

SHEET INDEX table with columns NO. and DESCRIPTION. Rows include COVER SHEET WITH EXISTING CONDITIONS PLAN AND ELEVATIONS, SITE PLAN AND GEOMETRY PLAN, ROAD IMPROVEMENT PLAN, MOT AND SITE DETAILS, GRADING AND SEDIMENT AND EROSION CONTROL PLAN, SEDIMENT AND EROSION CONTROL NOTES AND DETAILS, STORM DRAIN DRAINAGE AREA MAP, STORM DRAIN PROFILES, UTILITY PROFILES, STORMWATER MANAGEMENT DRAINAGE AREA MAP, STORMWATER MANAGEMENT NOTES AND DETAILS AND BORING LOGS, LANDSCAPE PLAN AND SIDEWALK RAMP DETAILED GRADING, RETAINING WALL PLANS, LIGHTING PLAN, FOREST CONSERVATION PLAN.

COMMERCIAL SITE DEVELOPMENT PLAN

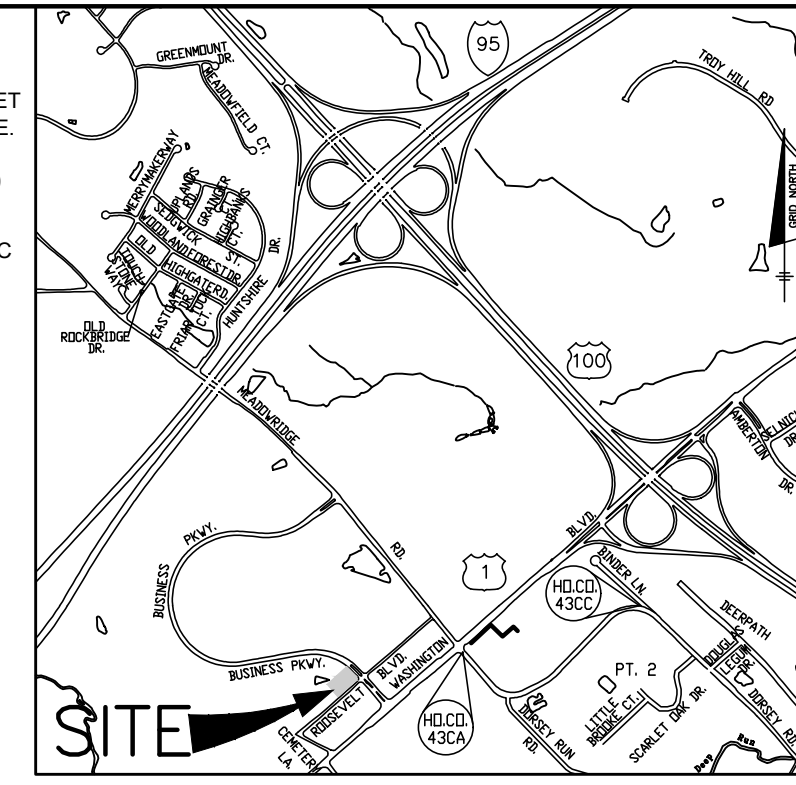
MAPLE LAWN SCHOOL

MEADOWRIDGE BUSINESS PARK, PARCEL E-2

7400 ROOSEVELT BOULEVARD

SITE ANALYSIS DATA CHART

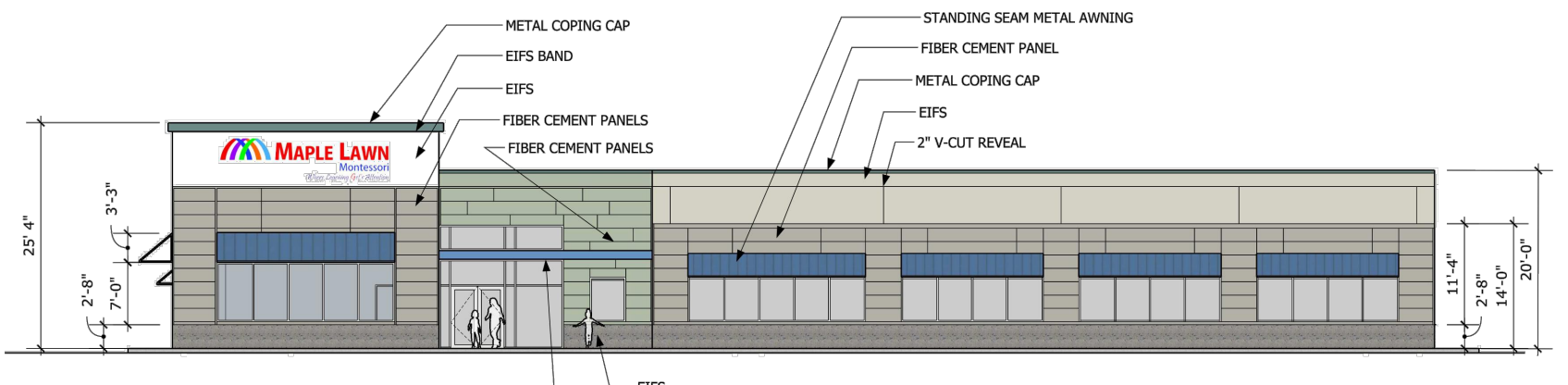
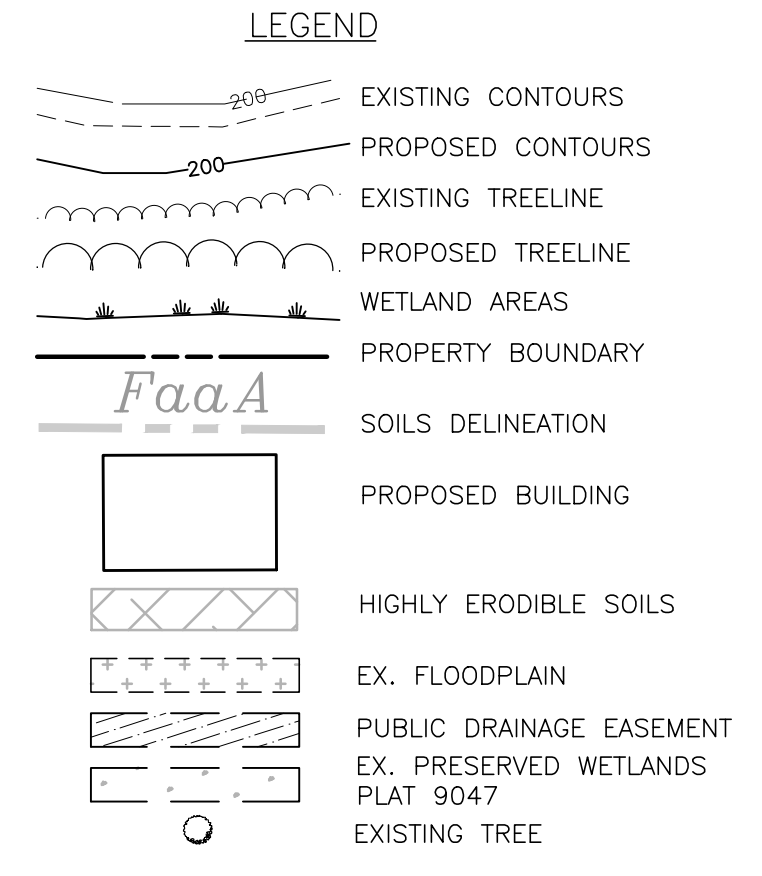
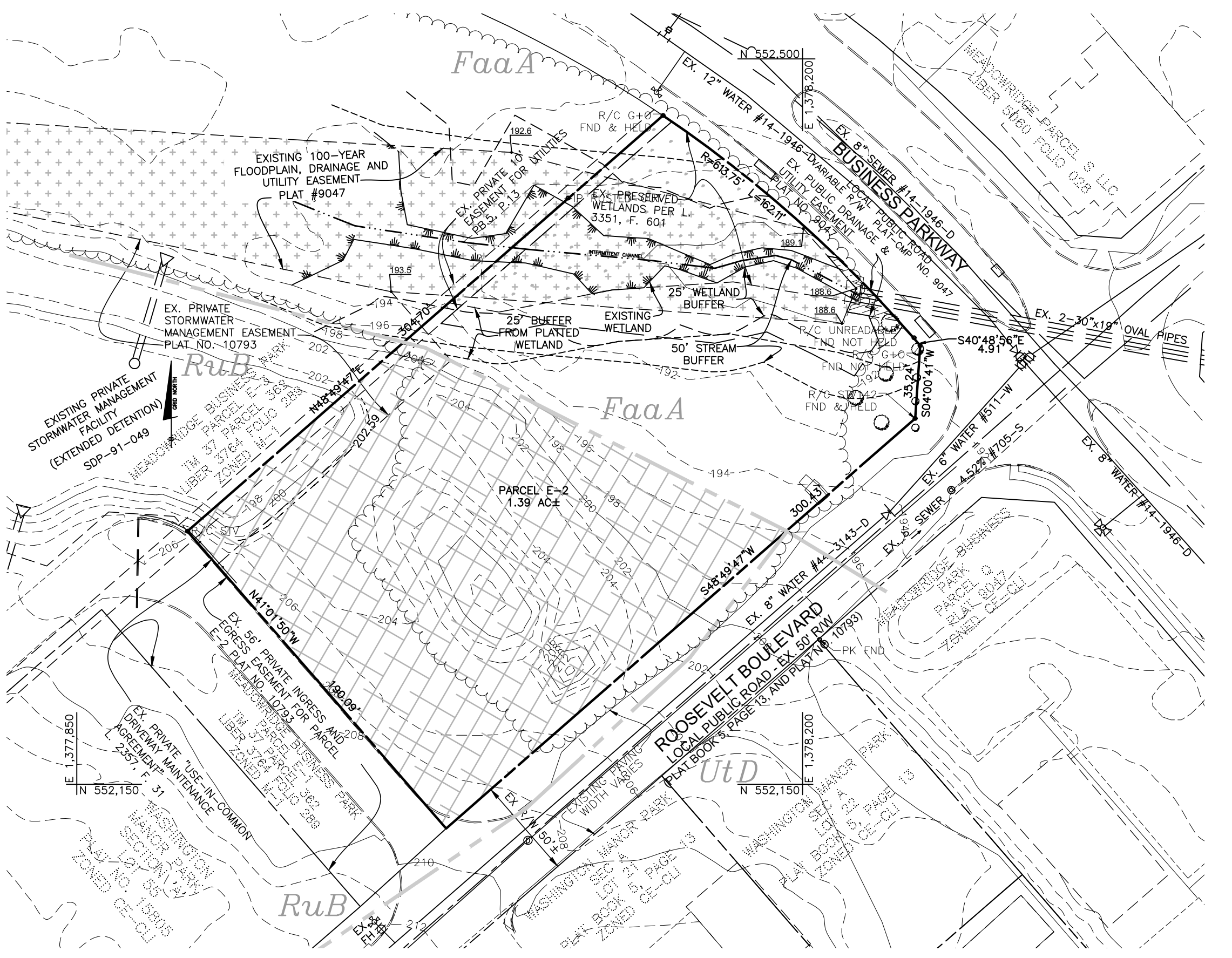
- A.) TOTAL PROJECT AREA _____ 1.39 acres
- B.) AREA OF PLAN SUBMISSION _____ 1.39 acres
- C.) LIMIT OF DISTURBED AREA _____ 1.04 acres
- D.) PRESENT ZONING: _____ CE-CL1
- E.) PROPOSED USE OF SITE: _____ COMMERCIAL DAYCARE FACILITY
- F.) FLOOR AREA _____ 9,665 SF
- G.) MAXIMUM NUMBER OF EMPLOYEES _____ N/A
- H.) NUMBER OF PARKING SPACES REQUIRED _____ 29
 Ø3 SPACES/1000SF 29 SPACES PROVIDED (2 H/O)
- I.) OPEN SPACE ON-SITE _____ N/A
- J.) BUILDING COVERAGE OF SITE _____ 0.22 AC.
 PERCENTAGE OF GROSS AREA _____ 15.7%
- K.) APPLICABLE DPZ FILE REFERENCES: _____ SEE GENERAL NOTE 17.



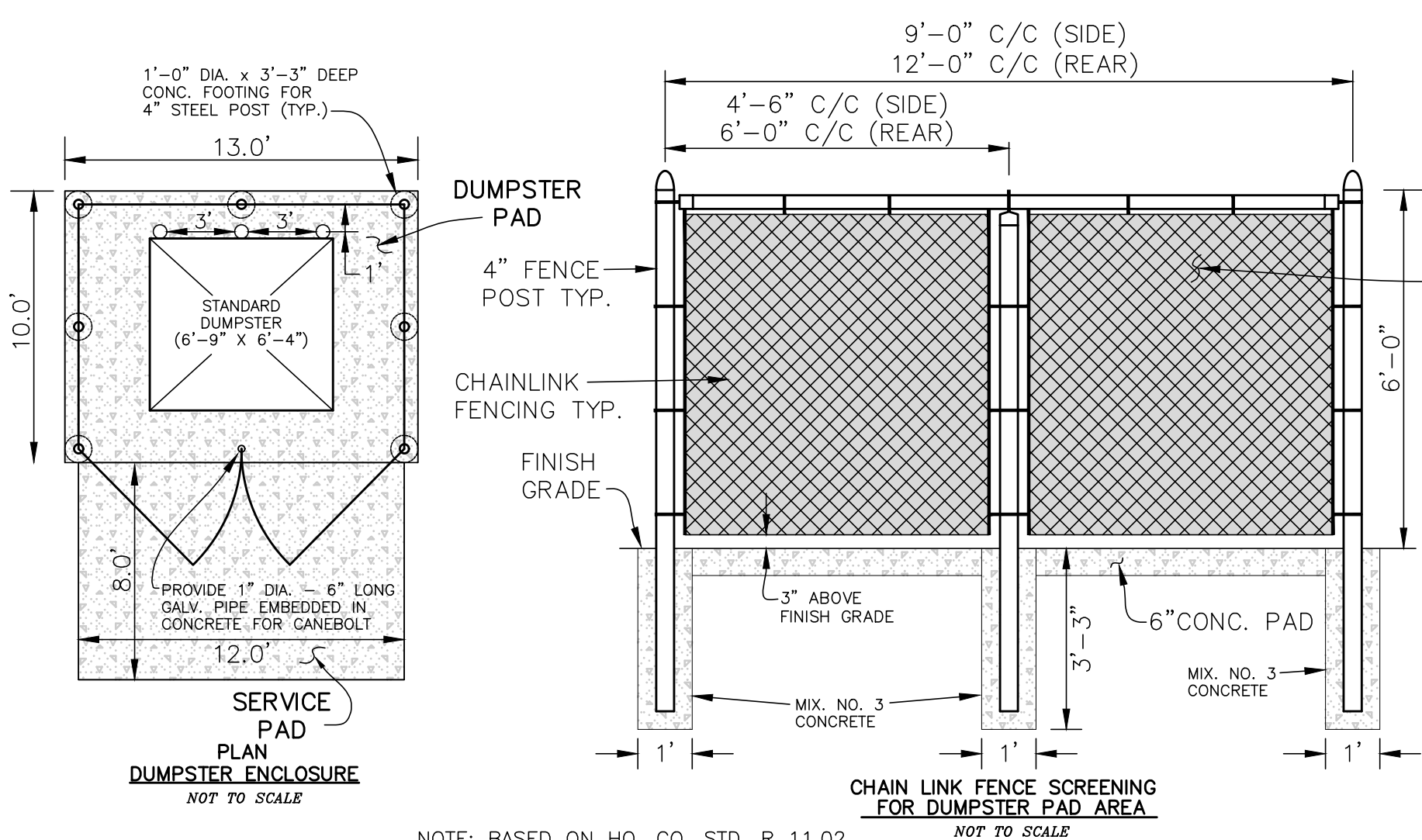
GENERAL NOTES

1. THE SUBJECT PROPERTY IS ZONED CE-CL1 PER THE 10/06/13 COMPREHENSIVE ZONING PLAN.
2. THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
3. WATER AND SEWER IS TO BE PROVIDED BY THE METROPOLITAN DISTRICT. THE CONTRACT NOS. ARE #705-S AND 44-3143-D. AN ADVANCED DEPOSIT ORDER SHALL BE PREPARED FOR THE PUBLIC HOUSE CONNECTIONS. THE DRAINAGE AREA IS "PATAPSCO".
4. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
5. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
6. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
7. ALL PLAN DIMENSIONS ARE TO BE UNLESS OTHERWISE NOTED.
8. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
9. ALL EXISTING BOUNDARY AND TOPOGRAPHY ARE TAKEN FROM FIELD RUN SURVEY WITH 2 FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. DATED FEBRUARY 2021 AND TOPOGRAPHY IS SUPPLEMENTED WITH HOWARD COUNTY GIS.
10. 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 4350A AND 4350B WERE USED FOR THIS PROJECT.
11. STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE PROVIDED BY ESD PRACTICES. THE PROPOSED METHOD IS SUBMERGED GRAVEL WETLAND (M-S) WITH STORAGE VOLUME FOR THE REQUIRED 10 & 100 YEAR MANAGEMENT. THE FACILITY SHALL BE PRIVATELY OWNED AND MAINTAINED.
12. EXISTING UTILITIES LOCATIONS ARE BASED ON FIELD LOCATIONS AND AS-BUILT DRAWINGS.
13. THERE IS A FLOODPLAIN LOCATED ON THE PROPERTY, PER PLAT 9047.
14. A FOREST STAND DELINEATION AND WETLAND DELINEATION WERE PERFORMED IN JANUARY, 2021. BY ECO-SCIENCE PROFESSIONALS, INC. THE REPORT WAS APPROVED AS A PART OF ECP-21-043, ON MAY 25, 2021.
15. THIS SITE COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION THROUGH 0.1 ACRE CREDITED ON-SITE RETENTION (TOTAL EASEMENT AREA 0.28 ACRES, PLAT 26089) AND 2.2 ACRES OF RETENTION CREDIT AT THE FOREVER A FARM BANK IS CREDITED TO SATISFY 1.1 ACRE REFORESTATION OBLIGATION, (SDP-14-005, PARCEL 2, PROPERTY OF FOREVER A FARM, LLC).
16. THERE ARE NO CEMETERIES ON THIS PROPERTY, TO THE BEST OF OUR KNOWLEDGE.
17. PREVIOUS DPZ FILES: P-89-015, F-89-163, F-91-144, ECP-21-043, F-22-056 (PLAT 26089).
18. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE MARS GROUP, DATED DECEMBER, 2021. IT WAS DETERMINED THAT TRAFFIC FOR THE PROJECT CAN BE ADEQUATELY ACCOMMODATED BY SURROUNDING ROAD INFRASTRUCTURE. THE STUDY WAS APPROVED DURING THE REVIEW OF THIS PLAN, ON JANUARY 20, 2022.
19. A NOISE STUDY IS NOT REQUIRED SINCE THIS IS A COMMERCIAL PROJECT.
20. THE GEOTECHNICAL REPORT WAS PREPARED BY GEOLAB GEOTECHNICAL LABORATORIES, DATED AUGUST 24, 2017.
21. THIS SITE DOES NOT ABUT A SCENIC ROAD.
22. A DESIGN ADVISORY PANEL MEETING WAS HELD ON JUNE 30, 2021. THE MEETING SUMMARY WITH ADVISORY COMMENTS WAS ISSUED AND HAS BEEN ADDRESSED.
23. A PRE-SUBMISSION COMMUNITY MEETING FOR THE PROJECT WAS HELD ON APRIL 29, 2021. THE MEETING WAS HELD VIRTUALLY.
24. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. THE FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED AS PART OF THE DEVELOPER AGREEMENT IN THE AMOUNT OF \$7,650 FOR 9 LARGE SHADE TREES, 6 SMALL SHADE TREES, 11 GREEN TREES, 10 SHRUBS AND 7 STREET TREES.
25. THE SUBJECT PARCEL IS NOT LOCATED WITHIN THE BOUNDARIES OF THE 1998 BALTIMORE/WASHINGTON INTERNATIONAL AIRPORT (BWI), AIRPORT NOISE ZONE AS WELL AS THE FOUR MILE RADIUS OF BWI AIRPORT. THEREFORE, NO APPROVAL FROM THE MARYLAND AVIATION ADMINISTRATION IS REQUIRED.
26. ALL PROPOSED EXTERIOR LIGHTING SHALL BE DIRECTED/REFLECTED AWAY FROM ALL ADJACENT PUBLIC ROADS AND RESIDENTIAL ZONING DISTRICTS IN ACCORDANCE WITH SECTION 134.0 OF THE HOWARD COUNTY ZONING REGULATIONS. LIGHT FIXTURES SHALL BE SHIELDED LIGHTS PER SECTION 134.0.C.1 OF HOWARD COUNTY ZONING ORDINANCE. SEE SHEET 2 FOR SITE LIGHT FIXTURE SPECIFICATIONS, AND SHEET 3 FOR PUBLIC FIXTURE SPECIFICATIONS.
27. KNOX BOX SHALL BE PLACED ON THE FRONT OF THE BUILDINGS NO MORE THAN 6' TO THE RIGHT OF THE MAIN ENTRANCE AT A HEIGHT OF 4'-5". IT SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE SYSTEM).
28. TRASH PICKUP FOR THE DAYCARE FACILITY WILL BE PRIVATE.
29. ENVIRONMENTAL CONCEPT PLAN, ECP-21-043, WAS APPROVED ON 5-25-2021.
30. TRAFFIC CONTROL DEVICES:
 - a) THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN(SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 - b) THE TRAFFIC CONTROL DEVICES LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - c) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"(M&MUTCD).
 - d) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED (QUICK PUNCH), SQUARE TUBE POST (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 POLL CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - e) TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
31. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED (PLAT 26089) TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

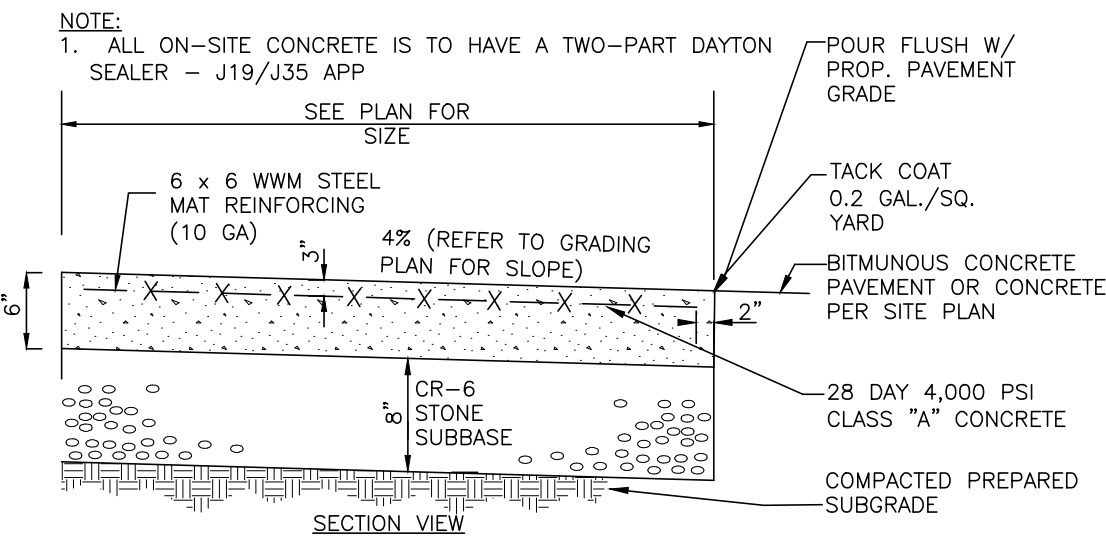
32. HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN (SDP) DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PERMIT PLANS FOR CERTAIN FACILITIES TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THIS SDP WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT. SUCH FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, THOSE WHICH HAVE SWIMMING POOLS, OR THAT SELF PREPARED OR PACKAGED FOODS, OR THAT MAY HAVE EQUIPMENT THAT EMITS RADIATION.
33. THE FOLLOWING PROVISIONS SHALL APPLY TO A FIRE DEPARTMENT CONNECTION FOR FIRE PROTECTION SYSTEMS: (I) A 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.
34. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME II (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.



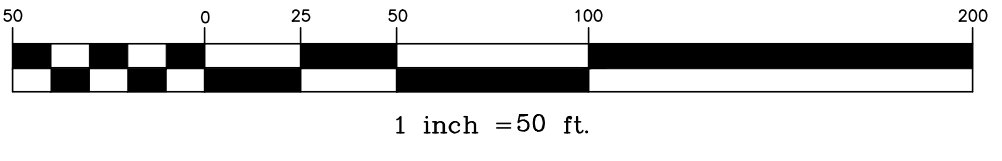
ELEVATIONS
SCALE: 1" = 20'



NOTE: BASED ON HO. CO. STD. R 11.02
DUMPSTER ENCLOSURE DETAILS



CONCRETE PAD DETAIL @ TRASH ENCLOSURE
NOT TO SCALE



Stormwater Management Information						
Lot/Parcel Number	Facility Name & Number	Practice Type (Quantity)	Private	Public	Misc.	Misc.
E-2	SGW-1 (M-2)	ESD (Quality)	x		yes	
E-2	SGW-1	10-100 YR Control	x		yes	

STORMWATER MANAGEMENT STORAGE CHART			
STORM	EXISTING RUNOFF**	PROPOSED RUNOFF**	STORAGE REQUIRED
10 YEAR	6.34 cfs	5.88 cfs	4,459 cf
25 YEAR	8.52 cfs	7.10 cfs	5,286 cf
100 YEAR	10.78 cfs	9.46 cfs	5,993 cf

** STORAGE AND MANAGEMENT TO BE PROVIDED IN SUBMERGED GRAVEL WETLANDS.
** DEVELOPED RUNOFF AFTER ROUTING THROUGH SGW.

ADDRESS CHART	
STREET ADDRESS	
7400 ROOSEVELT BLVD.	

PERMIT INFORMATION CHART				
SUBDIVISION NAME:	SECTION/AREA:	LOT/PARCEL #		
MEADOWRIDGE BUSINESS PARK	NA	E-2		

PLAT No. OR L/P	GRID No.	ZONE	TAX MAP NO	ELECTION DISTRICT	CENSUS TRACT
10793	23	CE-CL1	37	1	6012.03

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS	
DocuSigned by: Michael J. Davis	7/6/2022
HOWARD COUNTY HEALTH OFFICER	DATE
DocuSigned by: Chad Edmondson	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: Amy Groman	7/6/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: Amy Groman	7/6/2022
DIRECTOR	DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS
3300 NORTH RIDGE ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (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. 28376, Expiration Date: 1-1-2025.

OWNER:
ROUTE ONE MAPLE LAWN LLC
C/O CHINNABARU GUDAPATI
6120 SYRACUSE CT
CLARKSVILLE, MD 21029
267-408-2937

PREPARED FOR:
ROUTE ONE MAPLE LAWN, LLC
12118 HAYLAND FARM WAY
ELICOTT CITY, MD 21042
267-408-2937

MAPLE LAWN SCHOOL
MEADOWRIDGE BUSINESS PARK PARCEL E-2
7400 ROOSEVELT BOULEVARD

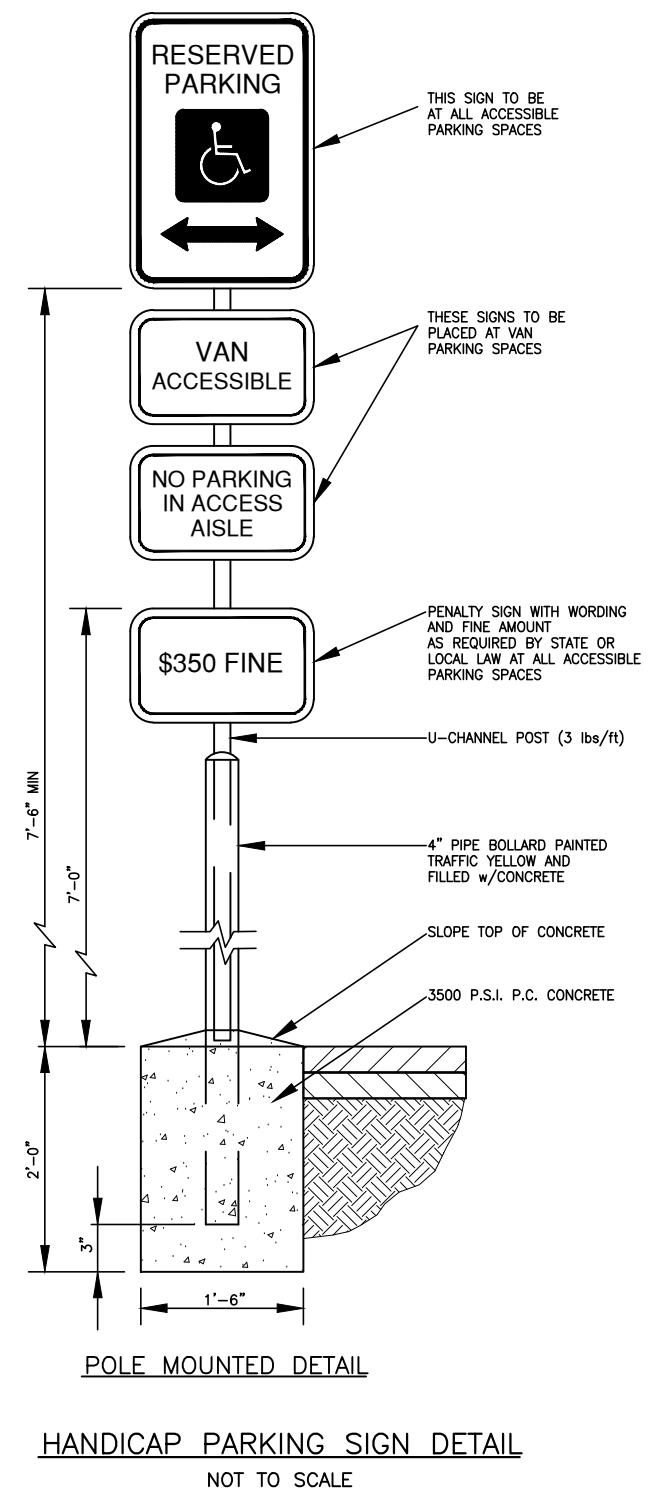
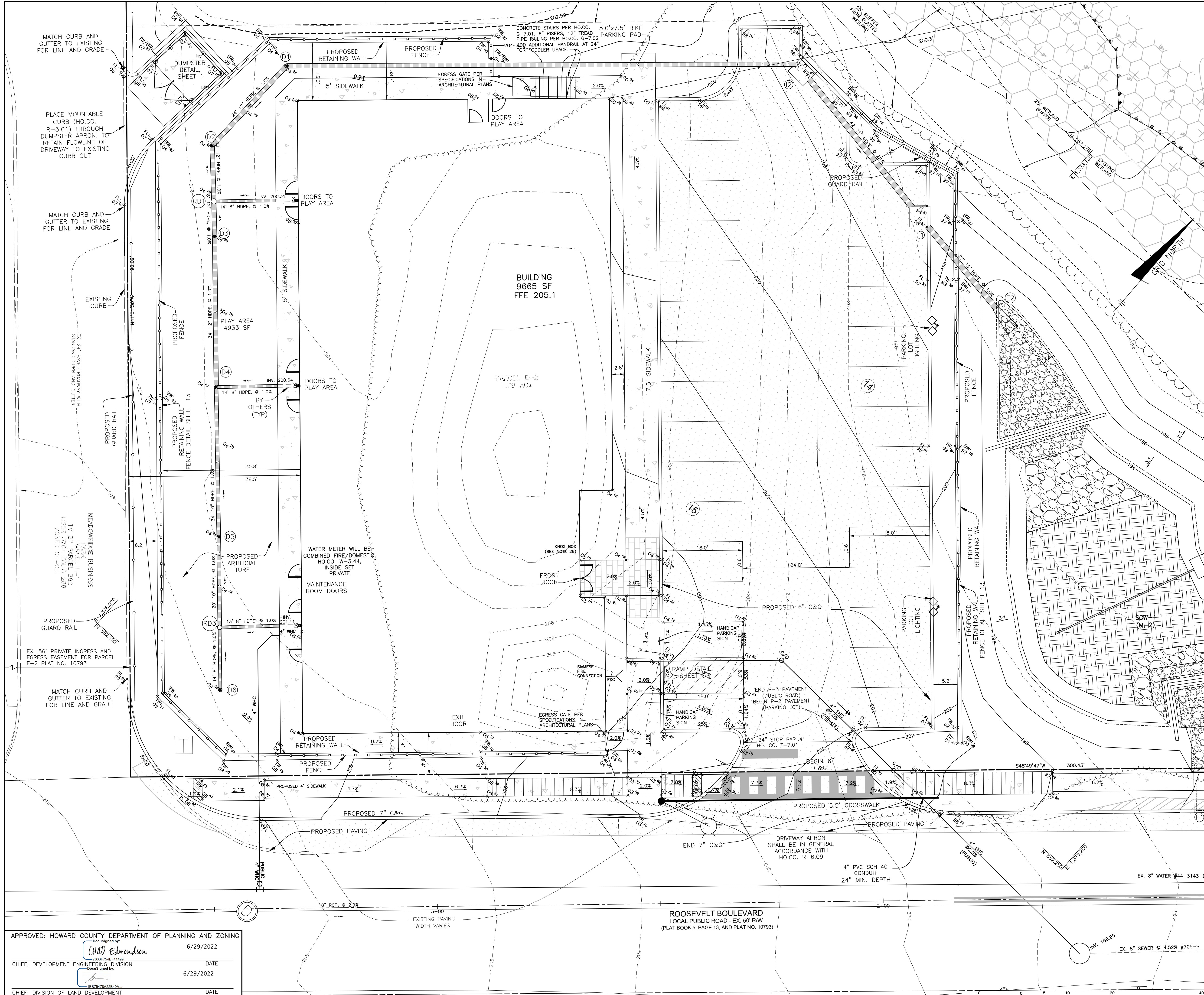
TAX MAP: 37 - GRID: 23 - PARCEL: 362
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
ZONED: CE-CL1

COVER SHEET WITH EXISTING CONDITIONS AND ELEVATIONS

DATE:	JUNE, 2022	BEI PROJECT NO.:	2826
SCALE:	AS SHOWN	SHEET:	1 OF 17

PARKING LOT LIGHT SCHEDULE (PRIVATE)		
SYMBOL	DESCRIPTION	LOCATION
	2-LITHONIA LIGHTING RSD1 LED P4 30K R4.	PARKING LOT AS SHOWN

FOREST CONSERVATION EASEMENT - 0.28 ACRES
 0.10 ACRES CREDITED RETENTION
 0.18 ACRES NON-CREDITED FLOODPLAIN AREA
 PLAT 26089
 (SEE SHEET 3 FOR EXTENTS)



NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS • LAND SURVEYORS • PLANNERS
 3300 NORTH RIDGE ROAD SUITE 140 • ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6644
 WWW.BEI-CIVILENGINEERING.COM

STATE OF MARYLAND PROFESSIONAL ENGINEER
 License No. 28376, Expiration Date: 1-1-2025

OWNER:
 ROUTE ONE MAPLE LAWN LLC
 C/O CHINNABABU GUDAPATI
 8120 SYRACUSE CT
 CLARKSVILLE, MD 21029
 267-408-2937

PREPARED FOR:
 ROUTE ONE MAPLE LAWN, LLC
 12118 HAYLAND FARM WAY
 ELLICOTT CITY, MD 21042
 267-408-2937

MAPLE LAWN SCHOOL
 MEADOWRIDGE BUSINESS PARK PARCEL E-2
 7400 ROOSEVELT BOULEVARD

TAX MAP: 37 - GRID: 23 - PARCEL: 362
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
 ZONED: CE-CL1

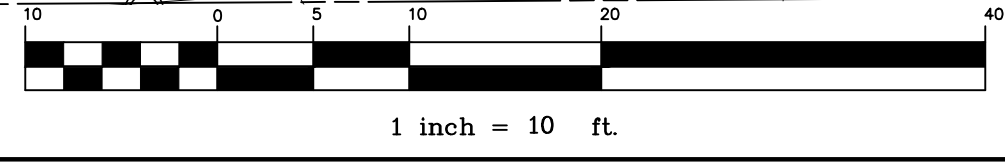
SITE PLAN AND GEOMETRY PLAN

DESIGN: AAM	DRAFT: AAM	DATE: JUNE, 2022	BEI PROJECT NO. 2826
SCALE: AS SHOWN	SHEET 2 OF 17		

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: <i>Chad Edmondson</i> 25037246254240	6/29/2022
DocuSigned by: 	DATE
DocuSigned by: <i>Amy Groman</i> 18274782228494	6/29/2022
DocuSigned by: 	DATE
DocuSigned by: <i>Amy Groman</i> 18274782228494	7/6/2022
DocuSigned by: 	DATE

GEOMETRY PLAN
 SCALE: 1" = 10'

