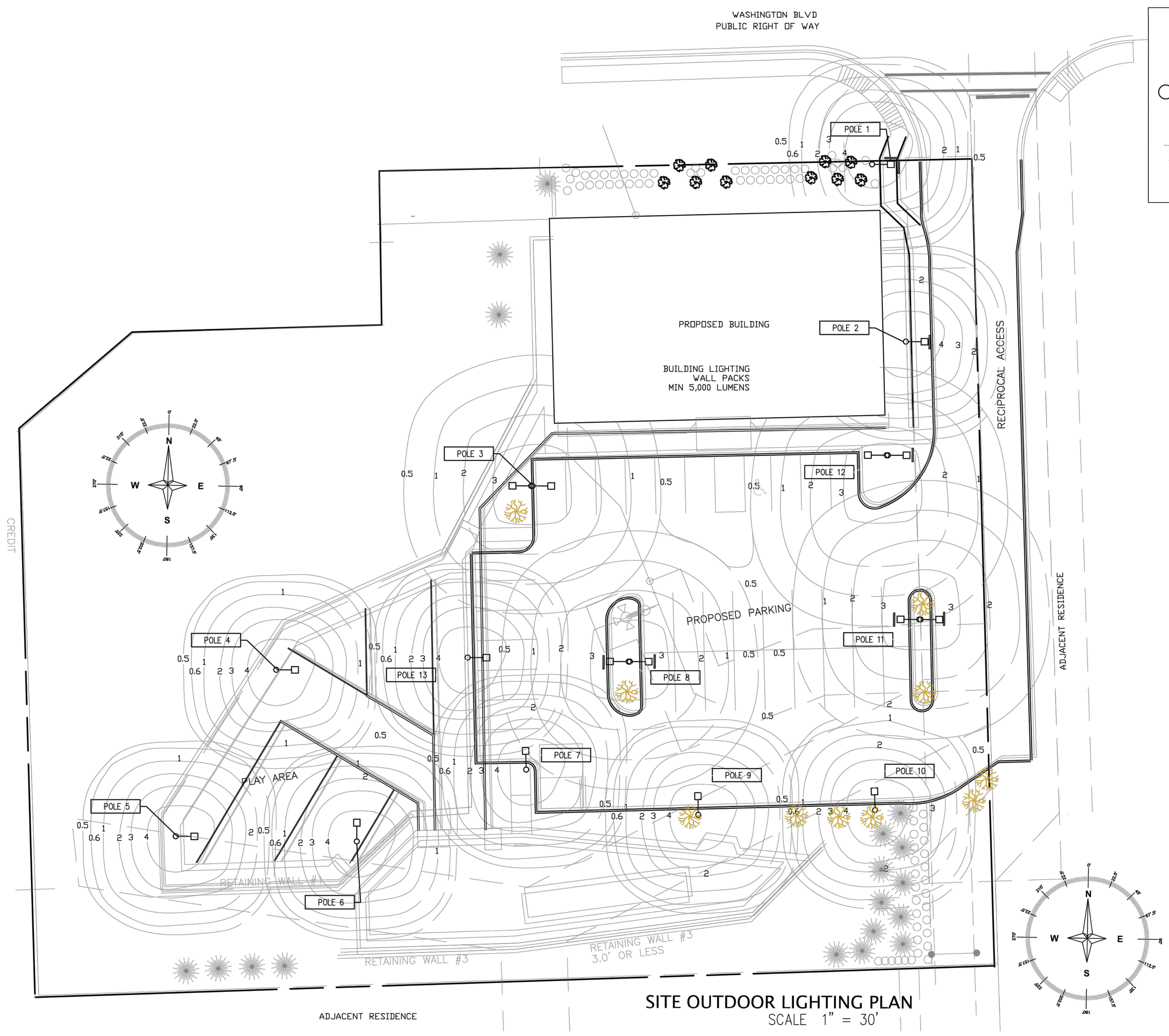
OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410–977–3015

PROJECT: **EUCLID CORNERS**
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: **GEOTECHNICAL BORINGS LOGS AND STORMWATER NOTES**

DATE:	JANUARY, 2024	PROJECT NO.	1465
DRAFT: JC / DESIGN: JC / CHECK: JC	SCALE: AS SHOWN	SHEET 12	OF 15



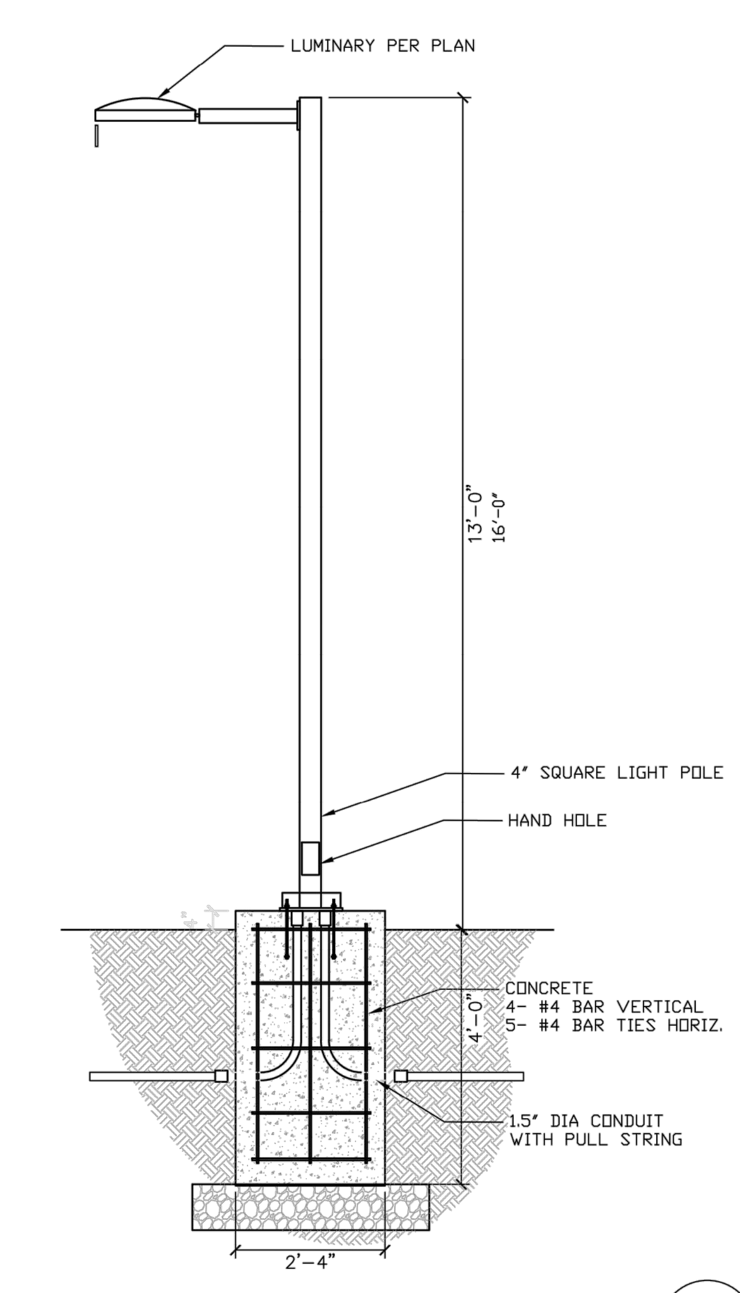
ADJACENT RESIDENCE

SITE OUTDOOR LIGHTING PLAN

SCALE 1" = 30'

LEGEND

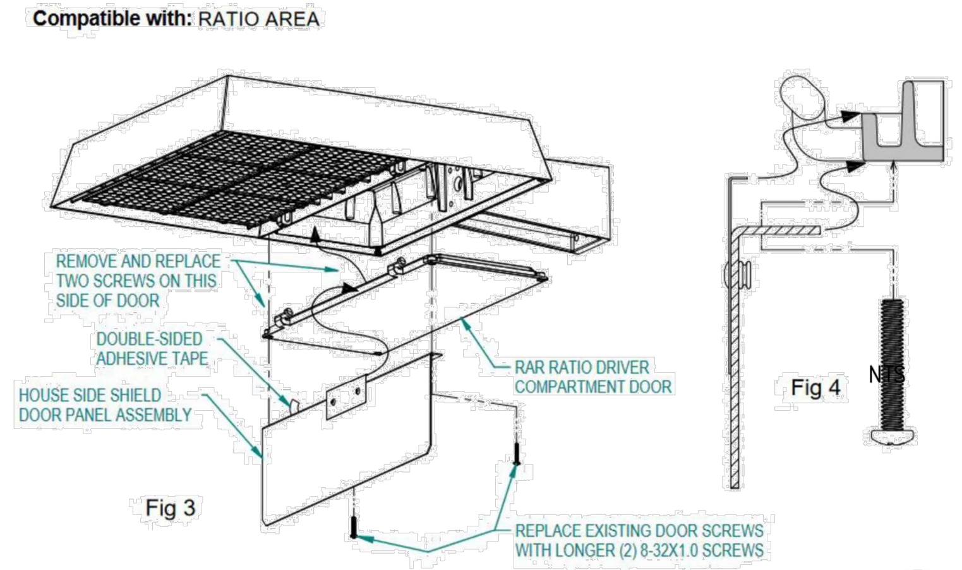
- POLE # — OUTDOOR LIGHT POLE #
- HOUSE SHIELD
- LUMINARY POLE AND ARM
- LIGHT CONTOURS ON SURFACE
- FOOT CANDLE ILLUMINATION ON SURFACE



LIGHT POLE AND FOUNDATION (LT 1)

SCALE 1/2" = 1'-0"

Compatible with: RATIO AREA



LIGHT SHIELDING (LT 3)

SCALE = NONE

LIGHT POLE SCHEDULE

POLE #	LUMINIAR	ARM# AZIMUTH	HIEGHT	SHIELDING
1	RAR 1	1-90°	13'-0"	0°
2	RAR 1	1-90°	13'-0"	0°
3	2-RAR 1	1-270° 1-90°	16'-0"	270° & 90°
4	RAR 1	1-90°	13'-0"	NONE
5	RAR 1	1-90°	13'-0"	NONE
6	RAR 1	1-0°	13'-0"	NONE
7	RAR 1	1-0°	13'-0"	NONE
8	2-RAR 1	1-270° 1-90°	16'-0"	270° & 90°
9	RAR 1	1-90°	13'-0"	NONE
10	RAR 1	1-90°	13'-0"	NONE
11	2-RAR 1	1-270° 1-90°	16'-0"	270° & 90°
12	2-RAR 1	1-270° 1-90°	16'-1"	90°

HUBBELL LUMINARIES SCHEDULE

LUMINAIR	MODEL #	QUANITY	COLOR TEMP	CRI	LUMENS	WATTS	LUMS/WATT	DIST TYPE	VOLTAGE RANGE	NOTES
RAR 1	RAR-1-80L-25-4K7-5QW	16	400K LED	70CRI	3466	25	136	5qw	120-277	UNIVERSAL MOUNT, BRONZE SMOOTH, DUSK TO DAWN, SQUARE ARM

HOWARD COUNTY ZONING REGULATIONS SECTION 134.0: — Outdoor Lighting
COUNTY GENERAL REQUIREMENTS

C.

