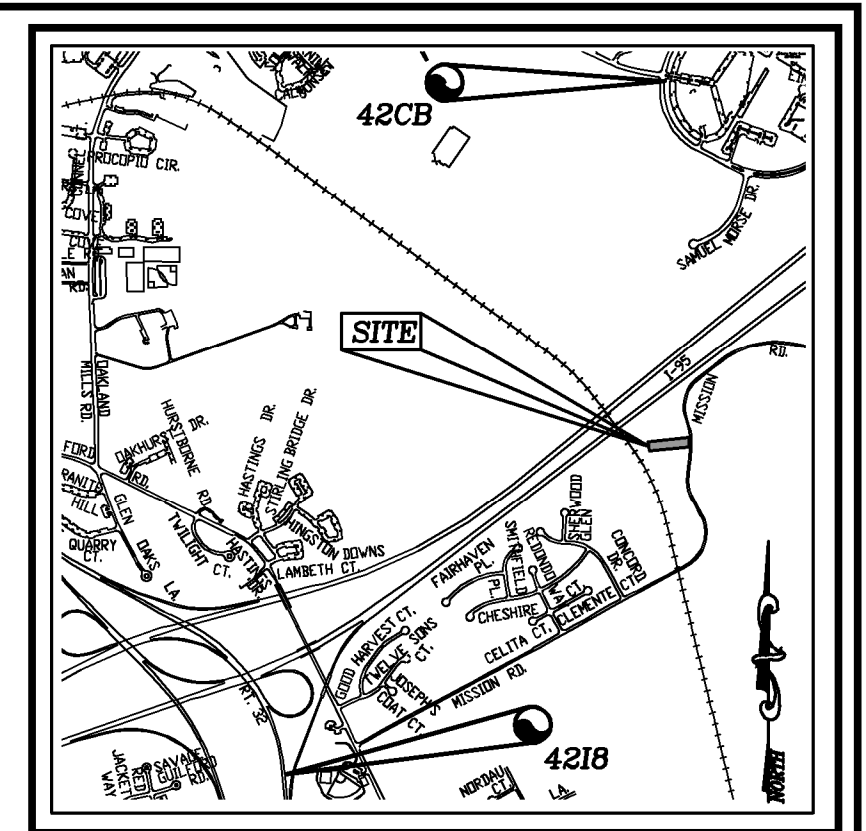


GENERAL NOTES table with 2 columns: Item, Description. Includes project background, utility locations, and site details.

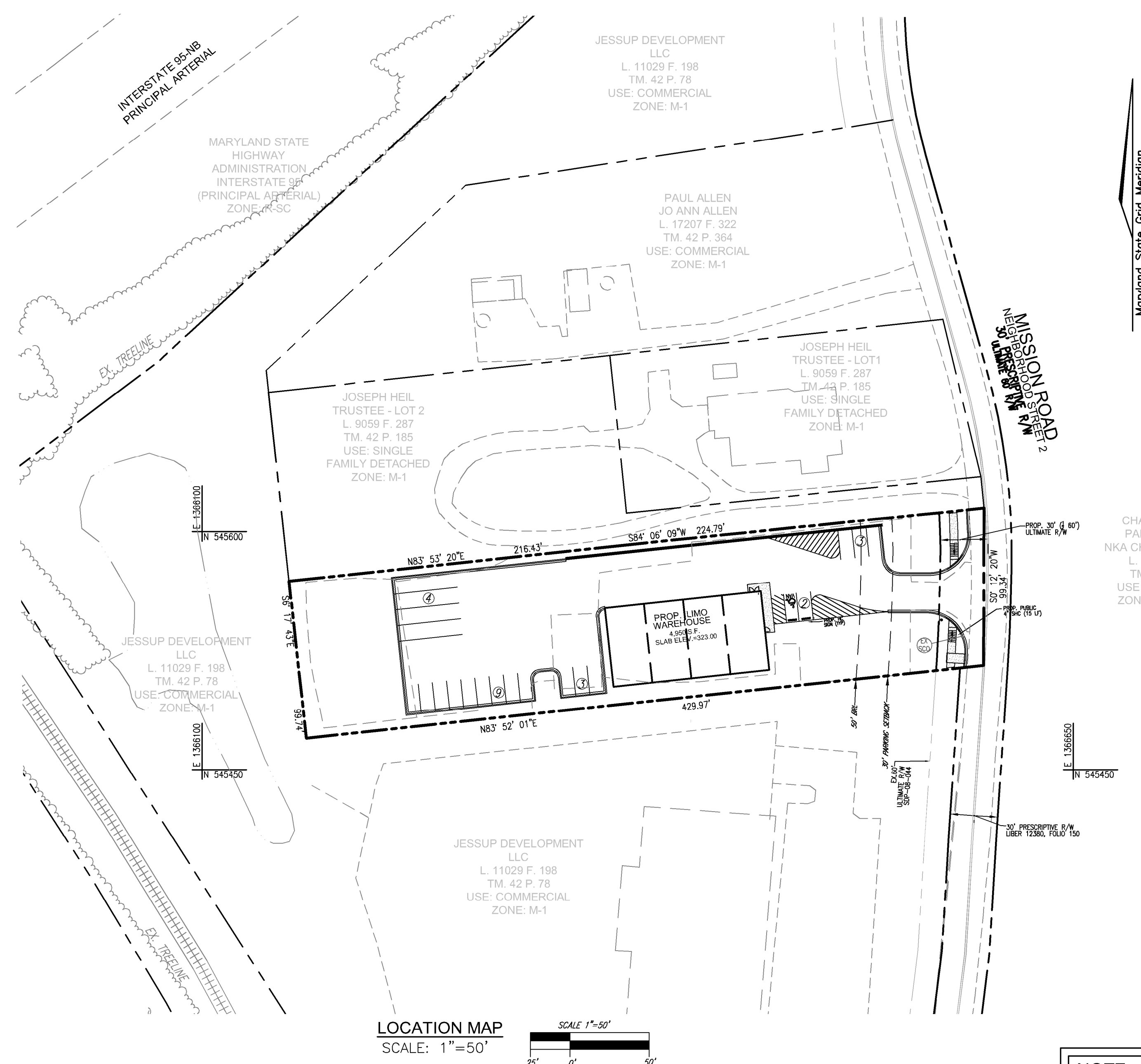
SITE DEVELOPMENT PLAN
8570 MISSION ROAD
PARCEL 352
8570 MISSION RD, JESSUP 20794
HOWARD COUNTY, MD

BENCHMARKS table with 2 columns: Benchmark Name, Elevation. Lists Howard County benchmarks 42B and 42CB.



VICINITY MAP
SCALE: 1"=2000'
ADC MAP/GRID NO. 5054/A4

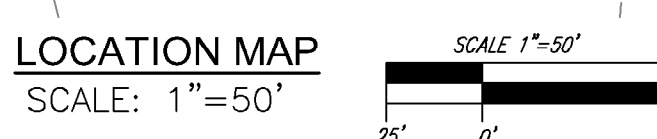
- 2. ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS, PLUS MSHA AND OSHA UNLESS WAIVERS HAVE BEEN APPROVED.
3. THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS...
4. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.



LEGEND table with 2 columns: Symbol, Description. Defines symbols for property lines, utility lines, and proposed features like curbs and sidewalks.

SHEET INDEX table with 3 columns: Description, Sheet No., and Sheet Count. Lists various site plan components like grading, storm drain, and landscape plans.

TRAFFIC NOTE:
A TRAFFIC EVALUATION REPORT WAS PREPARED BY THE "TRAFFIC GROUP" ON DECEMBER 21, 2022. THE PROPOSED USE WILL GENERATE FEWER THAN 5 PEAK HOUR TRIPS...
SUMMARY OF FINDINGS FOR APFO TRAFFIC ANALYSIS:
A. DATE OF REPORT: DECEMBER 21, 2022
B. DATE OF COUNTY: NOT APPLICABLE



GENERAL NOTES CONTINUED

SITE ANALYSIS DATA CHART table with 2 columns: Item, Value. Lists project area, parking spaces, and zoning information.