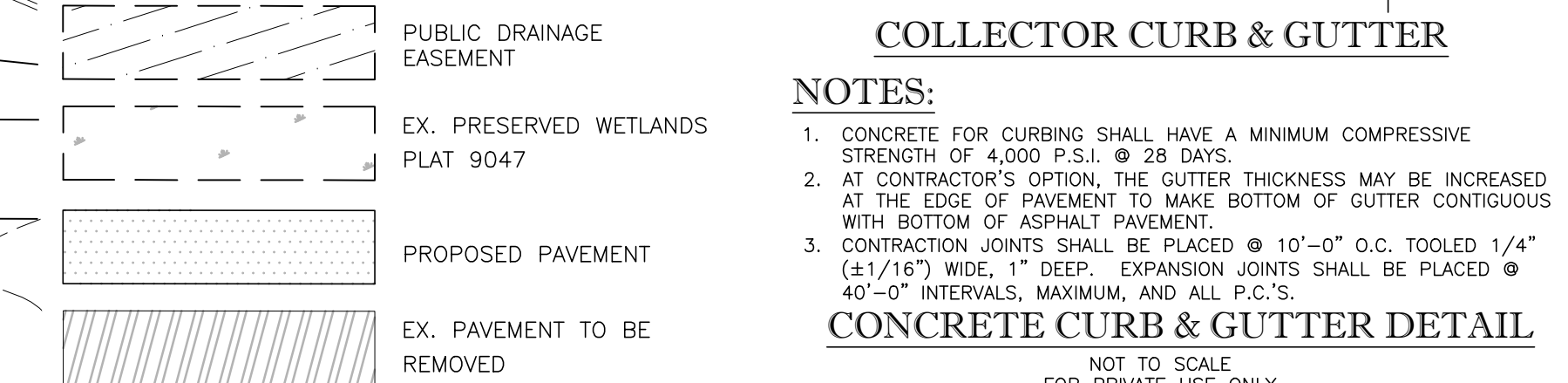
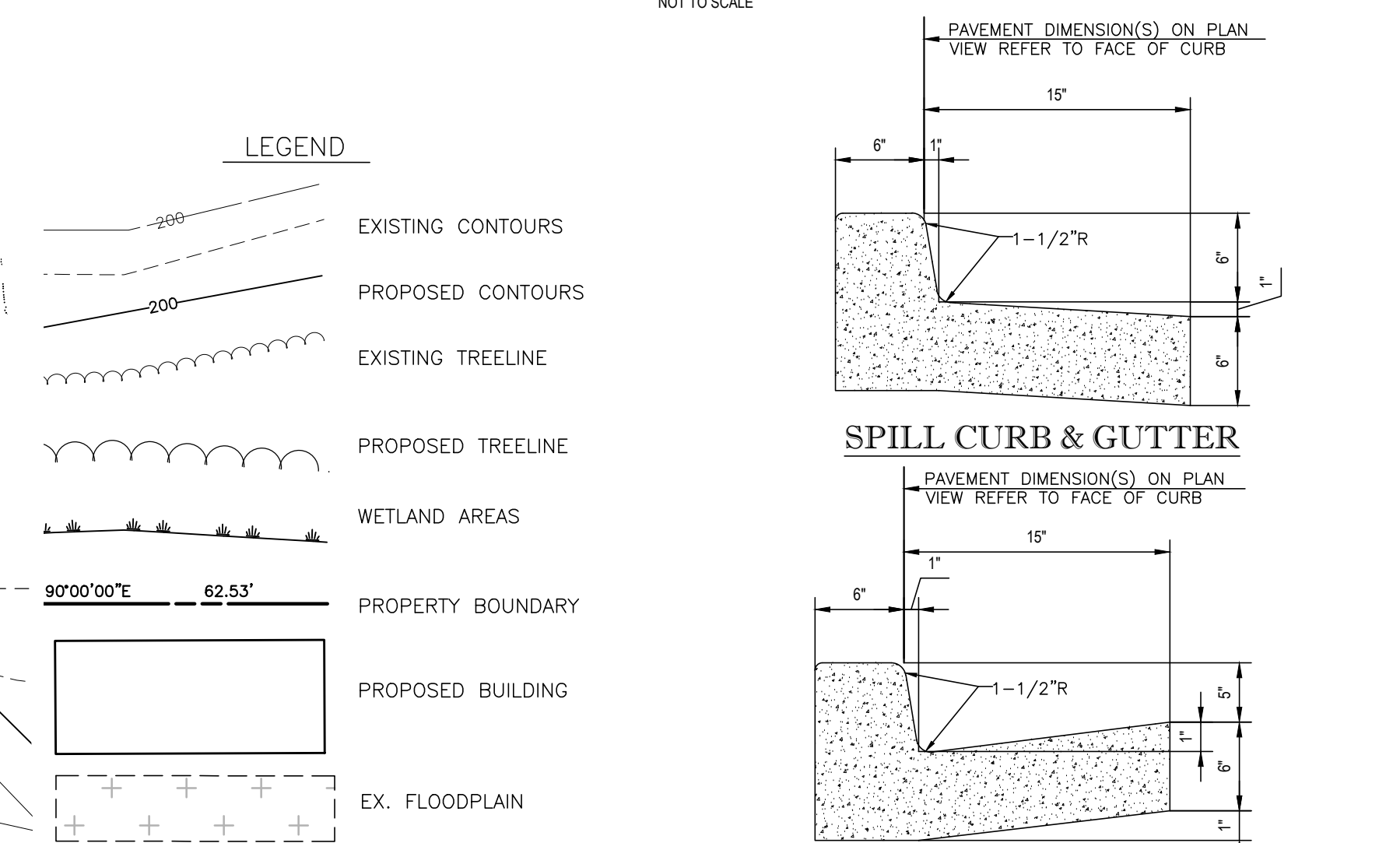
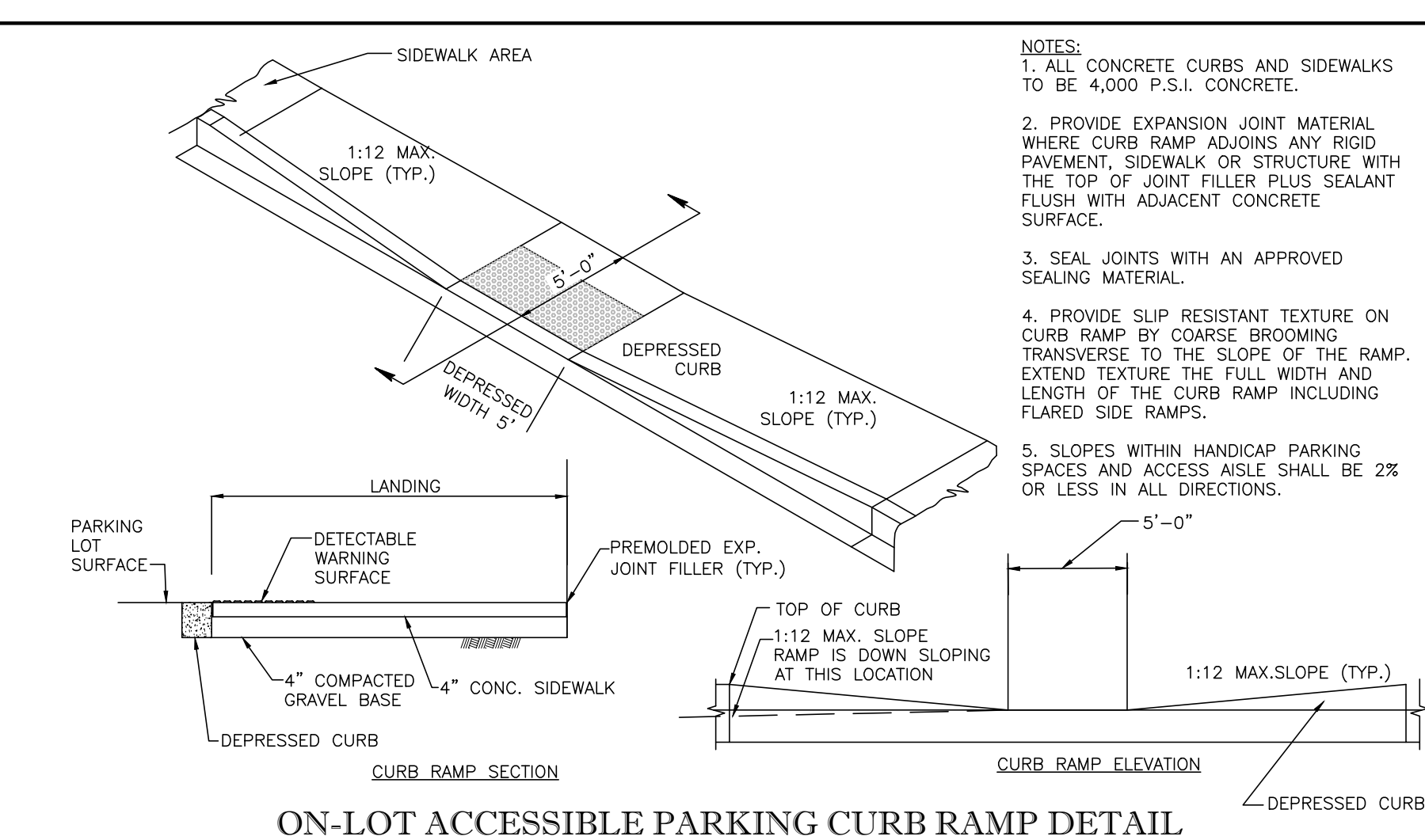
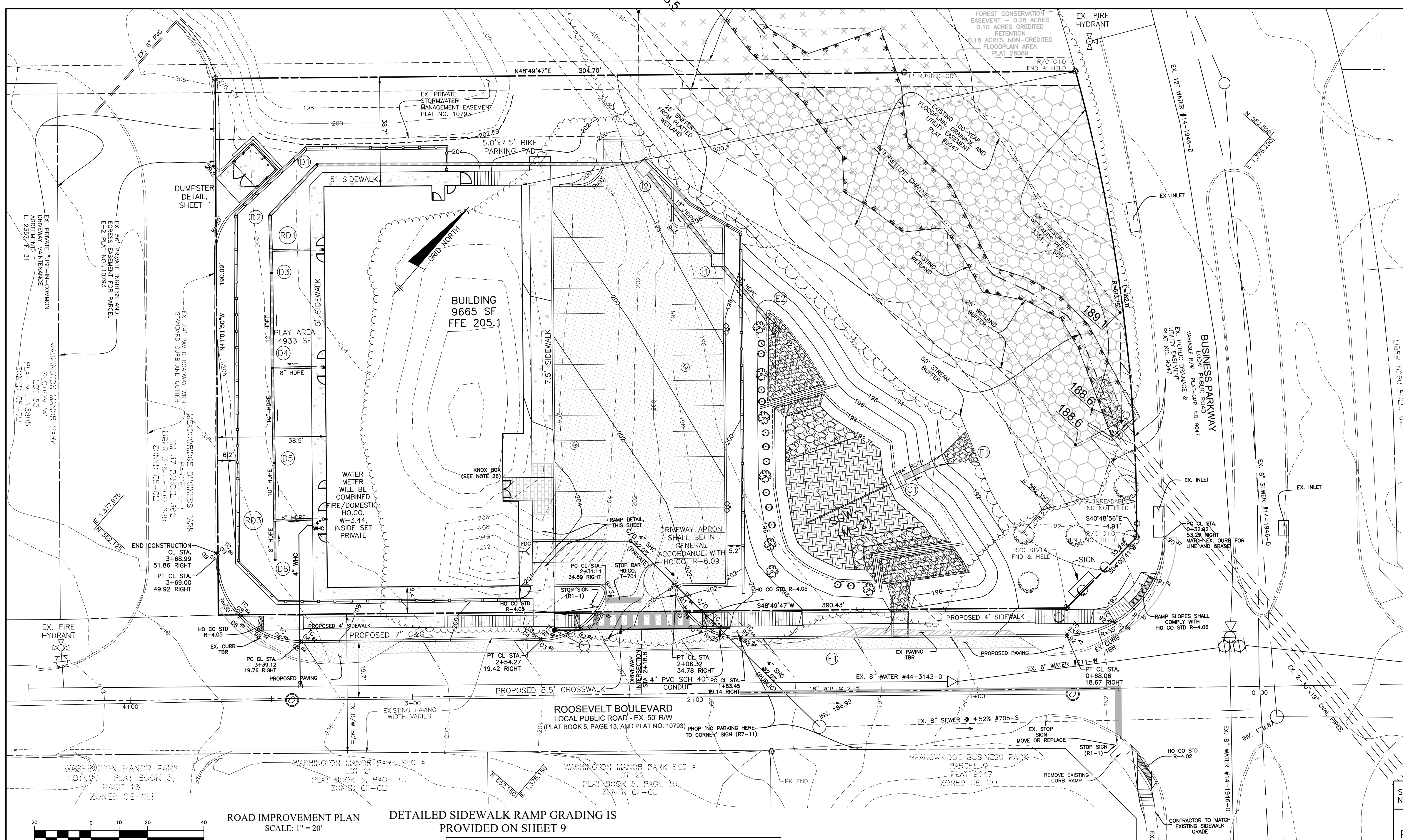


ROOSEVELT BOULEVARD
 LOCAL PUBLIC ROAD - EX. 50' R/W
 (PLAT BOOK 5, PAGE 13, AND PLAT NO. 10793)

DRIVEWAY APRON SHALL BE IN GENERAL ACCORDANCE WITH HO.CO. R-6.09

EX. 8" WATER #44-3143-D

EX. 8" SEWER #42K #705-S

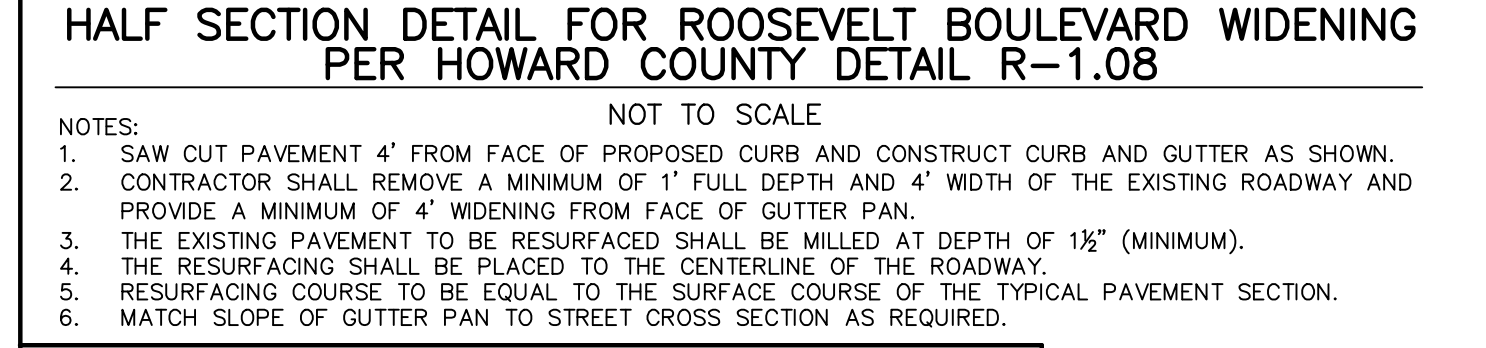
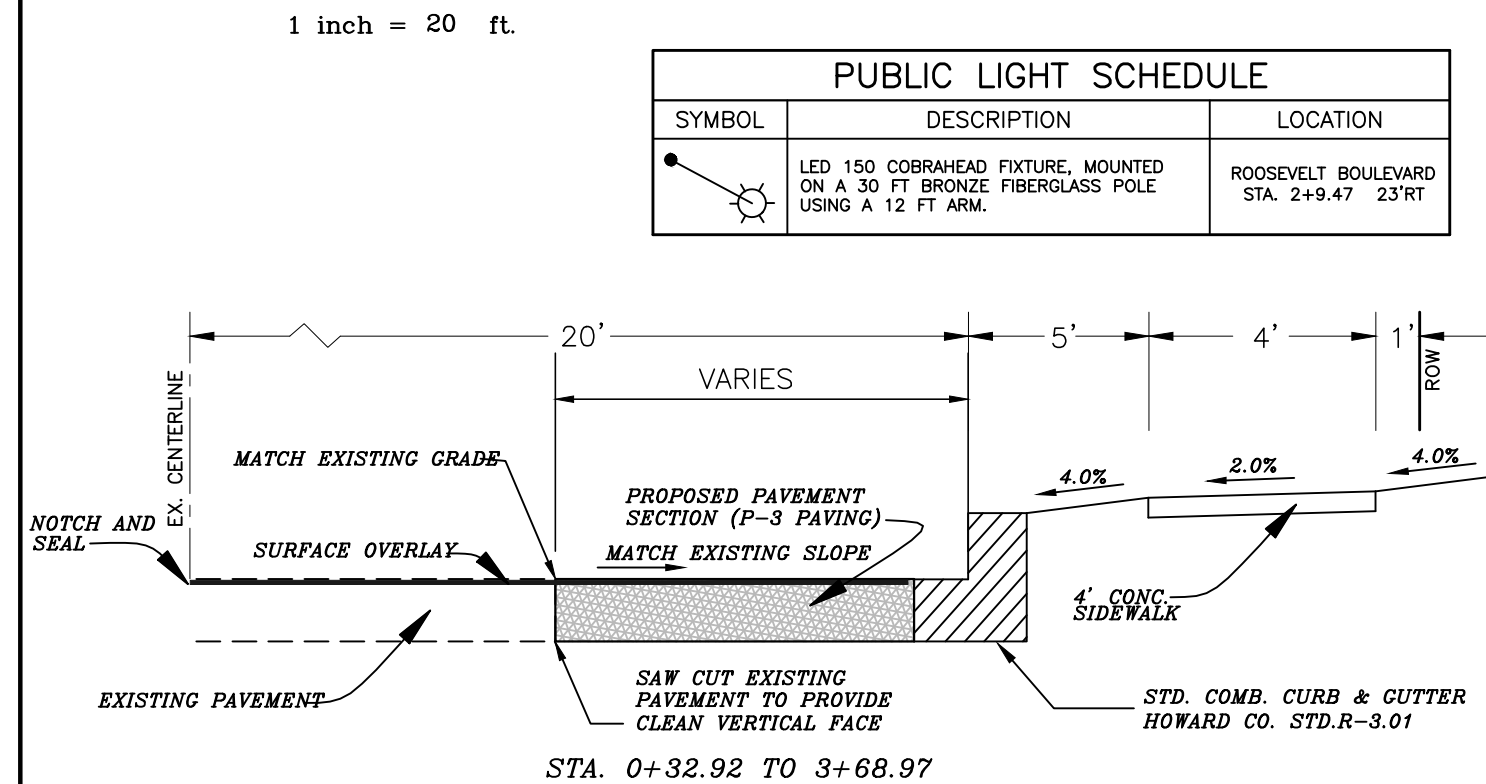


CONCRETE CURB & GUTTER DETAIL

NOT TO SCALE
FOR PRIVATE USE ONLY

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS STREET CUL-DE-SAC; RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5
		9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE	2.0	2.0	2.0	3.5	2.0	2.0
P-3	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; NON-RESIDENTIAL MINOR COLLECTORS; RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5	1.5	1.5
		9.5 MM PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE INTERMEDIATE SURFACE	3.0	3.0	3.0	4.5	3.0	2.0
		GRADED AGGREGATE BASE (GAB)	10.0	6.0	3.0	6.0	6.0	

PAVING SECTION DEPTH SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AFTER TESTING THE SOIL CBR DURING CONSTRUCTION.



PUBLIC LIGHT SCHEDULE

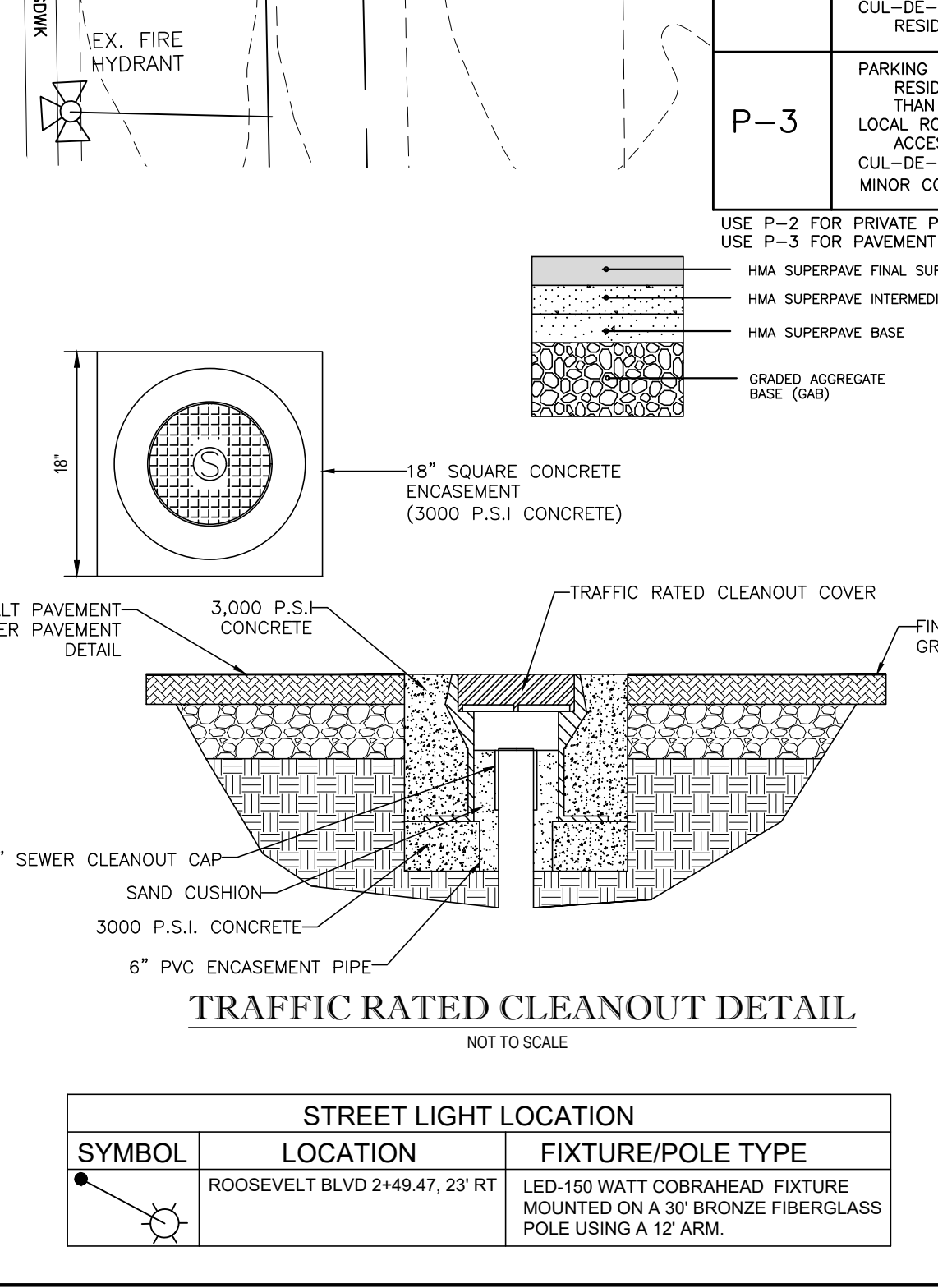
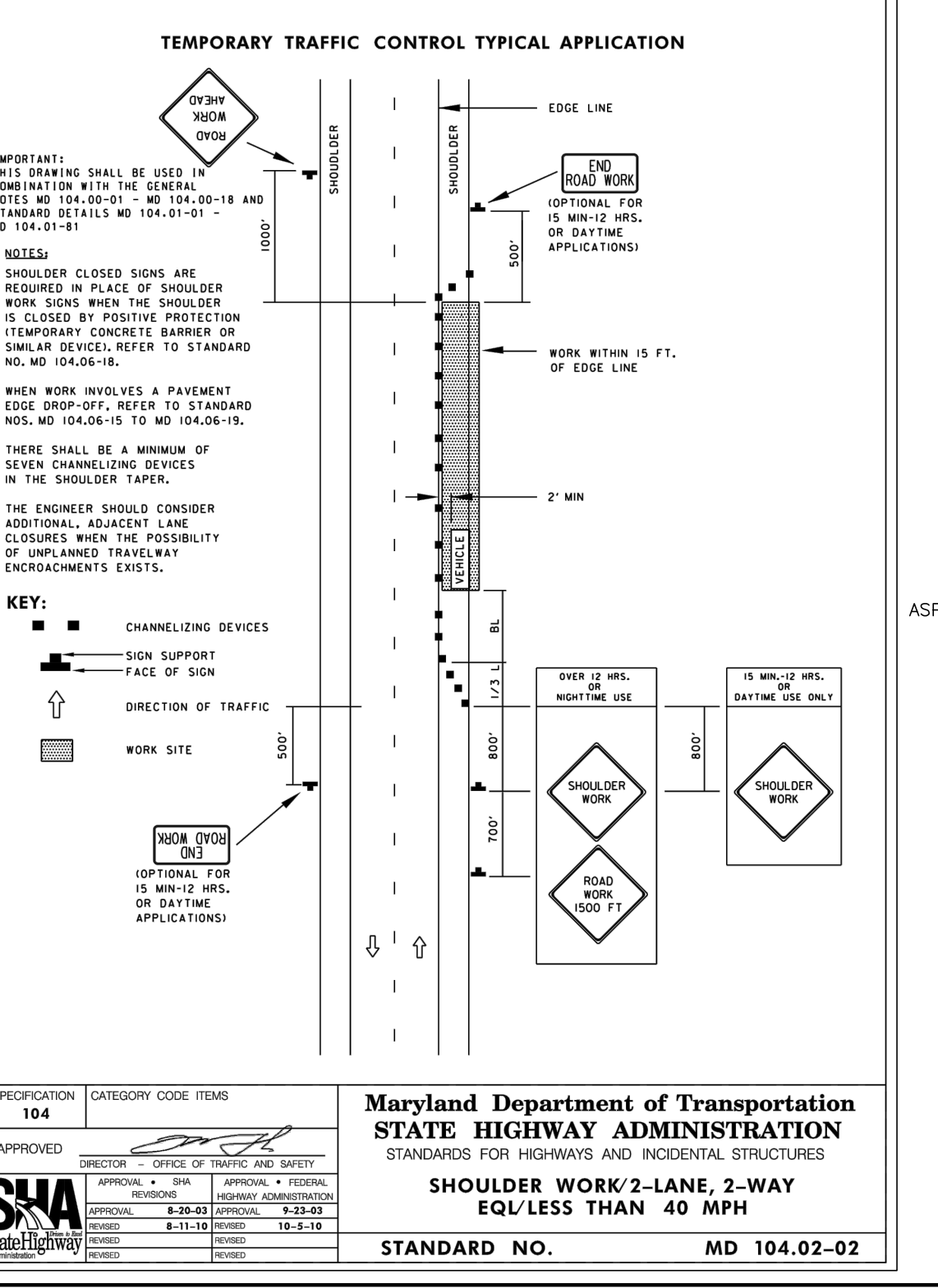
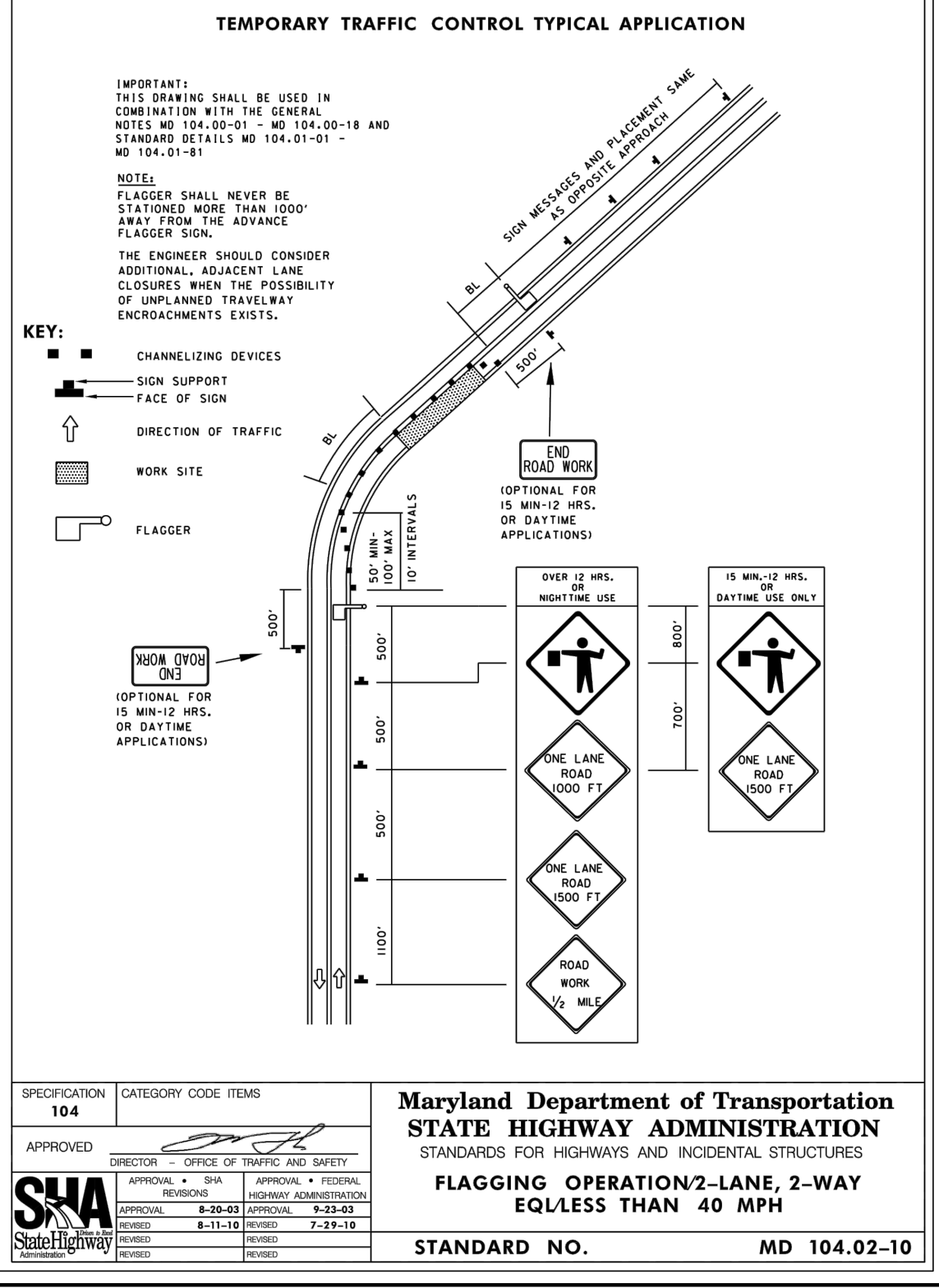
SYMBOL	DESCRIPTION	LOCATION
[Symbol]	LED 150 COBRAHEAD FIXTURE, MOUNTED ON A 30 FT BRONZE FIBERGLASS POLE USING A 12 FT ARM.	ROOSEVELT BOULEVARD STA. 2+9.47 23'RT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

6/29/2022

6/29/2022

7/6/2022



Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
FLAGGING OPERATION-2-LANE, 2-WAY
EQ/LESS THAN 40 MPH
STANDARD NO. MD 104.02-10

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK/2-LANE, 2-WAY
EQ/LESS THAN 40 MPH
STANDARD NO. MD 104.02-02

STREET LIGHT LOCATION

SYMBOL	LOCATION	FIXTURE/POLE TYPE
[Symbol]	ROOSEVELT BLVD 2+9.47, 23' RT	LED-150 WATT COBRAHEAD FIXTURE MOUNTED ON A 30' BRONZE FIBERGLASS POLE USING A 12' ARM.

BENCHMARK ENGINEERING, INC.
3300 NORTH RIDGE ROAD SUITE 140 • ELICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-6644
WWW.BE-ENGINEERING.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. 28776, Expiration Date: 1-1-2025.

OWNER:
ROUTE ONE MAPLE LAWN LLC
C/O CHINNABABU GUDAPATI
8120 SYRACUSE CT
CLARKSVILLE, MD 21029
267-408-2937

PREPARED FOR:
ROUTE ONE MAPLE LAWN, LLC
12118 HAYLAND FARM WAY
ELICOTT CITY, MD 21042
267-408-2937

MAPLE LAWN SCHOOL
MEADOWRIDGE BUSINESS PARK PARCEL E-2
7400 ROOSEVELT BOULEVARD

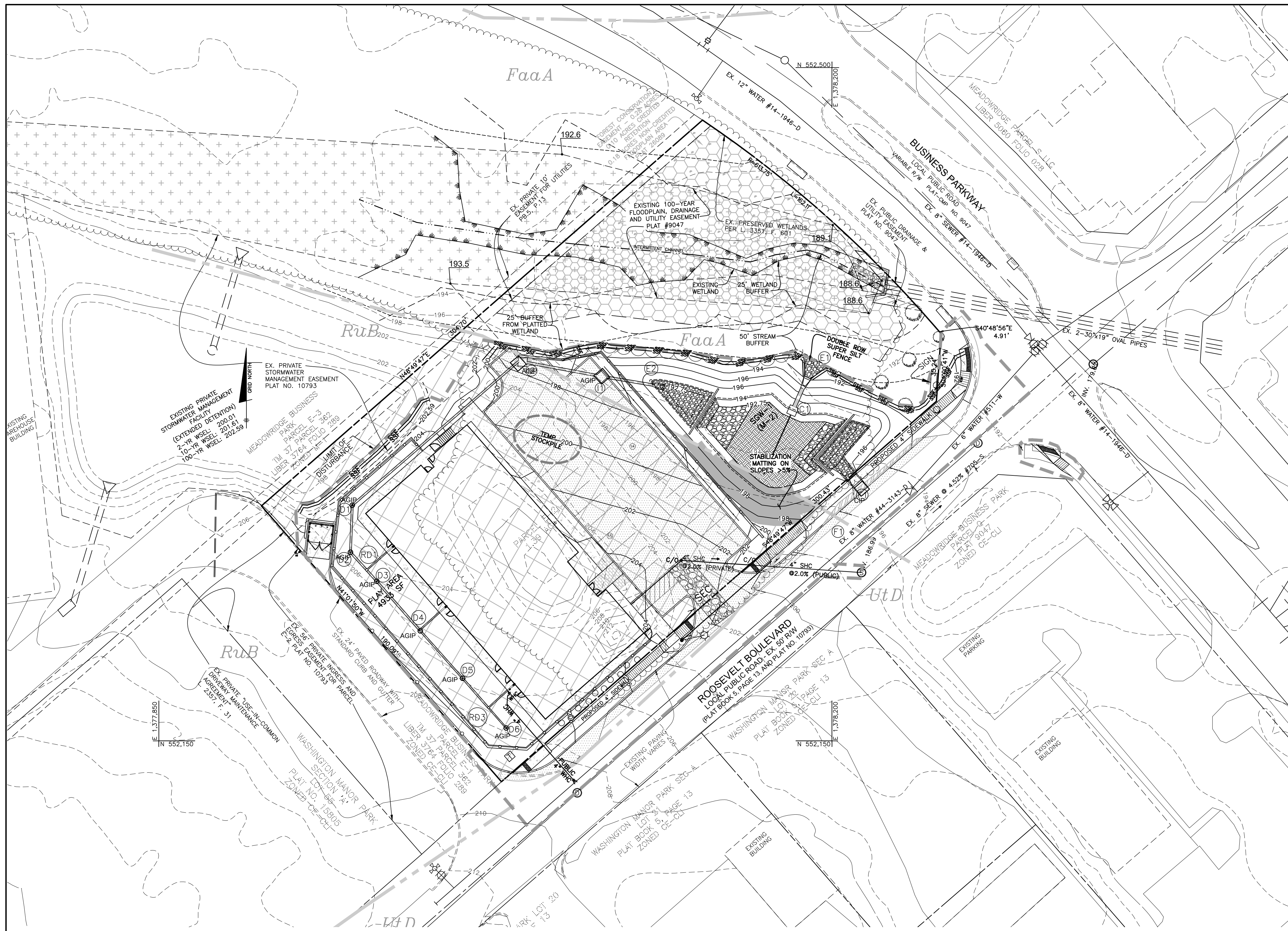
TAX MAP: 37 - GRID: 23 - PARCEL: 362
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
ZONED: CE-CL1

ROAD IMPROVEMENT PLAN,
MOT AND SITE DETAILS

DATE: JUNE, 2022
SCALE: AS SHOWN

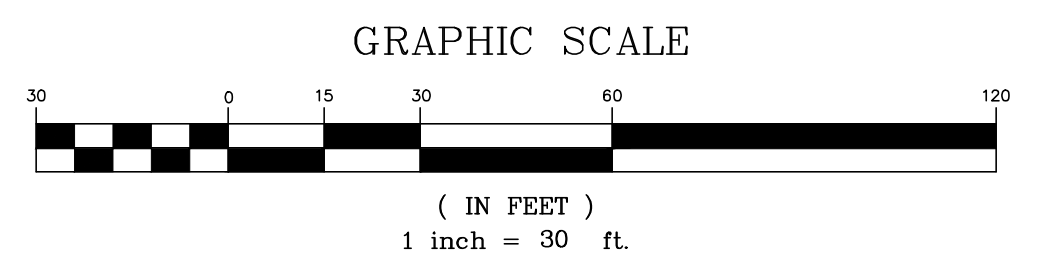
DESIGN: AAM
DRAFT: AAM

BEI PROJECT NO. 2826
SHEET 3 OF 17



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- WETLAND AREAS
- PROPERTY BOUNDARY
- PROPOSED BUILDING
- EX. FLOODPLAIN
- EX. PRESERVED WETLANDS PLAT 9047
- PROPOSED PAVEMENT
- EX. PAVEMENT TO BE REMOVED
- SUPER SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- INLET PROTECTION
- LIMIT OF DISTURBANCE



PLAN VIEW
1" = 30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: *Chad Edmondson* 6/29/2022

CHIEF, DEVELOPMENT ENGINEERING DIVISION

DocuSigned by: *Chad Edmondson* 6/29/2022

CHIEF, DIVISION OF LAND DEVELOPMENT

DocuSigned by: *Angy Groman* 7/6/2022

DIRECTOR

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

Alexander Bratchie 6/29/2022

HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

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

Alice A. Miller 6-14-22

ENGINEER - ALICE A. MILLER PE, LICENSE #28376

DEVELOPER'S CERTIFICATION

I HEREBY 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.