ALLOWED OUTDOOR LIGHTING

ANY LIGHTING USED TO ILLUMINATE OFF-STREET PARKING AREAS SHALL BE SO ARRANGED AS TO DIRECT THE LIGHT DOWN, TOWARDS THE PARKING AREA, AND AWAY FROM THE ADJOINING LOTS IN RESIDENTIAL DISTRICTS AND ANY PUBLIC STREET RIGHT-OF-WAY.

OUTDOOR LIGHTING SHALL BE LIMITED TO THE FOLLOWING TYPES OF FIXTURES. IN THESE REQUIREMENTS, THE TERM "LAMP" REFERS TO THE COMPONENT OF THE LIGHT FIXTURE THAT PRODUCES THE LIGHT.

1.

SHIELDED LIGHTS

WITH THE EXCEPTION OF SPOTLIGHTS AND LOW INTENSITY LIGHTS AS DEFINED BELOW, ALL LIGHT FIXTURES SHALL BE FULLY OR PARTIALLY SHIELDED.

A.

A FULLY SHIELDED FIXTURE IS CONSTRUCTED AND INSTALLED IN SUCH A MANNER THAT NO LIGHT IS EMITTED ABOVE A HORIZONTAL PLANE THROUGH THE LOWEST PART OF THE LAMP, AS CERTIFIED BY THE LIGHTING MANUFACTURER OR A PHOTOMETRIC TEST REPORT.

B.

A PARTIALLY SHIELDED FIXTURE IS CONSTRUCTED AND INSTALLED IN SUCH A MANNER THAT LESS THAN 2.5% OF THE LIGHT IS PROJECTED ABOVE A HORIZONTAL PLANE THROUGH THE LOWEST PART OF THE LAMP, AS CERTIFIED BY THE LIGHTING MANUFACTURER OR A PHOTOMETRIC TEST REPORT.

2.

SPOTLIGHTS

A SPOTLIGHT CONCENTRATES THE LIGHT INTO A DIRECTED BEAM AIMED IN A PARTICULAR DIRECTION. SPOTLIGHTS ARE ALLOWED SUBJECT TO THE FOLLOWING:

A.

THE LIGHT SHALL BE DIRECTED ONLY ONTO THE FACADE OF A BUILDING OR SIGN ON THE SAME LOT.

B.

FACADES AND SIGNS LOCATED LESS THAN 50 FEET FROM A RESIDENTIAL DISTRICT SHALL NOT BE ILLUMINATED BY A SPOTLIGHT.

C.

THE LAMP SHALL BE SHIELDED ON THE REAR AND SIDES BY A MATERIAL THAT FULLY BLOCKS LIGHT. THIS SHIELD SHALL EXTEND AT LEAST 6 INCHES IN FRONT OF THE LAMP.

D.

THE WIDTH OF THE FRONT OPENING OF THE LIGHT SHIELD SHALL BE NO MORE THAN THE LENGTH OF THE SHIELD.

3.

LOW INTENSITY LIGHTS

LIGHT FIXTURES WITH THE FOLLOWING CHARACTERISTICS ARE PERMITTED WITHOUT CUTOFF SHIELDS:

A.

THE LAMP(S) HOUSED BY THE FIXTURE DO NOT EMIT A TOTAL OF MORE THAN 16,000 LUMENS FOR FREESTANDING FIXTURES, OR 10,000 LUMENS FOR FIXTURES ATTACHED TO STRUCTURES, BASED ON THE MANUFACTURER'S LUMEN RATING FOR THE INITIAL LIGHT OUTPUT OF THE LAMP(S).

B.

THE LAMP IS NO MORE THAN 14 FEET ABOVE GROUND LEVEL FOR FREESTANDING FIXTURES, OR 8 FEET ABOVE GROUND LEVEL FOR FIXTURES ATTACHED TO STRUCTURES.

C.

FOR FIXTURES WITH SHIELDS OR OTHER DESIGN FEATURES TO DIRECT THE LIGHT, THE LIGHT IS NOT DIRECTED TOWARD ADJACENT PROPERTIES OR PUBLIC STREETS.

D.

THE SURFACE OF EITHER THE LAMP OR THE FIXTURE ENCLOSING THE LAMP IS FROSTED OR TRANSLUCENT RATHER THAN TRANSPARENT.

D.

LIGHT TRESPASS

LIGHT TRESPASS FROM A PROPERTY SUBJECT TO THE REQUIREMENTS OF THIS SECTION SHALL BE LIMITED AS PROVIDED BELOW. LIGHT TRESPASS SHALL BE MEASURED IN VERTICAL FOOT-CANDLES THREE FEET ABOVE GROUND LEVEL AT THE PROPERTY LINE.

1.

LIGHT TRESPASS ONTO A PROPERTY IN THE RC, RR, R-ED, R-20, R-12, OR R-SC DISTRICT, OR ONTO A PROPERTY IN THE NT, PGCC OR MXD DISTRICTS DESIGNATED FOR DEVELOPMENT OF EQUIVALENT LAND USES AND DENSITIES, SHALL BE LIMITED TO 0.1 FOOT CANDLES.

2.

LIGHT TRESPASS ONTO ANY OTHER PROPERTY ZONED OR USED FOR RESIDENTIAL PURPOSES SHALL BE LIMITED TO 0.5 FOOT CANDLES.

3.

THE LIGHT TRESPASS LIMITS SHALL NOT APPLY TO LAND WITHIN A PUBLIC STREET RIGHT-OF-WAY OR DEVELOPED FOR NON-RESIDENTIAL USES.

SITE SPECIFIC REQUIREMENTS

1.
2. CONTRACTOR SHALL VERIFY THE CIRCUIT AND GROUNDING METHODS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL FIELD VERIFY ALL LOCATION PRIOR TO ORDERING MATERIALS
4. ALL OUTDOOR LIGHTING SHALL BE PER THE SPECIFIED SCHEDULE OR ALTERNATES AS APPROVED BY THE ENGINEER OF RECORD.

Firefly Technical Services
3393 LITTLETON WAY 10
PASADENA MD 21122
PH: 410-844-1532
joseph@firefly-technical-services.com

EUCLID CORNERS
PARCEL A
LIGHTBRIDGE CHILD CARE FACILITY
6701 WASHINGTON BLVD, ELKRIDGE MARYLAND

SHEET TITLE: SITE PLAN LIGHTING PLAN

DESCRIPTION	DATE
1ST ISSUE	X/X/XX

NOT FOR OUTSIDE DISCLOSURE WITHOUT EXPLICIT PERMISSION FROM FIREFLY TECHNICAL SERVICES

LGHT 1

30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

ENGINEER'S SEAL, SIGNATURE AND CERTIFICATION IS LIMITED TO THE SITE LAYOUT ONLY AND DOES NOT PERTAIN TO THE LIGHTING LAYOUT, DESIGN AND ANALYSIS. PHOTOMETRIC DATA IS PROVIDED BY FIREFLY TECHNICAL SERVICES.

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
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STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney 01.31.2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

PROJECT: EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PARCEL 'A' LIGHTING PLAN, NOTES AND DETAILS

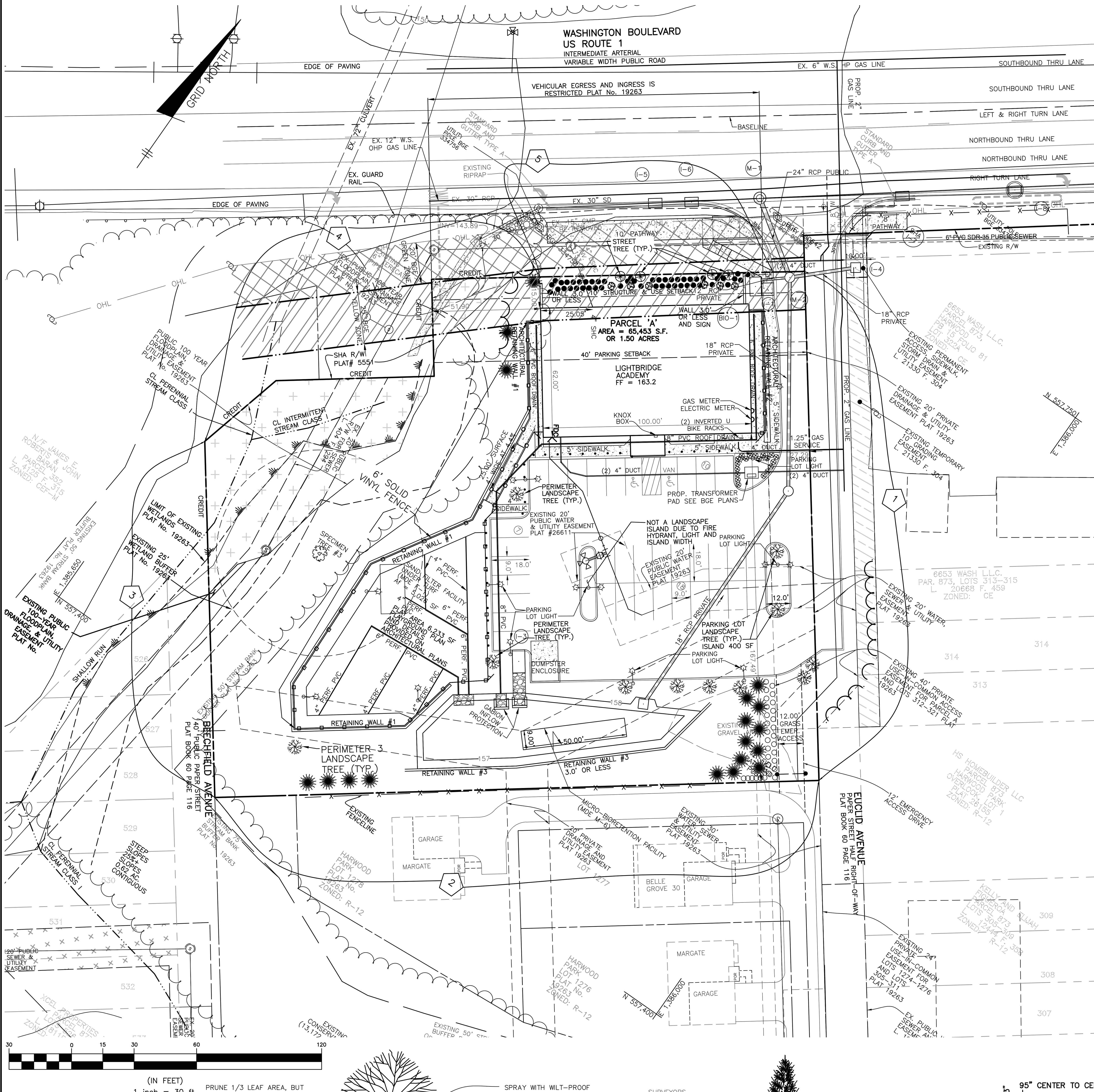
DATE: JANUARY, 2024	PROJECT NO. 1465
SCALE: AS SHOWN	SHEET 13 OF 15

DRAFT: JC | DESIGN: JC | CHECK: JC

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499 — CHIEF, DEVELOPMENT ENGINEERING DIVISION	5/10/2024 DATE
DocuSigned by: 1EB7547BA22B49A — CHIEF, DIVISION OF LAND DEVELOPMENT	5/8/2024 DATE
DocuSigned by: Lynda Eisenberg 2208035E0394 — DIRECTOR	5/13/2024 DATE

SDP-22-056



Planting Requirements for Filterra® Systems

CONTECH ENGINEERED SOLUTIONS

Contech Engineered Solutions LLC
9025 Centre Pointe Drive, Suite 400
West Chester, OH 45069
Phone: (513) 645-7000
Fax: (513) 645-7993
www.ContechES.com

Plant Material Selection

- Select plant(s) as specified in the engineering plans and specifications.
- Select plant(s) with full root development but not to the point where root bound.
- Use local nursery container plants only. Ball and burlapped plants are not permitted.
- For precast Filterra systems with a tree grate, plant(s) must not have scaffold limbs at least 14 inches from the crown due to spacing between the top of the mulch and the tree grate. Lower branches can be pruned away provided there are sufficient scaffold branches for tree or shrub development.
- For precast Filterra systems with a tree grate, at the time of installation, it is required that plant(s) must be at least 6" above the tree grate opening at installation for all Filterra configurations. This DOES NOT apply to Full Grate Cover designs.
- Plant(s) shall not have a mature height greater than 25 feet.
- For standard 21" media depth, a 7 – 15 gallon container size shall be used. Media less than 21" (Filterra boxes only) will require smaller container plants.
- For precast Filterra systems, plant(s) should have a single trunk at installation, and pruning may be necessary at activation and maintenance for some of the faster growing species, or species known to produce basal sprouts.