NOTE
THIS PLAN IS REQUIRED TO INITIATE THE PERMIT PROCESS IN AN EFFORT TO COMPLY WITH THE REQUIREMENTS OF HOWARD COUNTY DEPARTMENT OF INSPECTIONS LICENSING & PERMITS (DILP) NOTICE OF VIOLATION CB210583...

TEST PIT NOTE
CONTRACTOR SHALL TEST PIT FOR LOCATION AND DEPTH OF EXISTING UTILITIES AND STORM DRAINS PRIOR TO COMMENCEMENT OF ANY NEW CONSTRUCTION.

STORMWATER MANAGEMENT INFORMATION table with 5 columns: Facility Name & Number, Practice Type (Quality), Public/Private, Maintenance By, Notes. Lists bioretention practices for the site.

PARKING TABULATION
SECTION 133.0.D.B. - OTHER USES - (SEE NOTE 30)

Parking tabulation table with 2 columns: Required/Provided Spaces, Description. Shows 4 limousine cars and 4 limousine vans required, and 4 limousine spaces provided.

ADDRESS CHART table with 2 columns: Parcel #, Street Address. Shows parcel 352 at 8570 Mission Rd, Jessup MD 20794.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development Engineering Division: Chad Edmondson, Date: 6/27/2024
Chief, Division of Land Development: Linda Esenberg, Date: 7/1/2024

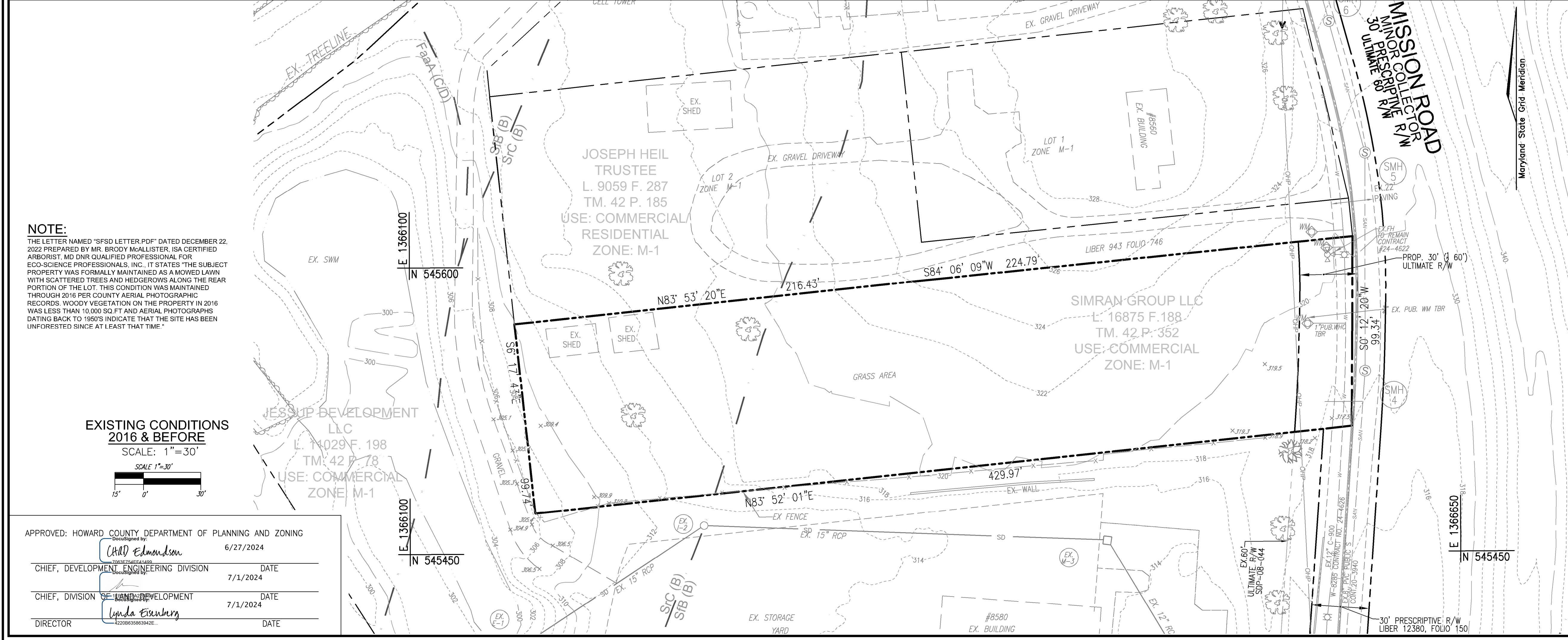
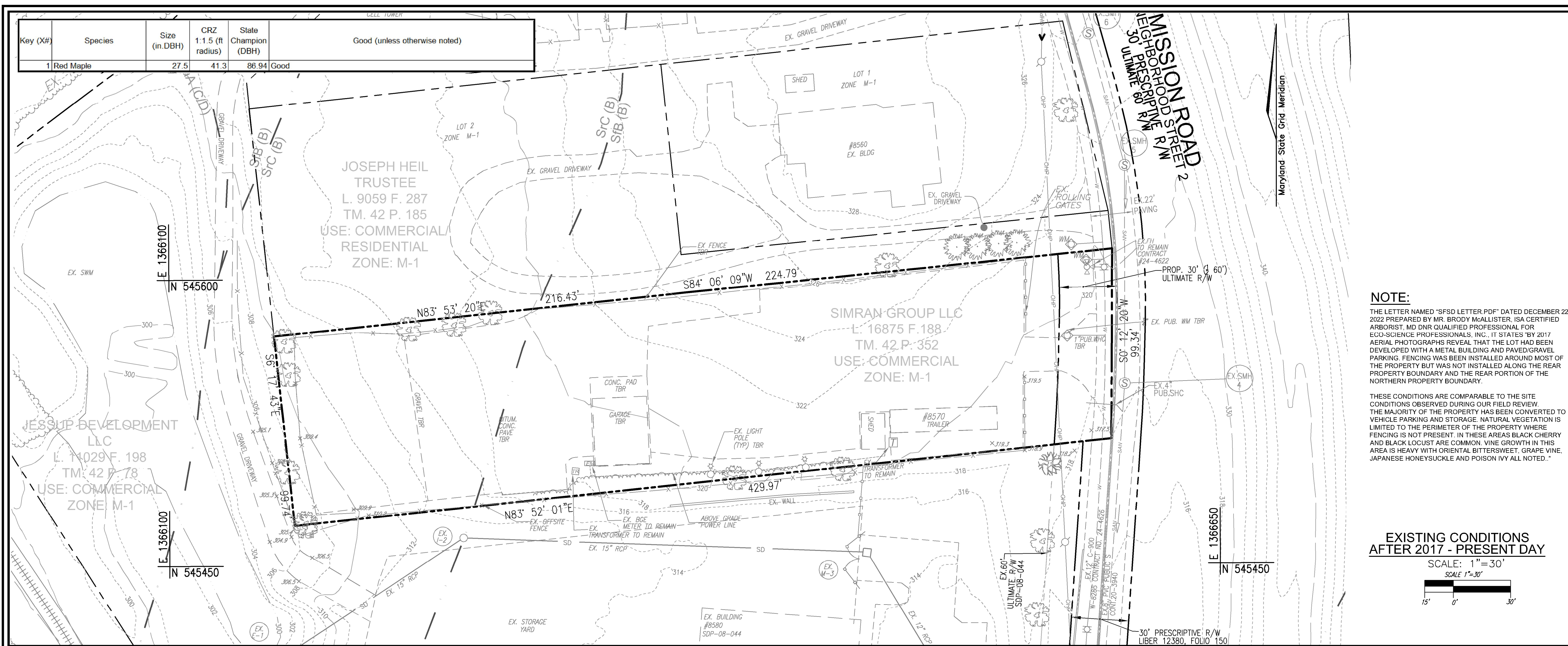
OWNER/DEVELOPER
SIMRAN GROUP, LLC
10427 SNOW POINT DRIVE
BETHESDA, MD 20814
PHONE: (410) 504-9416

Revision table with 3 columns: No., Revision, Date. Shows one revision for the cover sheet and location map.