Shalendra Cherukuri 6-14-22

SHALENDRA CHERUKURI, OWNER, ROUTE ONE MAPLE LAWN, LLC

SOILS LEGEND

SYMBOL	TYPE	K _f FACTOR	NAME
FoaA	D	.24	FALLSINGTON SANDY LOAM, 0-2 PERCENT SLOPES
RuB	C	.43**	RUSSETT AND BELTSVILLE SOIL, 2-5 PERCENT SLOPES
UdD	D	.24	URBAN LAND-UDORTHERTS COMPLEX, 0-15 PERCENT SLOPES

SOIL MAPPING TAKEN FROM NRCS WEB SOIL SURVEY, MARCH 2021.
*WHOLE SOIL K FACTOR
**HIGHLY ERODIBLE SOILS K>0.35, AND/OR 15% OR GREATER SLOPES

NO.		DATE		REVISION	
<p>BENCHMARK ENGINEERING, INC.</p> <p>ENGINEERS • LAND SURVEYORS • PLANNERS</p> <p>3300 NORTH RIDGE ROAD • SUITE 140 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM</p>					
<p>OWNER: ROUTE ONE MAPLE LAWN LLC C/O CHINNABABU GUDAPATI 6120 SYRACUSE CT CLARKSVILLE, MD 21029 267-408-2937</p> <p>PREPARED FOR: ROUTE ONE MAPLE LAWN, LLC 12118 HAYLAND FARM WAY ELLICOTT CITY, MD 21042 267-408-2937</p>					
<p>MAPLE LAWN SCHOOL</p> <p>MEADOWRIDGE BUSINESS PARK PARCEL E-2 7400 ROOSEVELT BOULEVARD</p> <p>TAX MAP: 37 - GRID: 23 - PARCEL: 362 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND ZONED: CE-CL1</p> <p>SEDIMENT AND EROSION CONTROL PLAN</p>					
DESIGN: AAM		DRAFT: AAM		DATE: JUNE, 2022	BEI PROJECT NO. 2826
SCALE: AS SHOWN		SHEET 4 OF 17		SDP-21-050	

4-B-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION
Definition: To stabilize disturbed soils with permanent vegetation.
Purpose: To use long-lived permanent grass permanent ground cover on disturbed soils.

4-B-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION
Definition: To stabilize disturbed soils with vegetation for up to 6 months.
Purpose: To use fast growing vegetation that provides cover on disturbed soils.

4-B-4 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS
A. Soil Preparation
1. Temporary Stabilization

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. Soil salinity less than 500 parts per million (ppm).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

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

B-4 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.

4-B-4 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS
B. Topsoiling
1. Topsoil to be placed over prepared subsoil prior to establishment of permanent vegetation.

2. 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.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL MEASURES

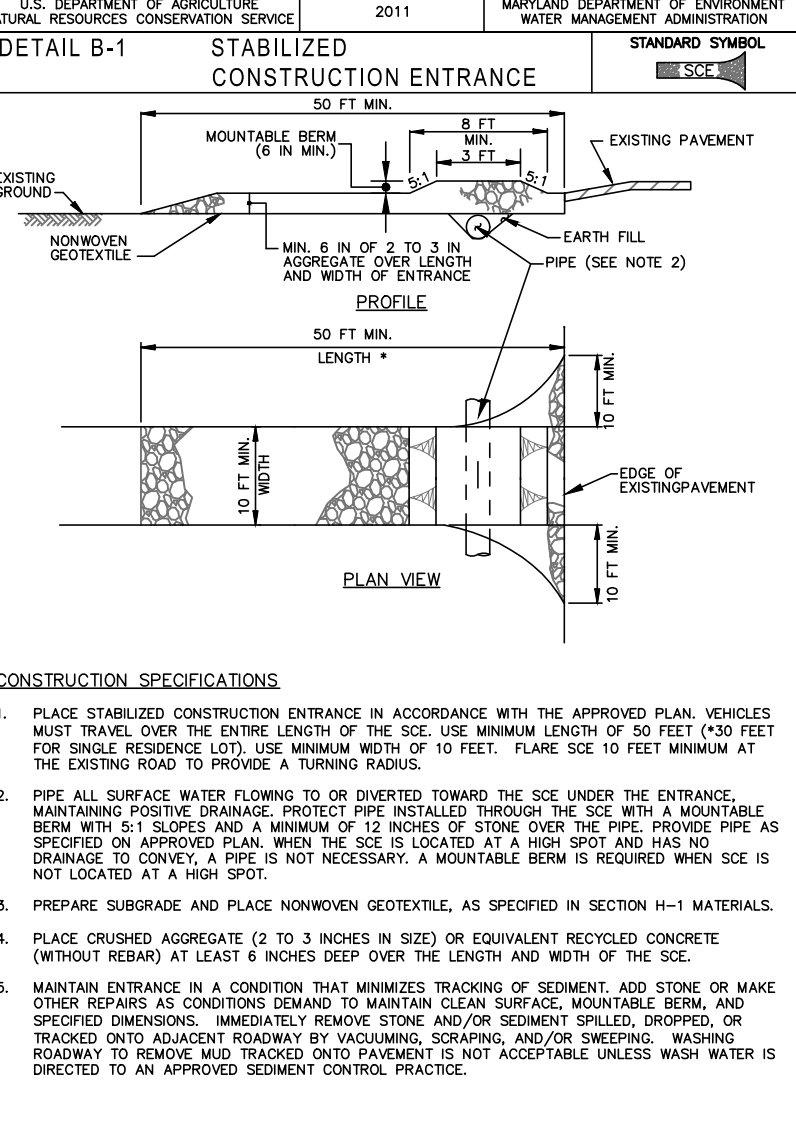
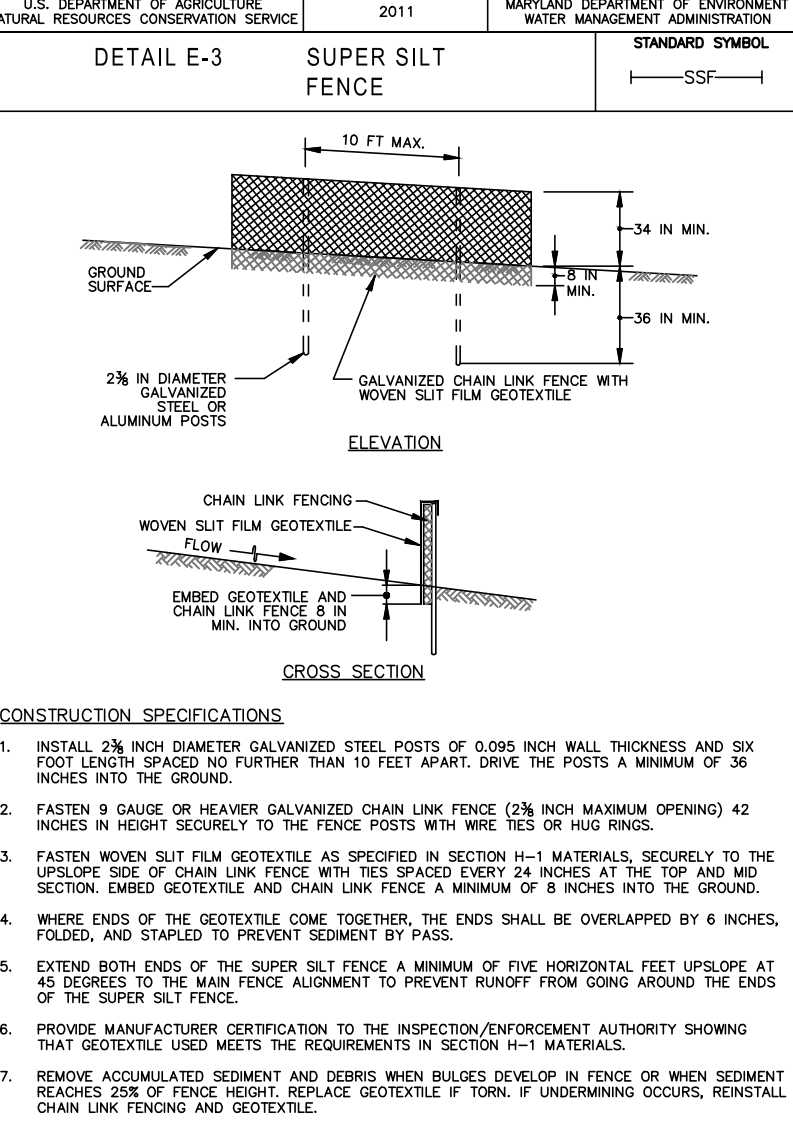
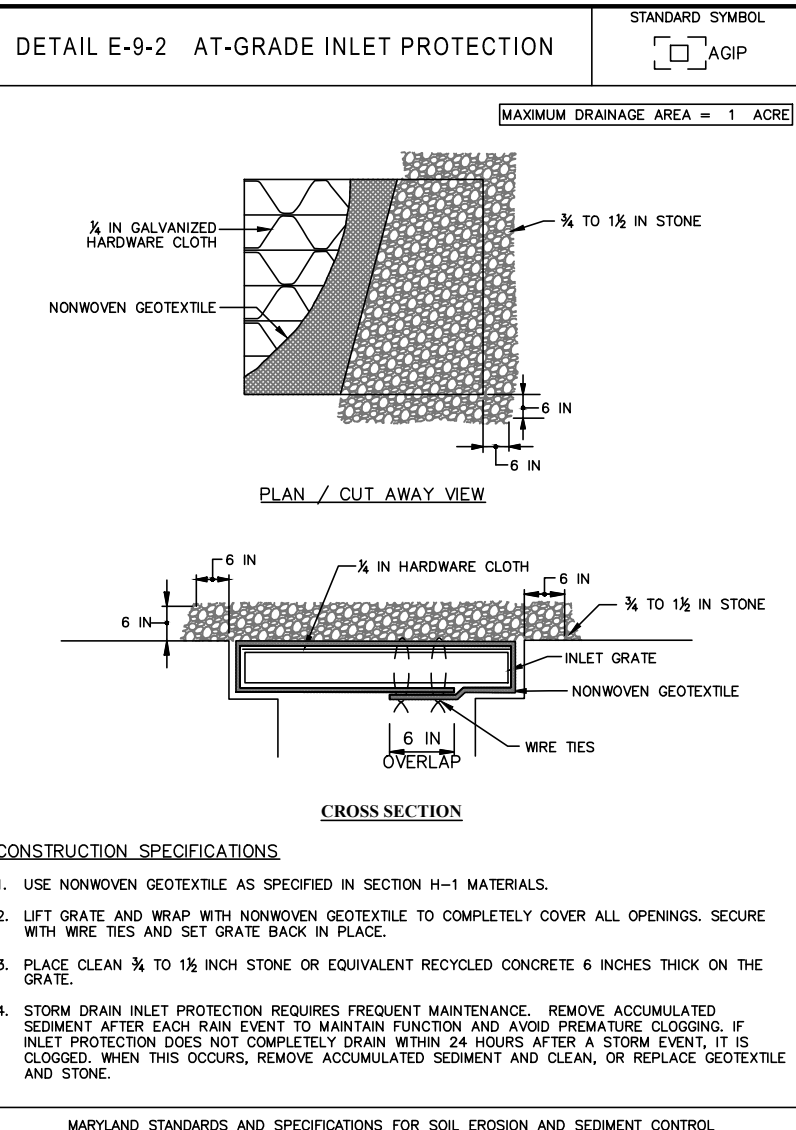
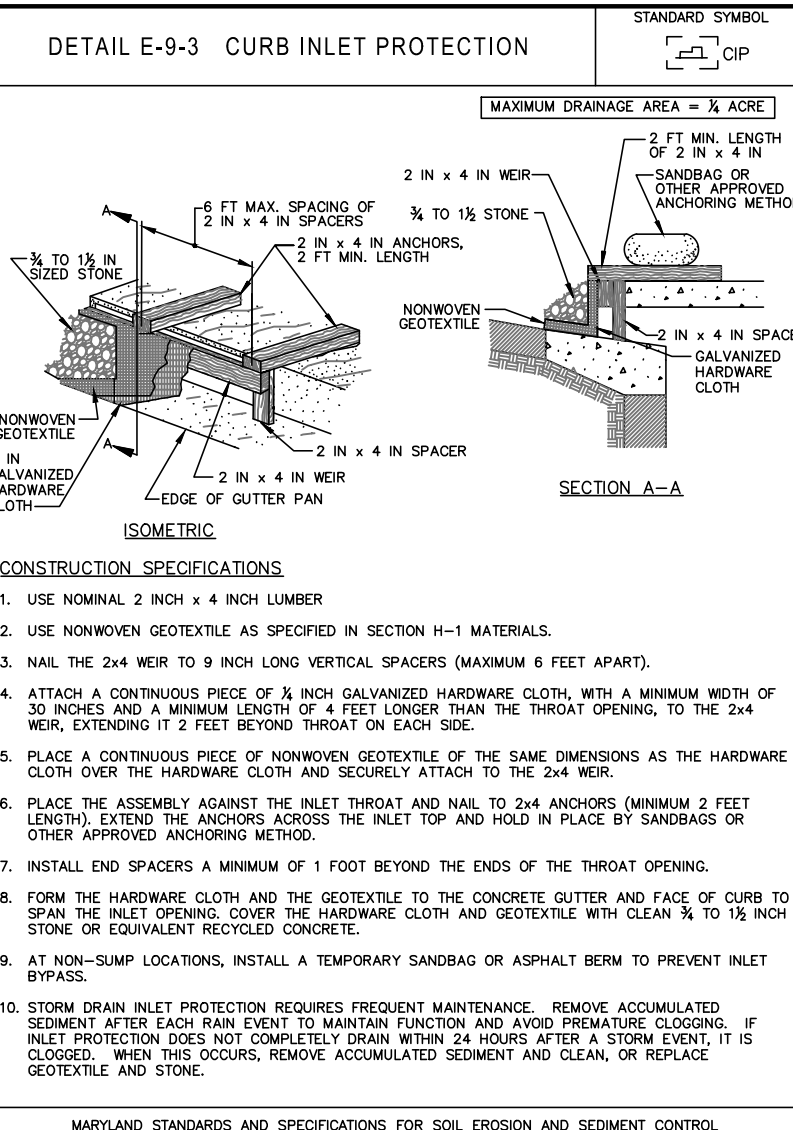
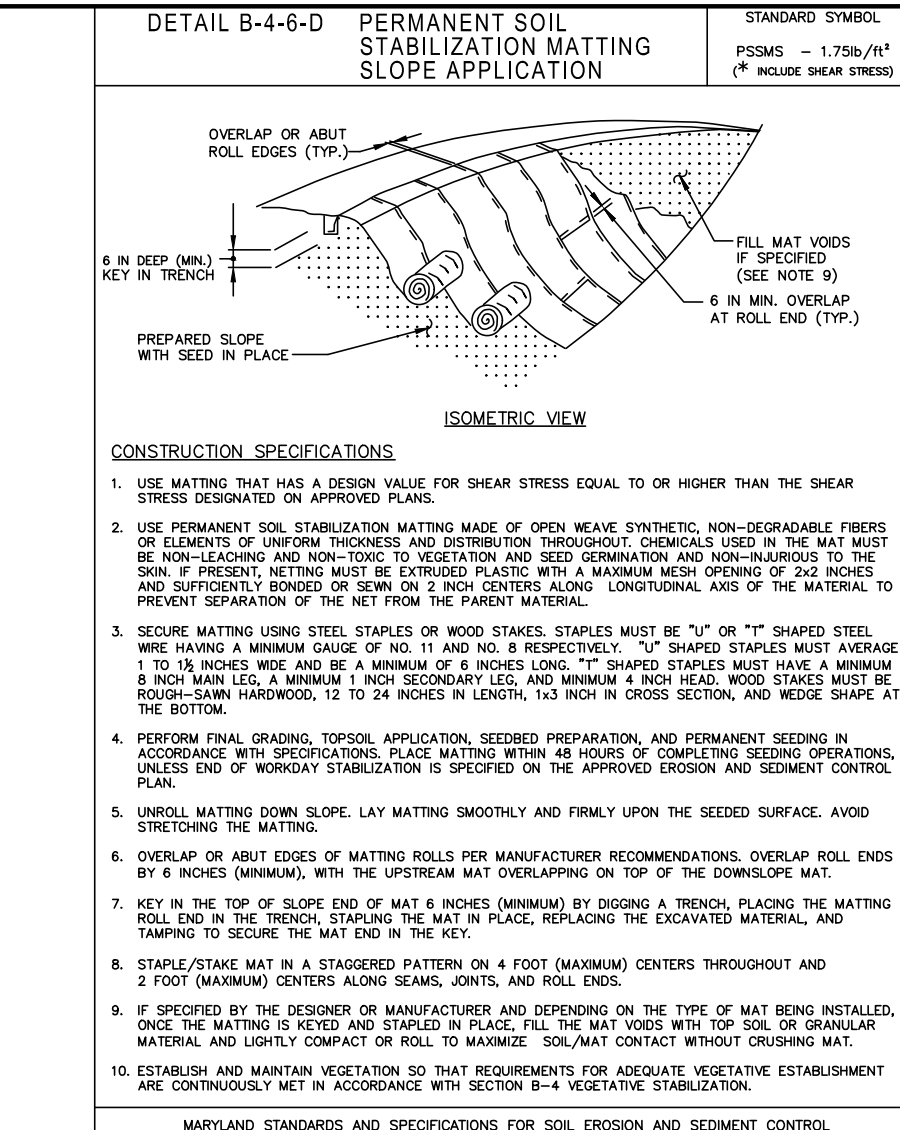
1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future L.O.D and protected areas are marked clearly in the field.
a. Prior to the start of earth disturbance.
b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.

11. Disturbance shall not occur outside the L.O.D. A project is to be HSCD-approved if sedimentation begins 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.
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 installed at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
15. Stream channels must not be disturbed during the approved restricted time periods (inclusive):
• Use I and II March 1 - June 15
• Use III and IIP October 1 - April 30
• Use IV March 1 - May 31

Table B.1: Temporary Seeding for Site Stabilization
Plant Species, Seeding Rate (lb/acre), Seeding Depth (inches), Recommended Seeding Dates by Plant Hardness Zone 3/

Permanent Seeding Summary
Hardness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.3): Tall Fescue/Kentucky Bluegrass
Fertilizer Rate (10-20-20)



SEQUENCE OF CONSTRUCTION

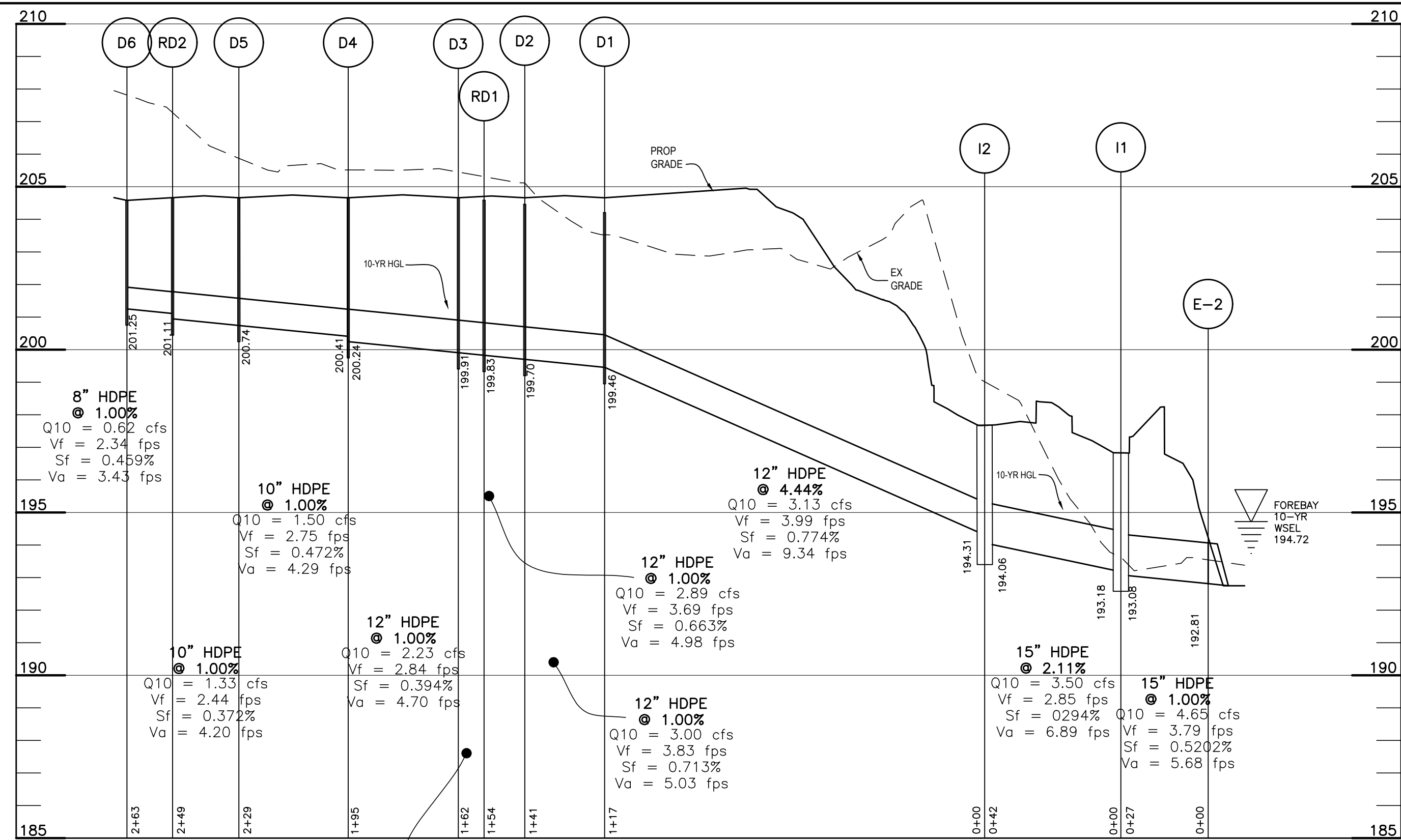
- 1. OBTAIN GRADING PERMIT. (DAY 1)
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE. (DAY 2-4)
3. UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB SITE. (DAY 5-16)
4. ESTABLISH BUILDING PAD GRADIES, AND CONSTRUCT RETAINING WALLS. SLOPES GREATER THAN 5% WITHIN THE RUB SOILS AREA SHALL BE STABILIZED WITH PERMANENT EROSION CONTROL MATTING BEGON BUILDING CONSTRUCTION. (DAY 17-26)
5. CONSTRUCT C1 AND SWM OUTFALL WHILE GRADING AND WALL CONSTRUCTION PROGRESSES. INSTALL FOREBAYS AND LEVEL SPREADERS. POND EMBANKMENT CONSTRUCTION SHOULD BE DELAYED UNTIL UPSTREAM AREAS ARE FULLY GRADED AND STABILIZED. (DAY 27-42)
6. WHEN THE FORBAY FOR FT 1 IS STABILIZED AND READY TO RECEIVE FLOWS, BEGIN ROAD WIDENING, INCLUDING SAW CUTS AND ESTABLISHING SUBGRADE. PLACE INLET F1 AND ON-SITE STORM DRAIN SYSTEM, WITH INLET PROTECTION FOR ALL INLETS. (DAY 43-52)
7. PAVI, DRAIN, PLACE SIDEWALK AND STABILIZE DISTURBED AREAS. (DAY 53-56)
8. WHEN UPSTREAM AREAS ARE STABILIZED, CONSTRUCT EMBANKMENT AND COMPLETE SUBMERGED GRVEL WETLAND INSTALLATION. (DAY 57-67)
9. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZED DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (DAY 68-70)

RETAINING WALL CONSTRUCTION METHODS

- 1. EXCAVATE FOR NEW WALL FROM THE PARKING LOTS SIDE (BACK SIDE OF WALL) TO BOTTOM OF RETAINING WALL GRADE.
2. INSTALL FOOTER AND STACK BLOCK FROM PARKING LOT SIDE (BACK SIDE OF WALL) IN LIFTS PER DRAWINGS.
3. ALL BLOCK AND BACKFILL MATERIAL WILL BE BROUGHT IN FROM THE BACK SIDE OF THE WALL. AT NOT TIME WILL EQUIPMENT OR LABOR BE ON THE FRONT SIDE OF THE WALL, AND WETLANDS BUFFER AND STREAM BUFFER SHALL NOT BE ENCROACHED WITH ANY LABOR OR EQUIPMENT.

SEDMENT CONTROLS INTERRUPTED BY STORM DRAIN UTILITY CONSTRUCTION. ETC. ARE TO BE REPAIRED IMMEDIATELY.
BENCHMARK ENGINEERING, INC.
3300 NORTH RIDGE ROAD, SUITE 140, ELLICOTT CITY, MARYLAND 21043
(410) 465-8105 (F) 410-465-6644
WWW.BE-CVLENGINEERING.COM

MAPLE LAWN SCHOOL MEADOWRIDGE BUSINESS PARK PARCEL E-2 7400 ROOSEVELT BOULEVARD
TAX MAP: 37 - GRID: 23 - PARCEL: 362
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
ZONED: CE-CL1
SEDIMENT AND EROSION CONTROL PLAN
DATE: JUNE, 2022
BEI PROJECT NO. 2826
DESIGN: AAM DRAFT: AAM SCALE: AS SHOWN SHEET 5 OF 17
SDP-21-050

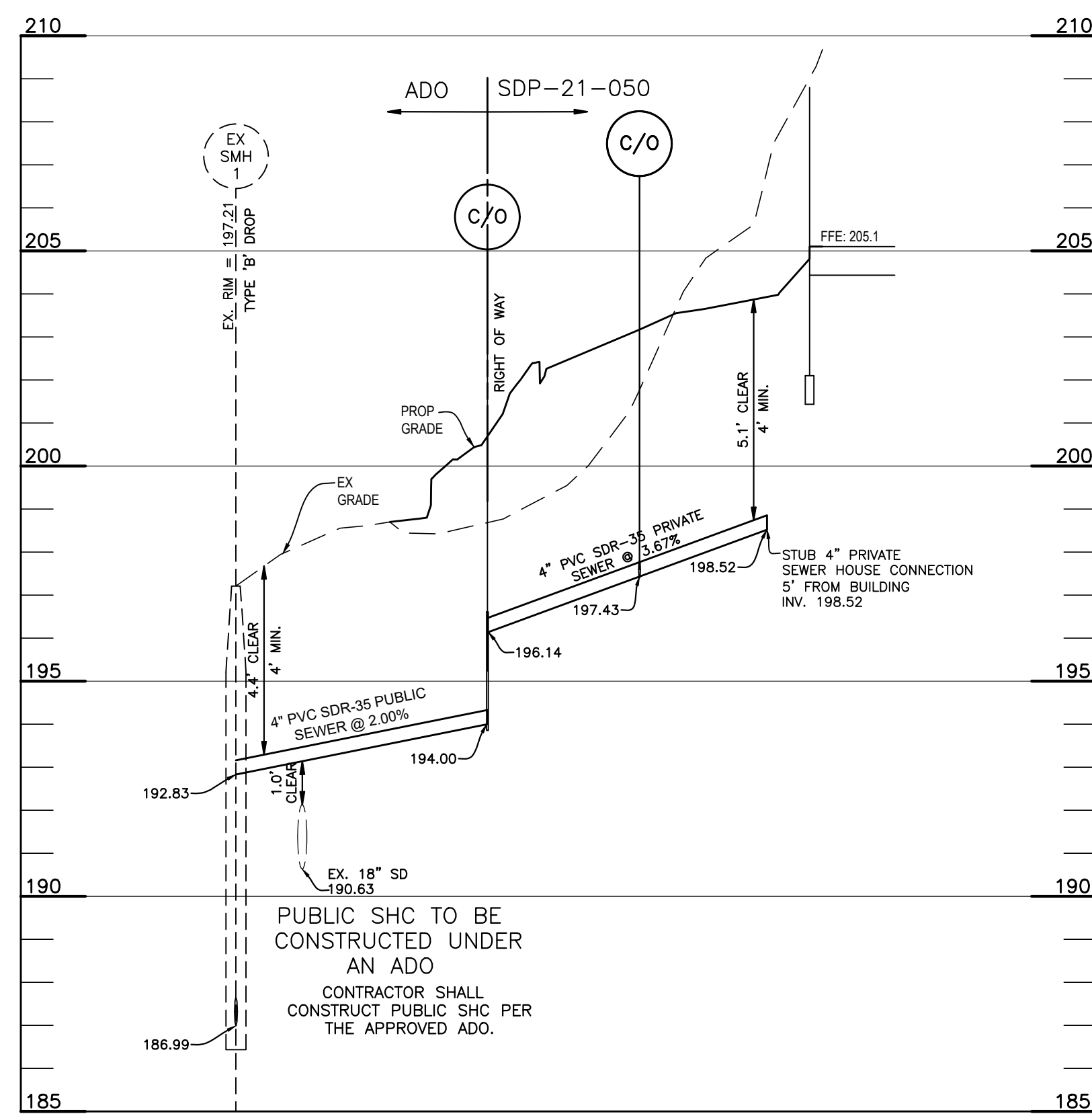
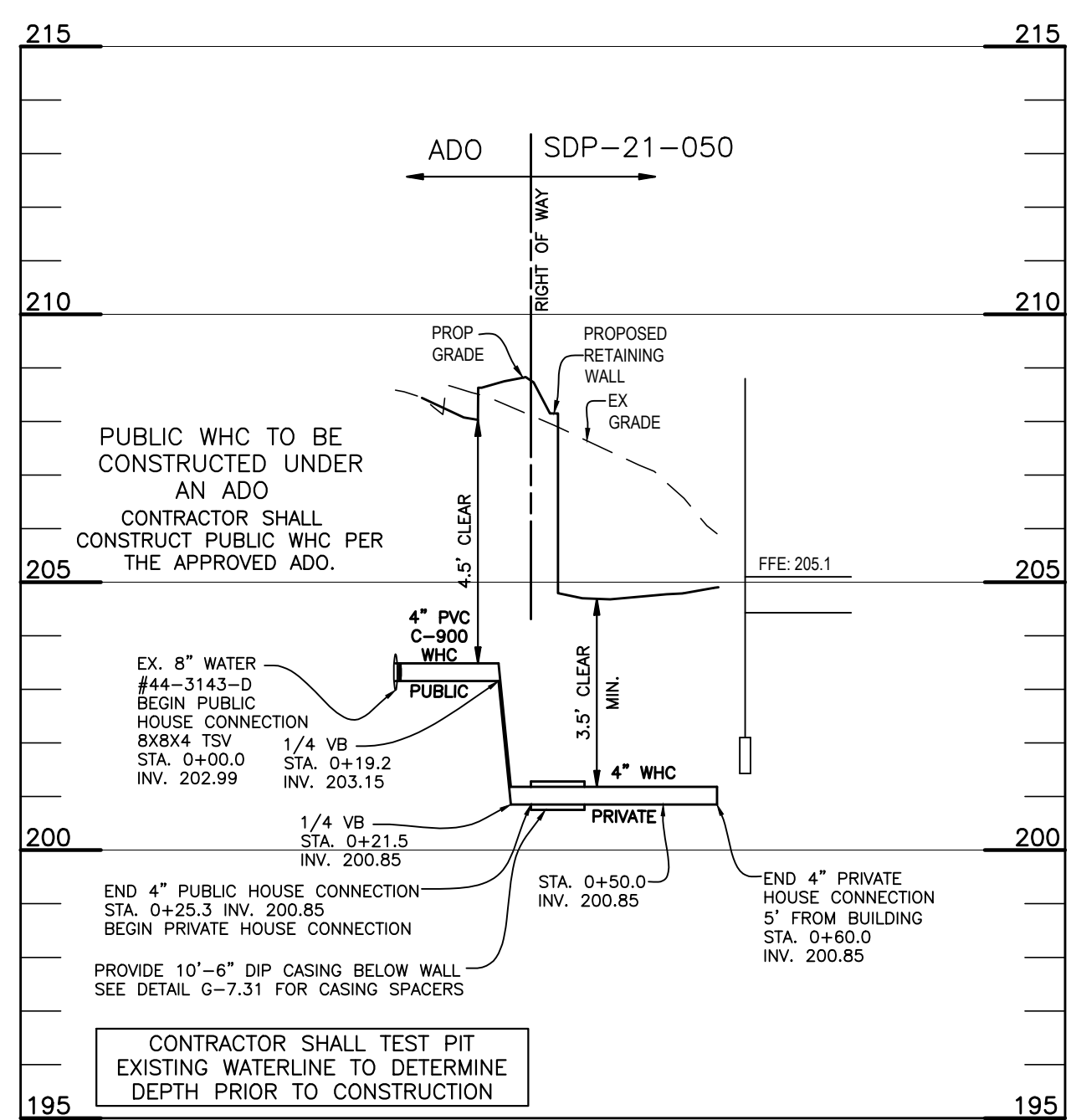


PRIVATE STORM DRAIN
SCALE: 1"=30' HORIZ., 1"=3' VERT.

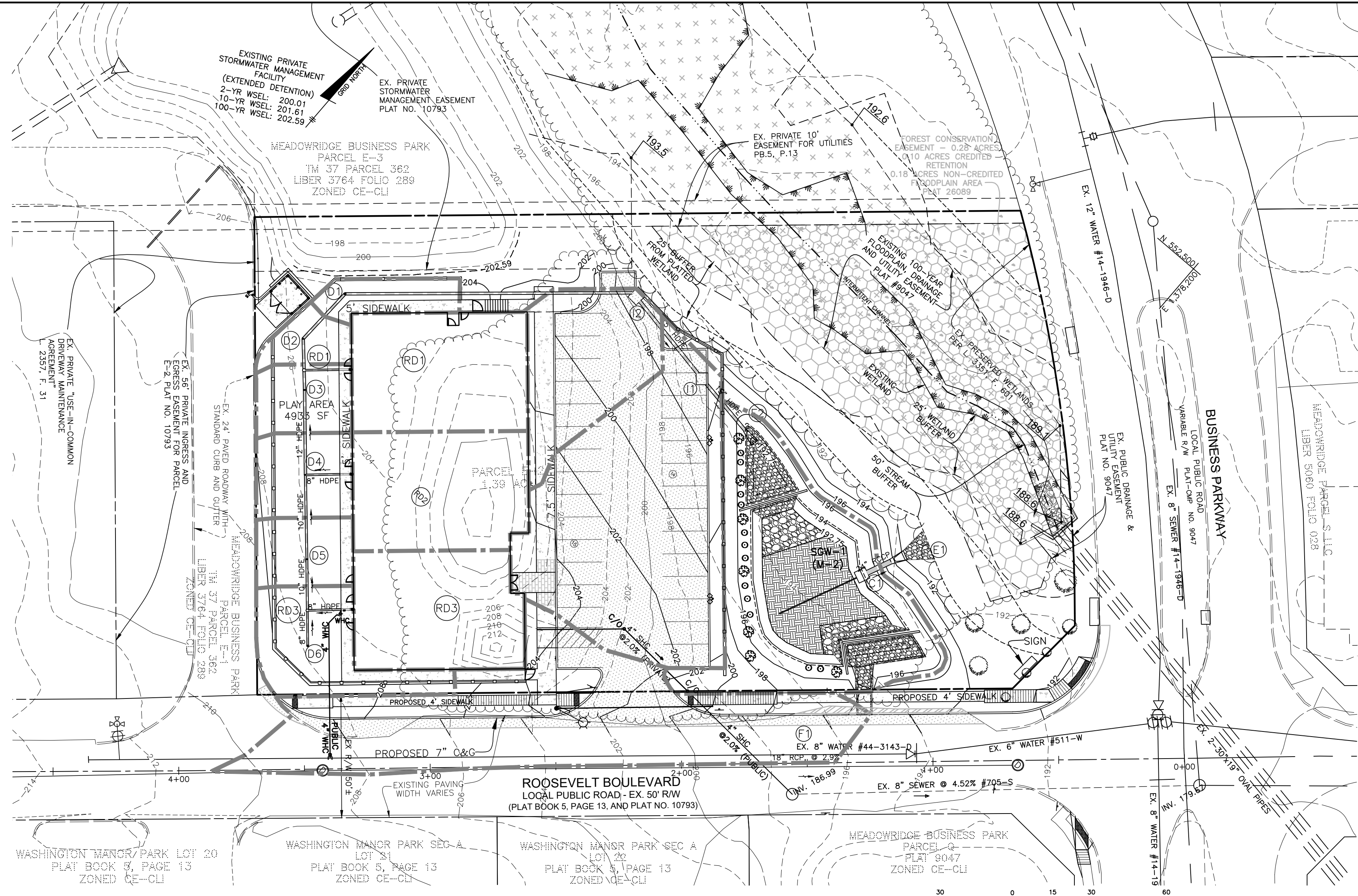
PIPE SCHEDULE			
SIZE	LENGTH	TYPE & CLASS	OWNER
8"	56 LF	HDPE	PRIVATE
10"	54 LF	HDPE	PRIVATE
12"	195 LF	HDPE	PRIVATE
15"	71 LF	HDPE	PRIVATE
24"	13 LF	RCCP	PRIVATE

STORM DRAIN STRUCTURE SCHEDULE						
NO	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.	OWNER
I1	N 552,340.57 E 1,378,081.70	193.18	193.08	196.82	D-4.26	PRIVATE
I2	N 552,347.73 E 1,378,035.66	194.31	194.06	197.61	D-4.26	PRIVATE
D1	N 552,272.51 E 1,377,950.61	-	-	204.66	8" NDS	PRIVATE
D2	N 552,248.05 E 1,377,949.64	-	200.03	204.66	8" NDS	PRIVATE
D3	N 552,232.96 E 1,377,963.34	-	200.23	204.66	8" NDS	PRIVATE
D4	N 552,207.17 E 1,377,985.94	-	200.57	204.66	8" NDS	PRIVATE
D5	N 552,182.50 E 1,378,007.94	-	200.91	204.66	8" NDS	PRIVATE
D6	N 552,156.68 E 1,378,030.61	-	201.25	204.58	8" NDS	PRIVATE
E1	N 552,338.79 E 1,378,187.33	-	191.70	-	D-5.51	PRIVATE
E2	N 552,333.74 E 1,378,112.78	-	192.75	-	D-5.51	PRIVATE
F1	N 552,280.15 E 1,378,216.45	-	-	195.7	D-4.35	PUBLIC

- STRUCTURE LOCATION AND TOP ELEVATION FOR CURB INLETS IS AT THE CENTER, TOP OF CURB.
- STRUCTURE LOCATION FOR GRATE INLETS IS AT THE CENTER OF GRATE.
- STRUCTURE LOCATION FOR END SECTIONS IS AT THE MIDPOINT OF THE END OF END SECTION.
- F1 TO BE SLAB TYPE 1, 5' TROUGH OPENING, 9' WIDTH, FROM FACE OF CURB TO BACK.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 6/29/2022
 Chief, Division of Land Development
 Date: 7/6/2022
 Director



INLET NO.	ZONING	AREA (AC)	'C' FACTOR	% IMPERVIOUS
I-1	CE-CLJ	0.17	0.78	87
I-2	CE-CLJ	0.07	0.76	84
D-1	CE-CLJ	0.02	0.86	100
D-2	CE-CLJ	0.01	0.81	92
D-3	CE-CLJ	0.02	0.76	84
D-4	CE-CLJ	0.03	0.76	84
D-5	CE-CLJ	0.02	0.76	84
D-6	CE-CLJ	0.05	0.64	64
RD-1	CE-CLJ	0.08	0.86	100
RD-2	CE-CLJ	0.07	0.86	100
RD-3	CE-CLJ	0.07	0.86	100
F-1	CE-CLJ	0.19	0.77	85

WHEN ARE INLINE DRAINS USED?