CROWN — GRAFT — SOIL SURFACE

Plant Installation

- During transport protect the plant leaves from wind and excessive jostling.
- Prior to removing the plant(s) from the container, ensure the soil moisture is sufficient to maintain the integrity of the root ball. If needed, pre-wet the container plant.
- Cut away any roots which are growing out of the container drain holes. Plants with excessive root growth from the drain holes should be rejected.
- Plant(s) should be carefully removed from the pot by gently pounding on the sides of the container with the fist to loosen root ball. Then carefully slide out. Do not lift plant(s) by trunk as this can break roots and cause soil to fall off. Extract the root ball in a horizontal position and support it to prevent it from breaking apart. Alternatively the pot can be cut away to minimize root ball disturbance.
- Remove any excess soil from above the root flare after removing plant(s) from container.
- Excavate a hole with a diameter 4" greater than the root ball, gently place the plant(s).
- If plant(s) have any circling roots from being pot bound, gently tease them loose without breaking them.
- If root ball has a root mat on the bottom, it should be shaved off with a knife just above the mat line.
- Plant the tree/shrub/grass with the top of the root ball 1" above surrounding media to allow for settling.
- All plants should have the main stem centered in the tree grate (where applicable) upon completion of installation.
- With all trees/shrubs, remove dead, diseased, crossed/rubbing, sharply crotched branches or branches growing excessively long or in wrong direction compared to majority of branches.

Filterra 8/17 1

CONTECH ENGINEERED SOLUTIONS

Contech Engineered Solutions LLC
9025 Centre Pointe Drive, Suite 400
West Chester, OH 45069
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www.ContechES.com

- To prevent transplant shock (especially if planting takes place in the hot season), it may be necessary to prune some of the foliage to compensate for reduced root uptake capacity. This is accomplished by pruning away some of the smaller secondary branches or a main scaffold branch if there are too many. Too much foliage relative to the root ball can dehydrate and damage the plant.
- Plant staking may be required.

Mulch Installation

- Only mulch that has been meeting Contech Engineered Solutions' mulch specifications can be used in the Filterra system.
- Mulch must be applied to a depth of 3" evenly over the surface of the media.

Irrigation Requirements

- Each Filterra® system must receive adequate irrigation to ensure survival of the living system during periods of drier weather.
- Irrigation sources include rainfall runoff from downspouts and/or gutter flow, applied water through the tree grate or in some cases from an irrigation system with emitters installed during construction.
- **At Activation:** Apply about one (cool climates) to two (warm climates) gallons of water per inch of trunk diameter over the root ball.
- **During Establishment:** In common with all plants, each Filterra® plant will require more frequent watering during the establishment period. One inch of applied water per week for the first three months is recommended for cooler climates (2 to 3 inches for warmer climates). If the system is receiving rainfall runoff from the drainage area, then irrigation may not be needed. Inspection of the soil moisture content can be evaluated by gently brushing aside the mulch layer and feeling the soil. Be sure to replace the mulch when the assessment is complete. Irrigate as needed**.
- **Established Plants:** Established plants have fully developed root systems and can access the entire water column in the media. Therefore irrigation is less frequent but requires more applied water when performed. For a mature system assume 3.5 inches of available water within the media matrix. Irrigation demand can be estimated as 1" of irrigation demand per week. Therefore if dry periods exceed 3 weeks, irrigation may be required. It is also important to recognize that plants which are exposed to windy areas and reflected heat from paved surfaces may need more frequent irrigation. Long term care should develop a history which is more site specific.

** Five gallons per square yard approximates 1 inch of water Therefore for a 6' by 6 foot Filterra® approximately 20-60 gallons of applied water is needed. To ensure even distribution of water it needs to be evenly sprinkled over the entire surface of the filter bed, with special attention to make sure the root ball is completely wetted. NOTE: if needed, measure the time it takes to fill a five gallon bucket to estimate the applied water flow rate. Then calculate the time needed to irrigate the Filterra®, For example is the flow rate of the sprinkler is 5 gallons/minute then it would take 12 minutes to irrigate a 6'x6' filter.

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAY	NO	NO	NO	YES	YES	
	ADJACENT TO PERIMETER PROPERTIES	YES	YES	YES	NO	NO	
PERIMETER NO.		1	2	3	4	5	
LANDSCAPE TYPE		A	C	A	B	C	
	SHADE TREES	1:60	1:40	1:60	1:50	1:40	
	EVERGREEN TREES	-	1:20	-	1:40	1:20	
LINEAR FEET OF PERIMETER		244	290	171	219	112	
	(FRONTAGE/ROADWAY)	-	0	0	0	0	
CREDIT FOR EXISTING VEGETATION:		NO	NO	NO	YES*	NO	
	NO OR YES (W/LINEAR FEET)	-	0	0	60	-	
	(DESCRIBE BELOW IF NEEDED)	-	-	-	-	-	
CREDIT FOR WALL, FENCE, OR BERM:		NO	NO	YES	YES	NO	
	NO OR YES (W/LINEAR FEET)	-	-	139	146	-	
	(DESCRIBE BELOW IF NEEDED)	-	-	-	-	-	
NUMBER OF PLANTS REQUIRED:							TOTALS
	SHADE TREES	4	7	1	0	3	15
	EVERGREEN TREES*	0	15	0	2	6	23
	OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0	0	0
	SHRUBS	0	0	0	0	0	0
NUMBER OF PLANTS PROPOSED:							TOTALS
	SHADE TREES	4	4	1	0	0	9
	EVERGREEN TREES*	0	15	0	2	1	18
	OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0	6	6
	SHRUBS	0	30	0	0	50	80

* NO CREDIT FOR EVERGREEN TREES ALONG THE EXISTING VEGETATION RETENTION

STREET TREE SCHEDULE

ROADWAY	FRONTAGE FT	CREDIT FOR RETENTION OF VEGETATION	OBLIGATION 1 SMALL TREE PER FT	REQUIREMENT SMALL TREE QUANTITY	PROVIDED SMALL TREE QUANTITY
ROUTE 1	179	49	30	4	4

PARKING LOT LANDSCAPE SCHEDULE

LOT LOCATION	DENSITY SHADE TREE TO PARKING SPACE	PARKING SPACES QUANTITY	REQUIREMENT SHADE TREE QUANTITY	PROVIDED SHADE TREE QUANTITY
REAR	20	35	2	2

LANDSCAPE PLANTING SCHEDULE

SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
○	80	AZALEA 'GUMPO WHITE' (gumpo white azalea)	18" - 24" spread	SHRUB SUBSTITUTION ALONG FRONT AND EMERGENCY ACCESS
	6	MAELANCHEIR CANADENSIS (shadblow serviceberry)	6' - 8' HEIGHT	SMALL SHADE TREE SUBSTITUTION, FRONTAGE ADJACENT TO POWER LINES
	11	ACER RUBRUM 'OCTOBER GLORY' (october glory red maple)	2.5" - 3" cal.	SHADE TREE
	18	THUJA OCCIDENTALIS 'SMARAGD' (emerald arborvitae)	5' - 6' HEIGHT	EVERGREEN TREE
⊕	19	Nandina domestica 'Harbour Dwarf' (Harbour Dwarf Nandina)	18" - 24" spread	SHRUB ADDITION FOR DAP REQUEST AT TRANSFORMER. NOT PART OF LANDSCAPE OBLIGATION OR SURETY.
⊛	4	Crataegus crusgalli inermis (Thornless Cockspur Hawthorn)	2.5" - 3" cal.	SMALL STREET TREE

IT IS REQUIRED THAT THE PLAN USES 50% NATIVE PLANT MATERIALS FOR THE SITE.

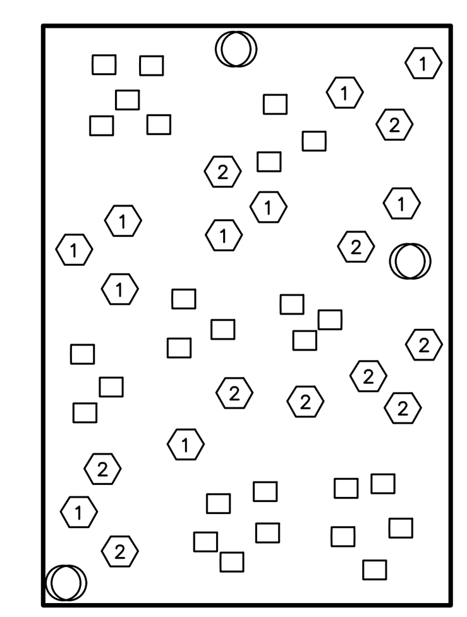
LANDSCAPE NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
2. STREET TREE LOCATIONS:
   A. WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR GREATER, THE TREES SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY AND SHALL BE CENTERED BETWEEN THE CURB AND SIDEWALK.
   B. WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS LESS THAN 6 FEET, TREES MAY BE PLANTED 3 FEET FROM THE SIDEWALK IN THE DIRECTION AWAY FROM THE ROAD. A 10-FOOT WIDE TREE MAINTENANCE EASEMENT SHALL BE REQUIRED IF THE RIGHT-OF-WAY IS LIMITED.
   C. TREES SHALL BE PLANTED 6 FEET BEHIND CURB WHEN THERE ARE NO SIDEWALKS.
   D. TREES TO BE PLANTED MINIMUM 30 FEET FROM SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A STORM DRAIN INLET, OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
3. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
4. THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
5. FINANCIAL SURETY IN THE AMOUNT OF $11,400.00 FOR THE REQUIRED 21 SHADE TREES, 18 EVERGREEN TREES, AND 80 SHRUBS SHALL BE PAID AS PART OF THE DPW DEVELOPERS AGREEMENT.