SITE DEVELOPMENT PLAN
COVER SHEET & LOCATION MAP
8570 MISSION ROAD
DEED L.16875 - F.188
ZONED M-1
HOWARD COUNTY, MARYLAND

TAX MAP 42 BLOCK 18
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

Professional seal and signature of Robert H. Vogel, PE No. 16193, dated August 2023. Includes the text 'I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME...'.



LEGEND:

- EXISTING CONTOUR
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING EDGE OF PAVING
- ☀ EXISTING TREES
- EXISTING TREELINE
- WROUGHT IRON FENCE
- CHAIN LINK FENCE
- OHP OVERHEAD POWER LINE
- W UNDERGROUND WATER LINE
- SAN UNDERGROUND SANITATION LINE
- TREE LINE
- SIGN
- TELECOMMUNICATION PEDESTAL
- COMMUNICATION VAULT
- ELECTRIC TRANSFORMER W/ CONCRETE PAD
- EM ELECTRIC METER
- LIGHT POLE WITH CONCRETE BASE
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- SEWER MANHOLE
- GgC (B) SOIL TYPE
- GnB (C) SOIL TYPE

NOTE:
 THE LETTER NAMED "SFSO LETTER.PDF" DATED DECEMBER 22, 2022 PREPARED BY MR. BRODY McALLISTER, ISA CERTIFIED ARBORIST, MD DNR QUALIFIED PROFESSIONAL FOR ECO-SCIENCE PROFESSIONALS, INC., IT STATES "BY 2017 AERIAL PHOTOGRAPHS REVEAL THAT THE LOT HAD BEEN DEVELOPED WITH A METAL BUILDING AND PAVED/GRAVEL PARKING. FENCING WAS BEEN INSTALLED AROUND MOST OF THE PROPERTY BUT WAS NOT INSTALLED ALONG THE REAR PROPERTY BOUNDARY AND THE REAR PORTION OF THE NORTHERN PROPERTY BOUNDARY."
 THESE CONDITIONS ARE COMPARABLE TO THE SITE CONDITIONS OBSERVED DURING OUR FIELD REVIEW. THE MAJORITY OF THE PROPERTY HAS BEEN CONVERTED TO VEHICLE PARKING AND STORAGE. NATURAL VEGETATION IS LIMITED TO THE PERIMETER OF THE PROPERTY WHERE FENCING IS NOT PRESENT. IN THESE AREAS BLACK CHERRY AND BLACK LOCUST ARE COMMON. VINE GROWTH IN THIS AREA IS HEAVY WITH ORIENTAL BITTERSWEET, GRAPE VINE, JAPANESE HONEYSUCKLE AND POISON IVY ALL NOTED."

EXISTING CONDITIONS AFTER 2017 - PRESENT DAY
 SCALE: 1"=30'
 SCALE 1"=30'

MAPPED SOILS TYPES - HOWARD COUNTY, MARYLAND

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	Kw	RANGE	HIGHLY ERODIBLE
SIB	SASSAPARAS GRAVELLY SANDY LOAM 2 TO 5 PERCENT SLOPE	B	NO	0.32	NO	NO
SIC	SASSAPARAS AND GROOM SOILS 5 TO 10 PERCENT SLOPE	B	NO	0.32	NO	NO

NOTE: TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, AND HOWARD COUNTY SOIL CONSERVATION DISTRICT WEBSITE DOCUMENTS HTS://WWW.HOWARDSCD.ORG/DOCUMENTS
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

OWNER/DEVELOPER
 SIMRAN GROUP, LLC
 10427 SNOW POINT DRIVE
 BETHESDA, MD 20814
 PHONE: (410) 504-9416

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
EXISTING CONDITIONS PLAN
8570 MISSION ROAD
 DEED L.16875 - F.188 ZONED M-1
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

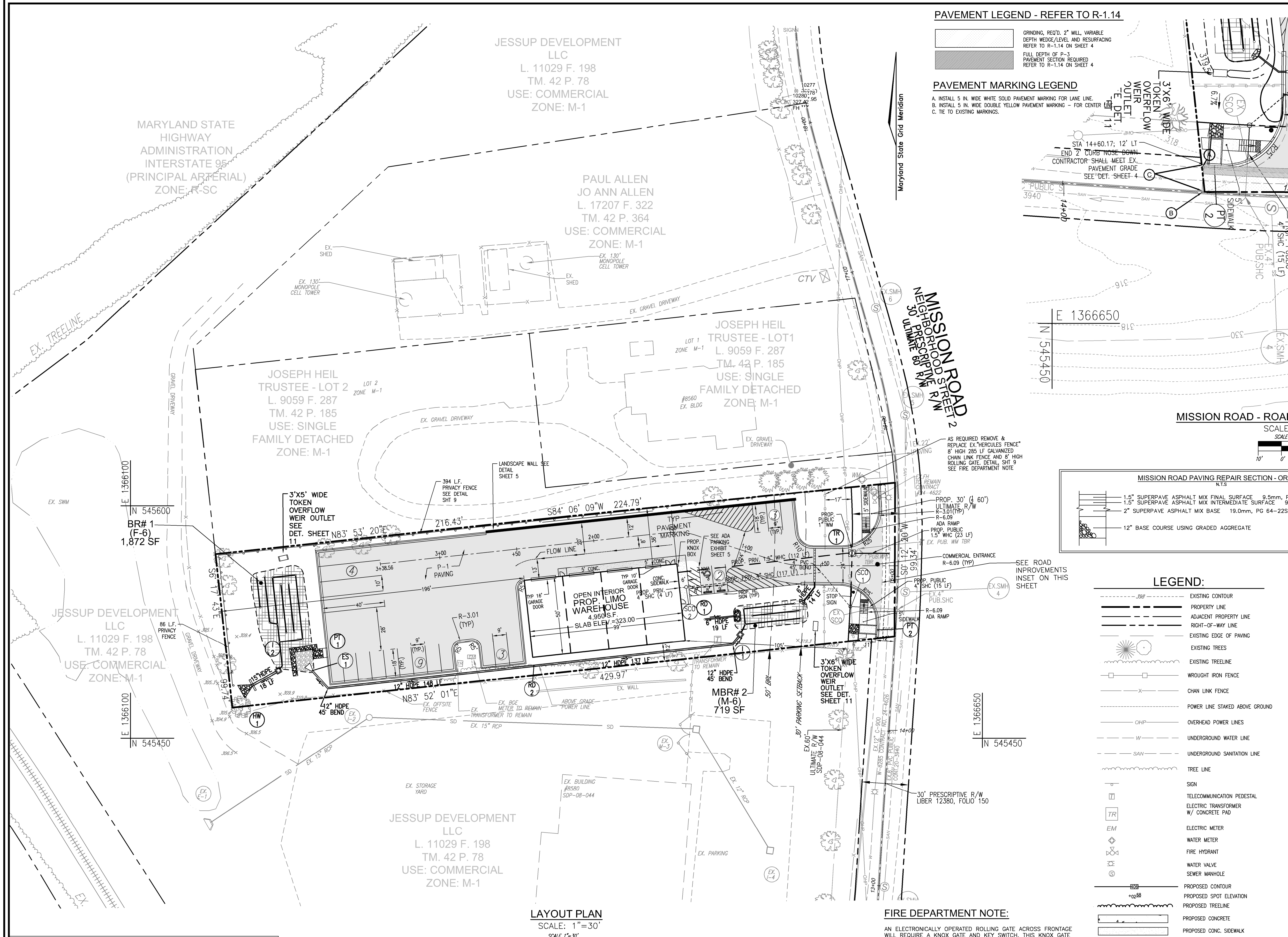
	DESIGN BY: RHY	PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 06-27-2024.
	DRAWN BY: ONB	
	CHECKED BY: RHY	
	DATE: AUGUST 2023	
	SCALE: AS SHOWN	
W.O. NO.: 49568	2 SHEET OF 12	

NOTE:
 THE LETTER NAMED "SFSO LETTER.PDF" DATED DECEMBER 22, 2022 PREPARED BY MR. BRODY McALLISTER, ISA CERTIFIED ARBORIST, MD DNR QUALIFIED PROFESSIONAL FOR ECO-SCIENCE PROFESSIONALS, INC., IT STATES "THE SUBJECT PROPERTY WAS FORMALLY MAINTAINED AS A MOWED LAWN WITH SCATTERED TREES AND HEDGEROWS ALONG THE REAR PORTION OF THE LOT. THIS CONDITION WAS MAINTAINED THROUGHOUT 2016 PER COUNTY AERIAL PHOTOGRAPHIC RECORDS. WOODY VEGETATION ON THE PROPERTY IN 2016 WAS LESS THAN 10,000 SQ.FT AND AERIAL PHOTOGRAPHS DATING BACK TO 1950'S INDICATE THAT THE SITE HAS BEEN UNFORESTED SINCE AT LEAST THAT TIME."