- TO ENTER AN EXISTING LINE USING A TEE & RISER
- AT THE BEGINNING OF A DRAIN LINE USING AN ELBOW & RISER

TYPICAL INSTALLATIONS

INLINE DRAIN

12" DRAIN BASIN

10" INLINE DRAIN

10" INLINE DRAIN

WHEN ARE DRAIN BASINS USED?

- TO CHANGE ELEVATION
- TO CHANGE PIPE DIAMETER
- TO CHANGE PIPE TYPE
- FOR SHALLOW APPLICATIONS
- TO CHANGE DIRECTION

WHEN ARE ADAPTERS USED?

- TO CHANGE ELEVATION
- TO CHANGE PIPE DIAMETER
- TO CHANGE PIPE TYPE
- FOR SHALLOW APPLICATIONS
- TO CHANGE DIRECTION

WHEN ARE ADAPTERS USED?

- TO CHANGE ELEVATION
- TO CHANGE PIPE DIAMETER
- TO CHANGE PIPE TYPE
- FOR SHALLOW APPLICATIONS
- TO CHANGE DIRECTION

WHEN ARE ADAPTERS USED?

- TO CHANGE ELEVATION
- TO CHANGE PIPE DIAMETER
- TO CHANGE PIPE TYPE
- FOR SHALLOW APPLICATIONS
- TO CHANGE DIRECTION

BENCHMARK ENGINEERING, INC.
 3300 NORTH RIDGE ROAD & SUITE 140 • ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BE-ENGINEERING.COM

MAPLE LAWN SCHOOL
 MEADOWRIDGE BUSINESS PARK PARCEL E-2
 7400 ROOSEVELT BOULEVARD

TAX MAP: 37 - GRID: 23 - PARCEL: 362
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
 ZONED: CE-CLJ

STORM DRAIN DRAINAGE AREA MAP, STORM DRAIN PROFILES, UTILITY PROFILES

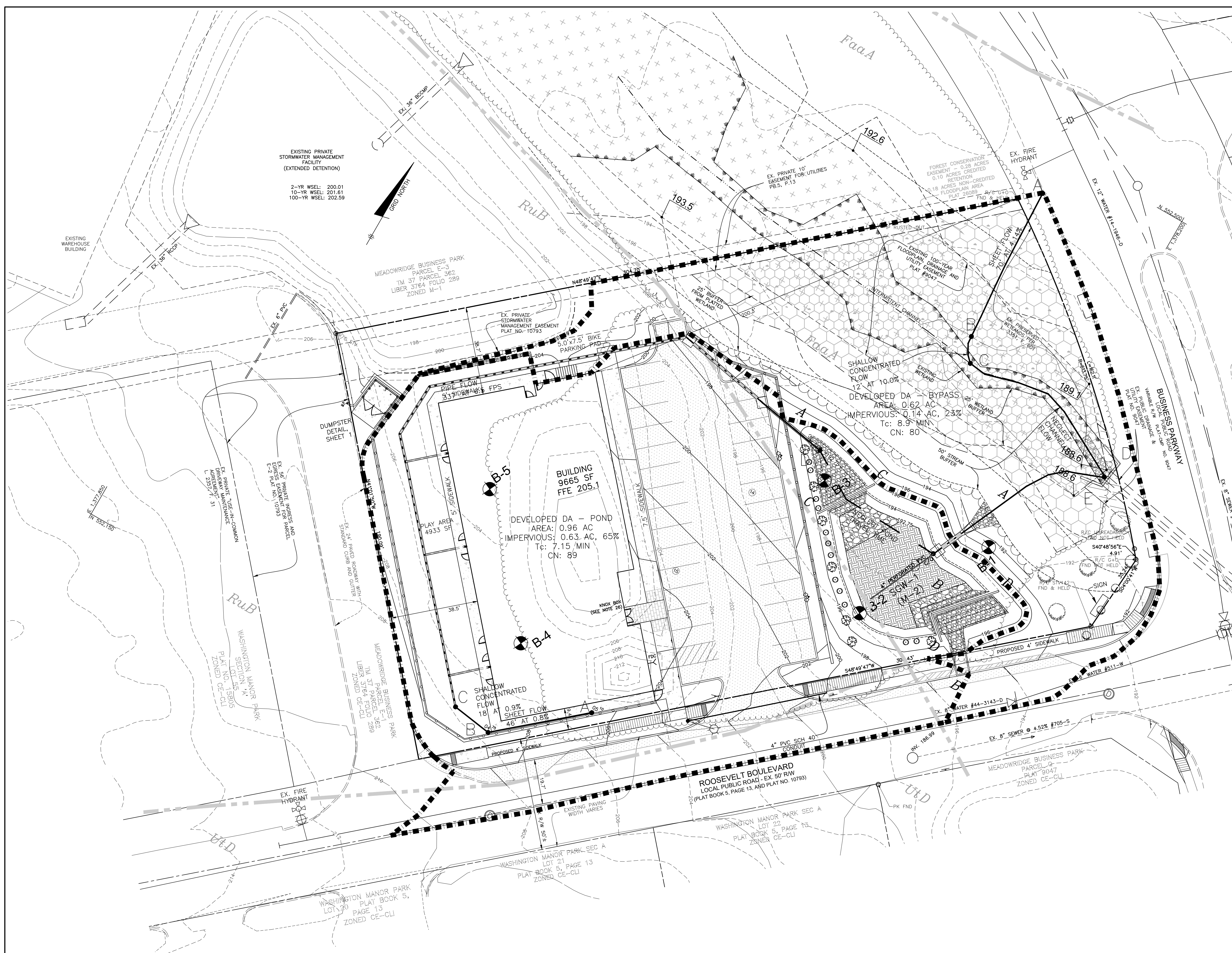
OWNER: ROUTE ONE MAPLE LAWN LLC
 C/O CHINABABU GUDAPATI
 6120 SYRACUSE CT
 CLARKSVILLE, MD 21029
 267-408-2937

PREPARED FOR: ROUTE ONE MAPLE LAWN, LLC
 12118 HAYLAND FARM WAY
 ELLICOTT CITY, MD 21042
 267-408-2937

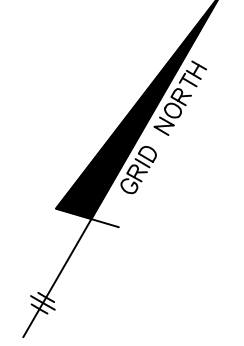
DATE: JUNE, 2022
 SCALE: AS SHOWN

DESIGN: AAM
 DRAFT: AAM

BEI PROJECT NO. 2826
 SHEET 6 OF 17



EXISTING PRIVATE STORMWATER MANAGEMENT FACILITY (EXTENDED DETENTION)
 2-YR WSEL: 200.01
 10-YR WSEL: 201.61
 100-YR WSEL: 202.59



DUMPSTER DETAIL SHEET 1

DEVELOPED DA - POND
 AREA: 0.96 AC
 IMPERVIOUS: 0.63 AC, 65%
 Tc: 7.15 MIN
 CN: 89

ROOSEVELT BOULEVARD
 LOCAL PUBLIC ROAD - EX. 50 R/W
 (PLAT BOOK 5, PAGE 13, AND PLAT NO. 10793)

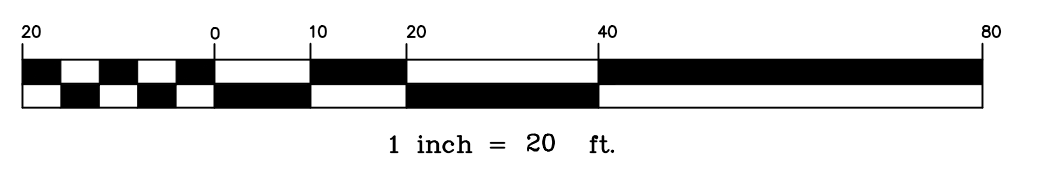
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 6/29/2022
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 6/29/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 7/6/2022
 DIRECTOR

STORM	EXISTING RUNOFF*	PROPOSED RUNOFF**	STORAGE REQUIRED
10 YEAR	8.34 cfs	5.88 cfs	4,459 cf
25 YEAR	8.52 cfs	7.10 cfs	5,286 cf
100 YEAR	10.78 cfs	9.46 cfs	5,993 cf

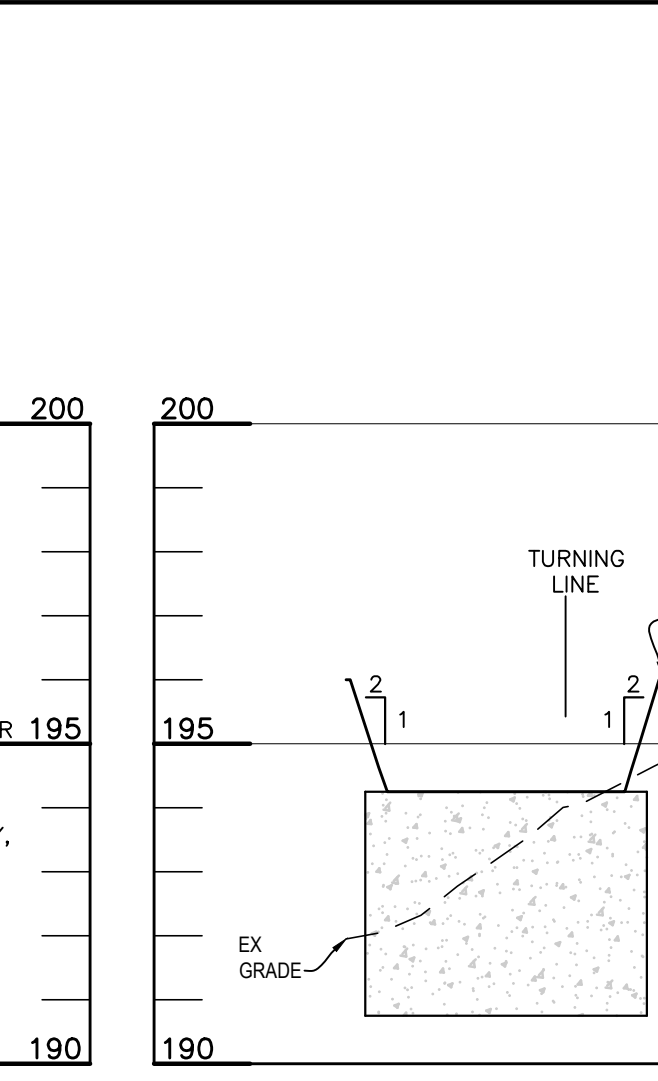
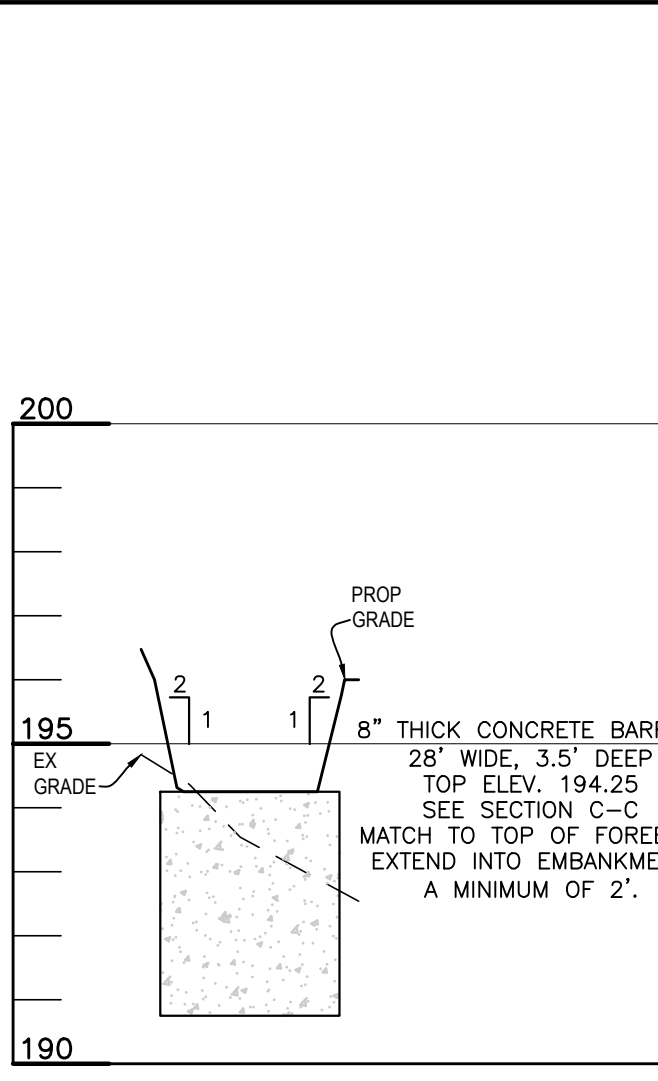
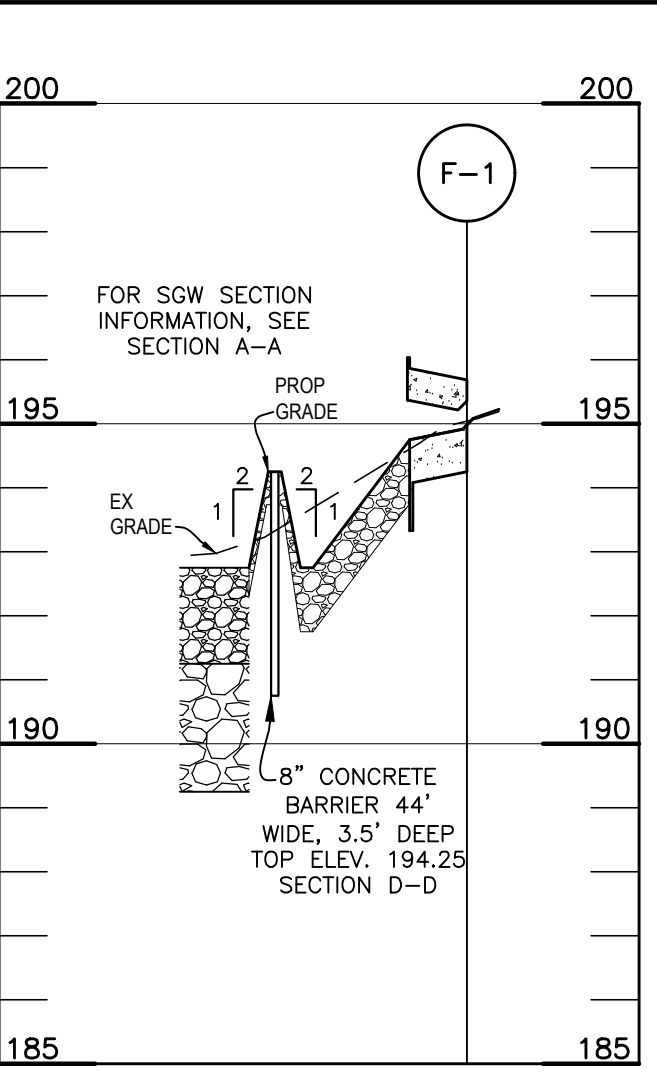
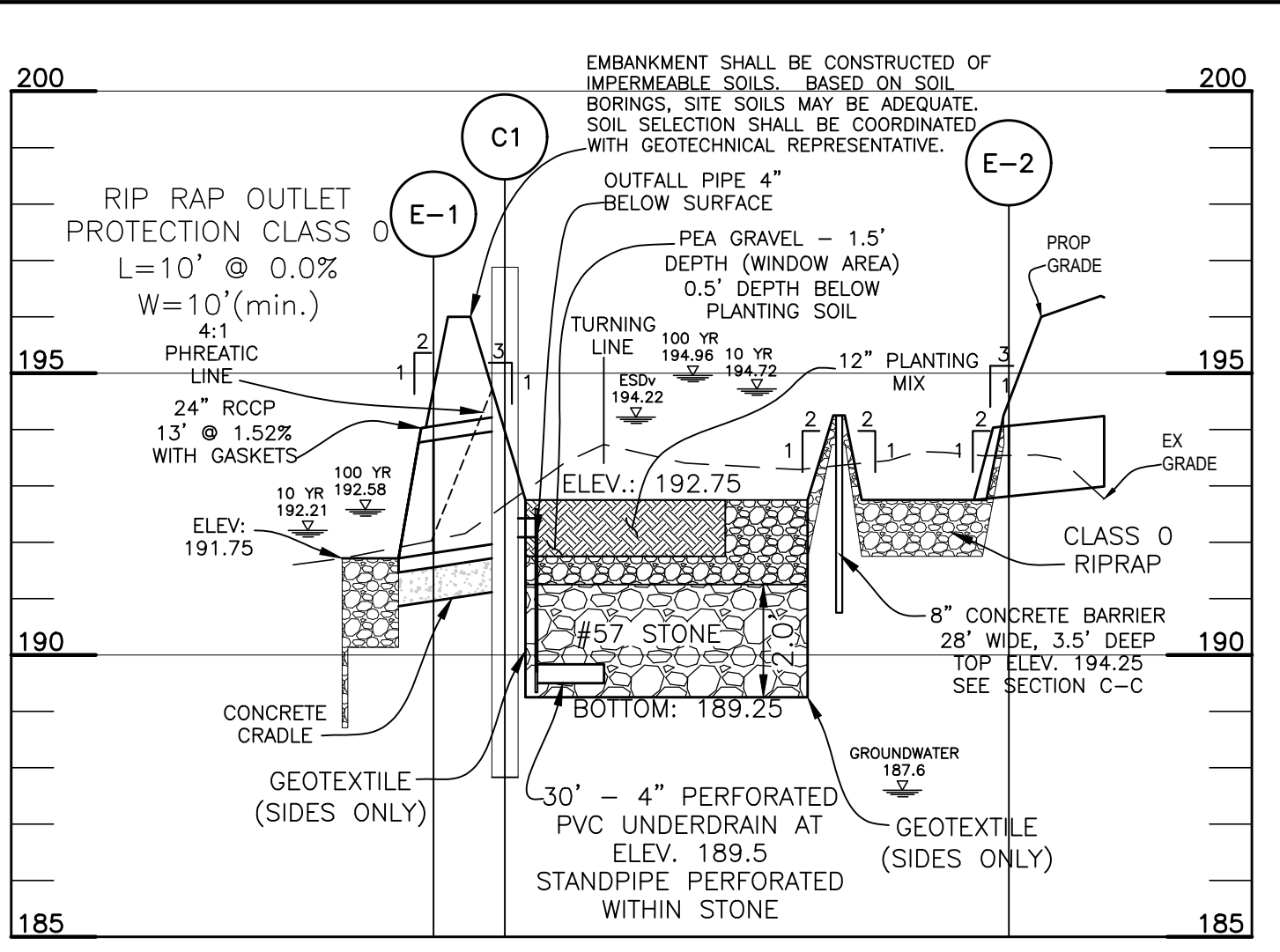
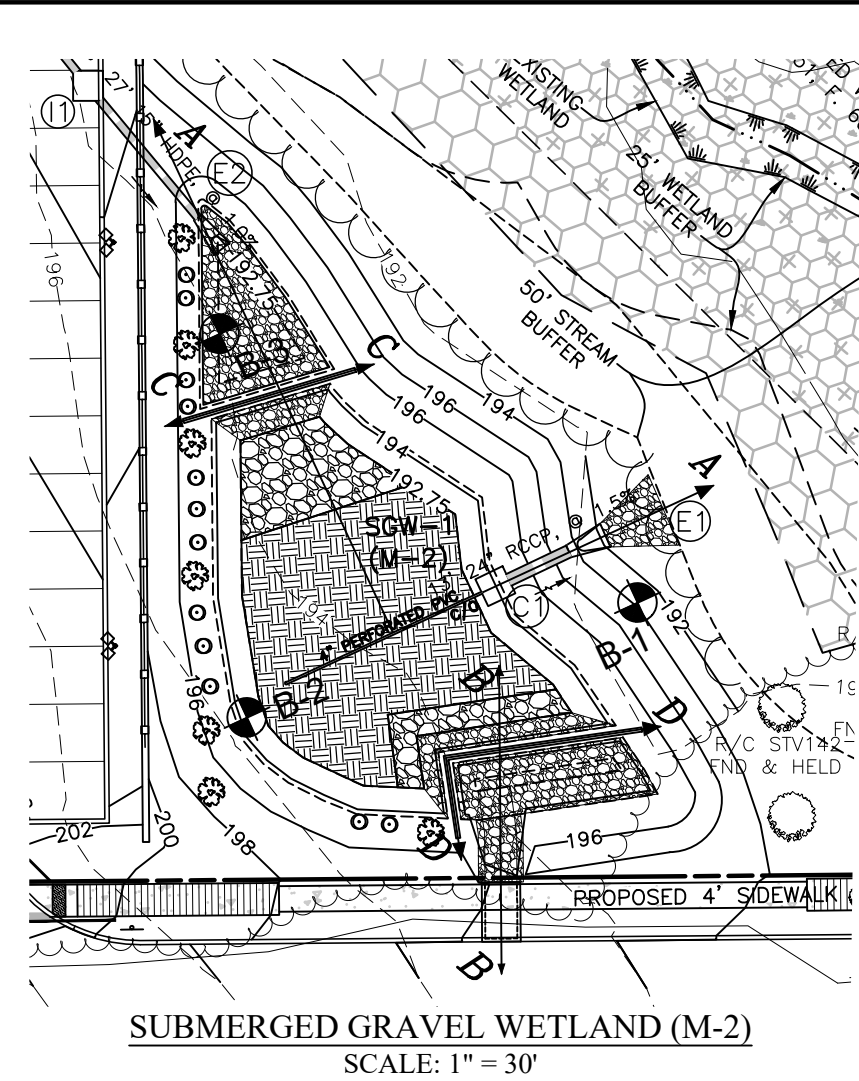
* STORAGE AND MANAGEMENT TO BE PROVIDED IN SUBMERGED GRAVEL WETLANDS.
 ** DEVELOPED RUNOFF AFTER ROUTING THROUGH SGW.

FACILITY	Drainage Area (sq ft)	Impervious (SF)	I (%)	Rv	ESDv (cf)	75% Storage (cf)	Volume Stored	Pe Treated
SGW-1	41929	31122	74%	0.718	4910	3682	3870 cf	2.06
					TOTAL:	TOTAL:	3870 cf	

The facility is privately owned and maintained.



NO. DATE REVISION	
 BENCHMARK ENGINEERING, INC. 3300 NORTH RIDGE ROAD & SUITE 140 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM	
OWNER: ROUTE ONE MAPLE LAWN LLC C/O CHINNABABU GUDAPATI 8120 SYRACUSE CT CLARKSVILLE, MD 21029 267-408-2937	MAPLE LAWN SCHOOL MEADOWRIDGE BUSINESS PARK PARCEL E-2 7400 ROOSEVELT BOULEVARD TAX MAP: 37 - GRID: 23 - PARCEL: 362 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND ZONED: CE-CL1
PREPARED FOR: ROUTE ONE MAPLE LAWN, LLC 12118 HAYLAND FARM WAY ELLICOTT CITY, MD 21042 267-408-2937	STORMWATER MANAGEMENT DRAINAGE AREA MAP DATE: JUNE, 2022 SCALE: AS SHOWN
DESIGN: AAM DRAFT: AAM	BEI PROJECT NO. 2826 SHEET 7 OF 17



CONSTRUCTION SPECIFICATIONS

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. 3. Compaction: It is very important to minimize compaction of both the base of bioretention practices and the required backfill. 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.

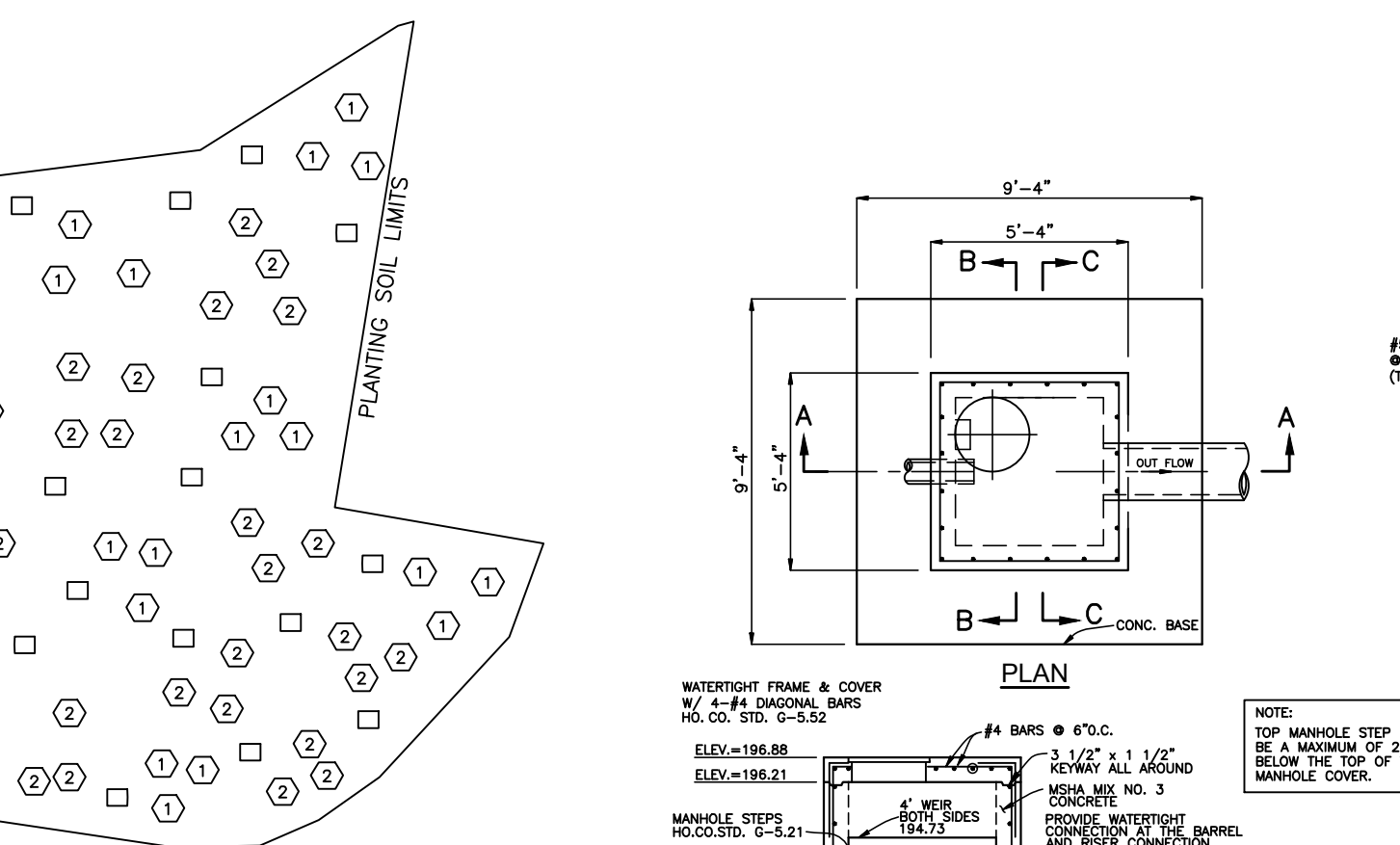
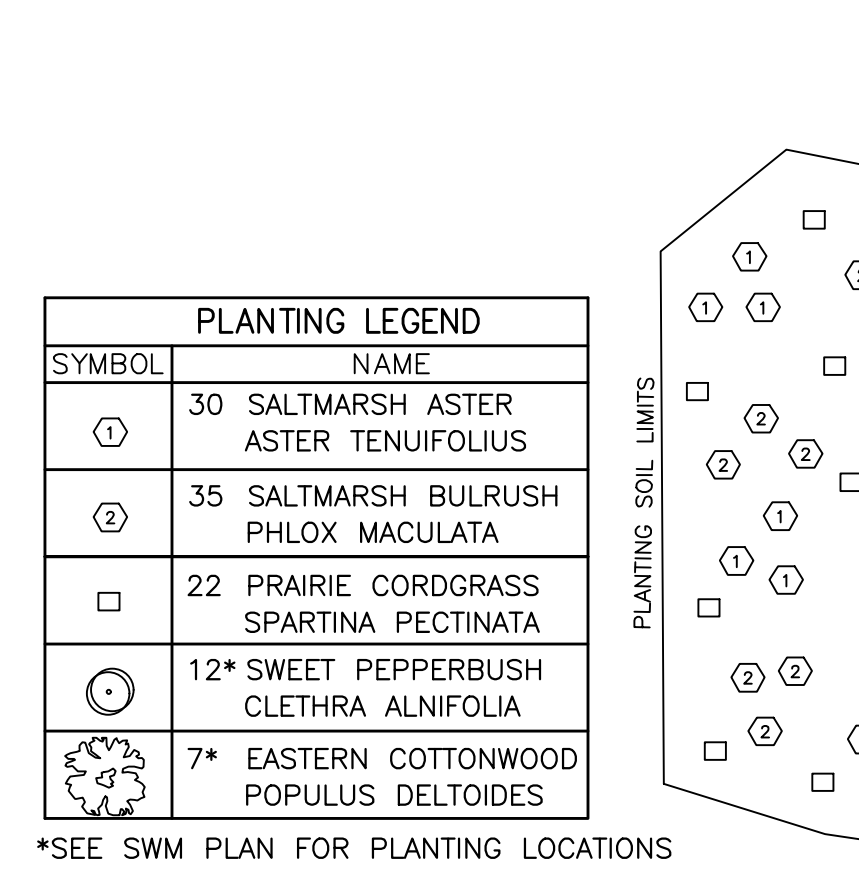
SUBMERGED GRAVEL WETLAND (M-2) SCALE: 1"=30'

SECTION A-A SUBMERGED GRAVEL WETLAND (M-2) SCALE: 1"=30' HORIZ., 1"=3' VERT.

B-B SECTION THROUGH F-1 SCALE: 1"=30' HORIZ., 1"=3' VERT.

SECTION C-C SCALE: 1"=30' HORIZ., 1"=3' VERT.

SECTION D-D SCALE: 1"=30' HORIZ., 1"=3' VERT.



PLANTING DETAIL FOR SWG-E (M-2) SUBMERGED GRAVEL WETLANDS NOT TO SCALE

FACILITY SUMMARY TABLE with columns for Facility, Drainage Area, Impervious, etc.

STORMWATER MANAGEMENT STORAGE CHART with columns for Storm, Existing Runoff, Proposed Runoff, Storage Required.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SUBMERGED GRAVEL WETLANDS (M-2)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Chief, Development Engineering Division: 6/29/2022. Chief, Division of Land Development: 7/6/2022. Director: [Signature]

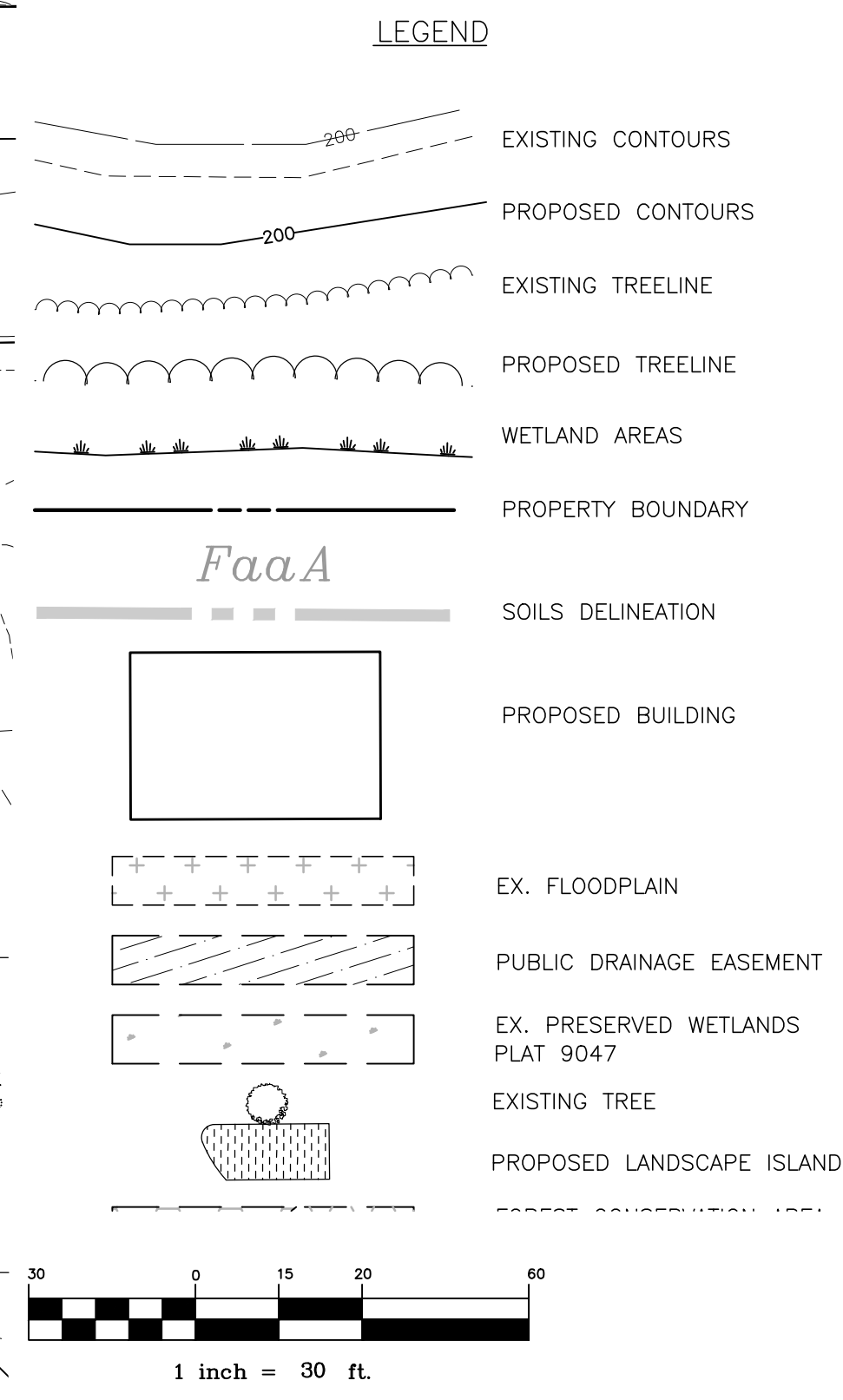
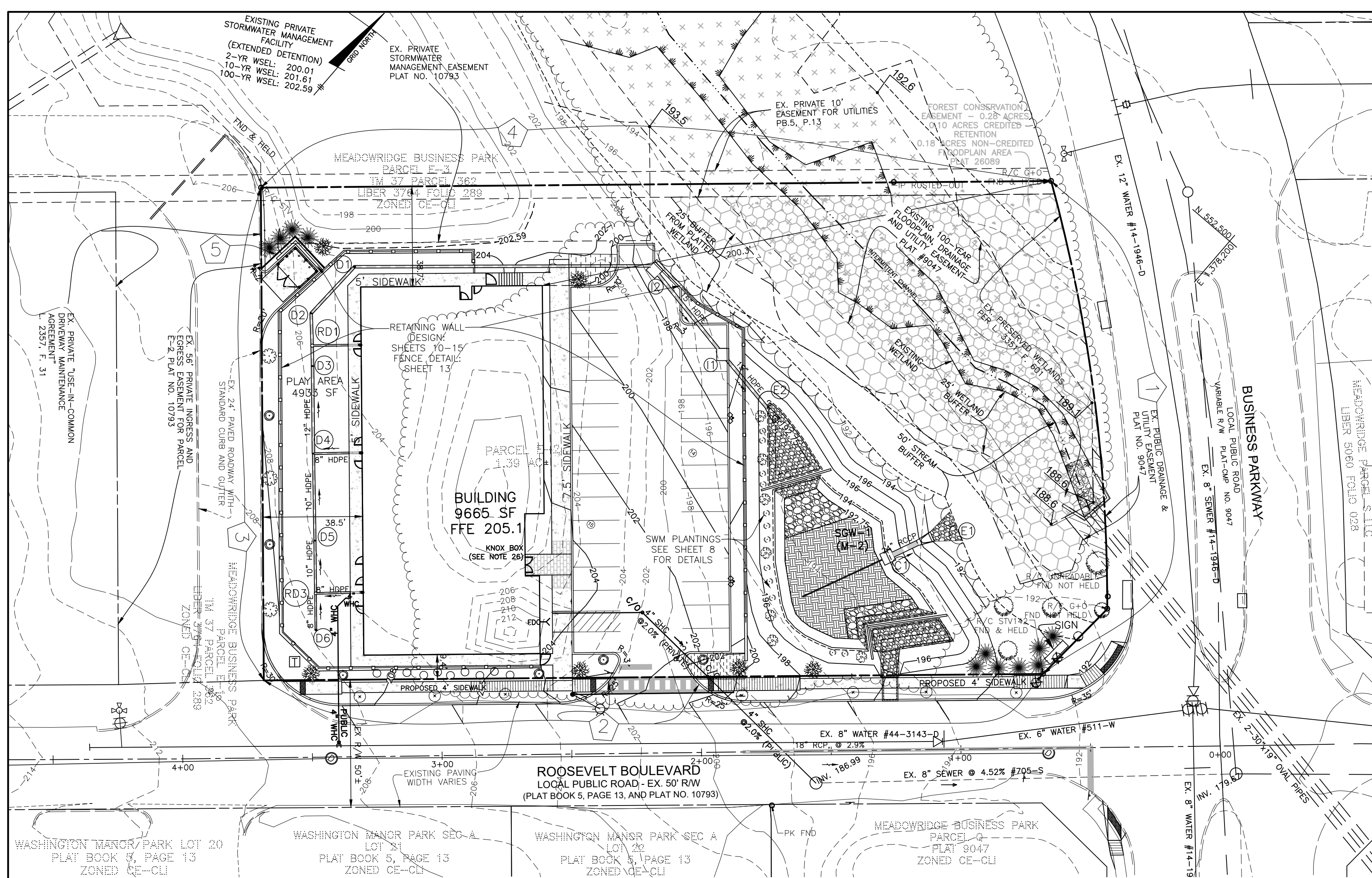
BORING LOG GEOLAB INC. for Mr. Krishna Amrutam, Meadowridge Business Park Parcel - E-2. Includes boring data for B-1 and B-2.