PLANTING LEGEND

SYMBOL	QUANTITY	NAME
⟨1⟩	20	ASTER LAEVIS BLUE BIRD ASTER
⟨2⟩	38	EUPATORIUM FISTOLOSUM JOE PYE WEED
□	43	PANICUM VIRGATUM SWITCHGRASS
◎	4	ARONIA ARBUTIFOLIA RED CHOKEBERRY

PLANT LIST IS FOR FOCAL POINT PLANTING MEDIA. THE REMAINING PONDING AREA SHALL BE STABILIZED WITH PERMANENT GRASS.



PLANTING DETAIL FOR MICRO-BIORETENTION FACILITY (M-6) FOCAL POINT

NOT TO SCALE

BIORETENTION FACILITIES

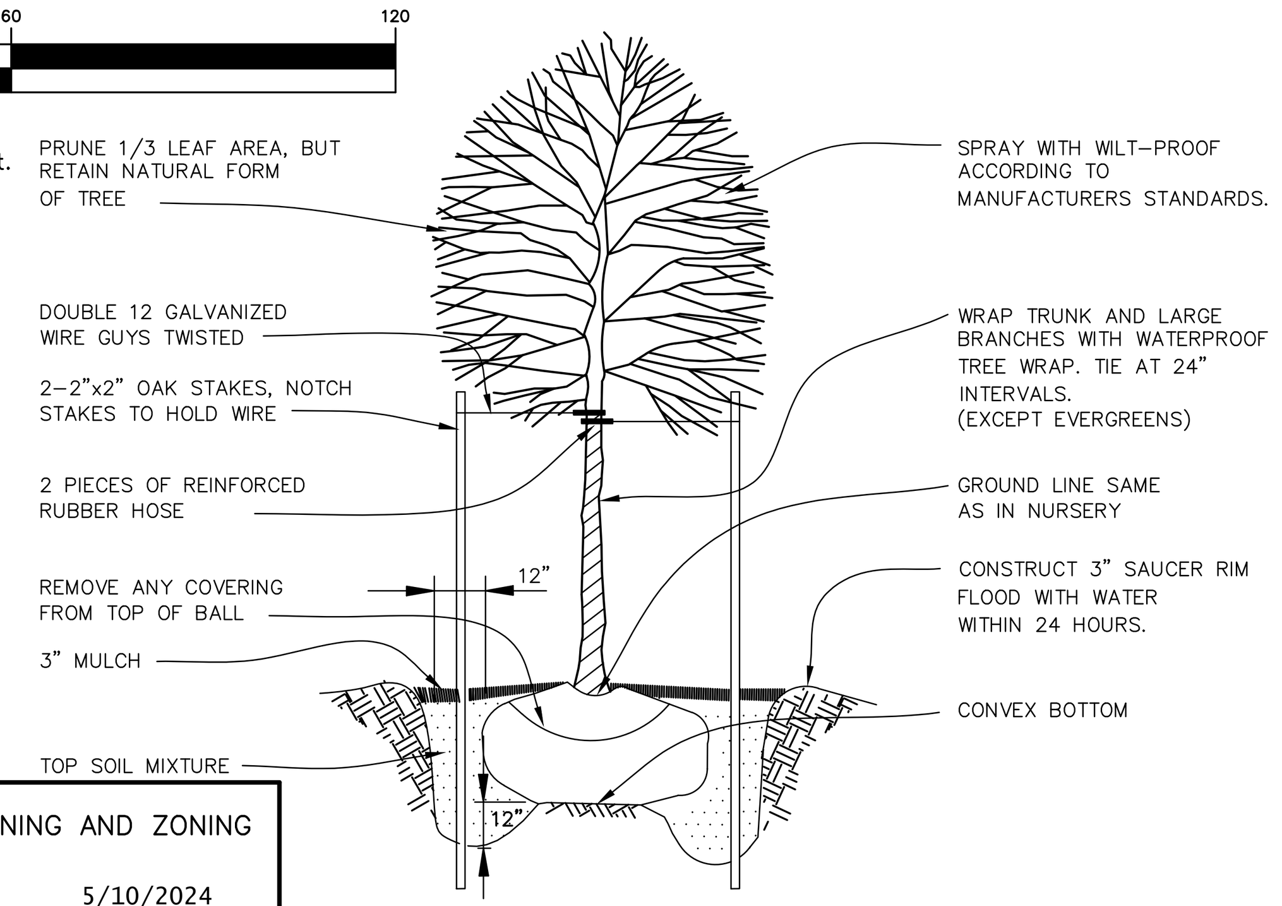
FACILTY	ELEVATIONS (SEE TYPICAL BIORETENTION DETAIL) A	B	C	D	E	F	G	H	FILTER LENGTH (ft)	WIDTH (ft)	AREA (sf)	PLANTINGS 1	2	3	LINER REQ'D
MB #1	159.50	158.00	157.00	156.75	155.25	154.75	151.93	151.68	9.0	50.0	450	43	38	20	NO
SF#1	161.00	160.92	160.90	NA	NA	NA	NA	158.00	NA	NA	4981				NO

4 SHRUBS PER MBR, NOT IN FILTER AREA

BUILDER'S CERTIFICATE

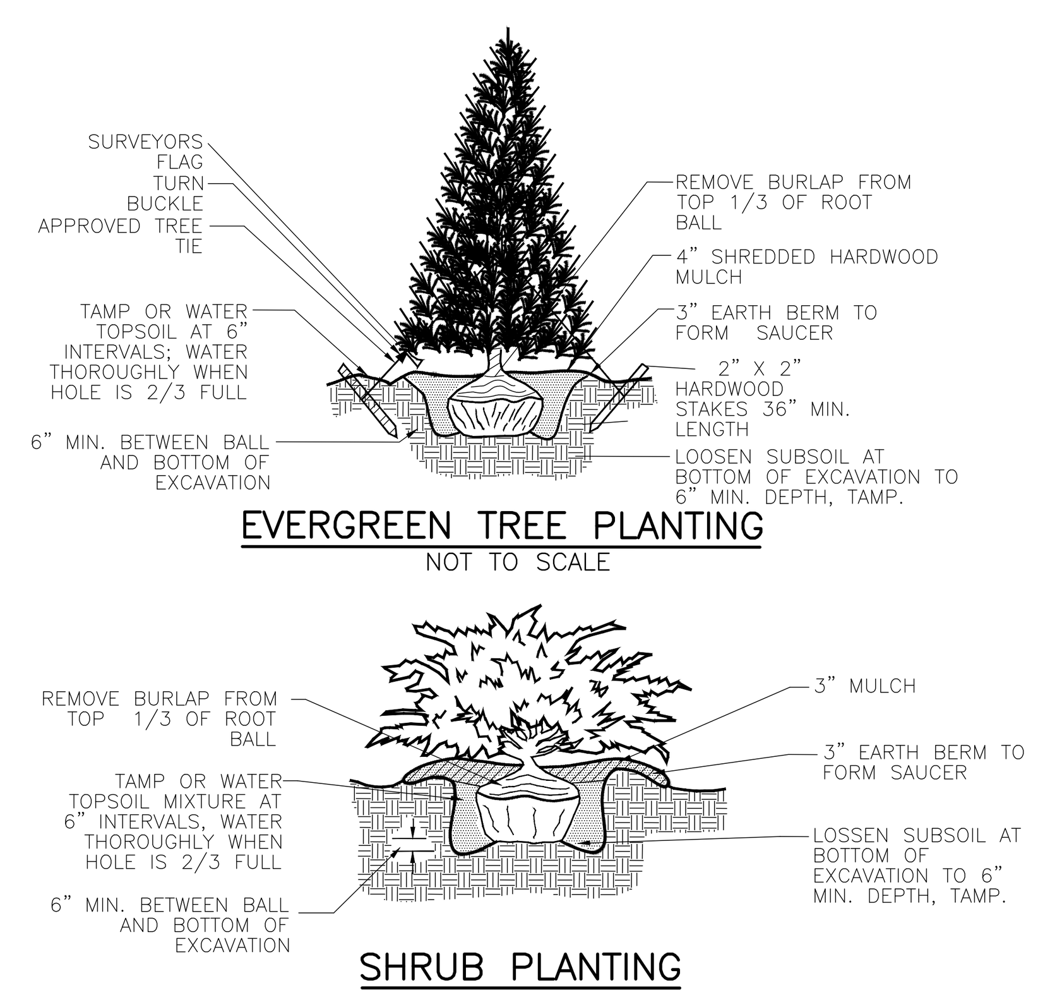
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Robert B. Jones — 04/23/2024
ROBERT B. JONES — DATE
6701 WASH BLVD, LLC