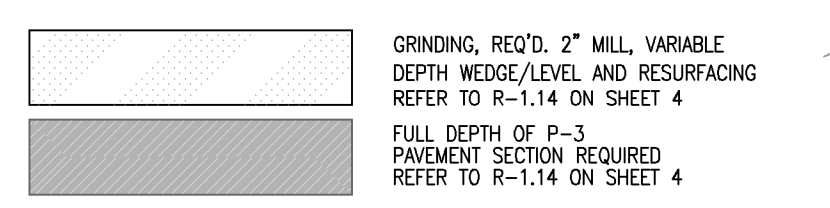
EXISTING CONDITIONS 2016 & BEFORE
 SCALE: 1"=30'
 SCALE 1"=30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DocuSigned by: AND Edmondson 03832744814169	6/27/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
7/1/2024	
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
7/1/2024	
DIRECTOR	DATE

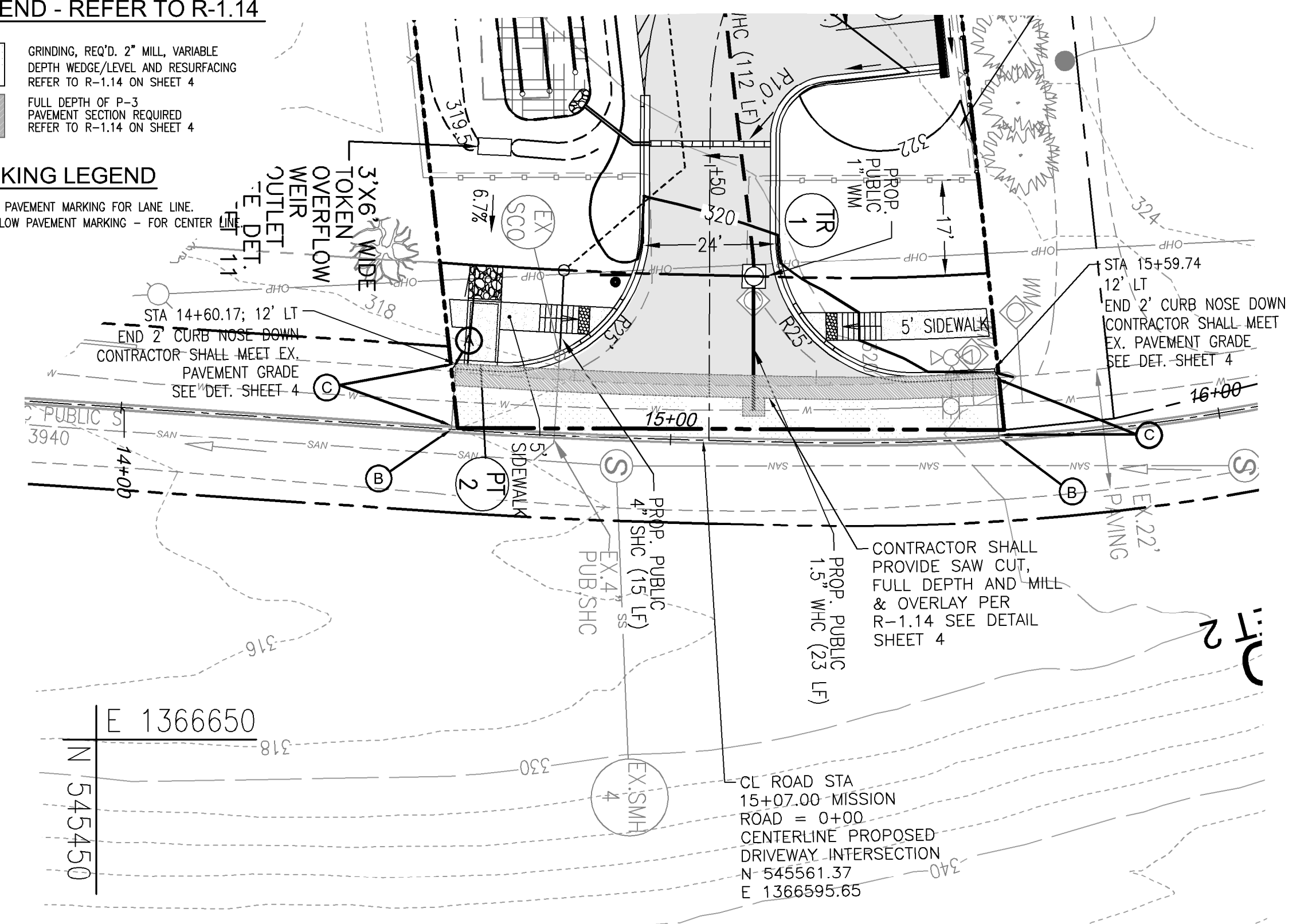


PAVEMENT LEGEND - REFER TO R-1.14

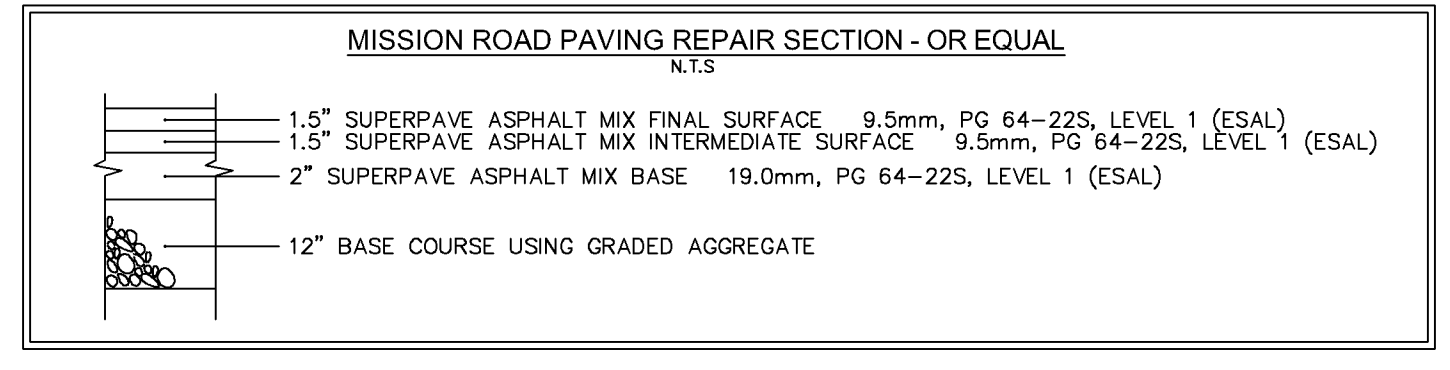
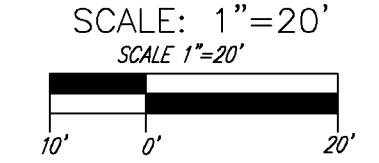


PAVEMENT MARKING LEGEND

- A. INSTALL 5 IN. WIDE WHITE SOLID PAVEMENT MARKING FOR LANE LINE.
- B. INSTALL 5 IN. WIDE DOUBLE YELLOW PAVEMENT MARKING - FOR CENTER C.T. TO EXISTING MARKINGS.
- C. TIE TO EXISTING MARKINGS.