BORING LOG GEOLAB INC. for Mr. Krishna Amrutam, Meadowridge Business Park Parcel - E-2. Includes boring data for B-3.

BORING LOG GEOLAB INC. for Mr. Krishna Amrutam, Meadowridge Business Park Parcel - E-2. Includes boring data for B-4.

MATERIALS & SPECIFICATIONS FOR ESD PRACTICES table listing materials like Plantings, Planting Soil, Organic Content, Mulch, etc.

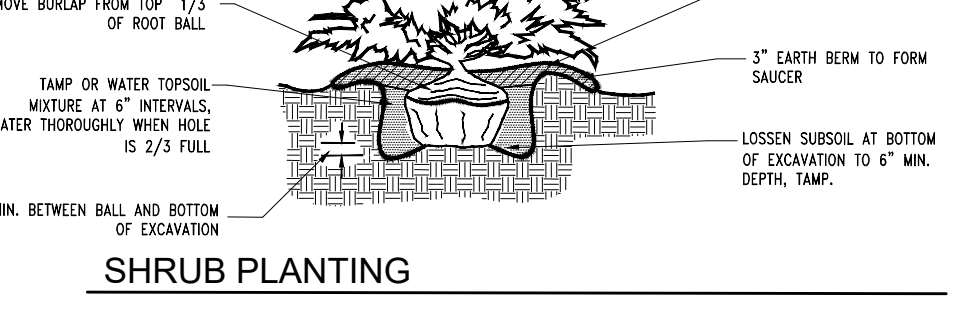
BENCHMARK ENGINEERS & PLANNERS logo and contact information. Includes owner and preparer details for Maple Lawn School.



LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	
○	10	SPIRAEA X BUMAIDA 'GOLDFLAME'	2.5' - 3' HT.	
⊙	6	CRAPE MYRTLE LAGERSTROMIA INDICA	6' - 8' HT.	
⊙	6	OCTOBER GLORY RED MAPLE ACER RUBRUM 'OCTOBER GLORY'	2.5' - 3' CAL.	
⊙	11	HOLMSTRUP ARBORVITAE THUJA OCCIDENTALIS 'HOLMSTRUP'	5' - 6' HT.	
⊙	7	COLUMNAR OAK QUERCUS ROBUR 'FASTIGIATA'	2.5' - 3' CAL.	
⊙	3	HONEY LOCUST GLEDITSIA TRIACANTHOS	2.5' - 3' CAL.	

LANDSCAPING NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- THE FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED AS PART OF THE DEVELOPER AGREEMENT IN THE AMOUNT OF \$7,650 FOR 9 LARGE SHADE TREES, 6 SMALL SHADE TREES, 11 EVERGREEN TREES, 10 SHRUBS AND 7 STREET TREES.
- QUANTITIES SHOWN ON PLANT LISTS TAKE PRECEDENCE OVER SYMBOLS ON PLAN VIEWS IN CASE OF CONFLICTS.



PARKING LOT LANDSCAPE SCHEDULE					
DENSITY SHADE TREE TO PARKING SPACE	PARKING SPACES	REQUIRED SHADE TREE QUANTITY	PROVIDED SHADE TREE QUANTITY	REQUIREMENT ISLAND QUANTITY	PROVIDED ISLAND QUANTITY
20	29	1	2	3	2

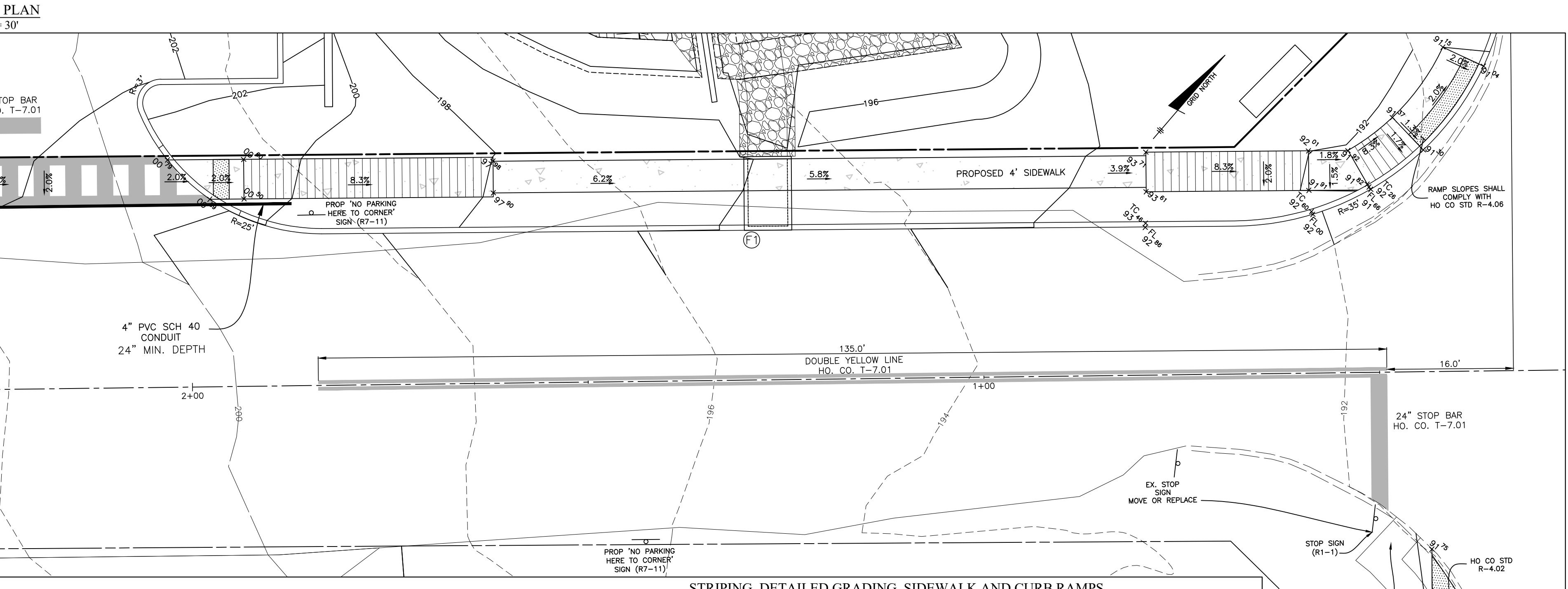
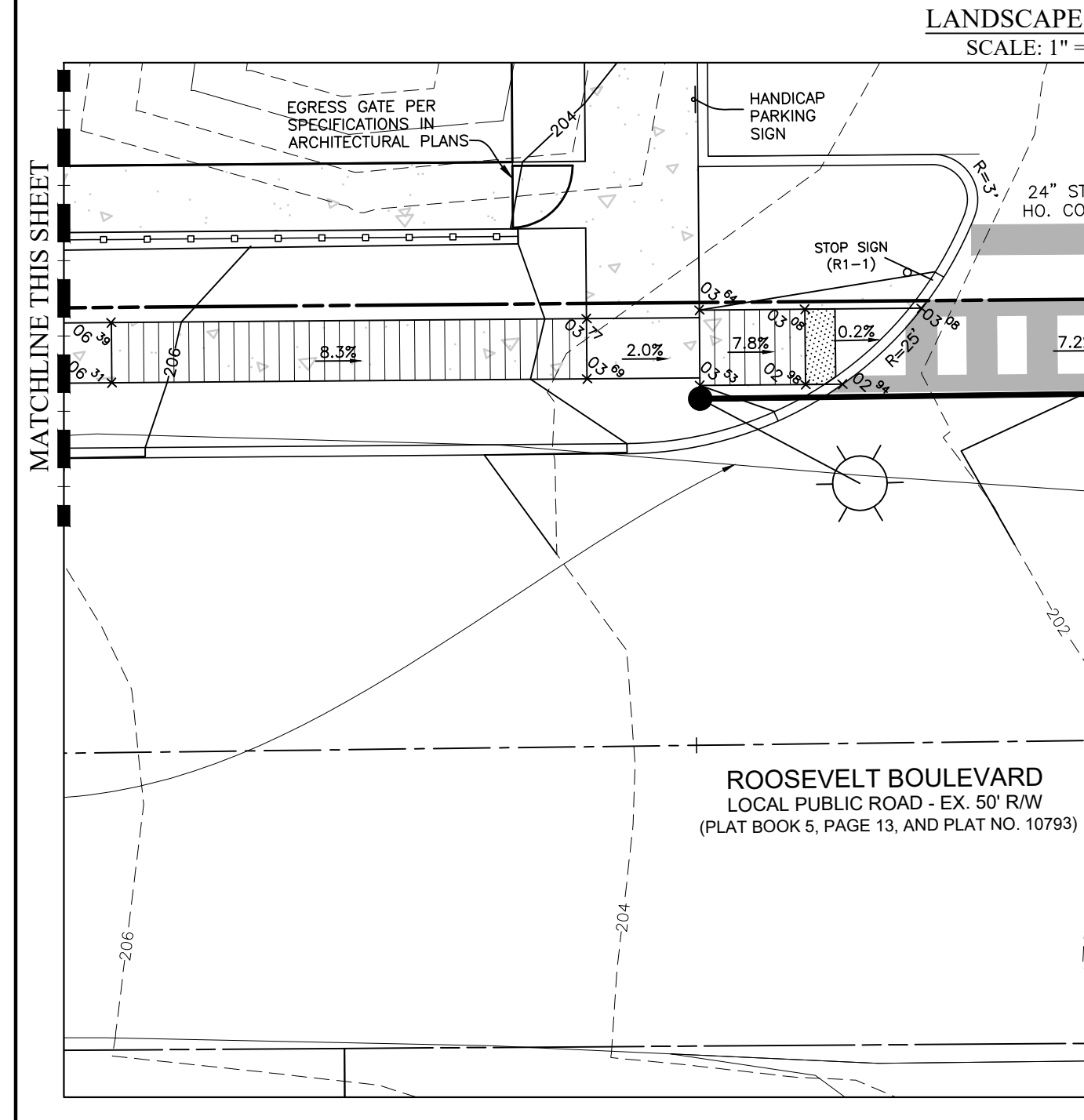
STREET TREE SCHEDULE					
ROADWAY	FRONTAGE FT	CREDIT FOR RETENTION OF VEGETATION	OBLIGATION PER FT	REQUIREMENT LARGE TREE QUANTITY	PROVIDED LARGE TREE QUANTITY
Business Pkwy	202	202	40	0	0
Roosevelt Blvd	276	-	40	7	7

SCHEDULE A PERIMETER LANDSCAPE EDGE						
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES	YES	NO	NO	NO
PERIMETER NO.			1	2	3	4
LANDSCAPE TYPE			B	B	A	A
SHADE TREES			1:50	1:50	1:60	1:60
EVERGREEN TREES			1:40	1:40	-	1:20
LINEAR FEET OF PERIMETER (FRONTAGE/ROADWAY)			202	276	190	305
CREDIT FOR EXISTING VEGETATION: NO OR YES (W/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)			YES*	NO	NO	YES*
CREDIT FOR WALL, FENCE, OR BARRIER: NO OR YES (W/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)			NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED:						
SHADE TREES			0	6	3	1
EVERGREEN TREES*			0	7	0	0
OTHER TREES (2:1 SUBSTITUTE)			0	0	0	0
SHRUBS			0	0	0	0
NUMBER OF PLANTS PROPOSED:						
SHADE TREES			0	3	3	1
EVERGREEN TREES*			0	7	0	0
OTHER TREES (2:1 SUBSTITUTE)			0	4	2	0
SHRUBS (20:1 SUBSTITUTE)			0	10	0	0
TOTALS						

*CREDITS: #1: 202' EXISTING FOREST AND EXISTING ENTRANCE FEATURE TREES
 #4: 77' WALL WITH FENCE; 120' EXISTING FOREST
 SUBSTITUTES: 20 SHRUBS WERE SUBSTITUTED FOR ONE SHADE TREE (PERIMETER 2)
 4 SMALL TREES WERE SUBSTITUTED FOR TWO SHADE TREES (PERIMETER 2)
 2 EVERGREENS WERE SUBSTITUTED FOR ONE SHADE TREE (DUMPSTER AREA)
 2 SMALL TREES WERE ADDED FOR IMPROVED PLAYGROUND SHADING, PER DAP

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 CERTIFICATES.

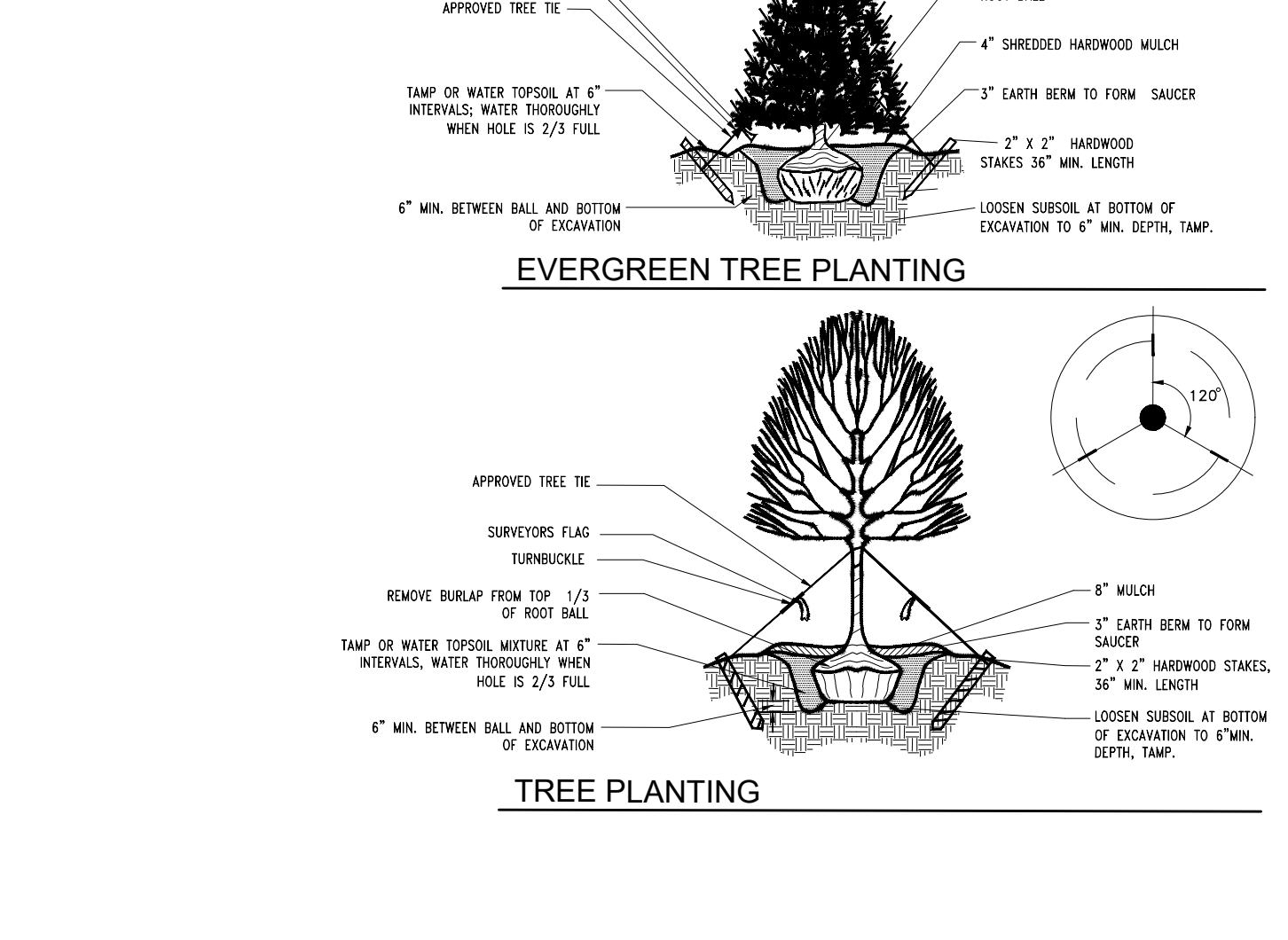
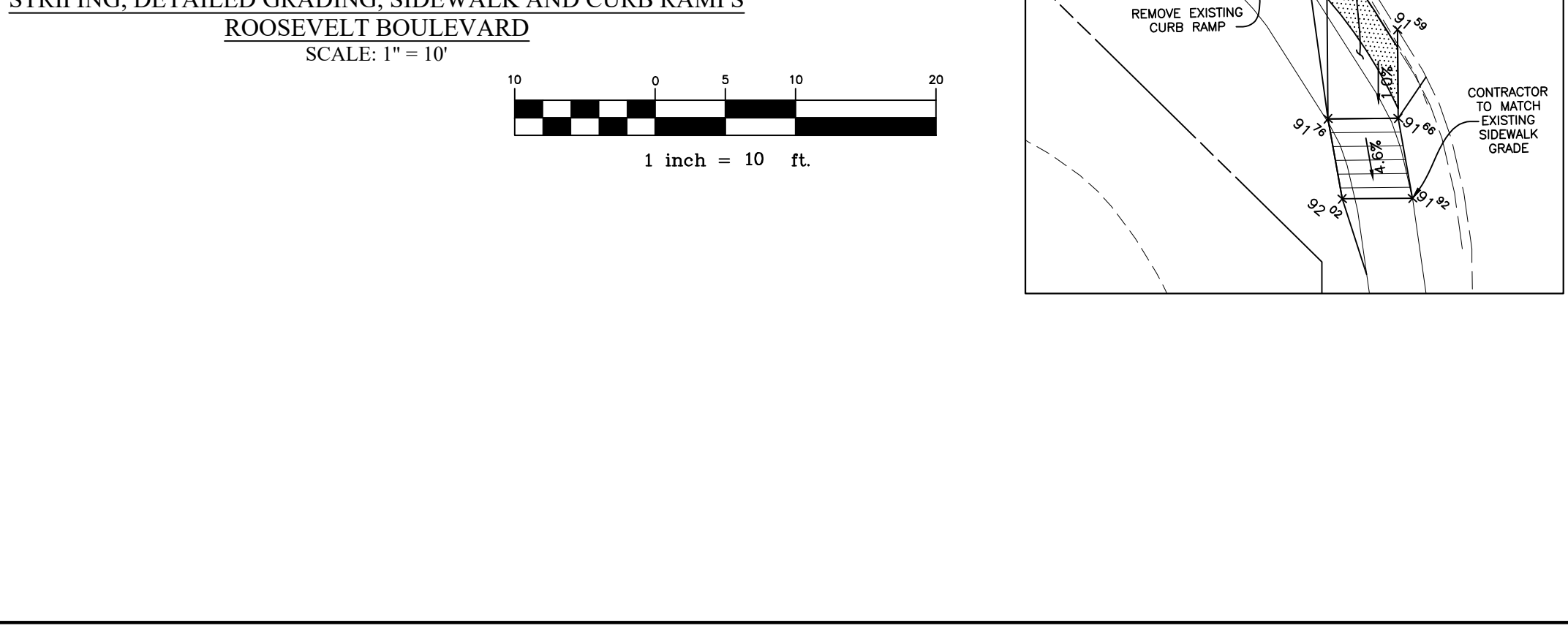
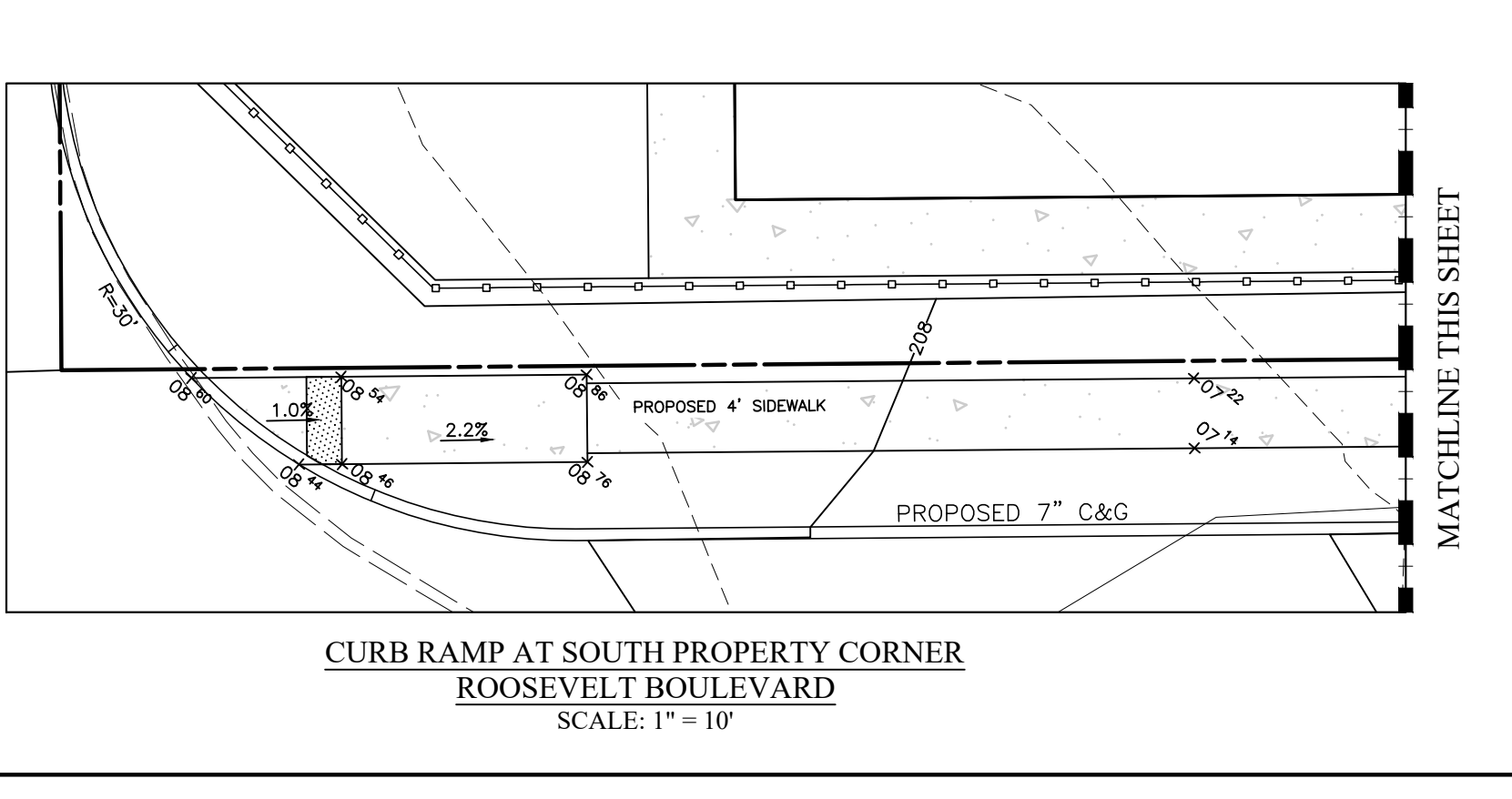
THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.



OWNER'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 CODE AND THE HOWARD COUNTY 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.

Shalendra Cherukuri 6-14-22
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DocuSigned by: **Bill Edmondson** 6/29/2022
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DocuSigned by: **Any Groman** 7/6/2022
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR



NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 3300 NORTH RIDGE ROAD & SUITE 140 • ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (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. 28376, Expiration Date: 1-1-2025.

OWNER:
 ROUTE ONE MAPLE LAWN LLC
 C/O CHINNABABU GUDAPATI
 8120 SYRACUSE CT
 CLARKSVILLE, MD 21029
 267-408-2937

PREPARED FOR:
 ROUTE ONE MAPLE LAWN, LLC
 12118 HAYLAND FARM WAY
 ELLICOTT CITY, MD 21042
 267-408-2937

MAPLE LAWN SCHOOL
 MEADOWRIDGE BUSINESS PARK PARCEL E-2
 7400 ROOSEVELT BOULEVARD

TAX MAP: 37 - GRID: 23 - PARCEL: 362
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
 ZONED: CE-CL1

LANDSCAPE PLAN AND
 SIDEWALK RAMP DETAILED GRADING

DATE: JUNE, 2022 BEI PROJECT NO. 2826
 SCALE: AS SHOWN SHEET 9 OF 17

DESIGN: AAM DRAFT: AAM

**Section 32 32 23
Keystone Concrete Retaining Wall**

Part 1: GENERAL

1.01 Description

- A. Work shall consist of designing, furnishing and construction of a KEYSTONE Compac III unit retaining wall system in accordance with these specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on the plans. No alternate wall systems will be considered.
- B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit facing system, unit drainage fill and reinforced backfill to the lines and grades shown on the construction drawings.
- C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location and lengths designated on the construction drawings.

1.02 Related Sections

- A. Section 31 00 00 - Earthwork

1.03 Reference Documents

- A. American Association of State Highway and Transportation Officials (AASHTO)
 - 1. AASHTO M 252 Corrugated Polyethylene Drainage Pipe
 - 2. AASHTO M 288 Geotextile Specification for Highway Applications
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM C140 Sampling and Testing Concrete Masonry Units
 - 2. ASTM C1372 Specification for Dry-Cast Segmental Retaining Wall Units
 - 3. ASTM D442 Particle Size Analysis of Soils
 - 4. ASTM D698 Laboratory Compaction Characteristics of Soil - Standard Effort
 - 5. ASTM D1556 Standard Test Method for Density and Unit Weight of Soil In Place by the Sand Cone Method
 - 6. ASTM D1557 Laboratory Compaction Characteristics of Soil - Modified Effort
 - 7. ASTM D2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System)
 - 8. ASTM D2922 Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - 9. ASTM D3034 Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer pipe and Fittings
 - 10. ASTM D4318 Liquid Limit, Plastic Limit and Plasticity Index of Soils
 - 11. ASTM D4475 Horizontal Shear Strength of Pultruded Reinforced Plastic Rods
 - 12. ASTM D4476 Flexural Properties of Fiber Reinforced Pultruded Plastic Rods
 - 13. ASTM D4595 Standard Test Method for Tensile Properties of Geotextiles by Wide-Width Strip Method
 - 14. ASTM D4873 Standard Guide for Identification, Storage and Handling of Geosynthetics
 - 15. ASTM D5262 Standard Test Method for Evaluating the Unconfined Tension Creep Behavior of Geosynthetics
 - 16. ASTM D5321 Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
 - 17. ASTM D5818 Standard Practice for Obtaining Samples of Geosynthetics from a Test Section for Assessment of Installation Damage
 - 18. ASTM D6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single or Multi-Rib Method
 - 19. ASTM D6638 Standard Test Method for Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units
 - 20. ASTM D6706 Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil
 - 21. ASTM D6916 Standard Test Method for Determining the Shear Strength Between Segmental Concrete Units

C. National Concrete Masonry Association (NCMA)

- 1. NCMA SRWU-1 Test Method for Determining Connection Strength of SRW
- 2. NCMA SRWU-2 Test Method for Determining Shear Strength of SRW

1.04 Definitions

- A. Compac III Unit - a dry-stacked concrete retaining wall unit machine made from Portland cement, water, aggregates, manufactured by a licensed manufacturer of Keystone.
- B. Structural Geogrid - a polymeric material formed by a regular network of connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock or earth and function primarily as reinforcement.
- C. Unit Drainage Fill - drainage aggregate that is placed within and immediately behind the Keystone concrete units.
- D. Reinforced Backfill - compacted soil that is placed within the reinforced soil volume as outlined on the plans.
- E. Retained Soil - the soil mass behind the reinforced backfill.
- F. Foundation Soil - the soil mass below the leveling pad and reinforced backfill.
- G. Leveling Pad - crushed stone, sand and gravel or unreinforced concrete material placed to provide a level surface for placement of the Keystone concrete units.
- H. Geosynthetic Reinforcement - polymeric material designed specifically for soil reinforcement.

1.05 Submittals and Certification

- A. Contractor shall submit a Manufacturer's certification, prior to the start of work, that the retaining wall system components meet the requirements of this specification and the structural design.

1.06 Quality Assurance

- A. Contractor shall submit a list of five (5) previously constructed projects of similar size and magnitude by the wall installer where the Compac retaining wall system has been constructed successfully. Contact names and phone numbers shall be listed for each project.
- B. Owner shall/may provide quality assurance inspection and testing during earthwork and wall construction operations. Contractor shall provide all quality control testing and inspection not provided by the owner. Owner's quality assurance program does not relieve the contractor of responsibility for quality control and wall performance.

1.07 Delivery Handling and Storage

- A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification have been received.
- B. Contractor shall protect all materials from damage due to jobsite conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

2.01 Keystone Concrete Retaining Wall Units

- A. Compac III retaining wall units shall conform to the following architectural requirements
 - 1. Face color - concrete gray, unless otherwise specified. The Owner may specify standard manufacturers' color.
 - 2. Tri-plane or Straight Face finish - hard split in angular tri-plane or straight face configuration. Other face finishes will not be allowed without written approval of Owner.
 - 3. Bond configuration - running with bonds nominally located at midpoint in vertically adjacent units.
 - 4. Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 20 feet (6 m) under diffused lighting.
- B. Keystone concrete units shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
- C. Keystone concrete units shall conform to the following structural and geometric requirements measured in accordance with ASTM C140 Sampling and Testing Concrete Masonry Units:
 - 1. Compressive strength: \geq 3000 psi (21 MPa).
 - 2. Absorption: \leq 8 % for standard weight aggregates.
 - 3. Dimensional tolerances: \pm 1/8" (3 mm) from nominal unit dimensions not including rough split face.
 - 4. Unit Size: 8" (203 mm) (H) x 18" (457 mm) (W) x 12" (304 mm)(D) minimum.
- D. Keystone concrete units shall conform to the following constructability requirements:
 - 1. Vertical setback: 1/8 inch (3 mm) \pm per course (near vertical) or 1/18 inch (28 mm) + per course, per the design.
 - 2. Alignment and grid attachment mechanism - fiberglass pins, two per unit.
 - 3. Maximum horizontal gap between erected units shall be \leq 1/2 inch (13 mm).

2.02 Shear and Reinforcement Pin Connectors

- A. Shear and reinforcement pin connectors shall be 1/2-inch (12 mm) diameter thermoset isophthalic polyester resin pultruded fiberglass reinforcement rods to provide connection between vertically and horizontally adjacent units and geosynthetic reinforcement, with the following requirements:
 - 1. Flexural Strength in accordance with ASTM D4476: 128,000 psi (882 MPa) minimum.
 - 2. Short Beam Shear in accordance with ASTM D4475: 6,400 psi (44 MPa) minimum.

- B. Shear and reinforcement pin connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.03 Base Leveling Pad Material

- A. Material shall consist of a compacted crushed stone base, sand and gravel or unreinforced concrete, as shown on the drawings.

2.04 Unit Drainage Fill

- A. Unit drainage fill shall consist of clean 1 inch (25 mm) minus crushed stone or crushed gravel meeting the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 inch (25 mm)	100
3/4-inch (19mm)	75 - 100
No. 4 (4.75 mm)	0 - 10
No. 50 (300 um)	0 - 5

- B. Drainage fill shall be placed within the cores of, between, and behind the units as indicated on the design drawings. Not less than 1.3 cubic foot (0.036 m³), of drainage fill shall be used for each square foot (0.093 m²) of wall face unless otherwise specified.

2.05 Reinforced Backfill

- A. Reinforced backfill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422:

Sieve Size	Percent Passing
1 1/2 inch (38 mm)	100
3/4-inch (19 mm)	75 - 100
No. 40 (425 um)	0 - 60
No. 200 (75 um)	0 - 35

Plasticity Index (PI) < 15 and Liquid Limit < 40, per ASTM D4318

- B. The maximum aggregate size shall be limited to 3/4 inch (19 mm) unless installation damage tests have been performed to evaluate potential strength reductions to the geogrid design due to increased installation damage during construction.

- C. Material can be site-excavated soils where the above requirements can be met. Soils not meeting the above criteria, including highly plastic clays and organic soils, shall not be used in the backfill or reinforced backfill soil mass.

- D. Contractor shall submit reinforced fill sample and laboratory test results to the Architect/Engineer for approval, prior to the use of any proposed reinforced backfill material.

2.06 Geogrid Soil Reinforcement

- A. Geosynthetic reinforcement shall consist of geogrids manufactured for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn or high density polyethylene. Polyester geogrid shall be made from high tenacity polyester filament yarn with a molecular weight exceeded 25,000 g/m and with a carboxyl end group value less than 30. Polyester geogrid shall be coated with an impregnated PVC coating that resists peeling, cracking and stripping.

- B. Ta - Long Term Allowable Tensile Design Load. Ta of the geogrid material shall be determined as follows: $T_a = T_{ult}/(RF_{cr} * RFD + RFD + FS)$. Ta shall be evaluated based on a 75 year design life.

- 1. T_{ult} - Short Term Ultimate Tensile Strength. T_{ult} shall be determined in accordance with ASTM D4595 or ASTM D6637. T_{ult} is based on the minimum average roll values (MARV).
- 2. R_{Fcr} - Reduction Factor for Long Term Tension Creep. R_{Fcr} shall be determined from 10,000 hour creep testing performed in accordance with ASTM D5262. R_{Fcr} = 1.45 minimum.
- 3. R_{Fd} - Reduction Factor for Durability. R_{Fd} shall be determined from polymer specific durability testing covering the range of expected soil environments. R_{Fd} = 1.10 minimum.
- 4. R_{Fid} - Reduction Factor for Installation Damage. R_{Fid} shall be determined from product specific construction damage testing performed in accordance with ASTM D5818. Test results shall be provided for each product to be used with project specific or more severe soil types. R_{Fid} = 1.05 minimum.
- 5. FS - Overall Design Factor of Safety. FS shall be 1.5 unless noted for the maximum allowable working stress calculation.