TREE PLANTING DETAIL

NOT TO SCALE

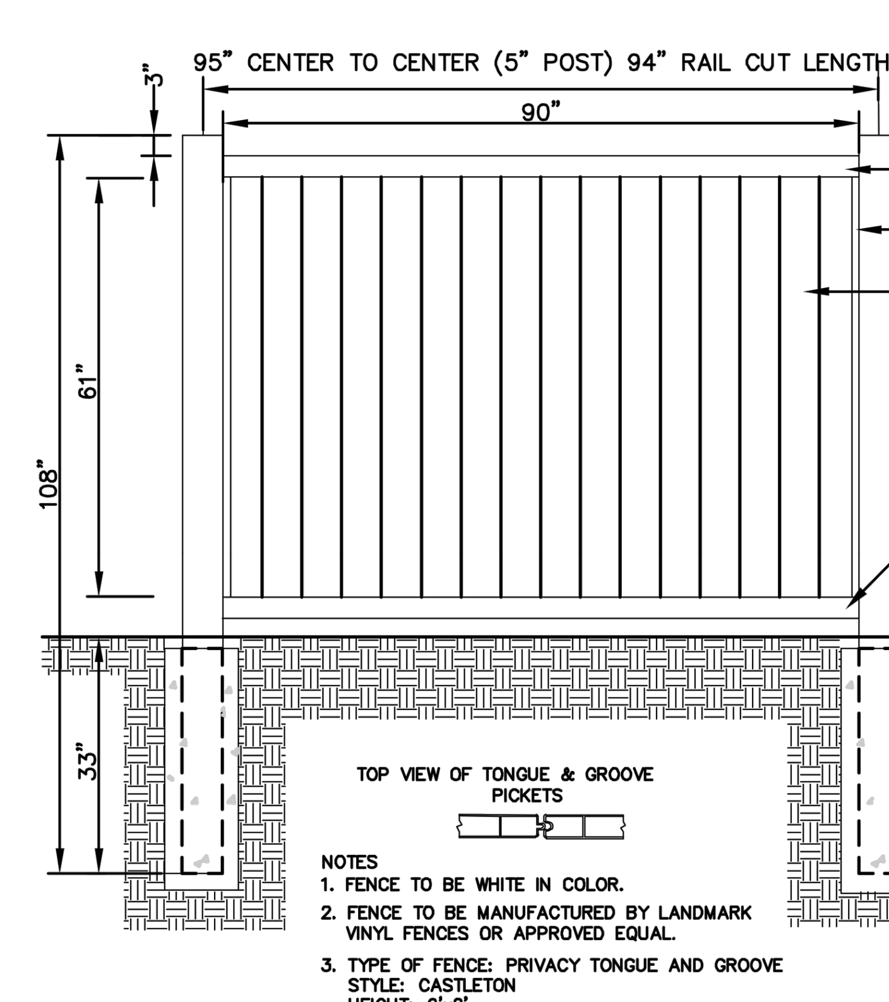


EVERGREEN TREE PLANTING

NOT TO SCALE

SHRUB PLANTING

NOT TO SCALE

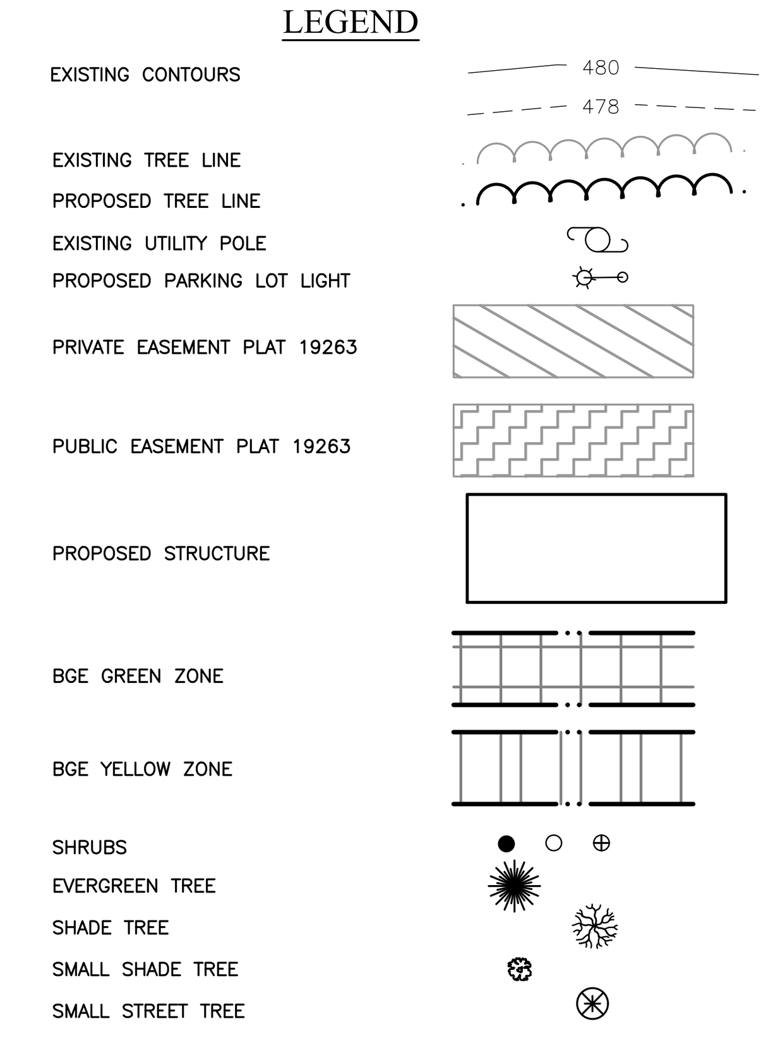


NOTES
1. FENCE TO BE WHITE IN COLOR.
2. FENCE TO BE MANUFACTURED BY LANDMARK VINYL FENCES OR APPROVED EQUAL.
3. TYPE OF FENCE: PRIVACY TONGUE AND GROOVE
STYLE: CASTLETON
HEIGHT: 6'x8'

6' HIGH VINYL FENCE

N.T.S.

LEGEND



APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: CHAD Edmondson 7063F754EF41499...	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: 1EB75478A22B49A...	5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Lynda Eisenberg 4220B635863942E...	5/13/2024
DIRECTOR	DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
3300 NORTH RIDGE ROAD ▲ SUITE 140 ▲ ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER

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. 45577, Expiration Date: 06/08/2024.

John M. Carney
04/24/2024

OWNER/DEVELOPER:
6701 WASH BLVD, LLC
34 DEFENSE HIGHWAY
SUITE 300
ANNAPOLIS, MARYLAND
21401
410-977-3015

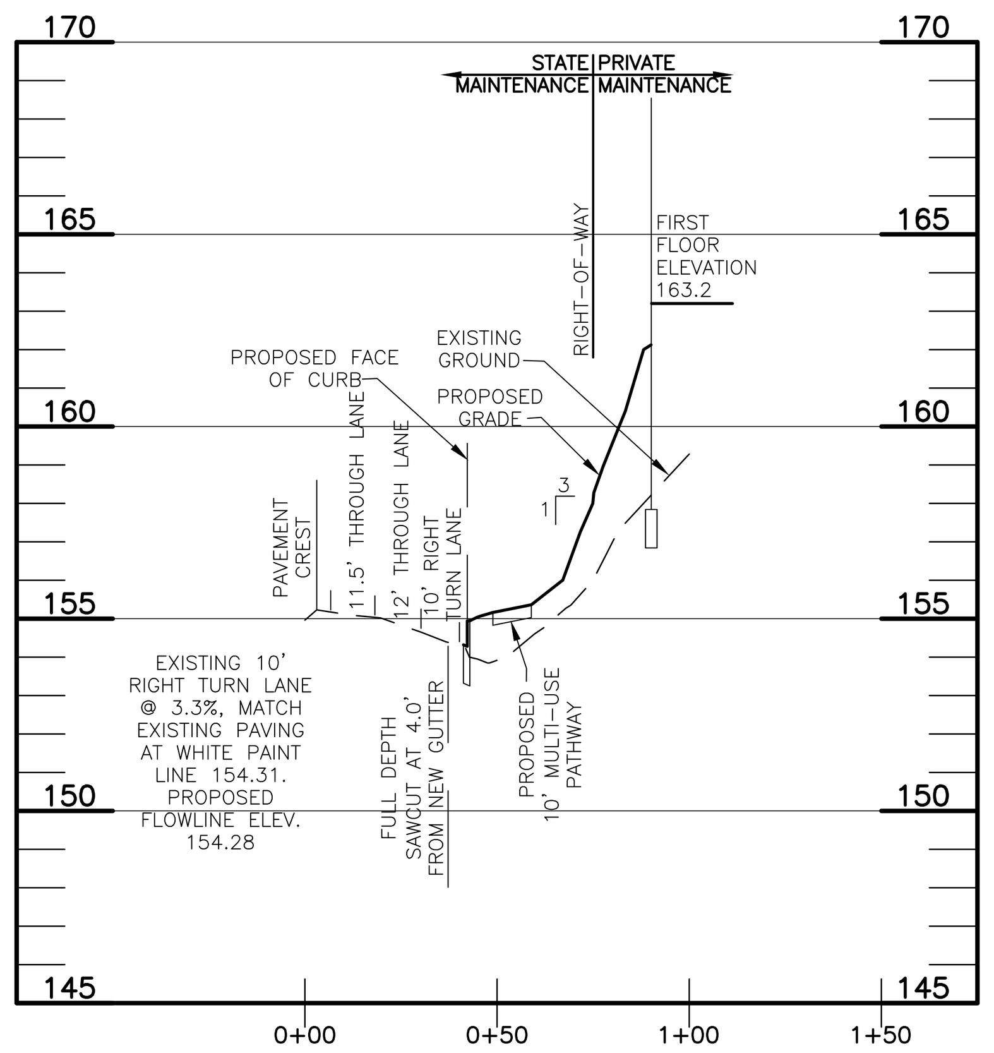
PROJECT:
EUCLID CORNERS
PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

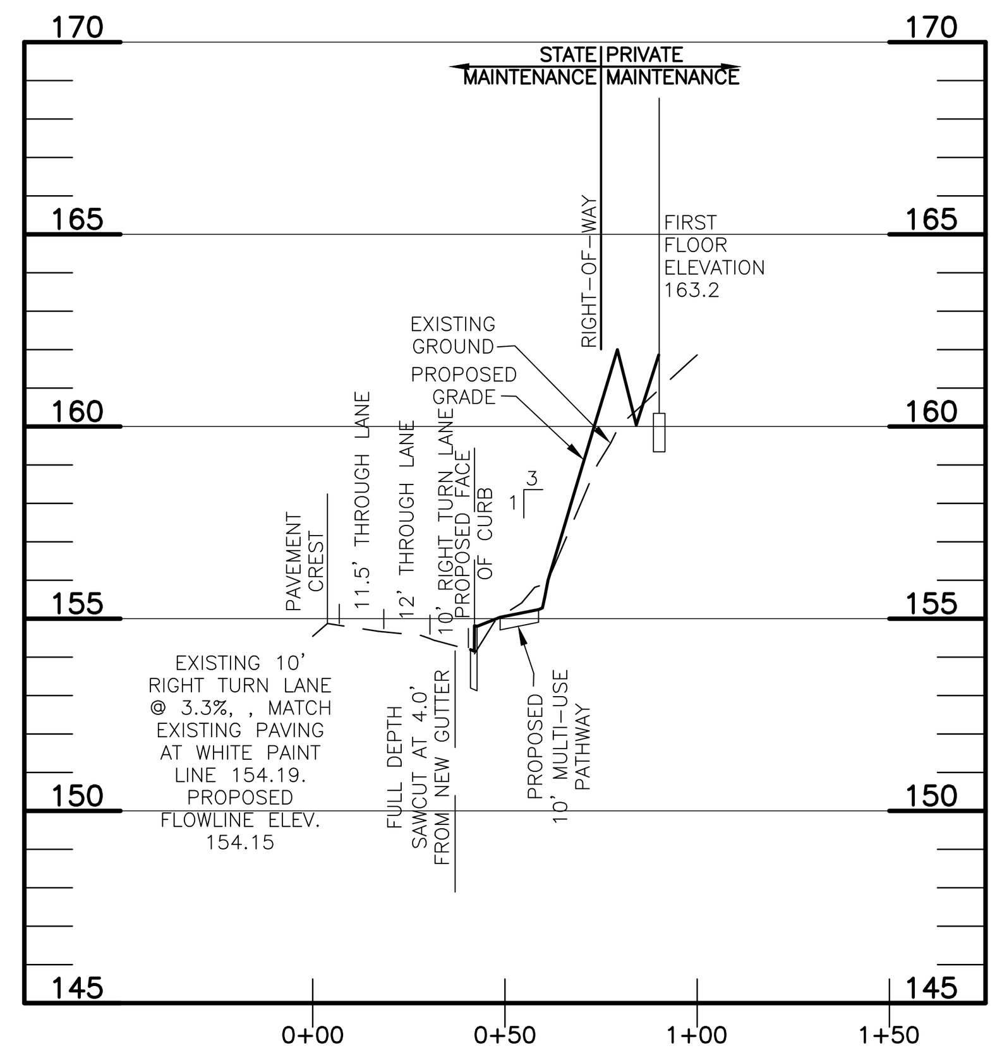
TITLE:
PARCEL 'A' LANDSCAPE PLAN, NOTES AND DETAILS

DATE: JANUARY, 2024		PROJECT NO. 1465	
DRAFT: JC	DESIGN: JC	CHECK: JC	SCALE: AS SHOWN
SHEET 14 OF 15			

SDP-22-056



MDOT SHA SEC. 7+00 BEGIN
SCALE: 1"=30' HORIZ., 1"=3' VERT.