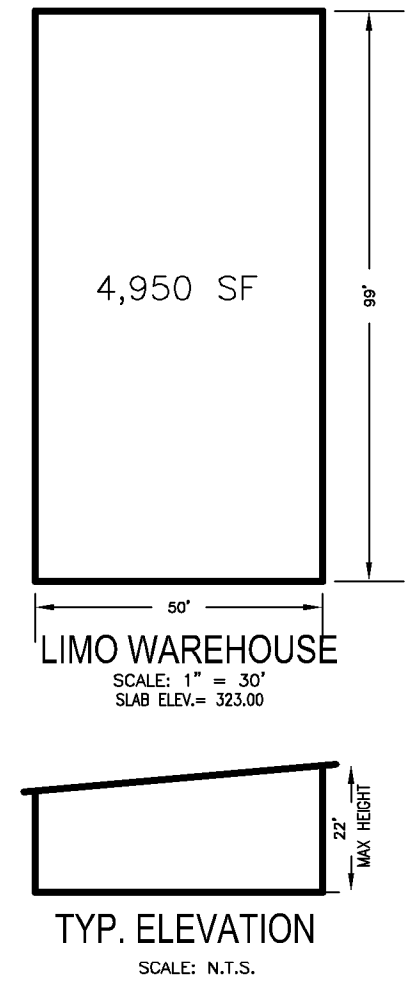


MISSION ROAD - ROAD IMPROVEMENTS INSET



LEGEND:

- EXISTING CONTOUR
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING EDGE OF PAVING
- EXISTING TREES
- EXISTING TREELINE
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- CHAIN LINK FENCE
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- OVERHEAD POWER LINES
- UNDERGROUND WATER LINE
- UNDERGROUND SANITATION LINE
- TREE LINE
- SIGN
- TELECOMMUNICATION PEDESTAL
- ELECTRIC TRANSFORMER W/ CONCRETE PAD
- ELECTRIC METER
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- SEWER MANHOLE
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED TREELINE
- PROPOSED CONCRETE
- PROPOSED CONC. SIDEWALK
- PROPOSED BITUMINOUS CONC. PAVEMENT SEE DETAIL ON THIS SHEET
- PROPOSED MICRO-BIORETENTION
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET



LIMO WAREHOUSE FRONT VIEW
OPEN INTERIOR
SCALE: N.T.S.

TYP. ELEVATION
SCALE: N.T.S.

OWNER/DEVELOPER

SIMRAN GROUP, LLC
10427 SNOW POINT DRIVE
BETHESDA, MD 20814
PHONE: (410) 504-9416

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN LAYOUT PLAN

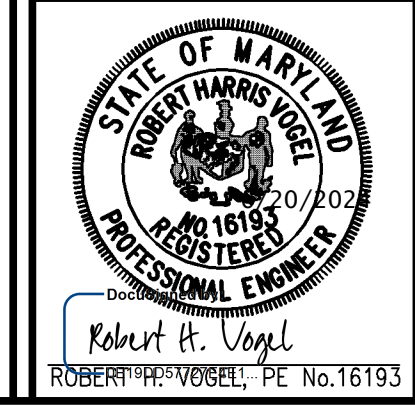
8570 MISSION ROAD

TAX MAP 42 BLOCK 18 DEED L.16875 - F.188 ZONED M-1
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND PARCEL 352

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: RHV
DRAWN BY: ONB
CHECKED BY: RHV
DATE: AUGUST 2023
SCALE: AS SHOWN
W.O. NO.: 49568

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 08-27-2024

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
6/27/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

SIGNAGE LOCATION CHART

ROAD NAME	STATION	OFFSET	TYPE
MISSION ROAD	14+88.92	28.31' L	"STOP"

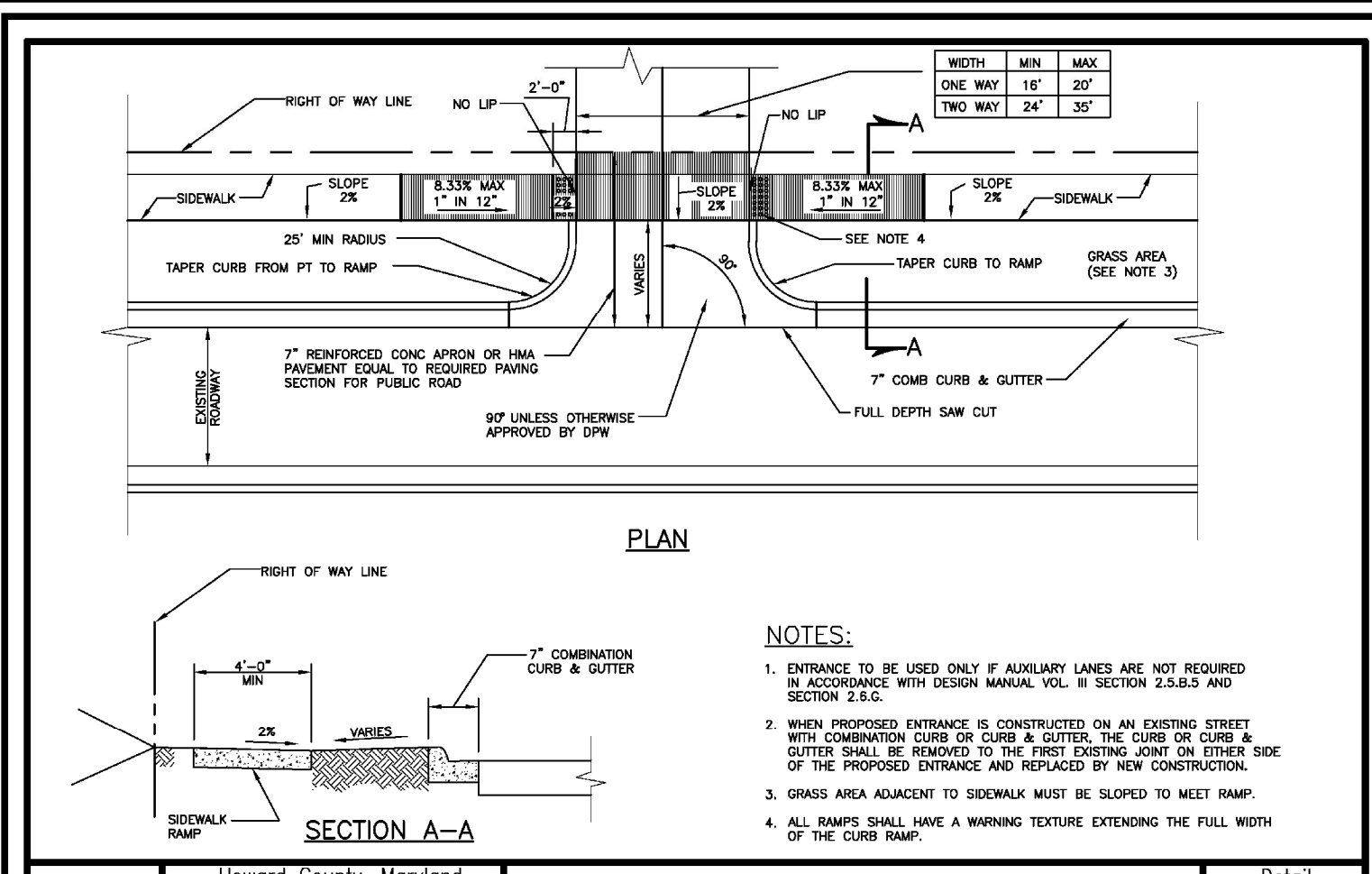
NOTE:
ALL SIGN LOCATIONS ARE APPROXIMATE. HOWARD COUNTY TRAFFIC SHALL FIELD APPROVE OR MARK ALL SIGN LOCATIONS PRIOR TO ANY SIGNS BEING INSTALLED. CALL 410-313-5752.

NOTE:

- ANY DAMAGE INCURRED TO THE EXISTING UTILITIES, DUE TO CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S /DEVELOPER'S EXPENSE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

FIRE DEPARTMENT NOTE:

AN ELECTRONICALLY OPERATED ROLLING GATE ACROSS FRONTAGE WILL REQUIRE A KNOX GATE AND KEY SWITCH. THIS KNOX GATE AND KEY SWITCH IS REQUIRED IN ADDITION TO THE KNOX BOX ON THE BUILDING.
A MANUALLY OPERATED GATE ACROSS THE FRONTAGE REQUIRES ACCESS BY A KNOX PADLOCK.