- C. The maximum design tensile load of the geogrid shall not exceed the laboratory tested ultimate strength of the geogrid/facing unit connection divided by a factor of safety of 1.5. The connection strength testing and computation procedures shall be in accordance with ASTM D6638 Connection Strength between Geosynthetic Reinforcement and Segmental Concrete Units or NCMA SRWU-1.

- D. Ci - Coefficient of Soil Interaction. Ci values shall be determined per ASTM D6706 at a maximum 0.75 inch (19 mm) displacement.

- E. The geogrid manufacturer shall have a Manufacturing Quality Control program that includes QC testing by an independent laboratory. The QC testing shall include Tensile Strength testing, Melt Flow Index testing for HDPE geogrids and Molecular Weight testing for polyester geogrids.

2.07 Drainage Pipe

- A. If required, drainage pipe shall be perforated or slotted PVC pipe manufactured in accordance with ASTM D3034 or corrugated HDPE pipe manufactured in accordance with AASHTO M252.

2.08 Geotextile Filter Fabric

- A. When required, geotextile filter fabric shall be a needle-punched nonwoven fabric that meets the requirements of AASHTO M288.

PART 3: EXECUTION

3.01 Excavation

- A. Contractor shall excavate to the lines and grades shown on the construction drawings. The Owner or Contractors QA/QC representative shall inspect the excavation and test the foundation soils and approve prior to placement of the leveling pad material or fill soils. Any over-excavation required to remove unsuitable soils shall be oversized from the front of the leveling pad and back of the geogrid reinforcement.
- B. Over-excavation and replacement of unsuitable soils and replacement with approved compacted fill will be compensated as agreed upon with the Owner.

3.02 Base Leveling Pad

- A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings to a minimum thickness of 6 inches (150 mm) and extend laterally a minimum of 6 inches in front and behind the Keystone wall unit.

- B. Soil leveling pad materials shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557.

- C. Leveling pad shall be prepared to insure full contact with the base surface of the concrete units.

3.03 Keystone Unit Installation

- A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.

- B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

- C. Install shear/connecting pins per manufacturer's recommendations.

- D. Place and compact drainage fill within and behind wall units. Place and compact reinforced backfill soil behind drainage fill.

- E. Maximum stacked vertical height of wall units, prior to drainage fill and backfill placement and compaction, shall not exceed three courses.

3.04 Structural Geogrid Installation

- A. Geogrid shall be installed with the highest strength direction perpendicular to the wall alignment.

- B. Geogrid reinforcement shall be placed at the strengths, lengths and elevations shown on the construction drawings, or as directed by the engineer.

- C. The geogrid shall be laid horizontally on compacted backfill and attached to the Keystone wall unit pins and within 1 inch of the face of the units. Place the next course of Keystone units over the geogrid. The geogrid shall be pulled taut and anchored prior to backfill placement on the geogrid.

- D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps greater than 2 inches between adjacent pieces of geogrid are not permitted.

3.05 Reinforced Backfill Placement

- A. Reinforced backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage to the geogrid.

- B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches (150 mm) where hand operated compaction equipment is used, or 8 - 10 inches (200 to 250 mm) where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density, as needed.

- C. Reinforced backfill shall be compacted to a minimum of 95% of Standard Proctor density per ASTM D697 or 92% Modified Proctor density per ASTM D1557. The moisture content of the reinforced backfill material during compaction shall be uniformly distributed throughout each layer and shall be dry of optimum by 0 to 3 percentage points of moisture.

- D. Only hand operated compaction equipment shall be allowed within 3 feet (1 M) from the back of the Keystone concrete units.

- E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches (150 mm) is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging or displacing the Keystone units or geogrid.

- F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and turning shall be avoided.

- G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

3.06 Cap Installation

- A. Prior to placement of the cap units, the upper surface of the top course of wall units shall be cleaned of soil and any other material.

- B. Cap units shall be adequately glued to the underlying wall units with an all-weather exterior construction adhesive.

3.07 As-built Construction Tolerances

- A. Vertical alignment: \pm 1.5 inches (40 mm) over any 10 foot (3 m) distance.

- B. Wall batter: within 2 degrees of design batter. Overall wall batter shall be \geq 0 degrees.

- C. Horizontal alignment: \pm 1.5 inches (40 mm) over any 10 foot (3 m) distance.

- D. Corners and curves: \pm 1 foot (300 mm) to theoretical location.

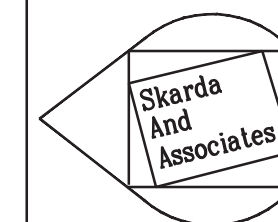
- E. Maximum horizontal gap between erected units shall be \leq 1/2 inch (13 mm).



"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. 200569, Expiration Date: MARCH 19, 2025"

Stephen M. Brown, PE

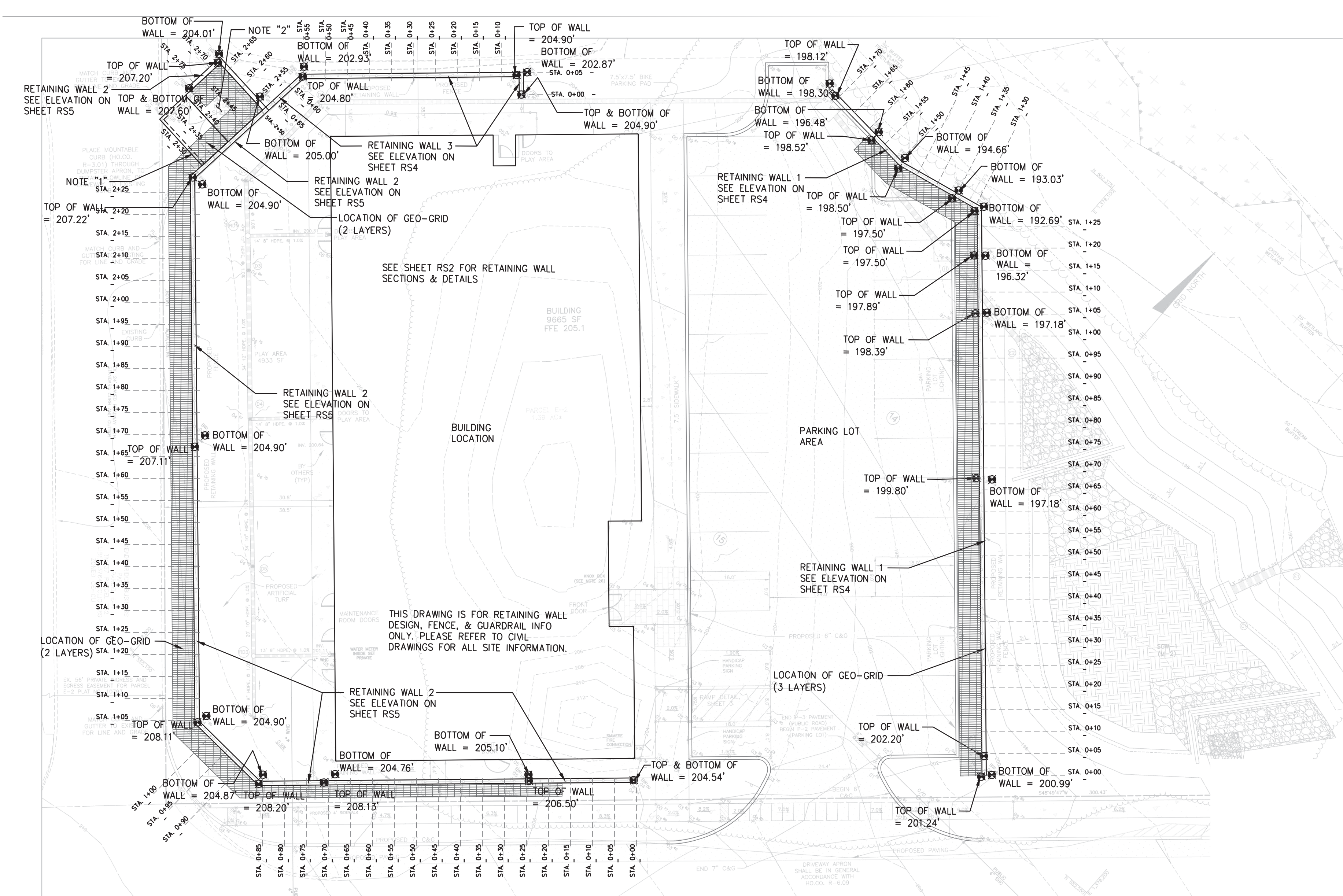
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
DocuSigned by: <i>Howard County</i>	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: <i>Howard County</i>	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>Howard County</i>	7/6/2022
DIRECTOR	DATE



Skarda and Associates
Structural Consultants, Inc.
2439 N. Charles Street
Baltimore, Maryland 21218
(410)-366-9364
(410)-366-9389 Fax
EMAIL: INFO@SKARDAENGINEERS.COM

PWC TITLE:		SPECS	
7400 ROOSEVELT BOULEVARD, ELK RIDGE, MD		MAPLE LAWN SCHOOL	
JOB NO:	21425	DRAWN	SPW
DATE:	12/07/21	CHECKED	SMB

RSO
SHEET 10 OF 17
SDP-21-050

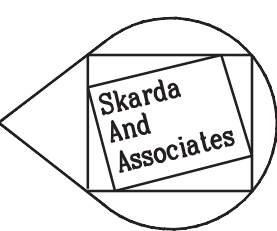


Retaining Wall Location Plan

1/16" = 1'-0"

- 8" THICK X 2'-6" MIN DEEP CONCRETE TURNDOWN. EXTEND MESH INTO BOTTOM OF TURNDOWN. TRIM GEO GRID AS REQUIRED TO ACHIEVE TURNDOWN.
- DUMPSTER PAD AND APRON TO BE 6" THICK CONCRETE REINFORCED WITH 2 LAYERS OF 6X6-W2.9X2.9 WWR 2" DOWN FROM TOP OF CONCRETE. CONCRETE F_c AT 28 DAYS = 4500 PSI AIR ENTRAINED.
- RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN AND PROVIDE TESTING DOCUMENTS PER DYNAMIC CONE PENETROMETER TEST ASTM STP-399 PER B.
- GEO GRID SHOWN IN PLAN SHALL BE MIRAGRID 3XT OR APPROVED EQUAL.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
DocuSigned by: <i>Chad Edmondson</i>	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: <i>[Signature]</i>	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>Amy Goman</i>	7/6/2022
DIRECTOR	DATE



Skarda and Associates
Structural Consultants, Inc.
2439 N. Charles Street
Baltimore, Maryland 21218
(410)-366-9364
(410)-366-9389 Fax
EMAIL: INFO@SKARDAENGINEERS.COM

Stephen M. Brown, PE



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. 200965 Expiration Date: MARCH 19, 2025

DWG. TITLE:	RETAINING WALL LOCATION PLAN MAPLE LAWN SCHOOL 7400 ROOSEVELT BOULEVARD, ELK RIDGE, MD
JOB NO.:	21425
DATE:	12/07/21
DRAWN:	SPW
CHECKED:	SMB

RS1
SHEET 11 OF 17
SDP-21-050

General Notes

1.1 DESIGN LOADS

A. THE STRUCTURE WAS DESIGNED FOR THE LIVE LOADS SHOWN BELOW AND DEAD LOADS AS REQUIRED BY CONSTRUCTION IN ACCORDANCE WITH IBC 2018. INCREASE IN THESE LOADINGS, DUE TO CHANGE IN FUNCTION, CONSTRUCTION MATERIALS, ETC., TO HAVE WRITTEN APPROVAL FROM THE DESIGNING STRUCTURAL ENGINEER.

B. LIVE LOADS SHOWN BELOW ARE IN POUNDS PER SQUARE FOOT (PSF). RETAINING WALL WAS ENGINEERED TO RESIST A 250 PSF SURCHARGE LOAD IN THE AREA OF THE PARKING LOT AND THE DUMPSTER. ALL OTHER AREAS, SURCHARGE LOAD = 100 PSF

1.3 EXISTING CONDITIONS

- A. EXPOSE EXISTING FRAMING AND NOTIFY ARCHITECT PRIOR TO INSTALLATION OF NEW FRAMING.
- B. CONTRACTOR MUST FIELD CHECK AND VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING WORK PRIOR TO FABRICATION OF NEW MATERIALS.
- C. RELOCATE EXISTING HVAC, ELECTRIC, AND PLUMBING (MEP) TO ALLOW INSTALLATION OF NEW FRAMING.

2.3 FOUNDATIONS

- A. A SOIL BEARING CAPACITY OF 1500 PSF WAS USED FOR FOOTING DESIGN. ENGAGE THE SERVICES OF A GEOTECHNICAL ENGINEER TO VERIFY EXCAVATIONS AND SOIL BEARING CAPACITY. IF SOIL OF THIS CAPACITY IS NOT ENCOUNTERED AT ELEVATIONS INDICATED, CONTACT THE STRUCTURAL ENGINEER OF RECORD (SOR).
- B. COMPACT FILL AND BACKFILL TO 95% OF ASTM D-698 (1557). PERFORM FILL AND BACKFILL OPERATIONS UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- C. PRIOR TO PLACING KEYSTONE RETAINING WALL, ENGAGE THE SERVICES OF A PROFESSIONAL GEOTECHNICAL ENGINEER (REGISTERED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED), TO PERFORM TESTS, BORINGS, ETC., REQUIRED TO CERTIFY THAT THE SOIL BEARING CAPACITY MEETS OR EXCEEDS THAT SHOWN IN THE GENERAL NOTES ABOVE. GEOTECHNICAL ENGINEER SHALL VERIFY SUBGRADE CAPACITIES PRIOR TO INSTALLATION OF DRAINAGE FILL AND MOISTURE BARRIER.

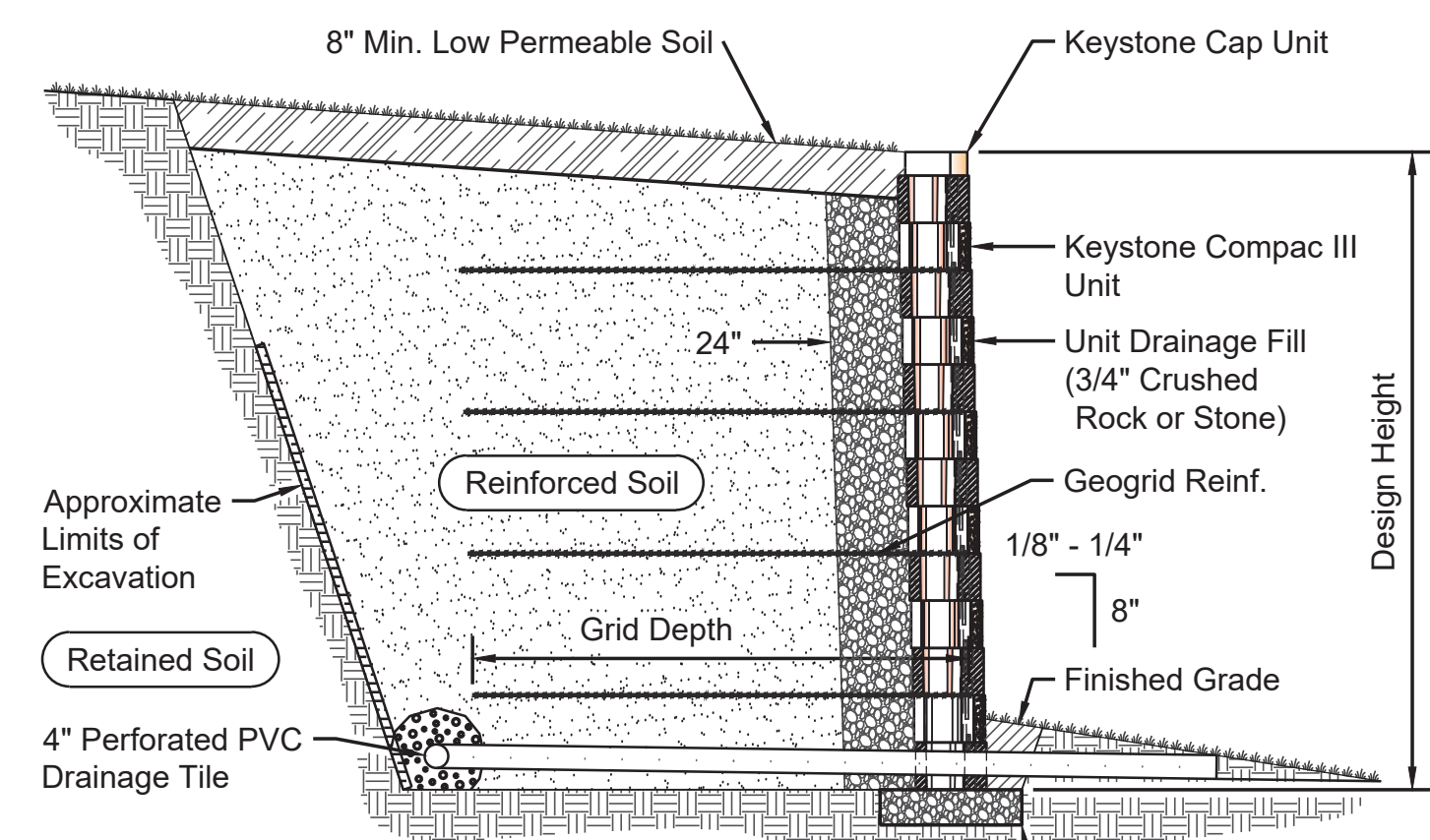
3.1 CONCRETE

- A. UNLESS GOVERNED BY BUILDING CODE OR LOCAL AMENDMENTS: CONCRETE WORK INCLUDING FORMING, MIXING, PLACING, AND CURING SHALL BE IN ACCORDANCE WITH ACI 301. PLACEMENT OF REINFORCING SHALL BE IN ACCORDANCE WITH ACI 315 AND 318. WHEN THERE IS A CONFLICT, THE MOST STRINGENT IS TO APPLY.
- B. SUBMIT COMPLETE SHOP AND ERECTION DRAWINGS FOR REVIEW PRIOR TO FABRICATION OR ERECTION. REPRINTS OF CONTRACT DRAWINGS ARE NOT ACCEPTABLE. SUBMIT DESIGN MIXES FOR EACH CLASS OF CONCRETE PRIOR TO USE.
- C. CONCRETE REINFORCING: ASTM A-615, GRADE 60.
- D. WELDED WIRE REINFORCEMENT: ASTM A-1064.
- E. PORTLAND CEMENT: ASTM C-150, TYPE I.
- F. BLENDED HYDRAULIC CEMENT: ASTM C-595.
- G. FLY ASH: ASTM C-618, CLASS F (25% MAX.)
- H. AGGREGATE: ASTM C-33. 1" MAXIMUM FOR FOOTINGS, WALLS, AND SLABS ON GRADE, 1/2" MAXIMUM FOR THIN SLABS, AND 3/8" FOR WALL FILL.
- I. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF: 3,000 PSI.
- J. EXTERIOR CONCRETE TO BE AIR-ENTRAINED AND SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF: 3,500 PSI.
- K. WATER CEMENT RATIO NOT TO EXCEED 0.54 FOR 3,000 PSI CONCRETE AND 0.45 FOR AIR ENTRAINED CONCRETE.
- L. INSTALL WELDED WIRE REINFORCEMENT 2" BELOW UPPER SURFACE OF CONCRETE SLAB.
- M. REINFORCING FOR FOOTINGS AND OTHER CONCRETE USING EARTH FORMS SHALL HAVE 3" CONCRETE COVER. REINFORCING FOR CONCRETE EXPOSED TO GROUND OR WEATHER AFTER REMOVAL OF FORMS SHALL HAVE 2" CONCRETE COVER. REINFORCING SHALL HAVE 3/4" CONCRETE COVER FOR SLABS AND WALLS AND 1 1/2" COVER FOR BEAMS, GIRDERS, AND COLUMNS.
- N. LAP CONTINUOUS FOOTING REINFORCING 44 BAR DIAMETERS AT SPLICES.
- O. USE SPLIT WOOD FORMS AT CONSTRUCTION JOINTS IN UNEXPOSED SLABS SUPPORTED ON METAL DECK, AND ALLOW REINFORCEMENT TO EXTEND THRU FORM INTO NEXT ADJACENT POUR AT MID-HEIGHT OF SLAB.
- P. USE A WATER REDUCING ADMIXTURE IN ALL CONCRETE.
- Q. USE A MINIMUM OF 5 1/2 BAGS OF CEMENT AND A MAXIMUM OF 6 1/2 GALLONS OF WATER PER BAG FOR EACH CUBIC YARD OF CONCRETE.

- R. SLUMP - ACI (211.1), EXCEPT THAT SLABS-ON-GRADE AND THIN-FRAMED SLABS SHALL HAVE A MAXIMUM SLUMP OF 4". SHOULD EXTRA WATER BE REQUIRED BEFORE DEPOSITING CONCRETE AND WATER/CEMENT RATIO OF ACCEPTED MIX DESIGN HAS NOT BEEN EXCEEDED. GENERAL CONTRACTOR'S SUPERINTENDENT SHALL HAVE SOLE AUTHORITY TO AUTHORIZE ADDITION OF WATER. ANY ADDITIONAL WATER ADDED TO MIX AFTER LEAVING BATCH PLANT SHALL BE INDICATED ON THE TRUCK TICKET AND SIGNED BY PERSON RESPONSIBLE. SUBMIT COPY OF TRUCK TICKET FOR REVIEW.
- S. AIR ENTRAIN EXTERIOR EXPOSED CONCRETE 5% +/- 1%.
- T. NO CALCIUM CHLORIDE WILL BE PERMITTED IN CONCRETE.
- U. ENGAGE THE SERVICES OF A TESTING AGENCY APPROVED BY THE ARCHITECT TO PERFORM TESTS OF CONCRETE. TAKE A MINIMUM OF 5 CYLINDERS FOR EACH CLASS OF CONCRETE POURED IN ANY ONE DAY. PERFORM 1 SLUMP TEST PER TRUCK LOAD OF CONCRETE.
- V. PROVIDE TWO COMPRESSION TESTS AT 7 DAYS, TWO AT 28 DAYS, AND RETAIN ONE TEST FOR ADDITIONAL TESTING AS NEEDED. COMPRESSIVE STRENGTH OF CONCRETE AT 7 DAYS TO ACHIEVE AT LEAST 65% OF MINIMUM DESIGN STRENGTH.
- W. ANCHORS AND FASTENERS SHALL HAVE CAPACITIES SHOWN ON DRAWINGS.
- X. SUBMIT CAPACITIES OF ANCHORS AND POWER ACTUATE FASTENERS FOR REVIEW PRIOR TO USE.

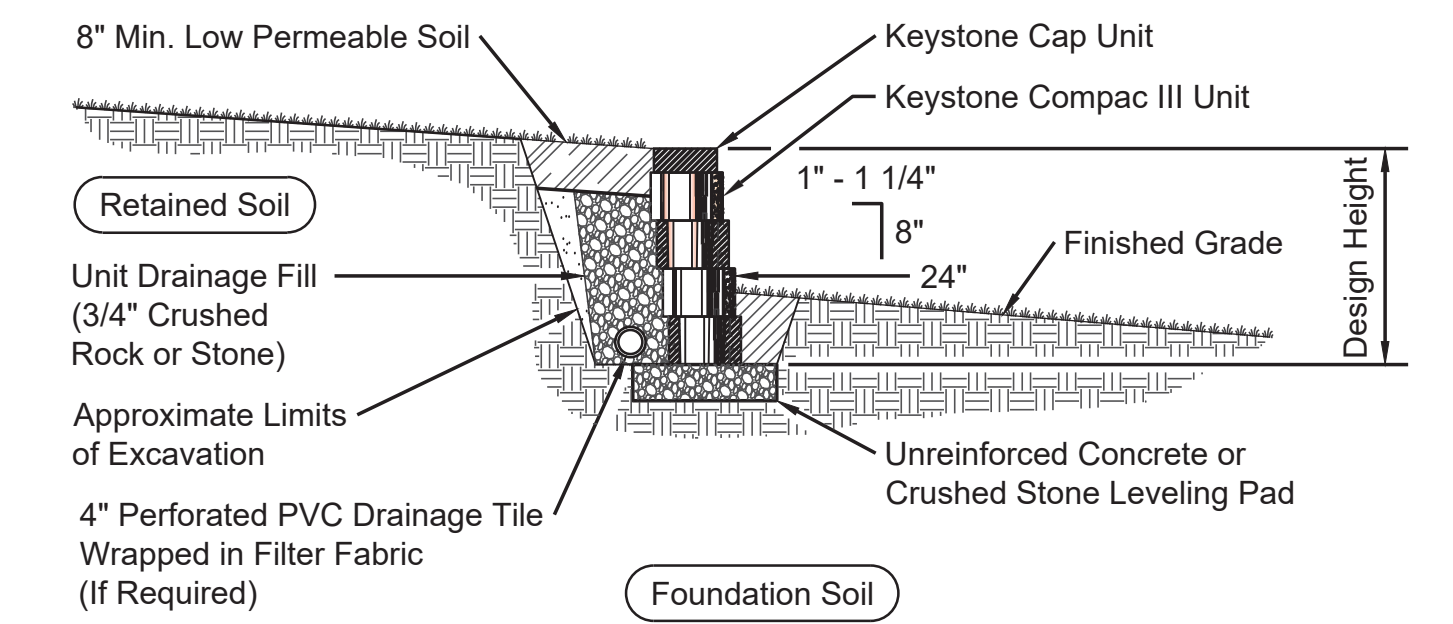
5.8 RAILINGS, VEHICULAR GUARDS, & FENCING

- A. RAILING SUPPLIER SHALL DESIGN GUARDRAILS TO SUPPORT THE FOLLOWING DESIGN LOADS:
 HANDRAILS - A LIVE LOAD OF 50 POUNDS PER LINEAL FOOT OR 200-POUND CONCENTRATED LOAD, WHICHEVER IS GREATER, APPLIED AT ANY POINT AND IN ANY DIRECTION. THESE LIVE LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY.
 GUARDRAILS - A LIVE LOAD OF 50 POUNDS PER LINEAL FOOT OR 200-POUND CONCENTRATED LOAD, WHICHEVER IS GREATER, APPLIED AT ANY POINT AND IN ANY DIRECTION TO TOP RAIL, AND 50-POUND CONCENTRATED LOAD APPLIED ON A 1-SQUARE-FOOT AREA AT ANY POINT FOR REMAINING GUARDRAIL INFILL COMPONENTS. THESE LIVE LOADS NEED NOT BE ASSUMED TO ACT CONCURRENTLY. EXTERIOR GUARDRAILS SHALL BE DESIGNED TO RESIST APPLICABLE COMPONENTS & CLADDING WIND LOADS IN CONJUNCTION WITH THE LIVE LOADS LISTED ABOVE.
 VEHICULAR GUARDS - SHALL STRICTLY RESIST A 6000 POUND CONCENTRATED LOAD, IN ACCORDANCE W/ ASCE7.
- B. SUBMIT COMPLETE SHOP AND ERECTION DRAWINGS FOR REVIEW PRIOR TO FABRICATION OR ERECTION. STAIR SUPPLIER'S SHOP DRAWINGS SHALL CONTAIN A CERTIFICATION SEALED BY A PROFESSIONAL ENGINEER (REGISTERED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED) STATING THAT THE STAIR AND GUARDRAIL COMPONENTS HAVE BEEN DESIGNED TO SUPPORT THE SPECIFIED LOADS.

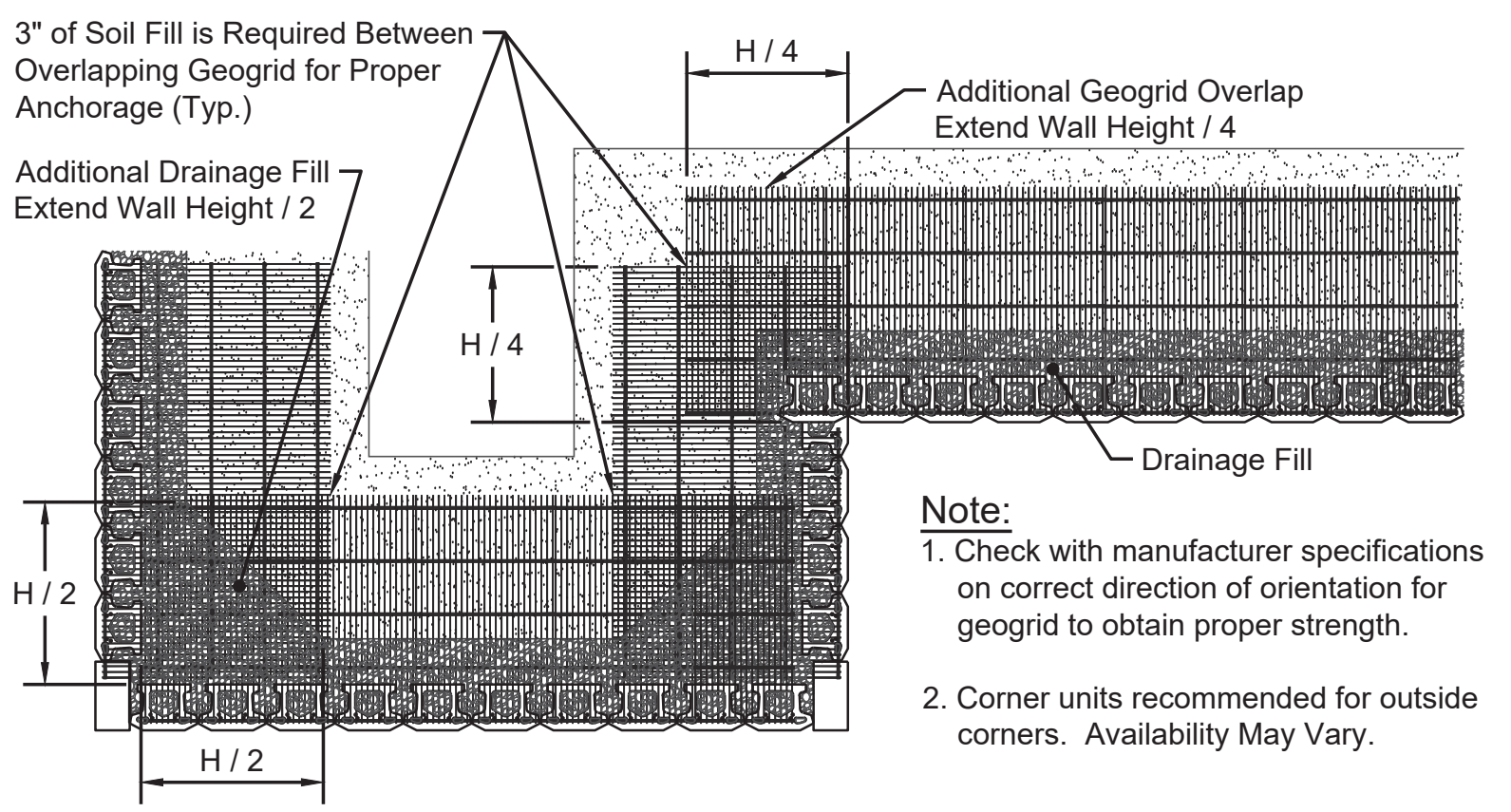


Note:
When site conditions require, wrap drainage tile in 3/4\"/>

Typical Reinforced Wall Section
Compac III Unit - Near Vertical Setback



Typical Gravity Wall Section
Compac III Unit - 1" Setback

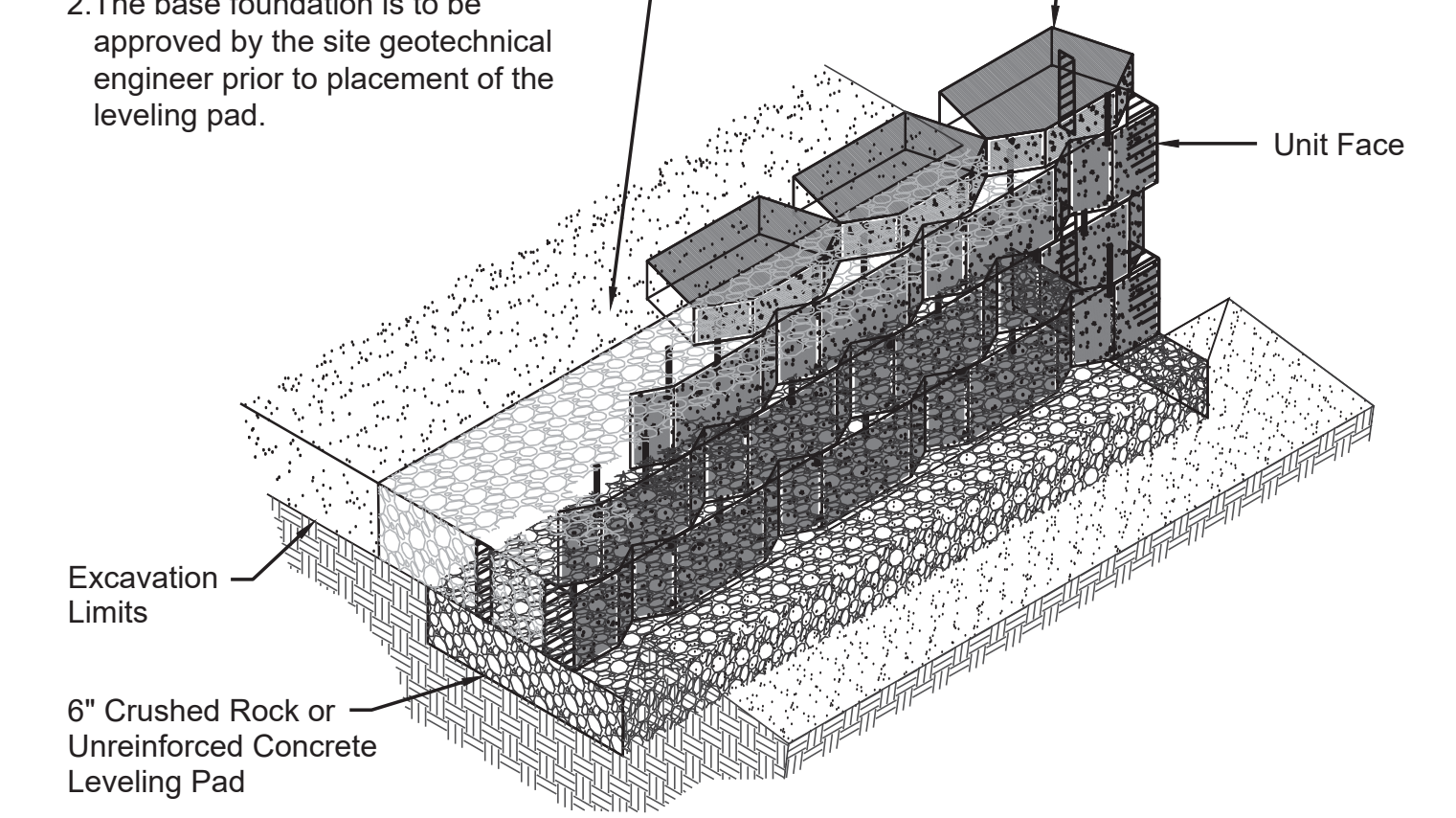


Geogrid Installation at Corners

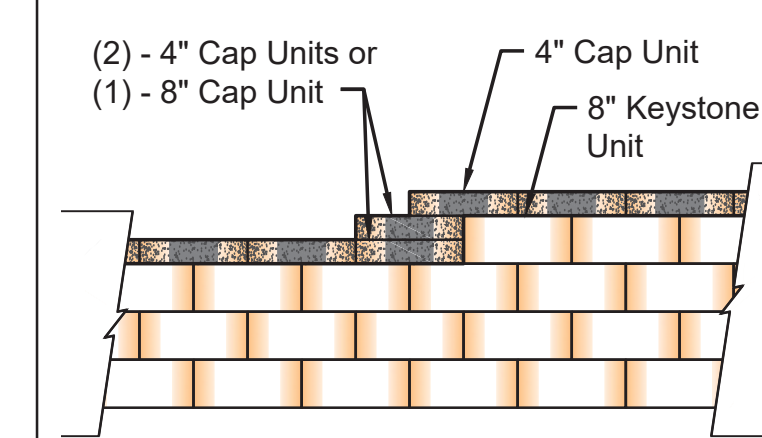
Base Leveling Pad Notes:

- 1. The leveling pad is to be constructed of crushed stone or 2,000 psi unreinforced concrete
- 2. The base foundation is to be approved by the site geotechnical engineer prior to placement of the leveling pad.