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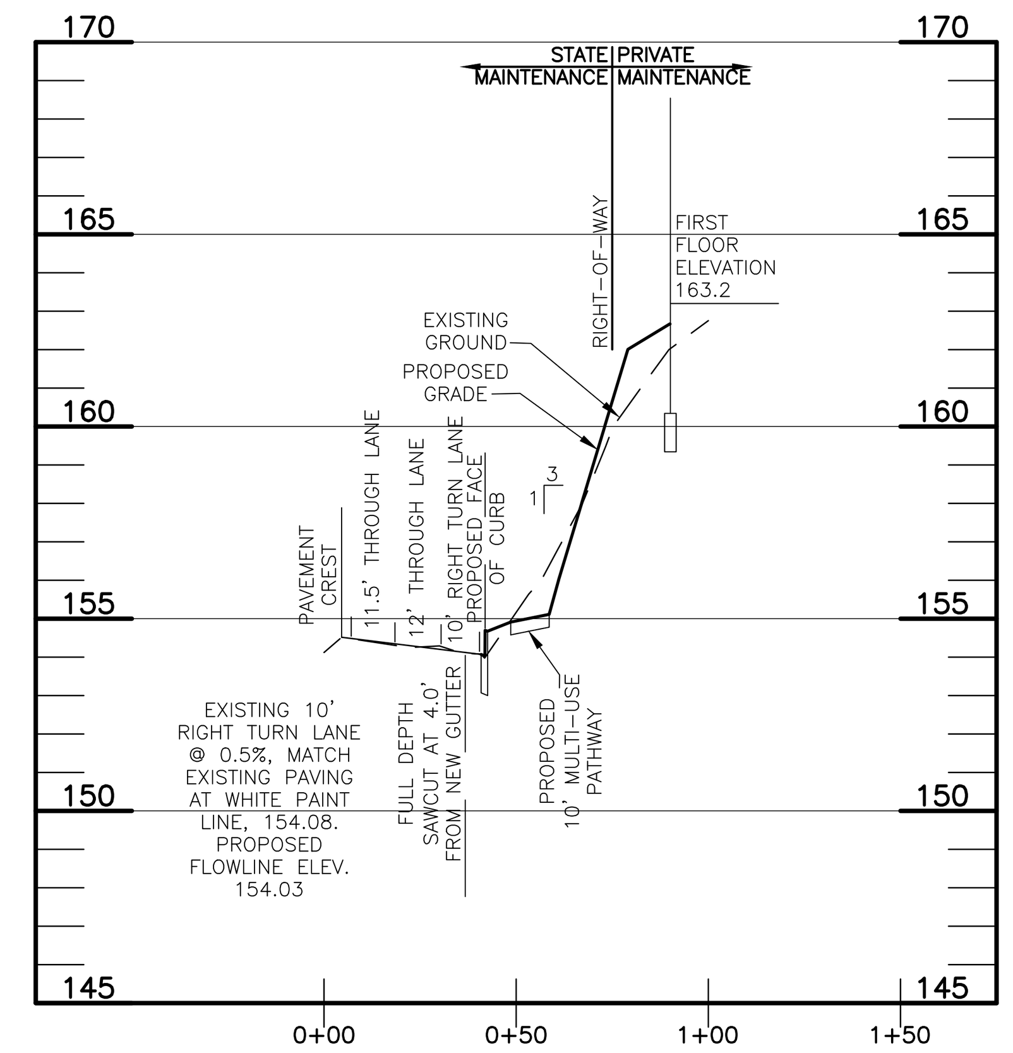

MDOT SHA SEC. 7+50
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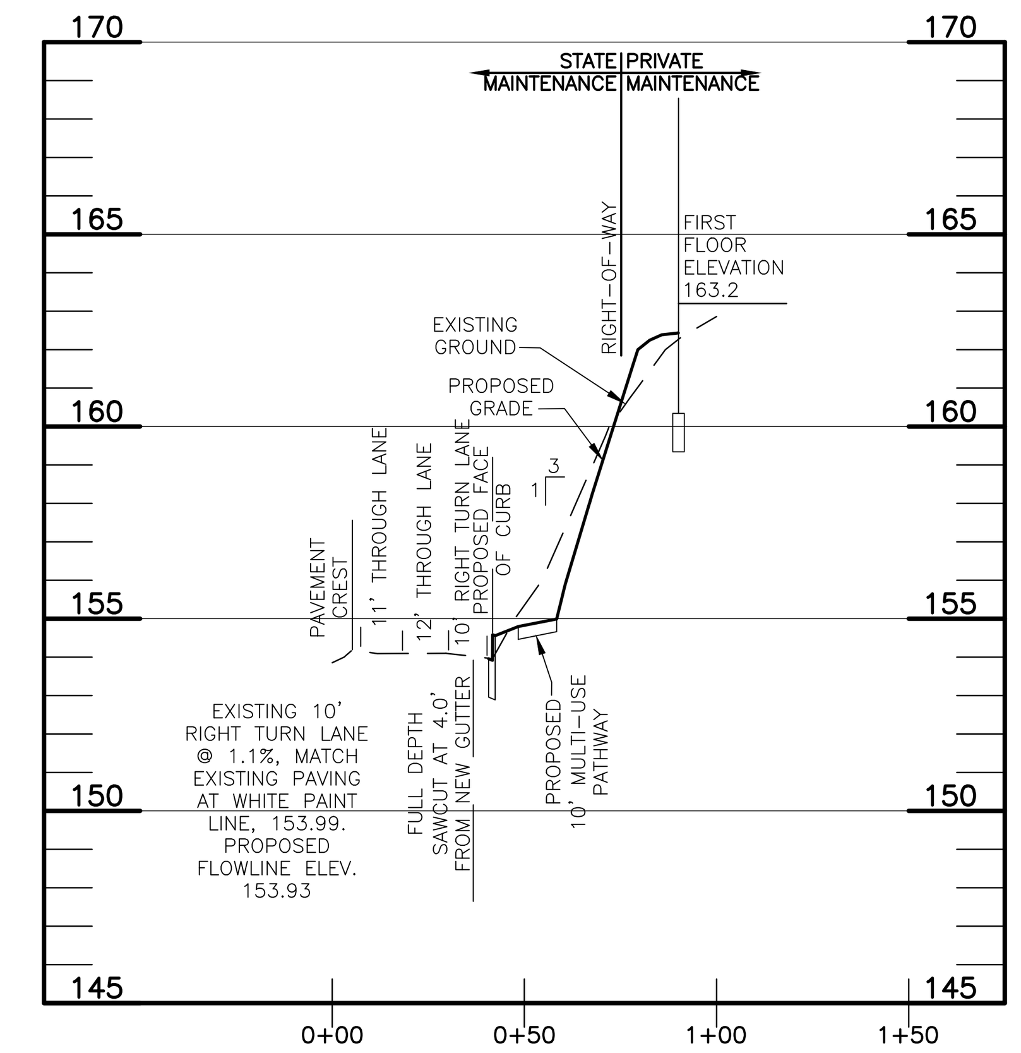
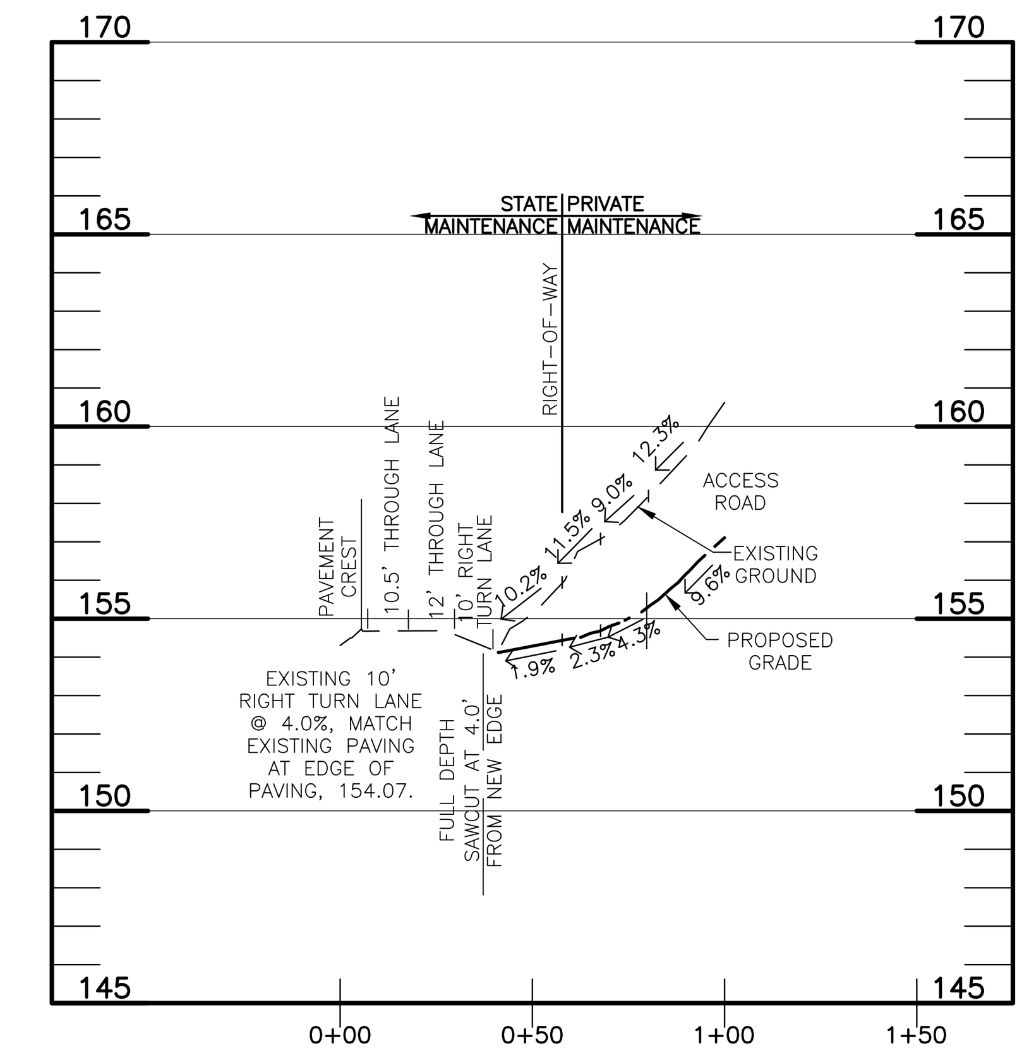
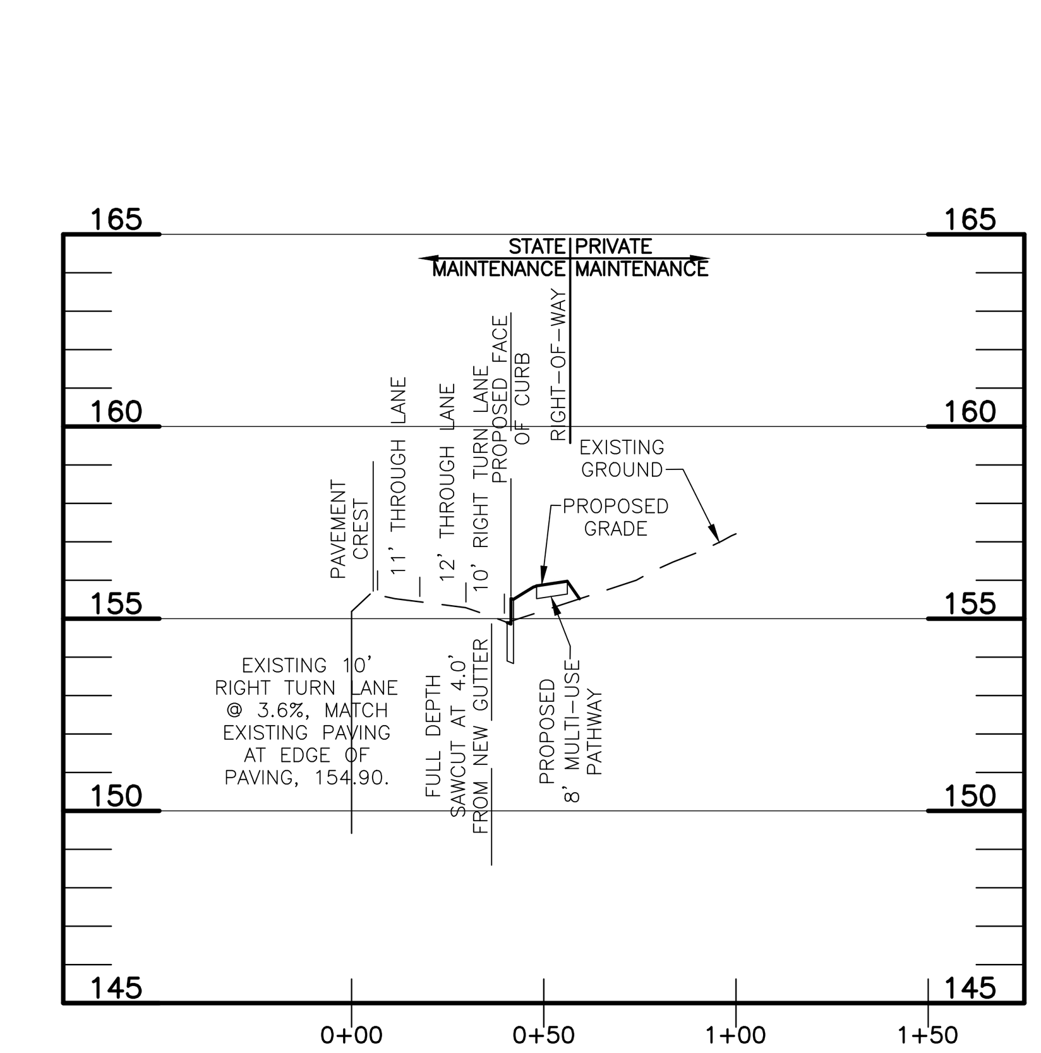