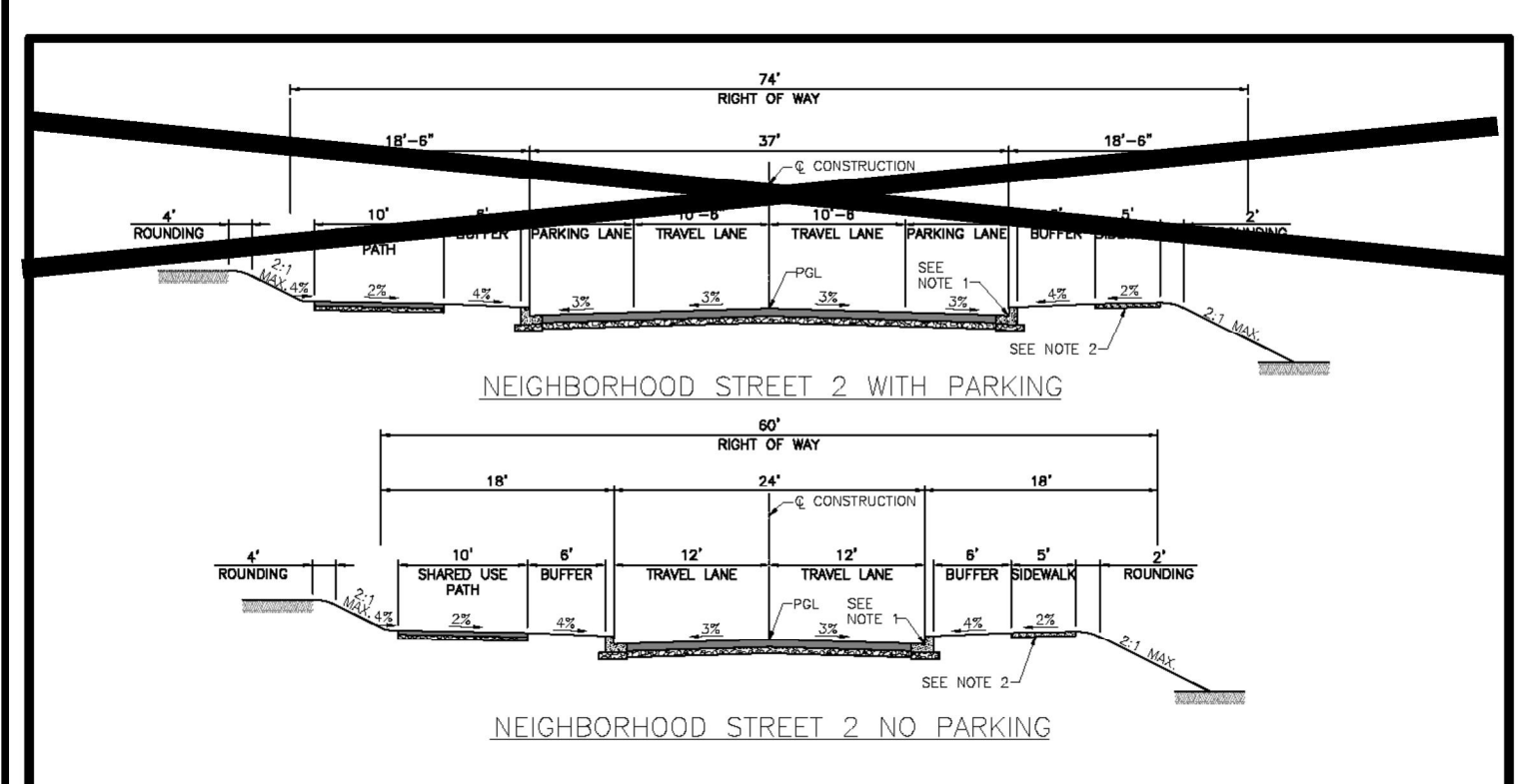
Howard County, Maryland
Department of Public Works
Entrance on Closed Section Roadway
(≤ 200 V.P.H.)

Detail R-6.09

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO 4.5				4.5 TO 7				7 TO 15			
			MIN. SUPERFINE ASPHALT MIX WITH GAB	MIN. SUPERFINE ASPHALT MIX WITH CONSTANT GAB	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE	MIN. SUPERFINE ASPHALT MIX WITH INTERMEDIATE SURFACE
P-1	PARKING BASE RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-2	PAVING BASE RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL BOULEVARD ACCESS PLACE, ACCESS STREET CUL-DE-SAC RESIDENTIAL		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-3	PARKING DRIVE WALKS RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY ACCESS PLACE, ACCESS STREET CUL-DE-SAC MINOR COLLECTORS RESIDENTIAL		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
P-4	MAJOR COLLECTORS		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