Compac III Unit		Cap Unit	
Width:	18"	Width:	18"
Depth:	12"	Depth:	10 1/2"
Height:	8"	Height:	4"
Weight:	71 lbs	Weight:	45 lbs

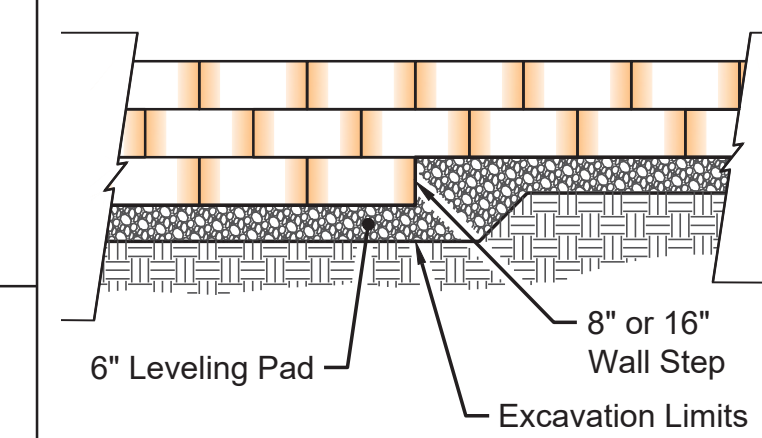


Compac III Unit/Base Pad Isometric Section View
*Dimensions & Weight May Vary by Region

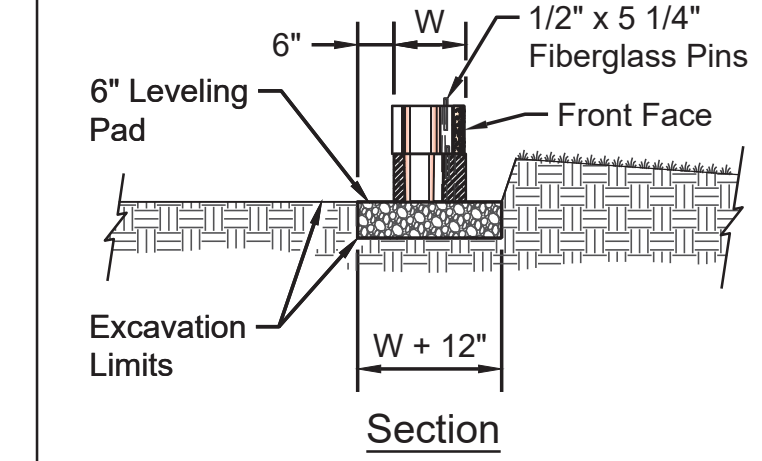


Note:
1. Secure all cap units with Keystone Kapsel or equal.

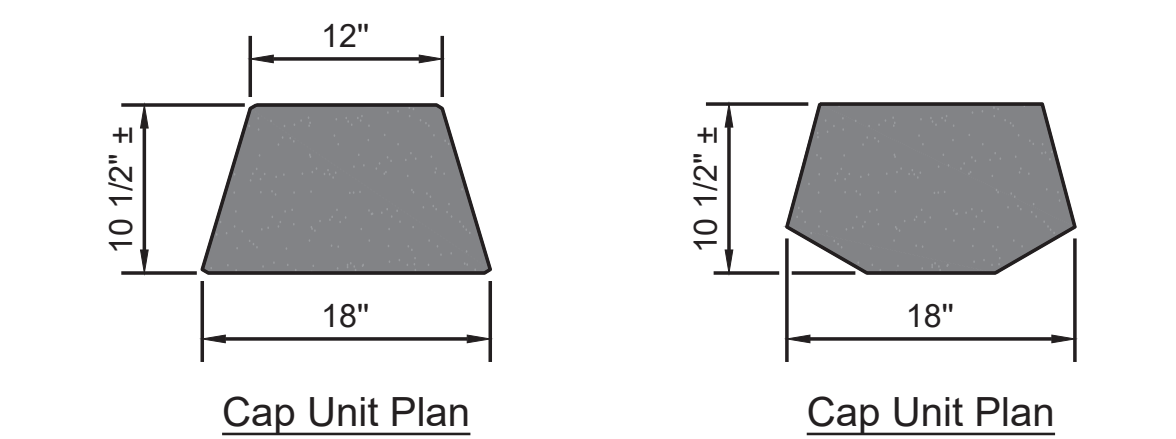
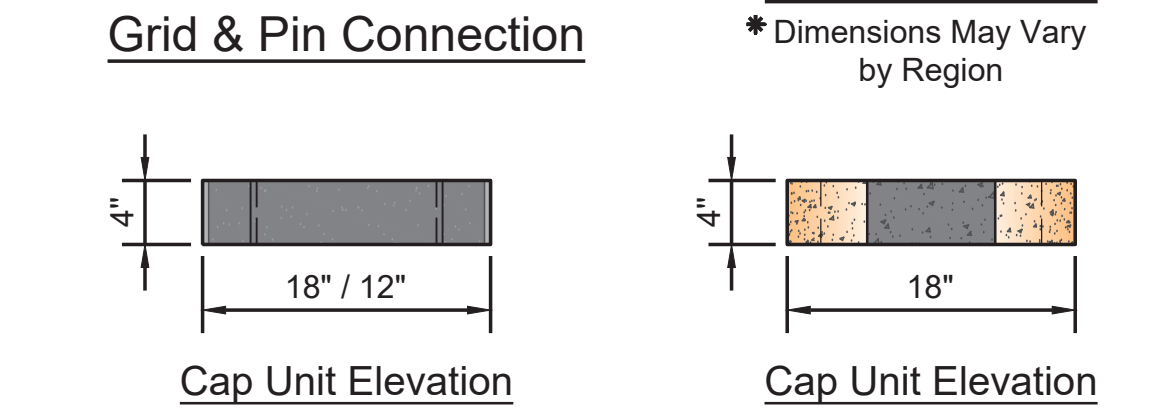
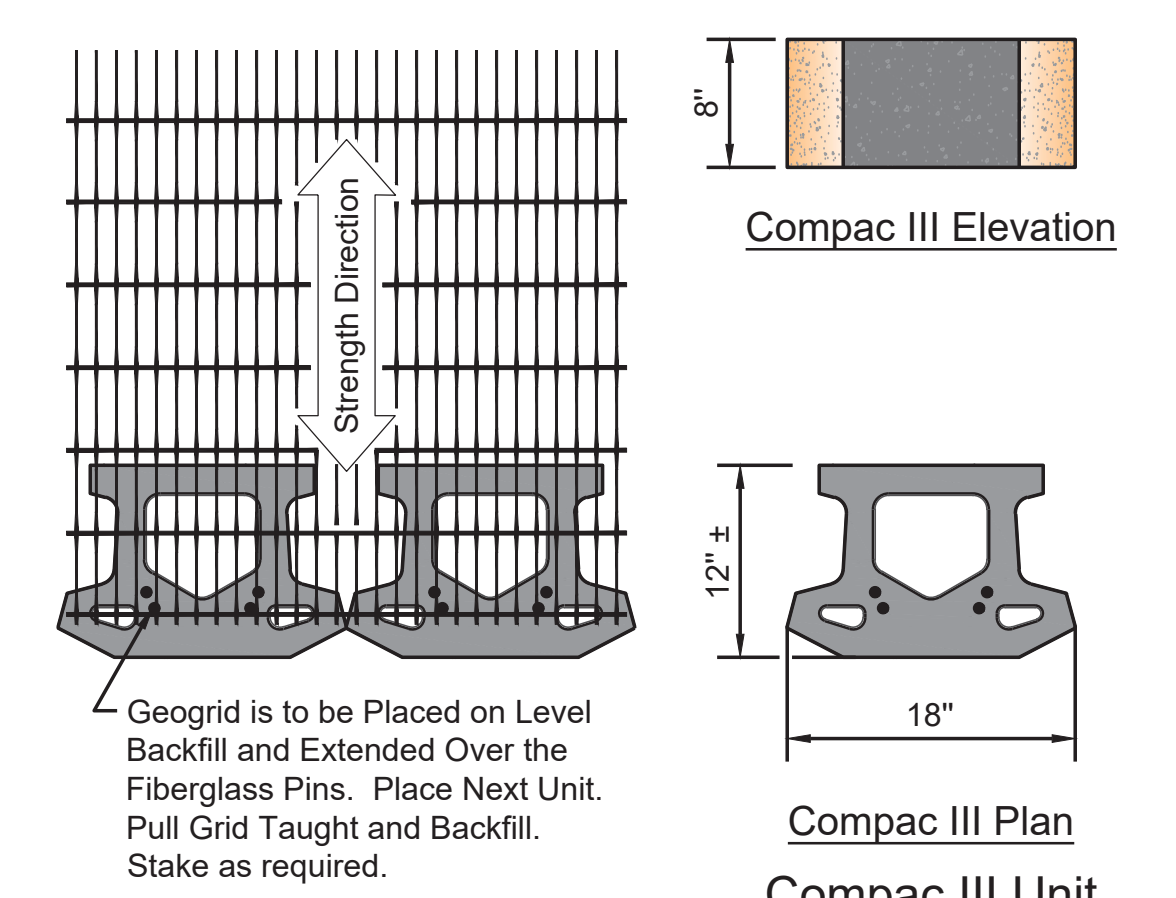
Top of Wall Steps



Note:
1. The leveling pad is to be constructed of crushed stone or 2000 psi unreinforced concrete.



Leveling Pad Detail



Universal Cap Unit Option
*Dimensions & Availability Will Vary by Region

3-Plane Split Cap Unit Option
*Dimensions & Availability Will Vary by Region

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
DocuSigned by: <i>(A) Edmondson</i>	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: <i>(Signature)</i>	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>(Signature)</i>	7/6/2022
DIRECTOR	DATE

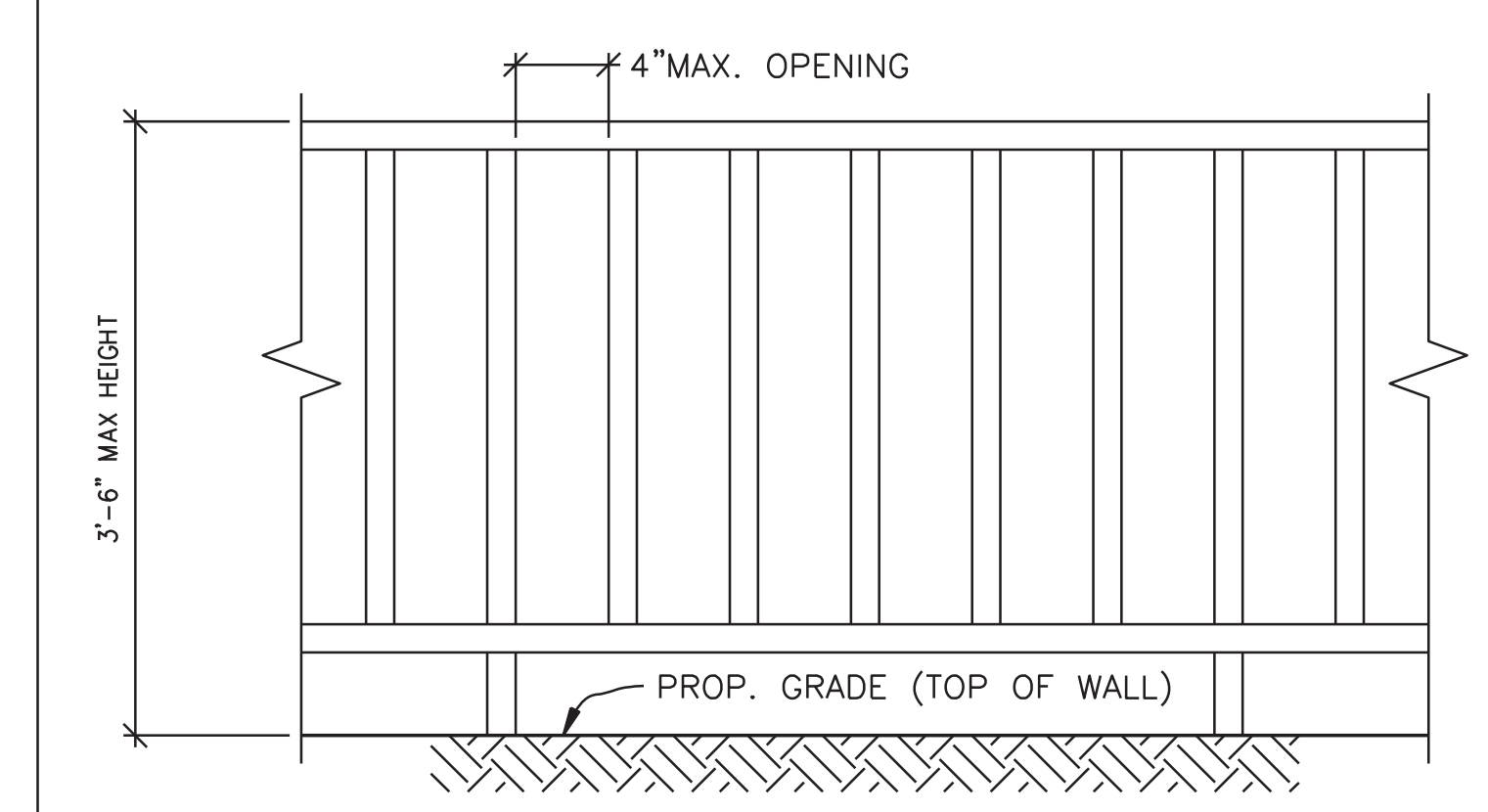
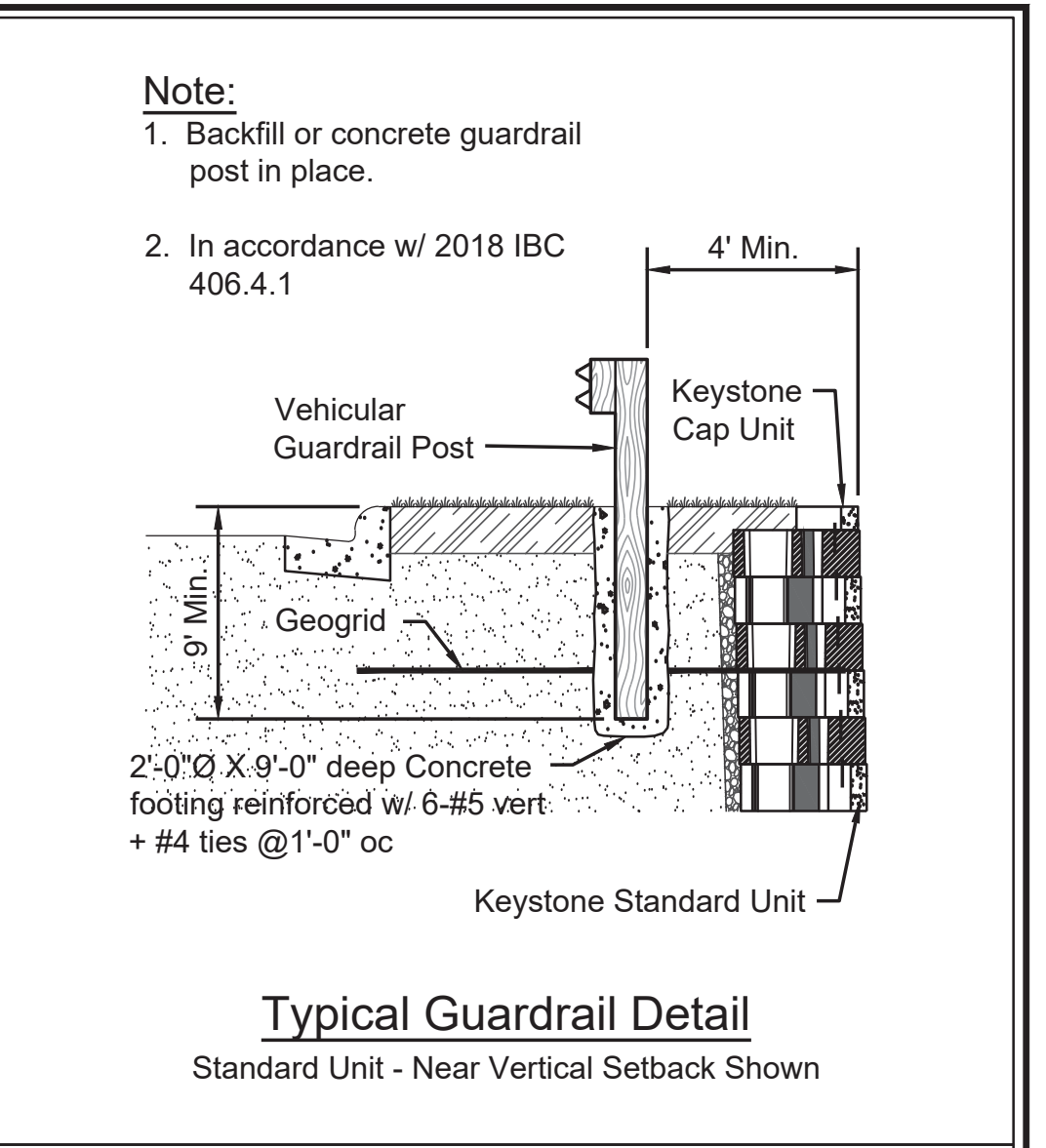
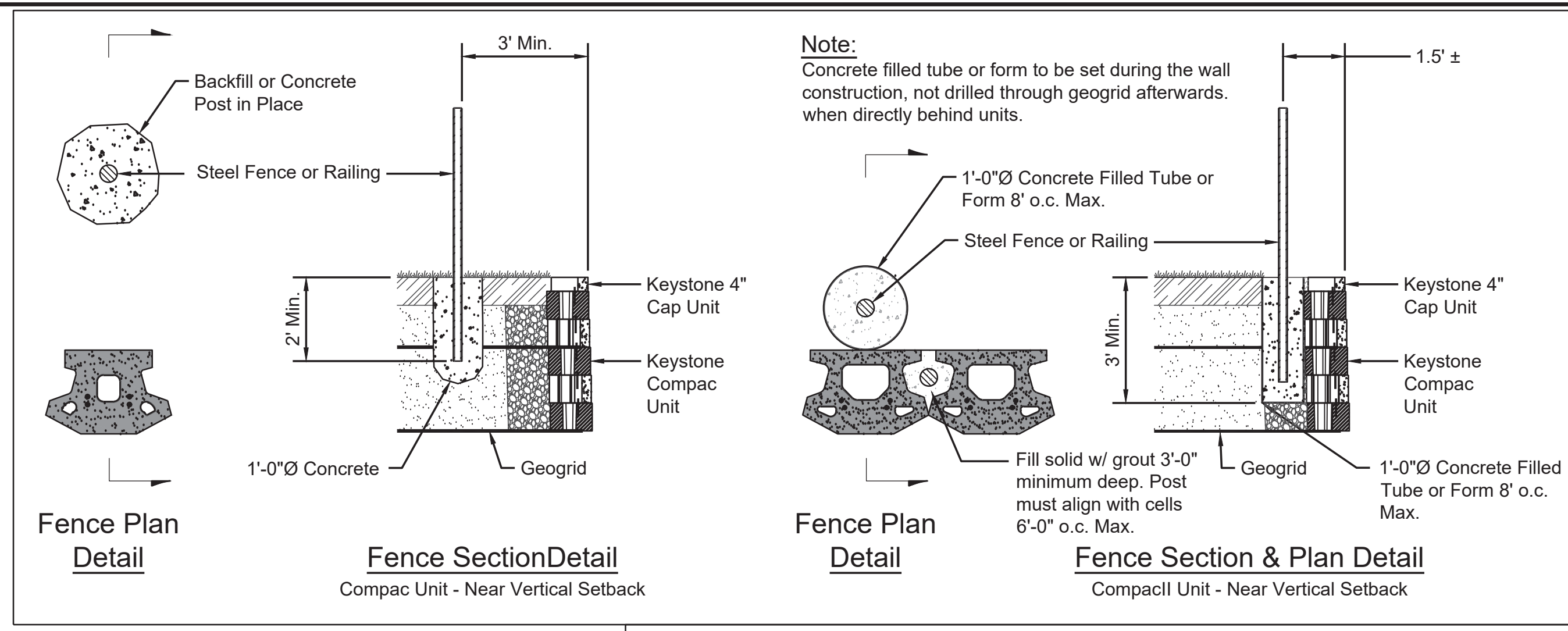
Skarda and Associates
Structural Consultants, Inc.
2439 N. Charles Street
Baltimore, Maryland 21218
(410)-366-9384
(410)-366-9389 Fax
EMAIL: INFO@SKARDAENGINEERS.COM

DWG TITLE: GENERAL NOTES & WALL DETAILS MAPLE LAWN SCHOOL 7400 ROOSEVELT BOULEVARD, ELKRIODGE, MD		DWG NO.:
JOB NO.: 21425	DRAWN: SPW	
DATE: 12/07/21	CHECKED: SMB	

STATE OF MARYLAND
STEPHEN M. BROWN, P.E.
PROFESSIONAL ENGINEER
LICENSE NO. 2000569
EXPIRES DATE: 11/01/2025

Stephen M. Brown, P.E.

*Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 2000569. Expiration Date: 11/01/2025.



1021.1 General: Where required by the provisions of Sections 406.5, 408.3.2, 1005.5, 1014.7, 1016.5 and 1825.5, guards shall be designed and constructed in accordance with the requirements of this section and Section 1615.8. A guardrail system is a system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level.

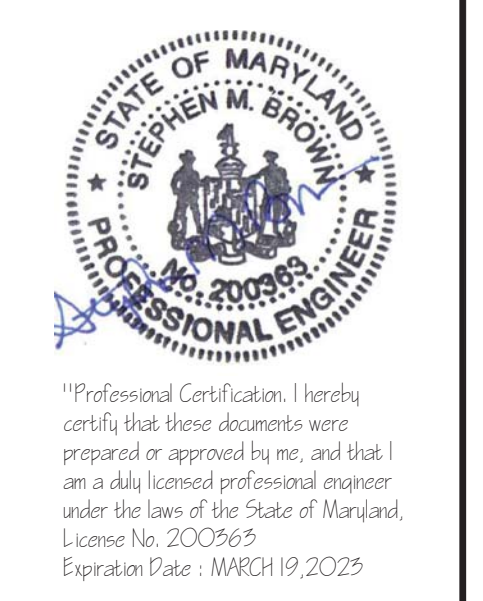
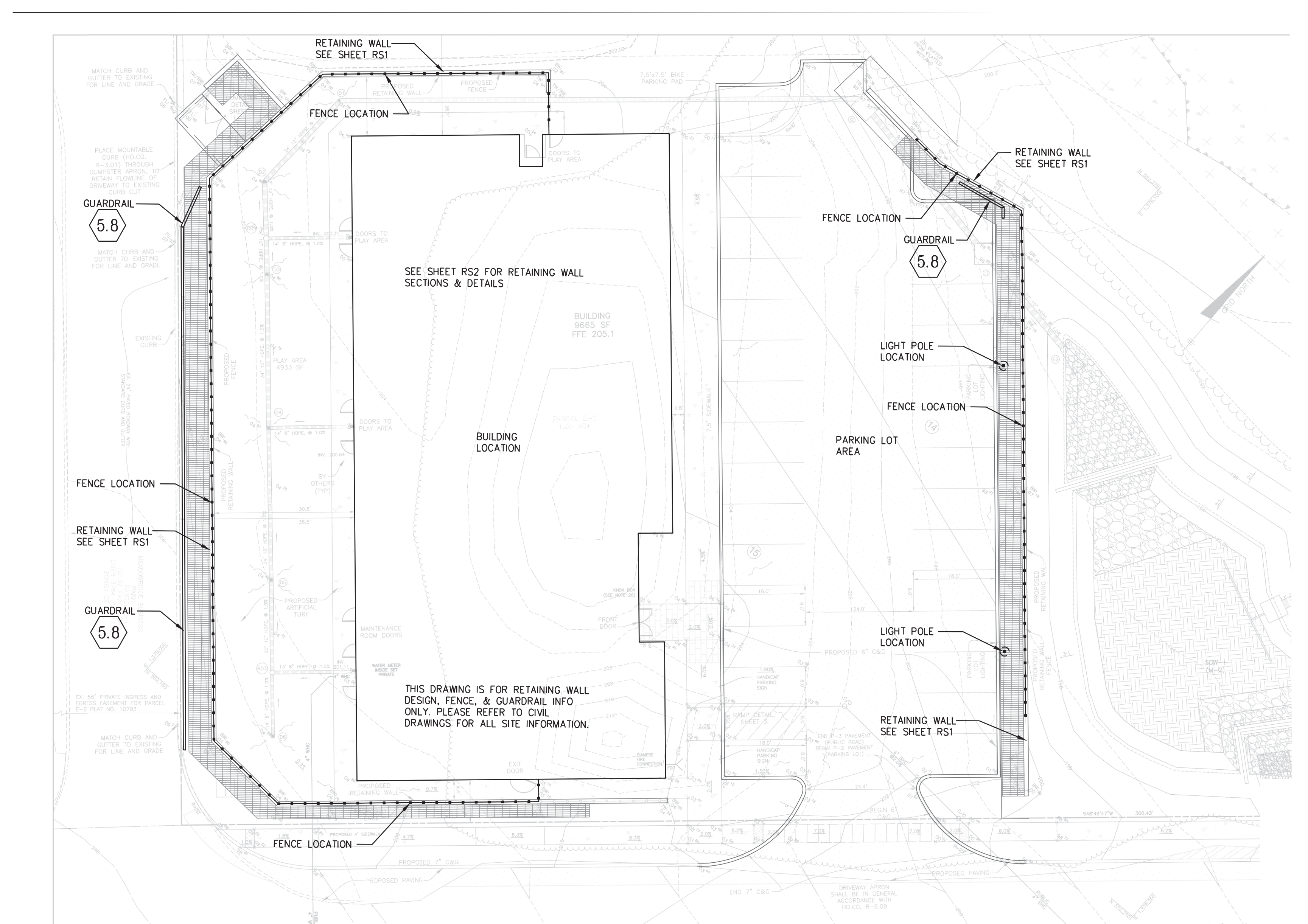
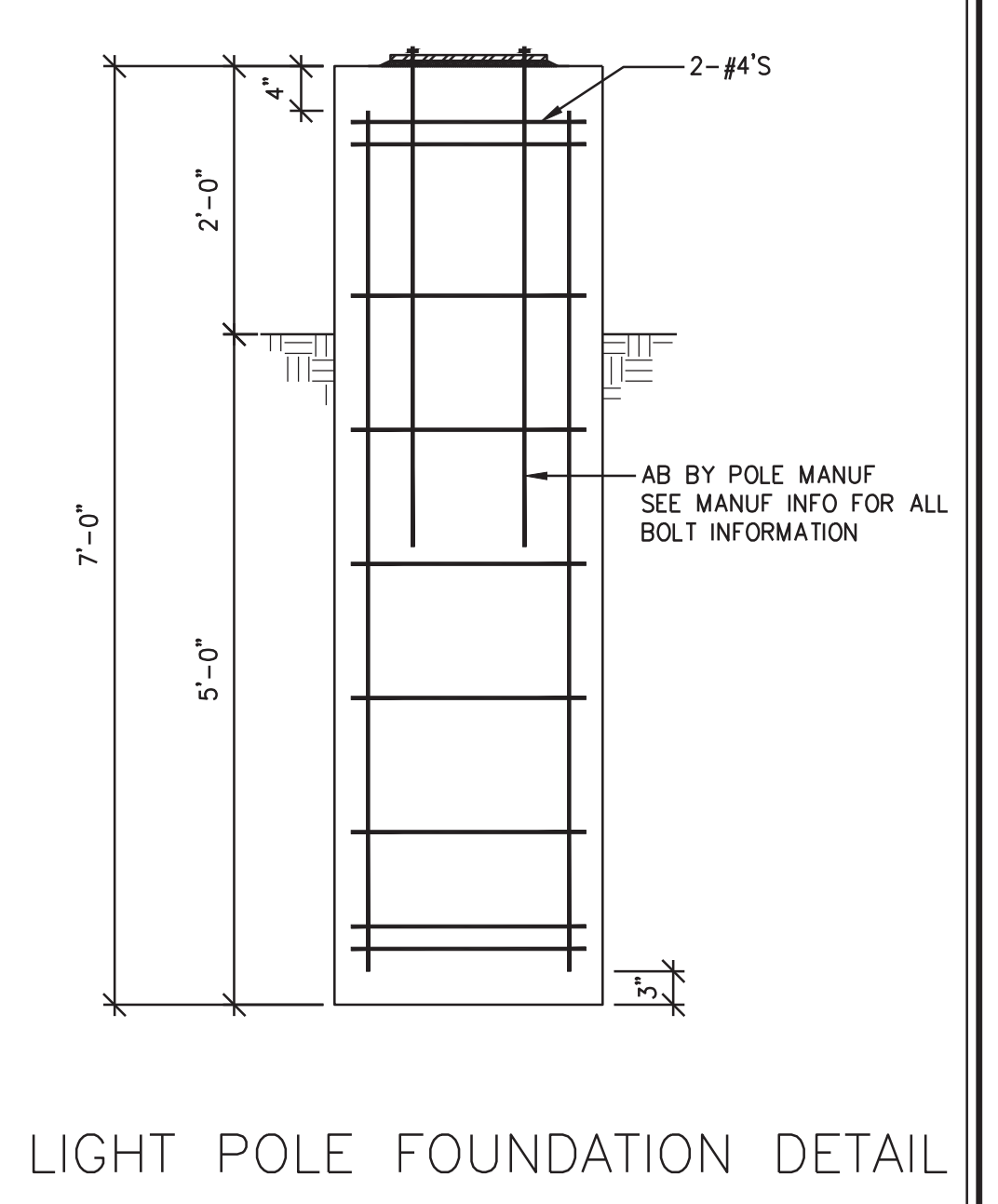
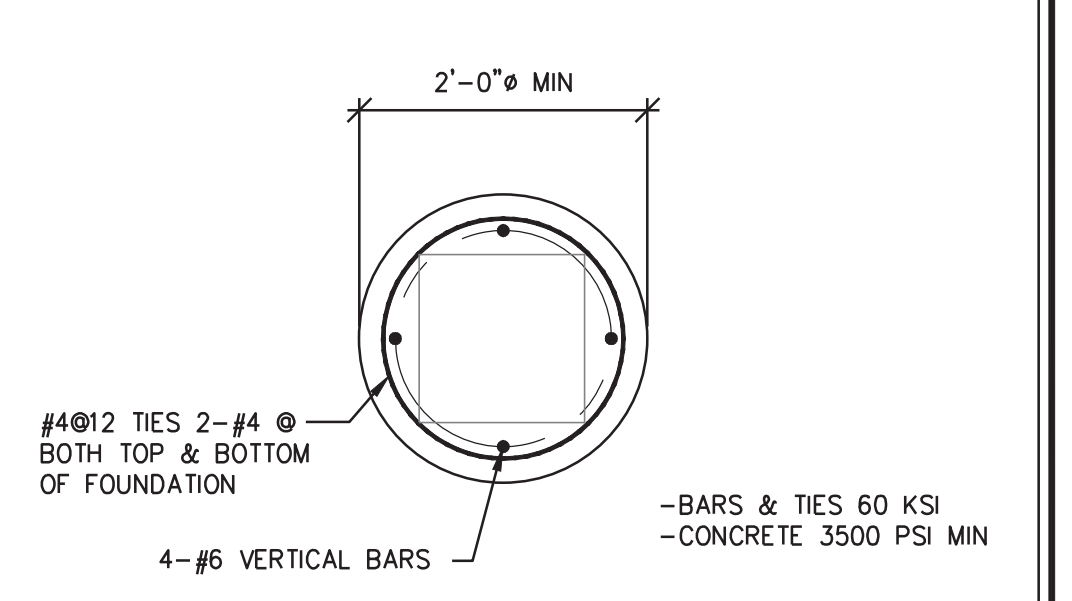
1021.2 Height: The guards shall be at least 42 inches (1067 mm) in height measured vertically above the leading edge of the tread or adjacent walking surface.

Exceptions
1. In other than occupancies in Use Group E, guards shall not be less than 34 inches (864 mm) in height above the leading edge of the tread along stairs which are not more than 20 feet (6096 mm) in height or which reverse direction at an intermediate landing with 12 inches (305 mm) or less measured horizontally between successive flights.
2. Guards along open-sided floor areas, mezzanines and landings in occupancies in Use Group R-3 shall not be less than 36 inches (914 mm) in height.

1021.3 Opening limitations: In occupancies in Use Groups A, B, E, H-4, I 1, I-2, M and R, and in public garages and open material such that a sphere with a diameter of 4 inches (102 mm) cannot pass through any opening. Guards shall not have an ornamental pattern that would provide a ladder effect.

TYPICAL SAFETY FENCE
NOT TO SCALE

VEHICULAR GUARD RAIL
VEHICULAR GUARD RAIL IN ACCORDANCE WITH IBC 406.4.3 WILL BE PROVIDED AS NECESSARY. THE MATERIALS SHALL BE DETERMINED BY CONTRACTOR WITH CONSULTATION WITH OWNER.