MDOT SHA SEC. 7+72.92
SCALE: 1"=30' HORIZ., 1"=3' VERT.



MDOT SHA SEC. 8+23.24
SCALE: 1"=30' HORIZ., 1"=3' VERT.



MDOT SHA SEC. 8+72.62
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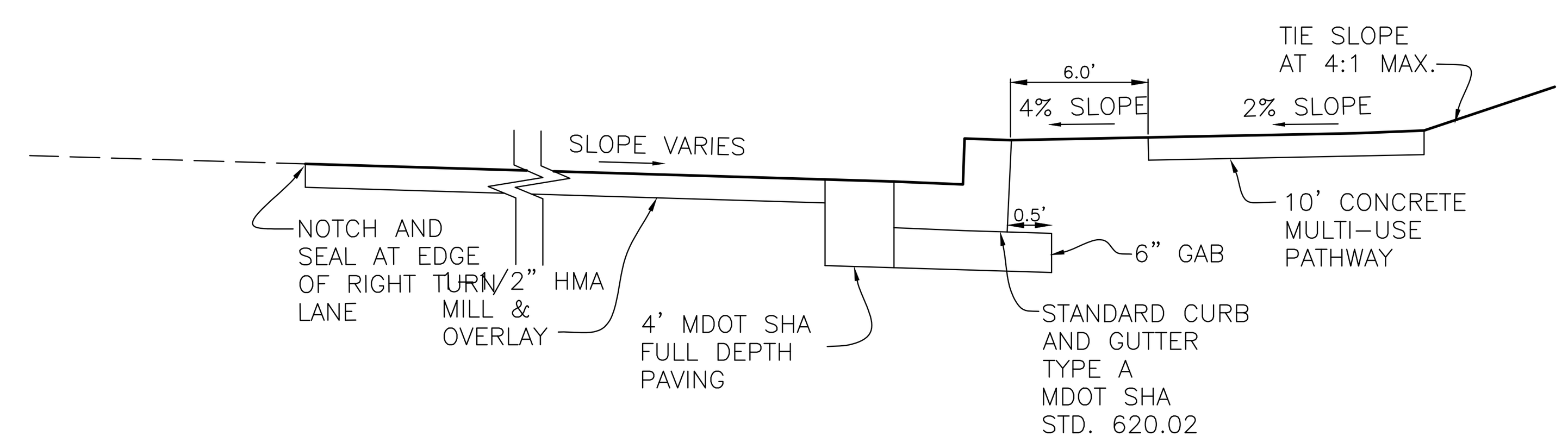
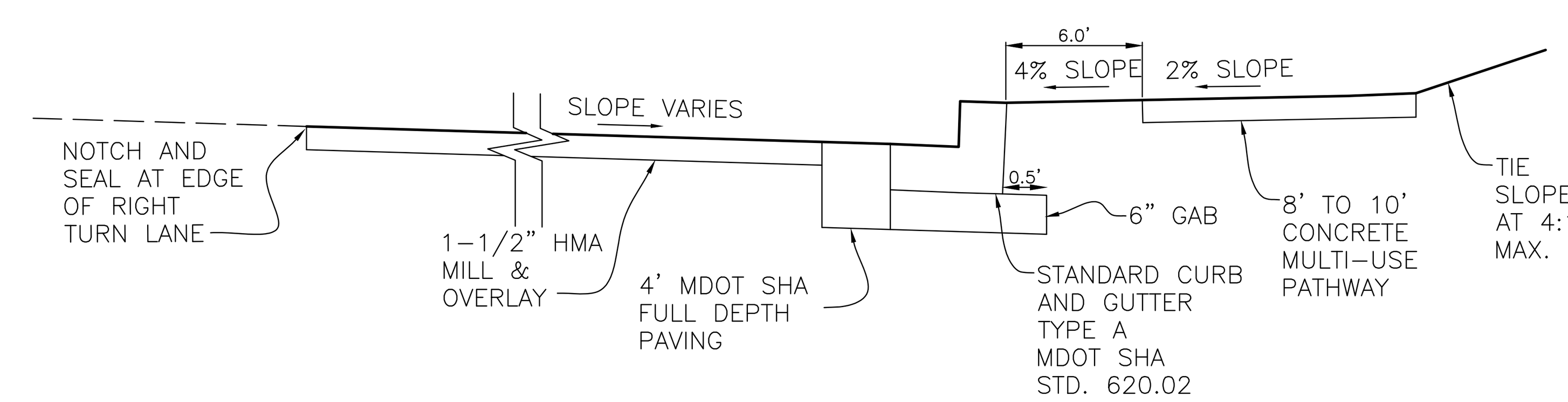
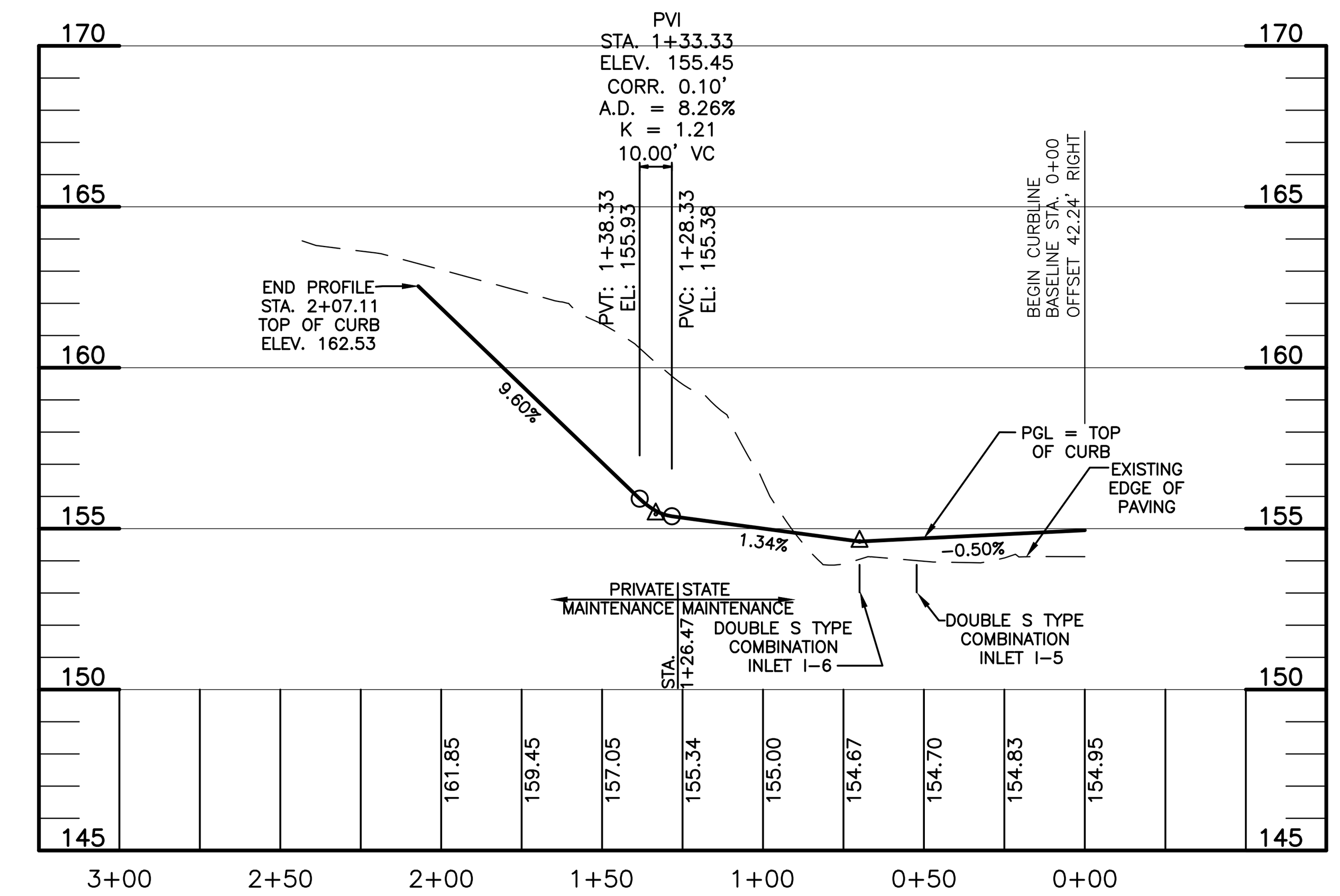