Howard County, Maryland
Department of Public Works
Paving Sections P-1 to P-4

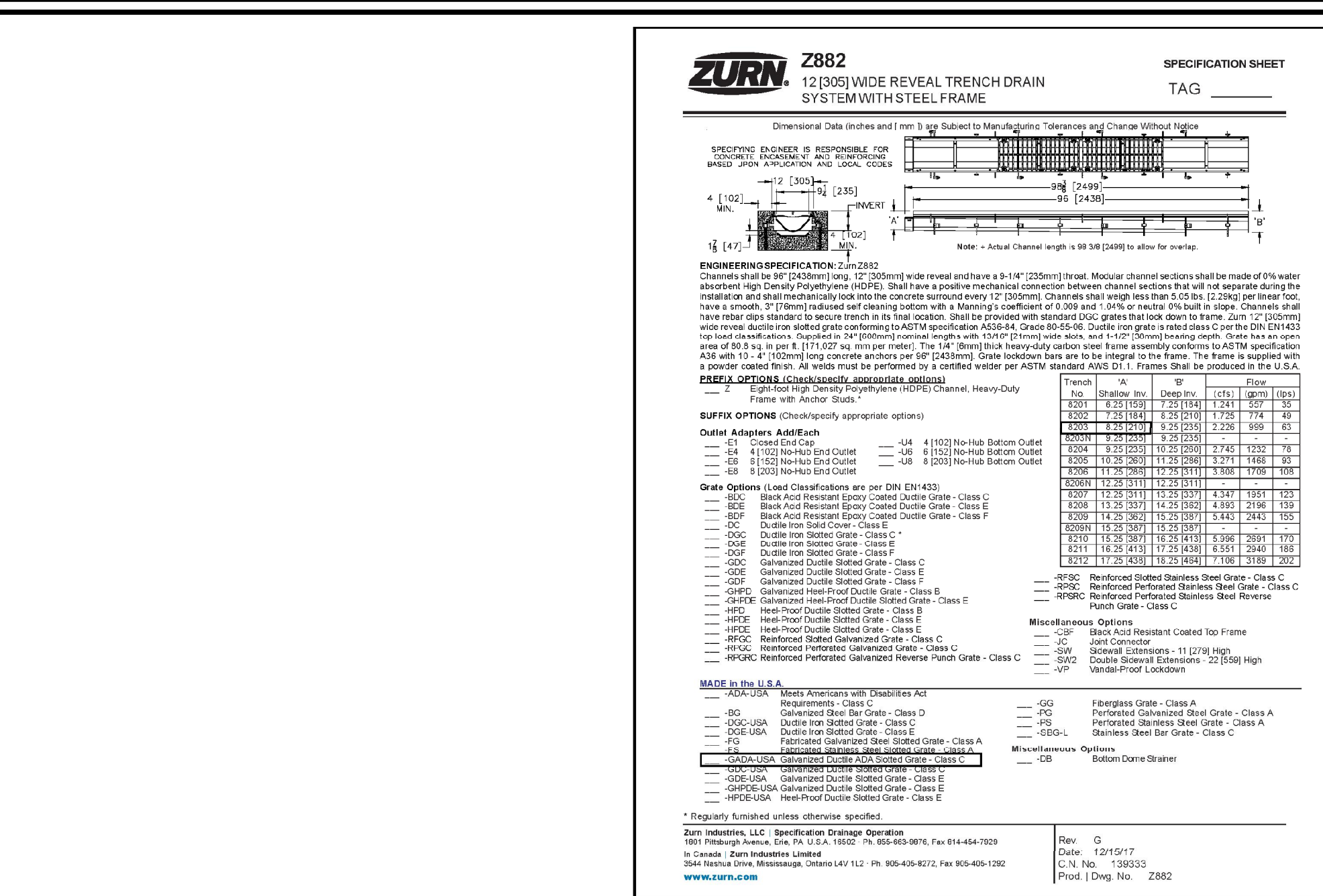
Detail R-2.01



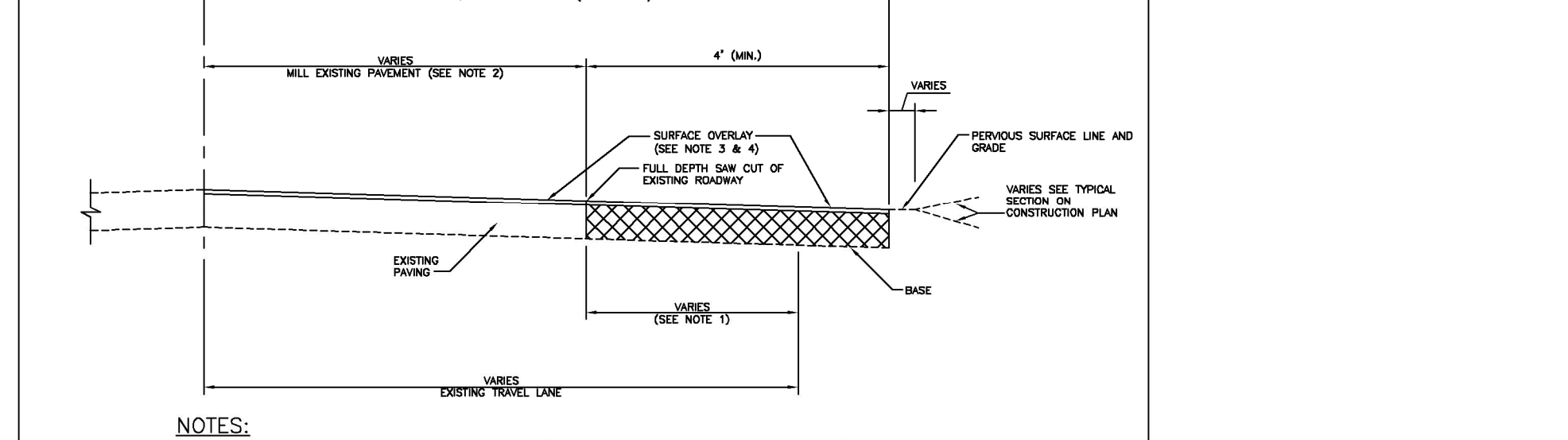
Howard County, Maryland
Department of Public Works
Typical Sections Neighborhood Street 2

Detail R-1.07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
6/27/2024
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE 7/1/2024
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE 7/1/2024
DIRECTOR
DATE