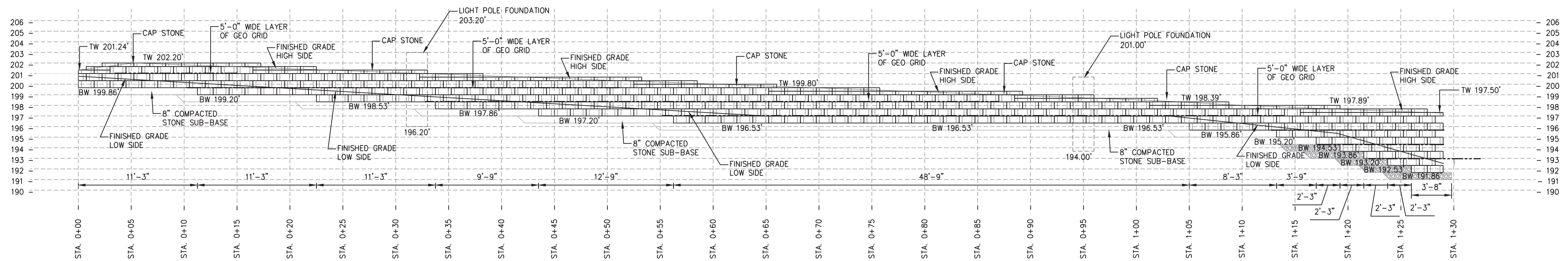
Fence & Light Pole Location Plan
1/16" = 1'-0"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
DocuSigned by: <i>(Signature)</i> 6/29/2022	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: <i>(Signature)</i> 6/29/2022	
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>(Signature)</i> 7/6/2022	
DIRECTOR	DATE

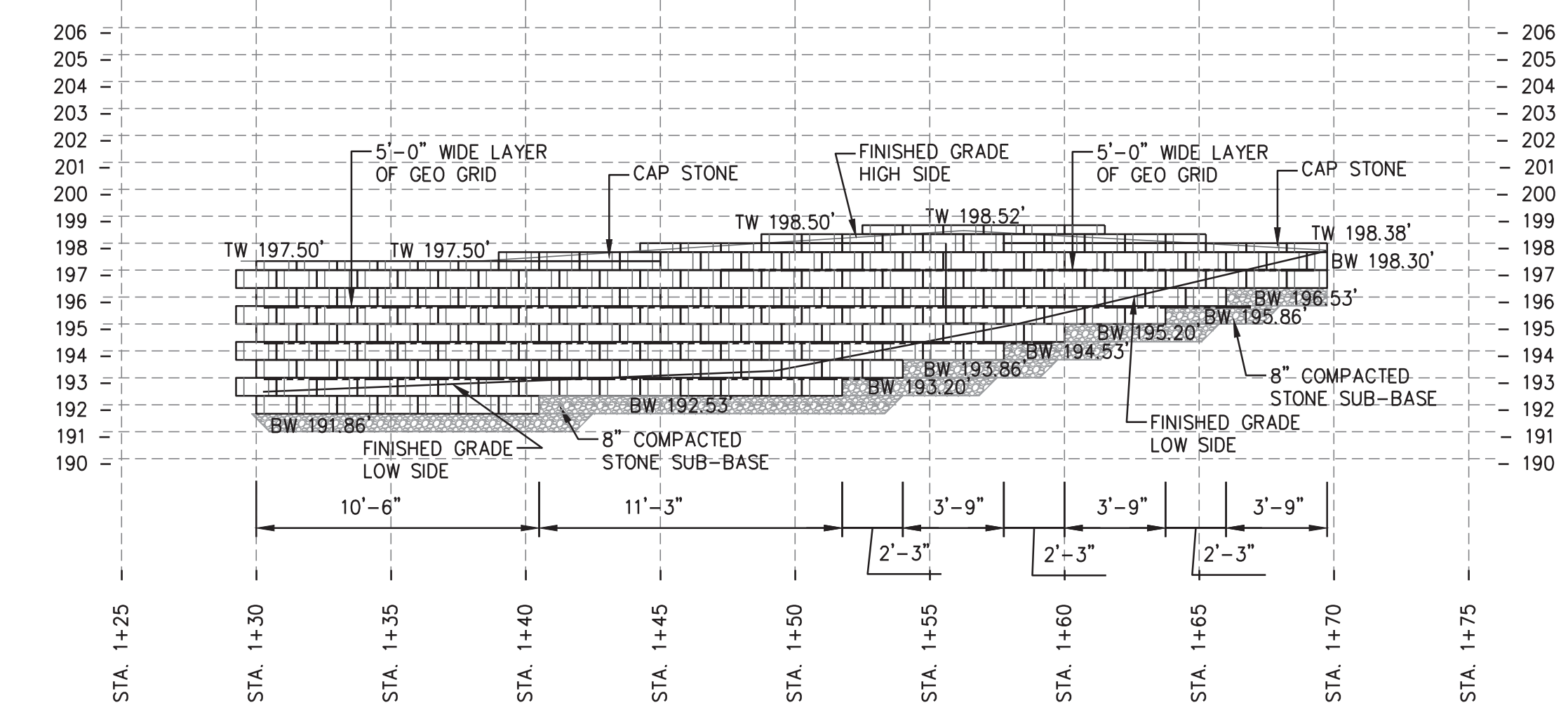
Skarda and Associates
Structural Consultants, Inc.
2439 N. Charles Street
Baltimore, Maryland 21218
(410)-366-9364
(410)-366-9389 Fax
EMAIL: INFO@SKARDAENGINEERS.COM

DWG. TITLE: FENCE & LIGHT POLE LOCATION PLAN AND DETAILS MAPLE LAWN SCHOOL 7400 ROOSEVELT BOULEVARD, ELKRIDGE, MD	
JOB NO.: 21425	DRAWN: SPW
DATE: 12/07/21	CHECKED: SMB

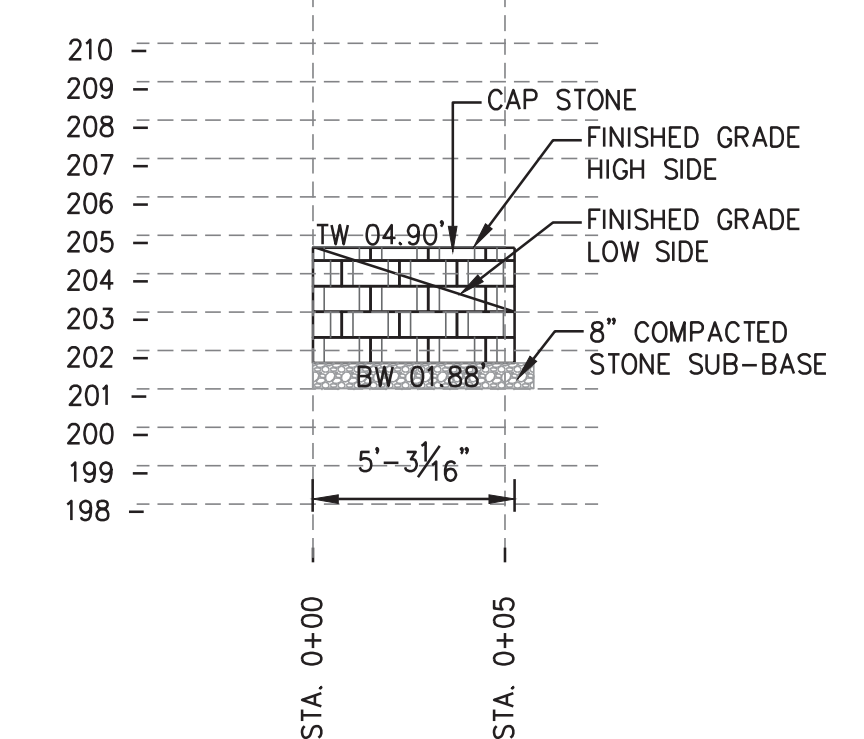
RS3
SHEET 13 OF 17
SDP-21-050



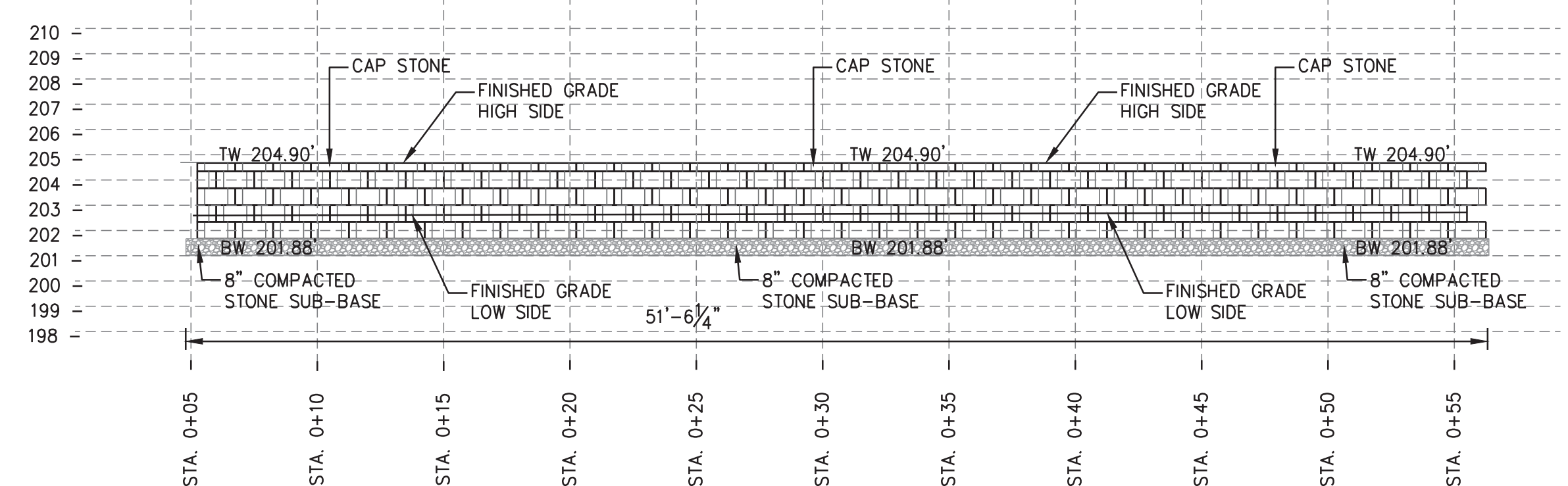
Retaining Wall 1 Elevation A
1" = 5'-0"



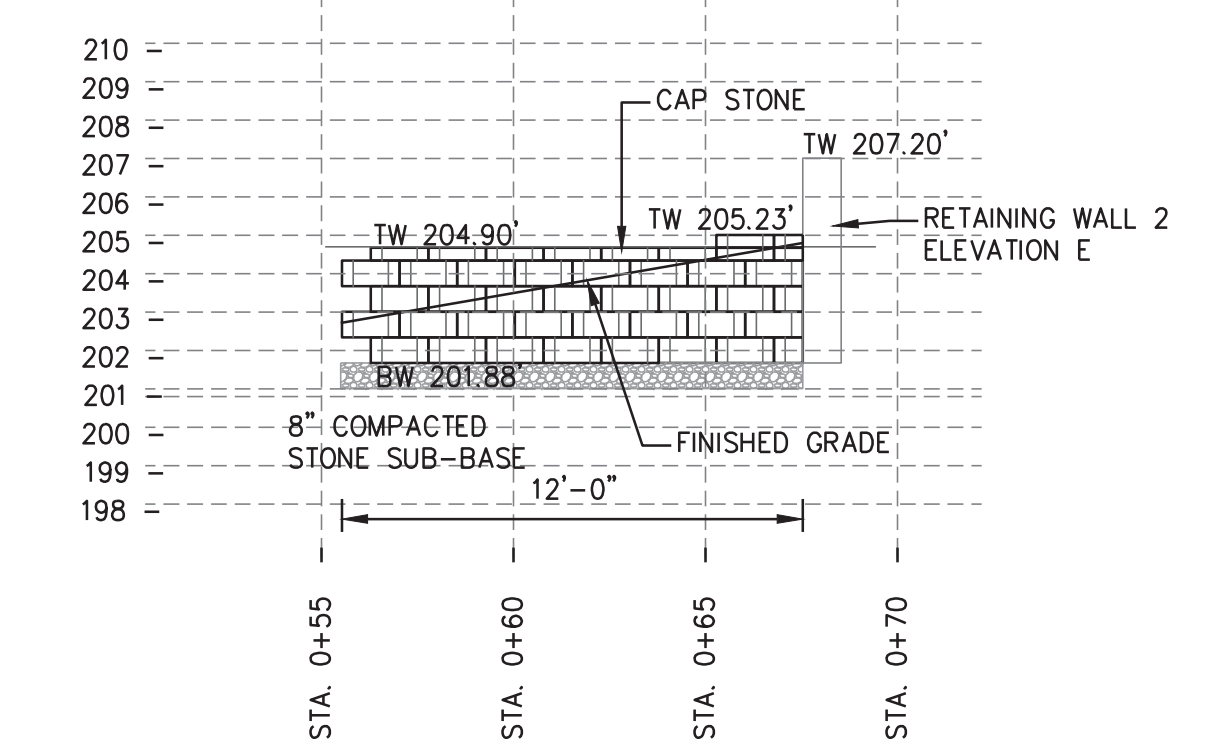
Retaining Wall 1 Elevation B
1" = 5'-0"



Retaining Wall 3 Elevation A
1" = 5'-0"



Retaining Wall 3 Elevation B
1" = 5'-0"

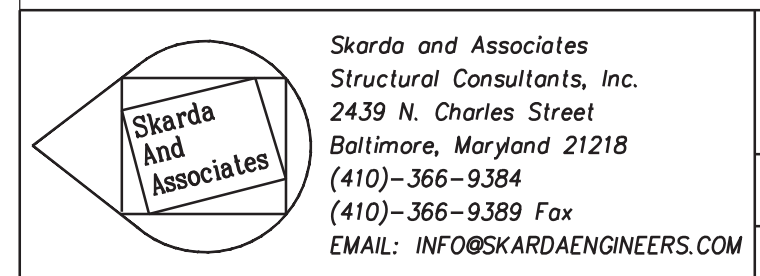


Retaining Wall 3 Elevation C
1" = 5'-0"



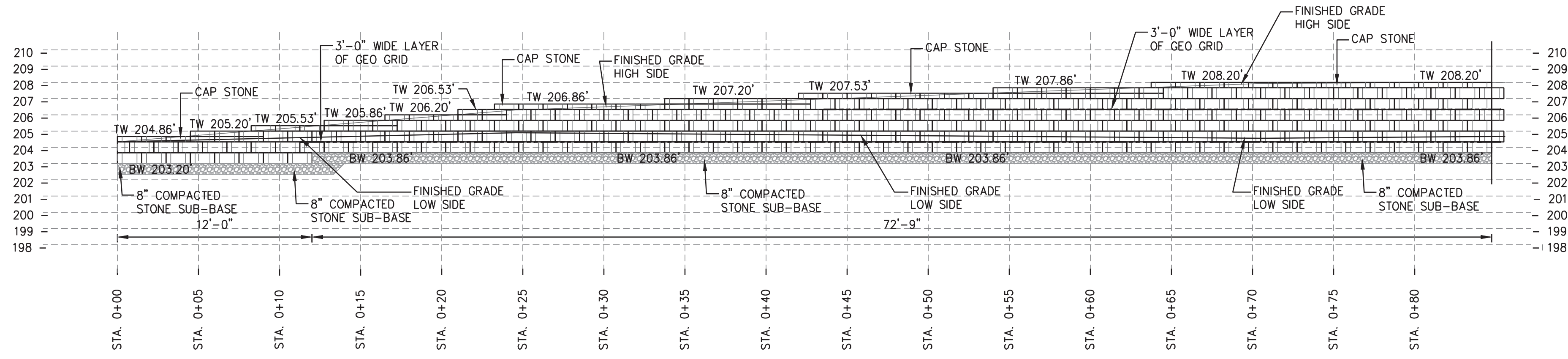
"Professional Certificate. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 203269. Expiration Date: MARCH 19, 2025."

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
DocuSigned by: <i>(Signature)</i>	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: <i>(Signature)</i>	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>(Signature)</i>	7/6/2022
DIRECTOR	DATE



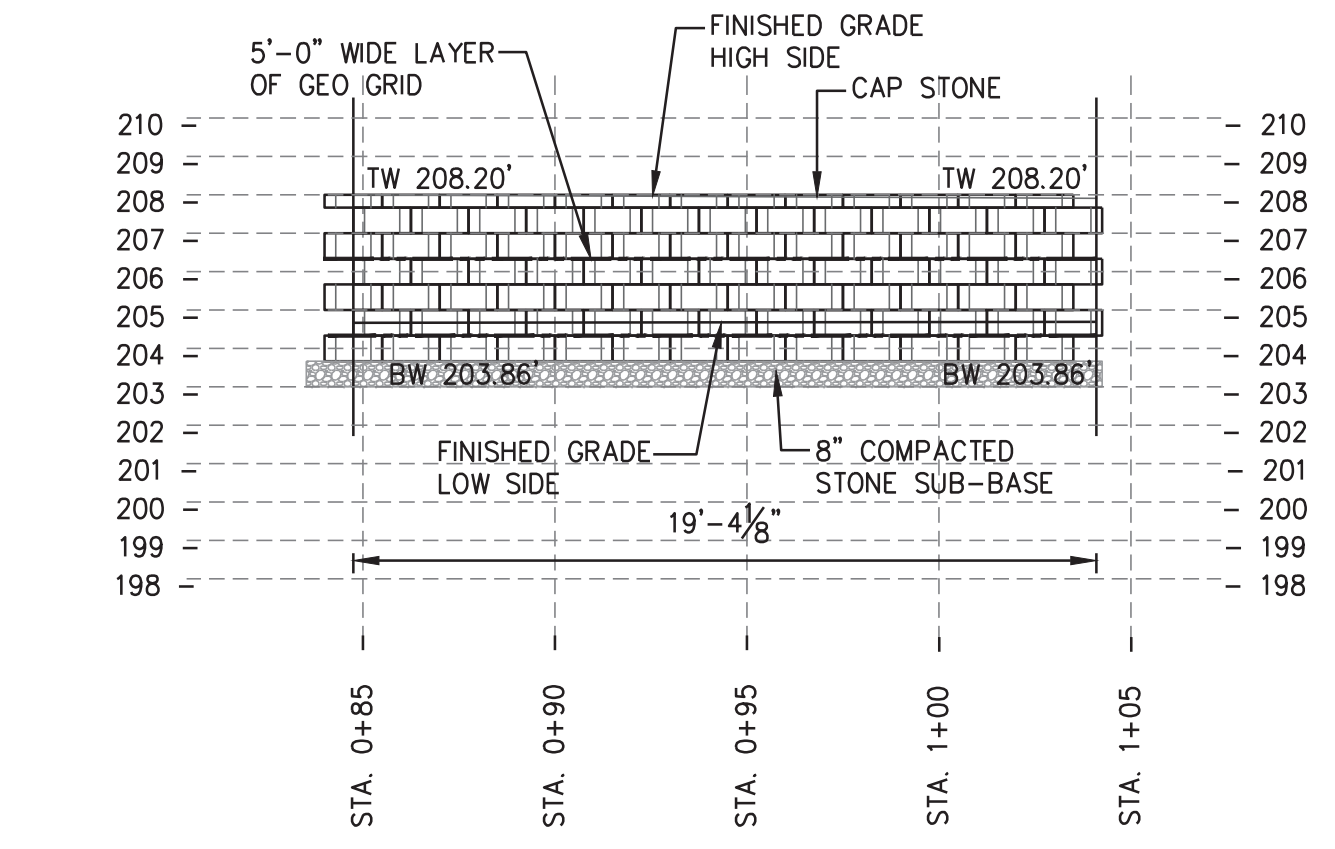
Dwg. TITLE: RETAINING WALL ELEVATIONS MAPLE LAWN SCHOOL 7400 ROOSEVELT BOULEVARD, ELKRIDGE, MD	
JOB NO: 21425	DRAWN: SPW
DATE: 12/07/21	CHECKED: SMB

RS4
SHEET 14 OF 17
SDP-21-050



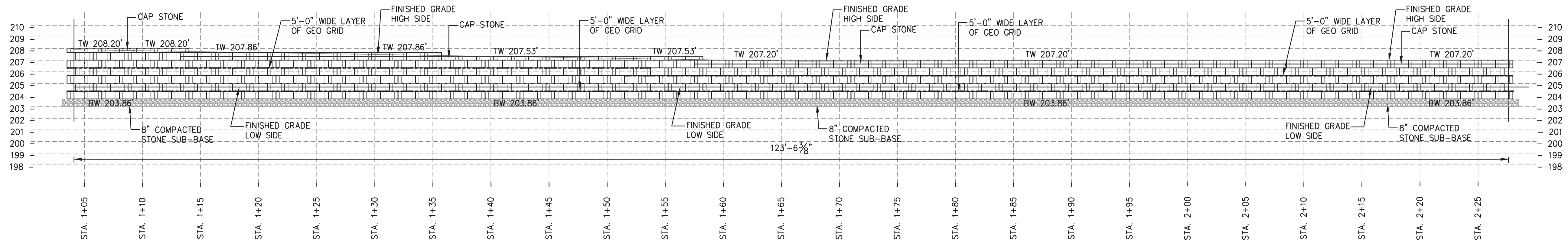
Retaining Wall 2 Elevation A

1" = 5'-0"



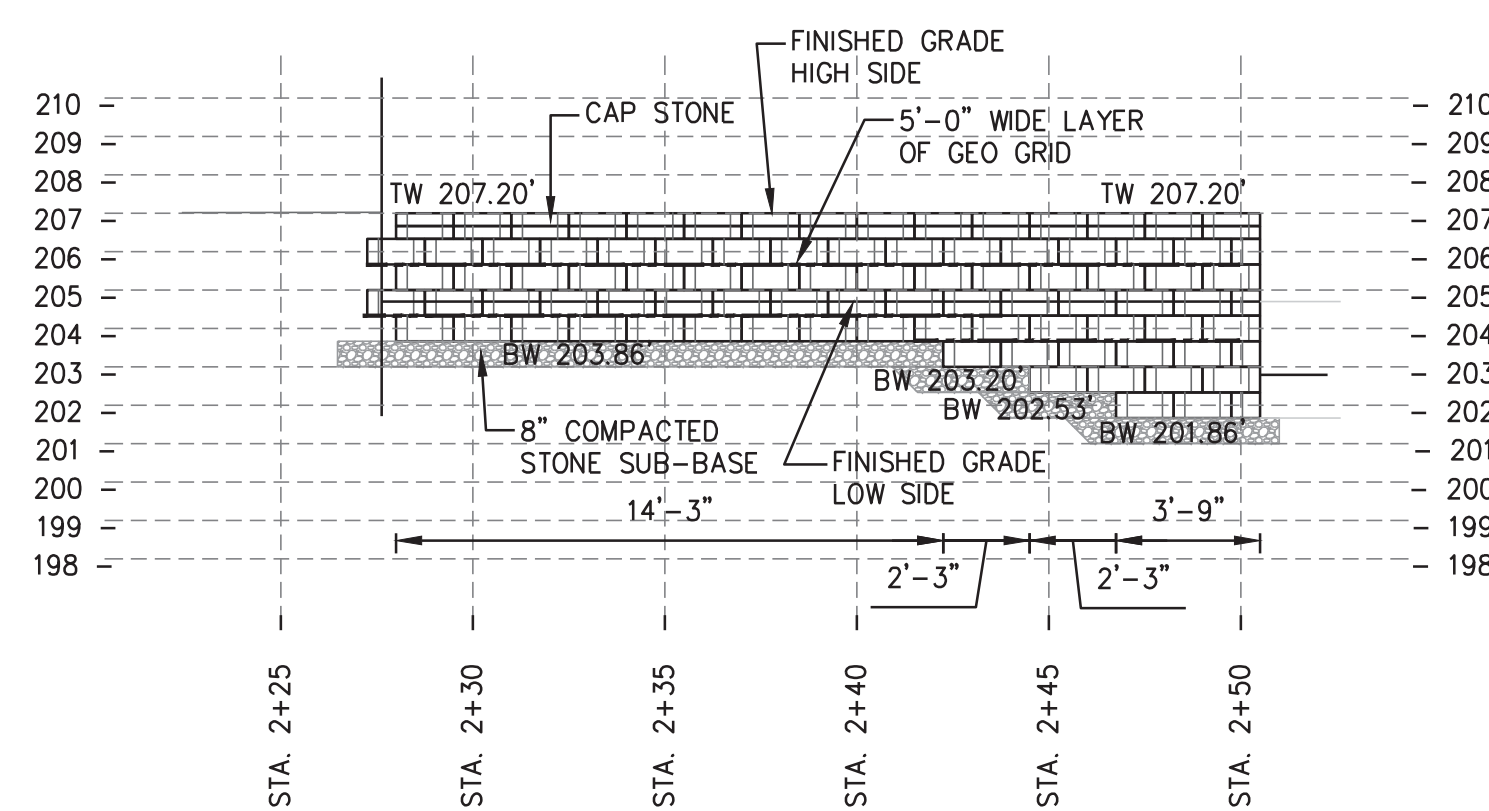
Retaining Wall 2 Elevation B

1" = 5'-0"



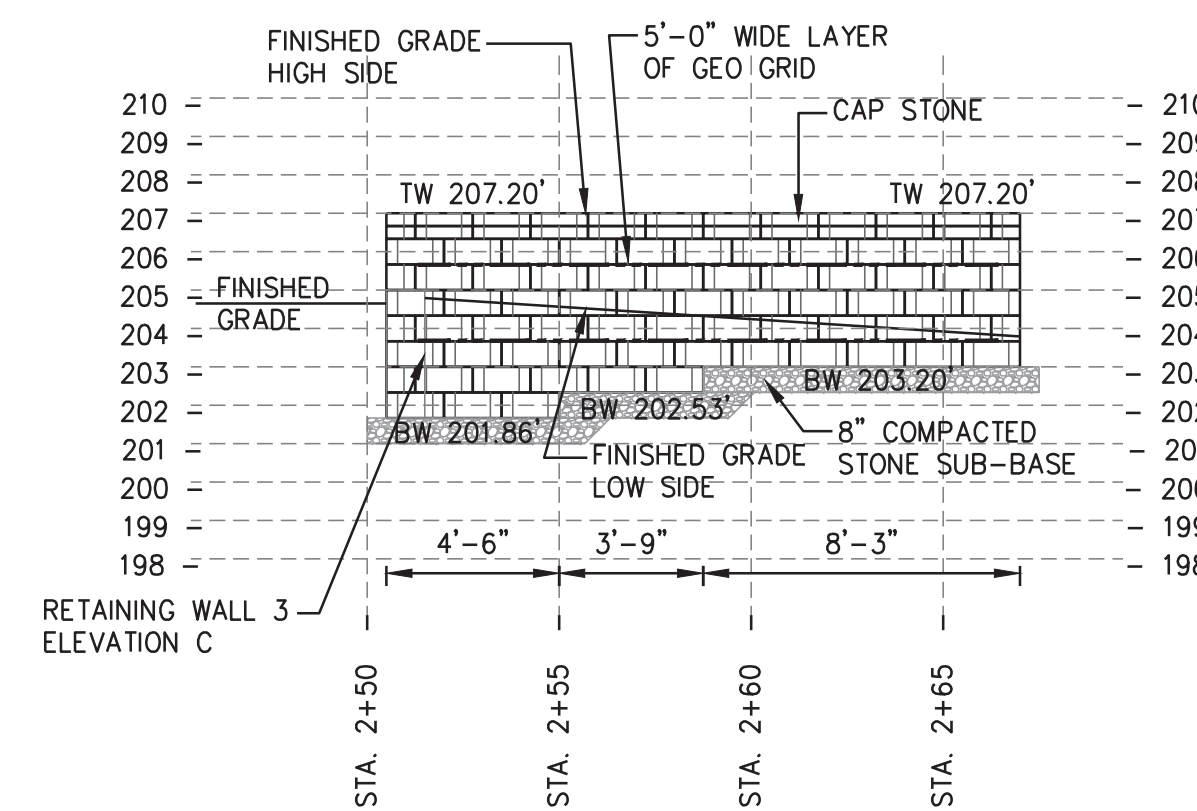
Retaining Wall 2 Elevation C

1" = 5'-0"



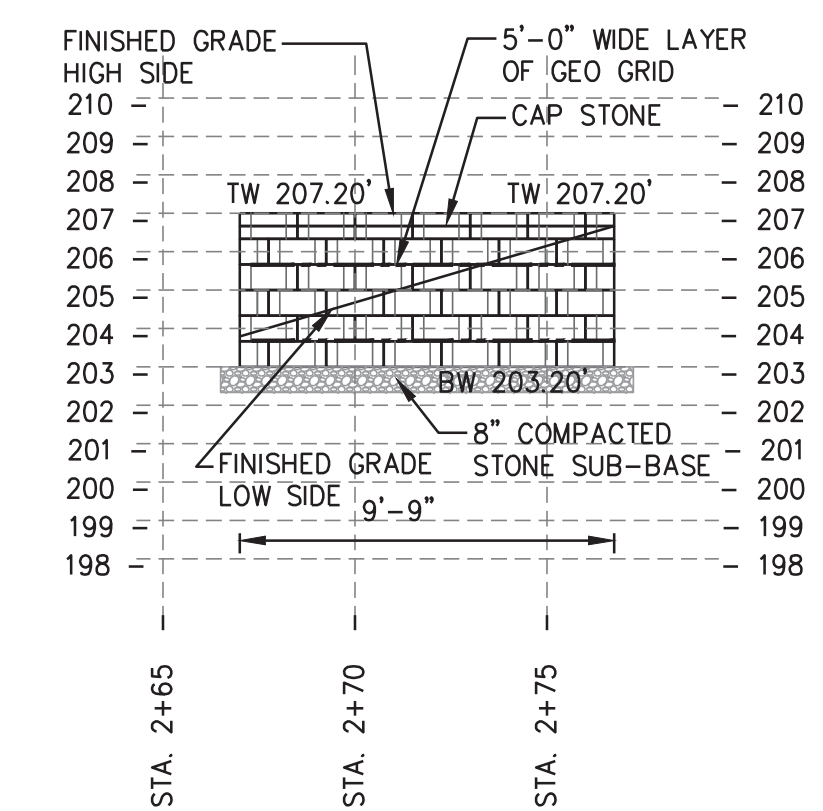
Retaining Wall 2 Elevation D

1" = 5'-0"



Retaining Wall 2 Elevation E

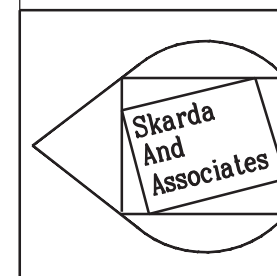
1" = 5'-0"



Retaining Wall 2 Elevation F

1" = 5'-0"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
DocuSigned by: <i>(Signature)</i>	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
DocuSigned by: <i>(Signature)</i>	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DocuSigned by: <i>(Signature)</i>	7/6/2022
DIRECTOR	DATE



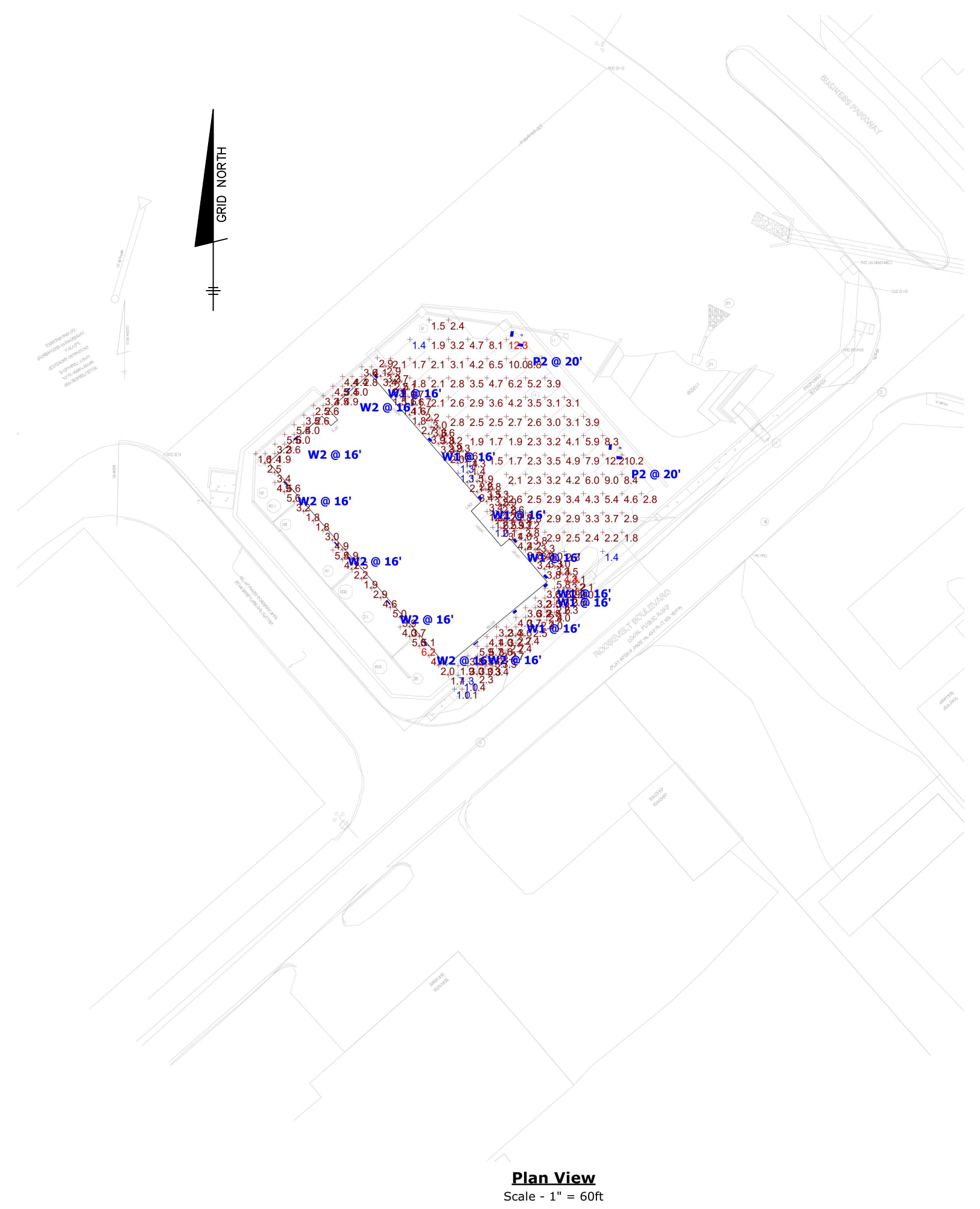
Skarda and Associates
Structural Consultants, Inc.
2439 N. Charles Street
Baltimore, Maryland 21218
(410)-366-9364
(410)-366-9389 Fax
EMAIL: INFO@SKARDAENGINEERS.COM

DWG. TITLE: RETAINING WALL ELEVATIONS MAPLE LAWN SCHOOL 7400 ROOSEVELT BOULEVARD, ELK RIDGE, MD	
JOB NO.: 21425	DRAWN: SPW
DATE: 12/07/21	CHECKED: SMB



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. 2000665. Expiration Date: MARCH 19, 2025.

RS5
SHEET 15 OF 17
SDP-21-050



Plan View
Scale - 1" = 60ft

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Efficiency	Plot
□	P2		2	Lithonia Lighting	RSX1 LED P4 30K R4	RSX Area Fixture Size 1 P4 Lumen Package 3000K CCT Type R4 Distribution		1	15084	0.9	266.28	100%	
□	W1		7	Lithonia Lighting	WDGE2 LED P2 30K 80CRI VF	WDGE2 LED WITH P2 - PERFORMANCE PACKAGE, 3000K, 80CRI, VISUAL COMFORT FORWARD OPTIC.		1	1947	0.9	14.53	100%	
□	W2		7	Lithonia Lighting	TWX2 LED P4 30K	TWX2 LED WITH P4 - PERFORMANCE PACKAGE, 3000K		1	6535	0.9	53.6584	100%	

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
PARKING LOT	+	3.9 fc	12.3 fc	1.4 fc	8.8:1	2.8:1
BLDG PERIMETER	+	3.5 fc	6.2 fc	1.3 fc	4.8:1	2.7:1
SIDEWALK	+	2.6 fc	4.4 fc	1.0 fc	4.4:1	2.6:1

Note

Disclaimer:
Calculations are based on procedures established by the IESNA or standard industry practice. Output performance is based on input data as provided to Federated Lighting by others and believed to be accurate.

This study is intended to assist with lighting design and is not a substitute for an independent lighting analysis and testing for lighting safety and suitability. Federated Lighting cannot be held responsible for variations in actual situations which can effect calculated output.

BEI SIGNATURE IS LIMITED TO CERTIFICATION OF THE SITE DESIGN. PHOTOMETRIC DATA IS PROVIDED BY FEDERATED LIGHTING, UTILIZING PHOTOMETRIC FILES PROVIDED BY LITHONIA LIGHTING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	DocuSigned by: <i>Chad Edmondson</i> 200327545F42489	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DocuSigned by: <i>[Signature]</i> 1EB75478A22849A	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DocuSigned by: <i>[Signature]</i> 5B4D85D9470C4D4	7/6/2022
DIRECTOR		

NO.		DATE		REVISION	
 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					
OWNER: ROUTE ONE MAPLE LAWN LLC C/O CHINNABABU GUDAPATI 6120 SYRACUSE CT CLARKSVILLE, MD 21029 267-408-2937			MAPLE LAWN SCHOOL MEADOWRIDGE BUSINESS PARK PARCEL E-2 7400 ROOSEVELT BOULEVARD TAX MAP: 37 - GRID: 23 - PARCEL: 362 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND ZONED: CE-CLI		
PREPARED FOR: ROUTE ONE MAPLE LAWN, LLC 12118 HAYLAND FARM WAY ELLICOTT CITY, MD 21042 267-408-2937					
LIGHTING PLAN					
DESIGN:	AAM	DRAFT:	AAM	DATE:	JUNE, 2022
SCALE:	AS SHOWN	BEI PROJECT NO.:	2826	SHEET:	16 OF 17

Information	Existing Vegetation	Stand Characteristics	Forest Area in Acres (of 10 acres)
Cover	Medium Density	10-15'	0.1
Species	Deciduous	10-15'	0.1
Height	10-15'	10-15'	0.1
Quality	Good	10-15'	0.1
Health	Good	10-15'	0.1
Soil	Forest	10-15'	0.1
Topography	Flat	10-15'	0.1
Water	None	10-15'	0.1
Other	None	10-15'	0.1

EXISTING PRIVATE STORMWATER MANAGEMENT FACILITY (EXTENDED DETENTION)

2-YR WSEL: 200.01
100-YR WSEL: 201.61
100-YR WSEL: 202.59



Forest Conservation Easement # 1
0.1 acres NTA credited retention

LEGEND

- EXISTING CONT...
- PROPOSED CON...
- EXISTING TREEL...
- PROPOSED TREEL...
- WETLAND AREAS
- PROPERTY BOUND...
- SOILS DELINEAT...
- PROPOSED BUIL...

FaaA

- EX. FLOODPLAIN
- PUBLIC DRAINAGE
- EX. PRESERVED PLAT 9047
- EXISTING TREE
- FOREST CONSERVATION

FOREST CONSERVATION WORKSHEET FOR MEADOWRIDGE BUSINESS PARK

Net Tract Area

A. Total (Gross) Tract Area
B. Area within 100-year Floodplain
C. Other Deductions (Identify)
D. Net Tract Area

Land Use Category

Insert the number "1" under the appropriate land use (limit to 1)

Resist	Rural LD	Rural MD	Suburban	Low	Office
0	0	0	0	0	1

Existing Forest Cover

G. Existing Forest Cover within the Net Tract Area
H. Area of Forest above Abandonment Threshold
I. Area of Forest above Restoration Threshold

Break Even Point

J. Break Even Point
K. Forest Clearing Permitted with Mitigation

Proposed Forest Clearing

L. Total Area of Forest to be Cleared
M. Total Area of Forest to be Retained

Planting Requirements Inside Watershed

N. Restoration for Clearing above the Restoration Threshold
O. Restoration for Clearing below the Restoration Threshold
P. Credit for Retention above the Restoration Threshold
Q. Total Restoration Required
R. Total Allocation Required
S. Total Retention and Abandonment Requirement
T. 75% of Total Obligation (Retention + Planting)
U. Planting Required Credit to meet 75% Obligation

Planting Requirements Outside Watershed

V. Total Planting within Development Site Watershed
W. Total Abandonment Required
X. Remaining Planting within Watershed for Restoration
Y. Restoration for Clearing above the Restoration Threshold
AA. Restoration for Clearing below the Restoration Threshold
BB. Credit for Retention above the Restoration Threshold
CC. Total Restoration Required
DD. Total Abandonment and Restoration Requirement

Date: 1/30/2022

FCP Notes

- The stream and wetlands are part of unannexed Use I tributary to Deep Run.
- A County regulated 100 year floodplains site. There is no FEMA mapped floodplains.
- Steep slopes are not present on the site.
- No cemeteries or historic elements on the site.
- No rare, threatened or endangered species on the site.
- No specimen trees are present on the site.
- This site complies with the requirements of the Howard County Code for Forest Conservation. 0.1 acre credited on-site retention (Total 2.2 acres, Plat 26089) an 2.2 acres of Retention Forever A Farm Bank is credited to satisfy Restoration obligation, (SDP-14-005 Forever A Farm LLC.

Developed by
Myra Brosius
ISA Certified
FIC
Myra.brosius@ecoprofessionals.com

Ecoprofessionals, Inc.
CONSULTING ECOLOGISTS
2000 W. 12th St., Suite 100, Ellicott City, MD 21042

BENCHMARK
ENGINEERS LAND SURVEYORS PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE 4 SUITE 315 ELICOTT CITY, MARYLAND 21043
410-465-1100 410-465-6644
www.benchmark-engineering.com

OWNER:
ROUTE ONE MAPLE LAWN LLC
C/O CHINMABUJI GUJAPATI
6120 SYRACUSE CT
CLARKSBURG, MD 21029

PREPARED FOR:
ROUTE ONE MAPLE LAWN, LLC
12118 HAVLAND FARM WAY
ELICOTT CITY, MD 21042

TAX MAP: 37 - GRID: 23 - P
ELECTION DISTRICT NO. 1 - HOWARD
ZONED: CE-CL

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Designed by: CRAD Edmondson	6/29/2022
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
Designed by: Myra Brosius	6/29/2022
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
Designed by: Ray Stroman	7/6/2022
DIRECTOR	DATE