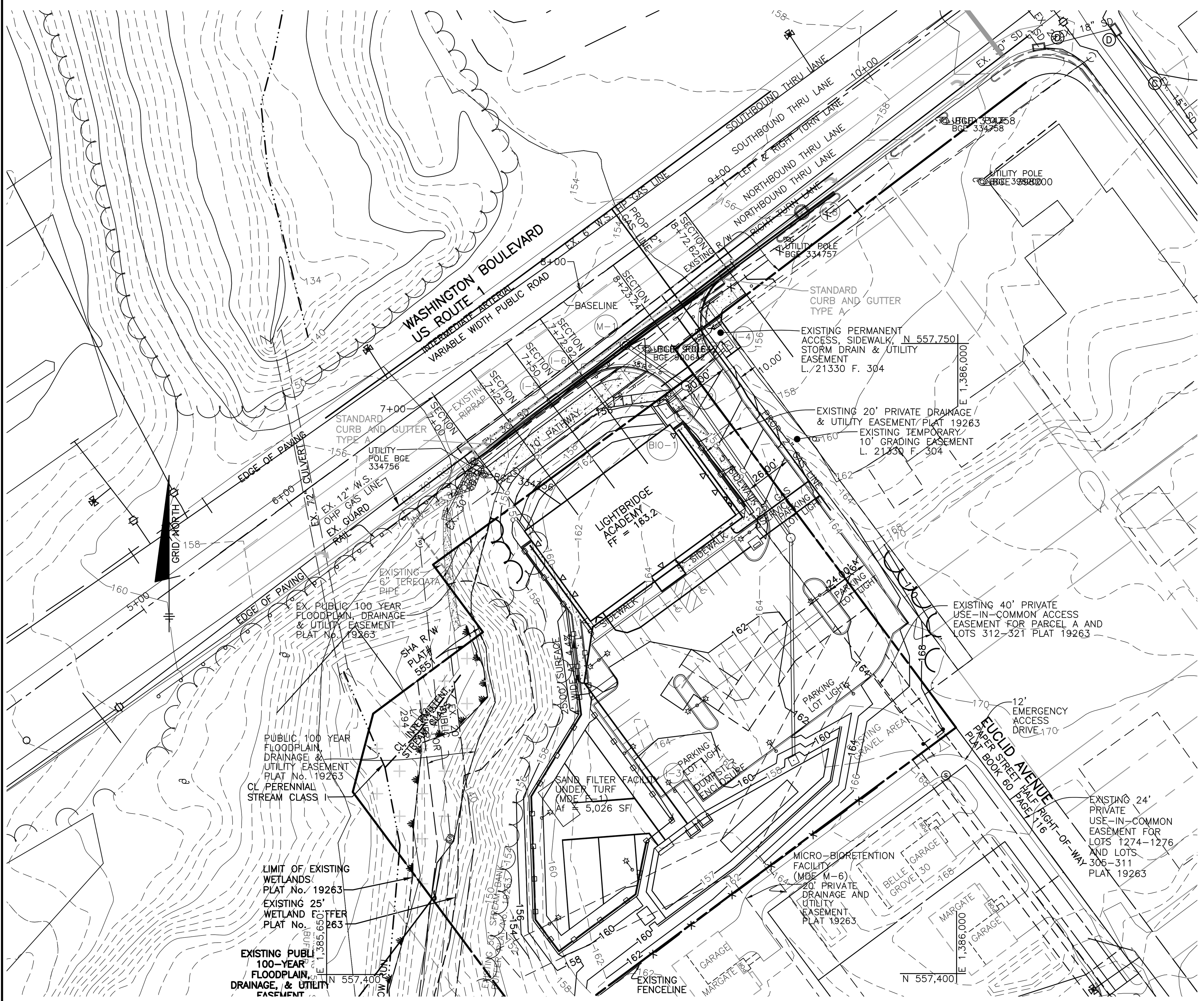
TYPICAL ROADWAY SECTION
US ROUTE 1 (WASHINGTON BLVD) SOUTHEAST QUADRANT AND FRONTAGE,
INTERMEDIATE ARTERIAL-POSTED SPEED: 45 MPH
NOT TO SCALE



TYPICAL ROADWAY SECTION
US ROUTE 1 (WASHINGTON BLVD) NORTHEAST QUADRANT
INTERMEDIATE ARTERIAL-POSTED SPEED: 45 MPH
NOT TO SCALE



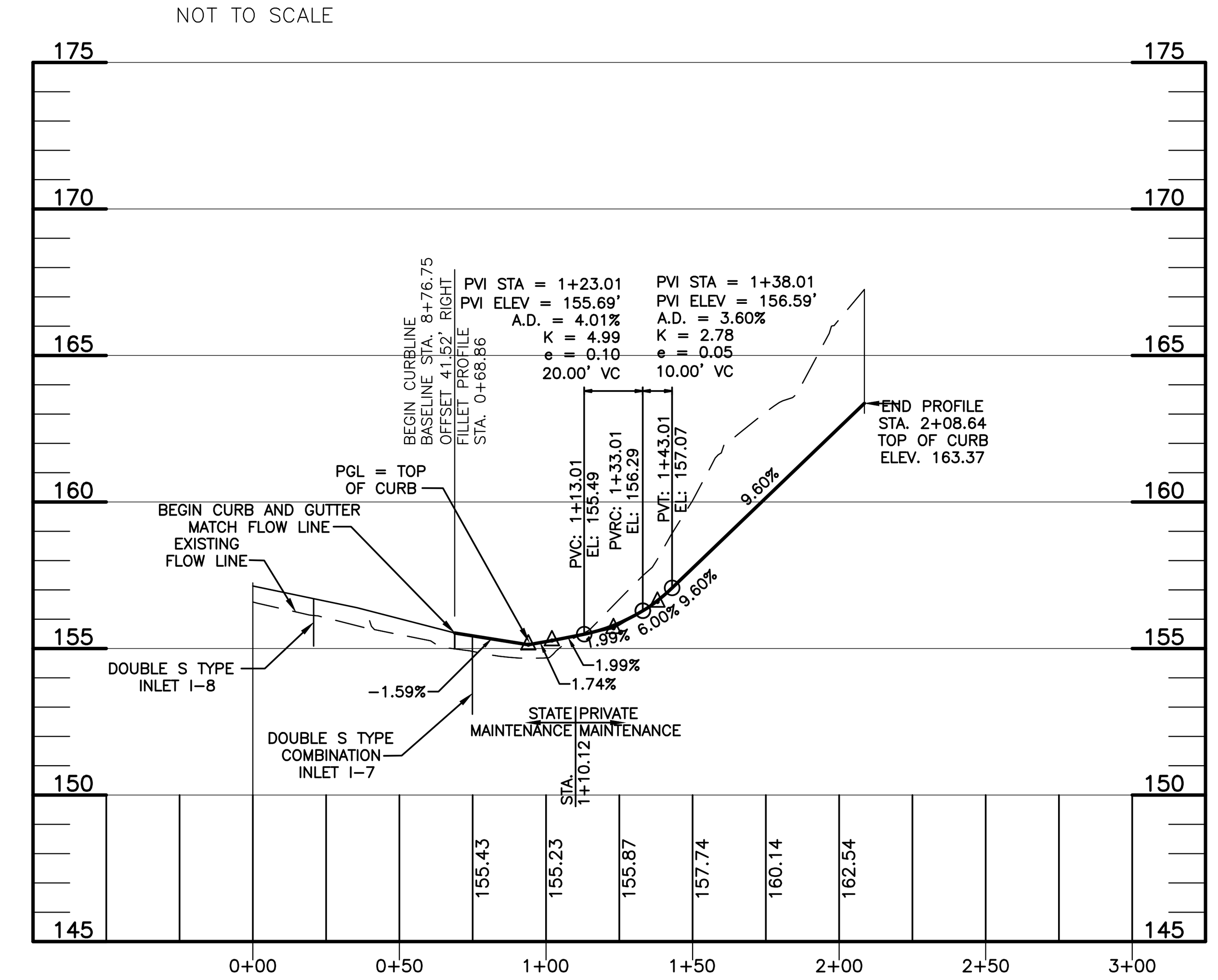
CURB FILLET SOUTH AND ACCESS AISLE SOUTHERN SIDE
SCALE: 1"=30' HORIZ., 1"=3' VERT.



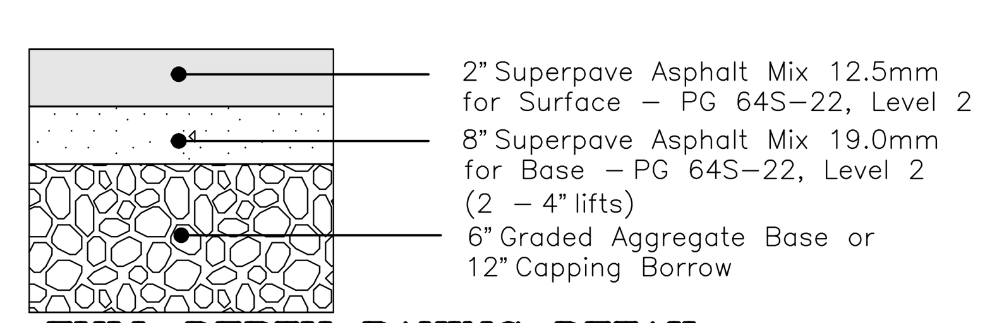
NOTES:
THE FOLLOWING STANDARDS FOR TEMPORARY TRAFFIC CONTROL (MAINTENANCE OF TRAFFIC) ARE REQUIRED FOR THIS PROJECT:

MD 104.03-05 – RIGHT LANE CLOSURE/MULTILANE UNDIV., GREATER THAN 40 MPH.
MD 104.03-01 – SHOULDER WORK/MULTILANE UNDIV., GREATER THAN 40 MPH

ALL PRACTICES ARE TO BE IMPLEMENTED IN ACCORDANCE WITH MDOT STATE HIGHWAY ADMINISTRATION DETAILS AND PRACTICES, AND PER THE MDOT STATE ACCESS PERMIT REQUIREMENTS.



CURB FILLET NORTH AND ACCESS AISLE NORTHERN SIDE
SCALE: 1"=30' HORIZ., 1"=3' VERT.



FULL DEPTH PAVING DETAIL
NOT TO SCALE

50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: Chad Edmondson	5/10/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: [signature]	5/8/2024
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Lynda Eisenberg	5/13/2024
DIRECTOR	DATE

NO.	DATE	REVISION

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WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND — JOHN M. CARNEY — 45577 — PROFESSIONAL ENGINEER
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. 45577, Expiration Date: 06/08/2024.
John M. Carney
04/24/2024

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PARCEL A, AS SHOWN ON PLAT NO. 19262
LIGHTBRIDGE CHILD CARE FACILITY

LOCATION: TAX MAP: 38, GRID: 13 P/O PARCEL 996
6701 WASHINGTON BLVD., ELKRIDGE, MD 21075
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: ROUTE 1 IMPROVEMENTS PLANS

DATE: JANUARY, 2024	PROJECT NO. 1465
SCALE: AS SHOWN	SHEET 15 OF 15

DRAFT: JC | DESIGN: JC | CHECK: JC

SDP-22-056