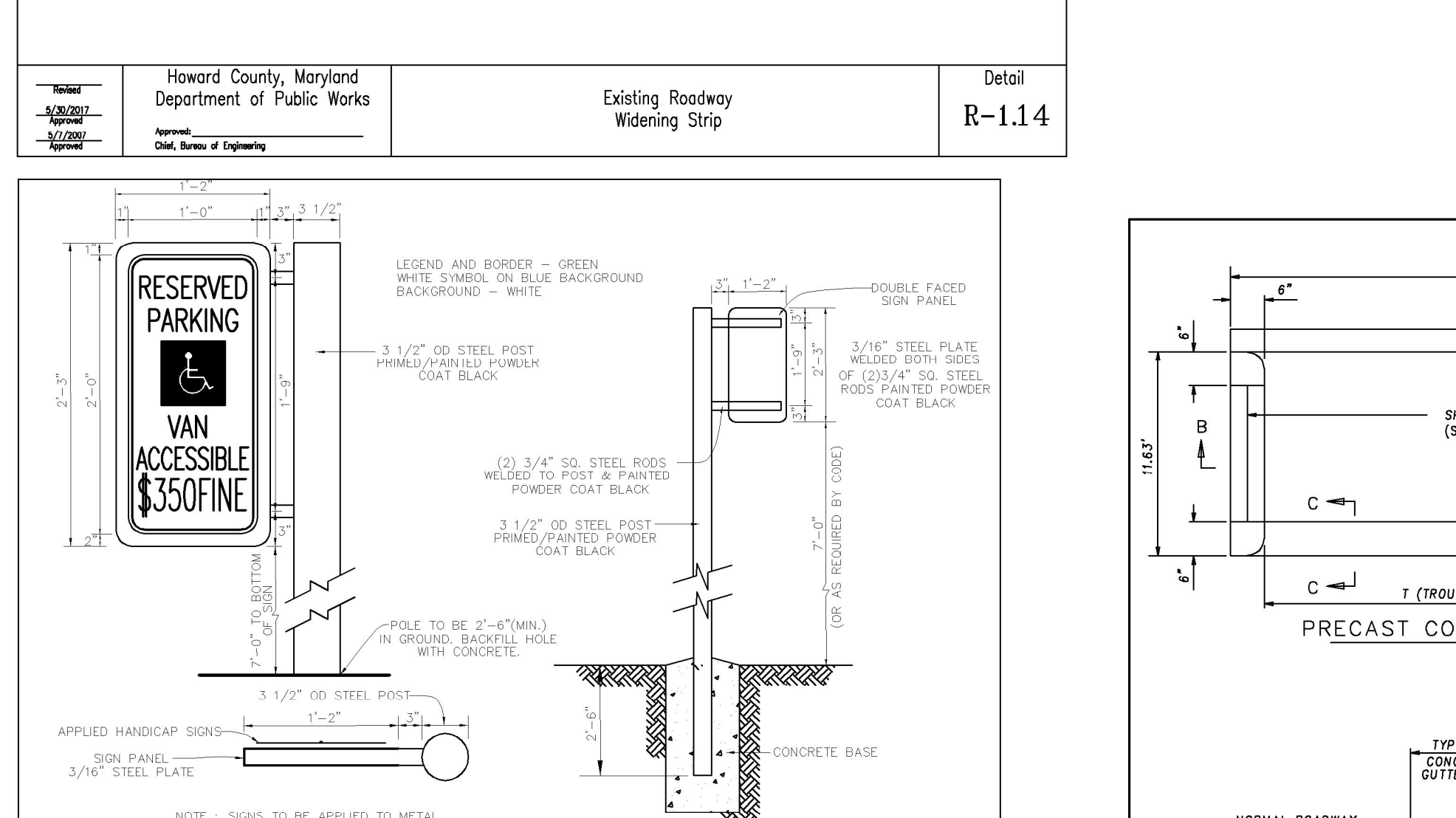


ZURN Z882 12' (305) WIDE REVEAL TRENCH DRAIN SYSTEM WITH STEEL FRAME

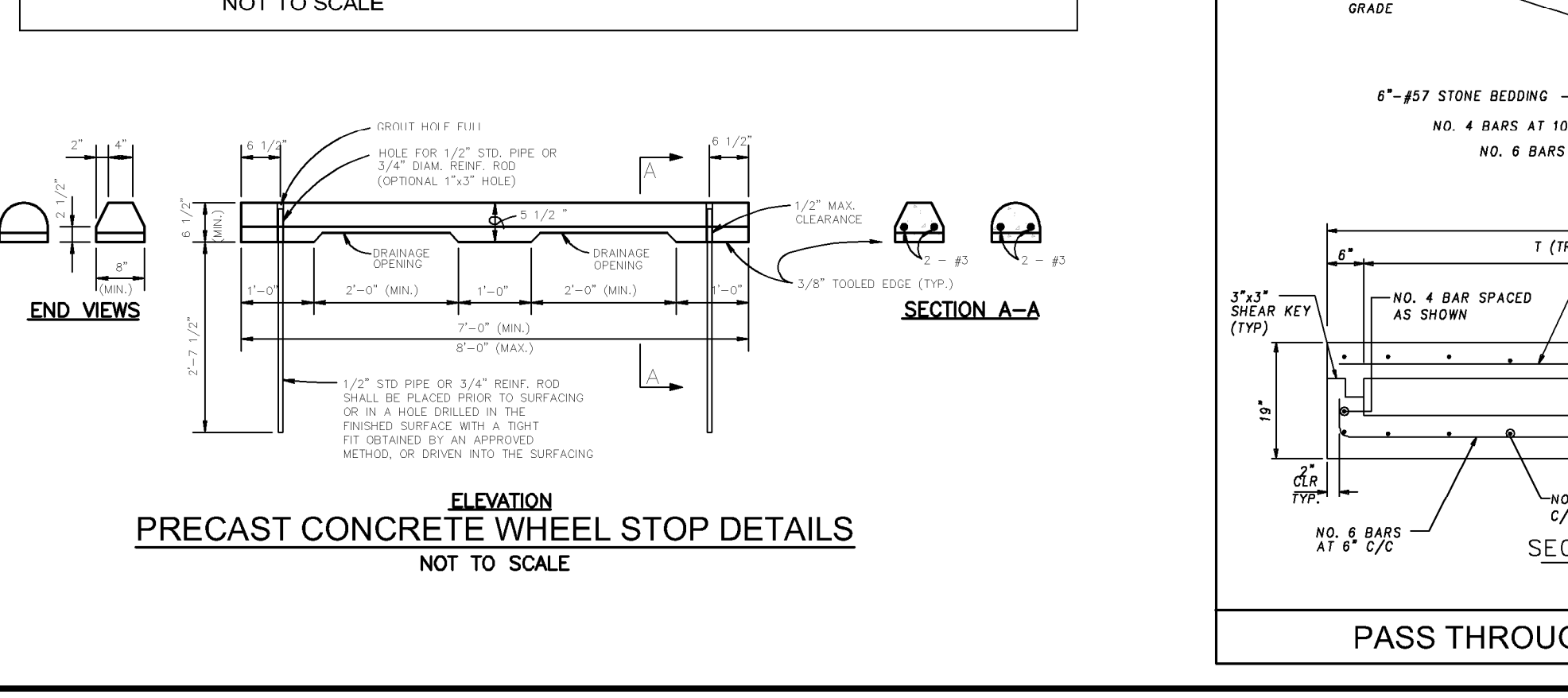


Howard County, Maryland
Department of Public Works
Existing Roadway Widening Strip

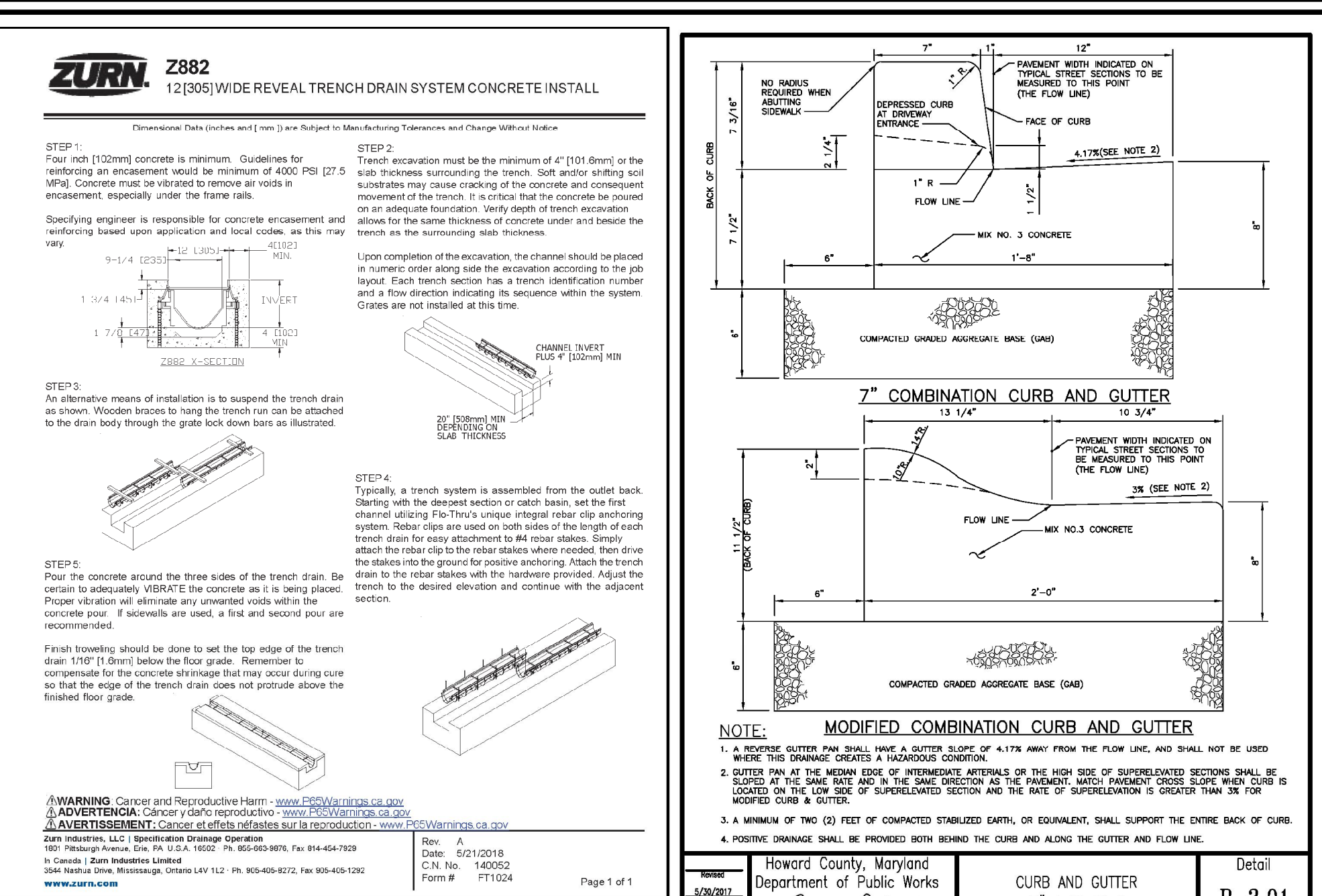
Detail R-1.14



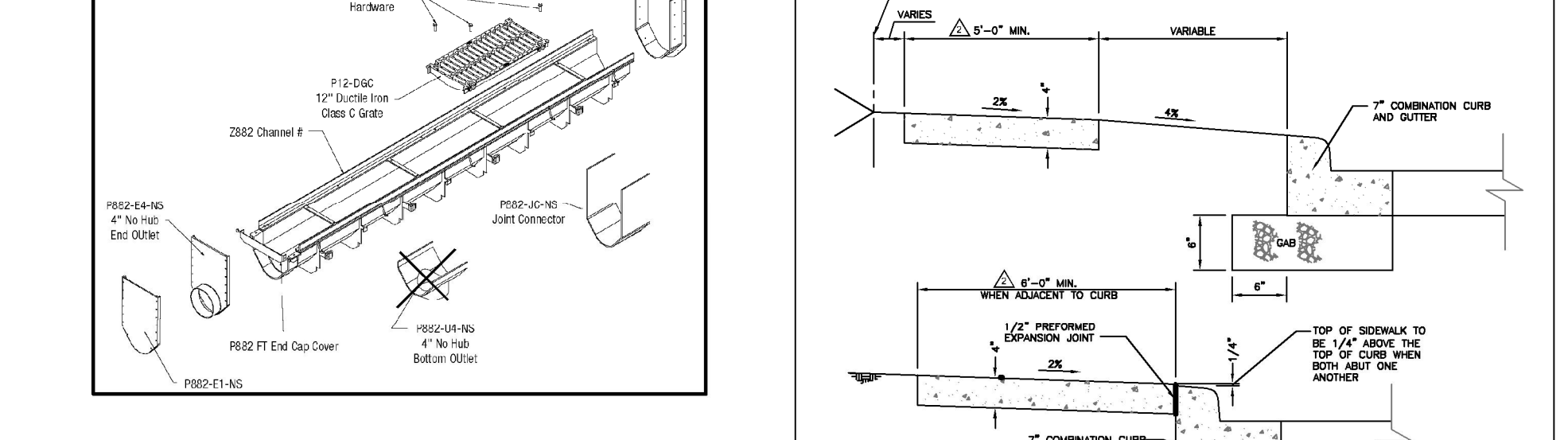
Mounting Detail for Parking Restriction Sign
NOT TO SCALE



Precast Concrete Wheel Stop Details
NOT TO SCALE

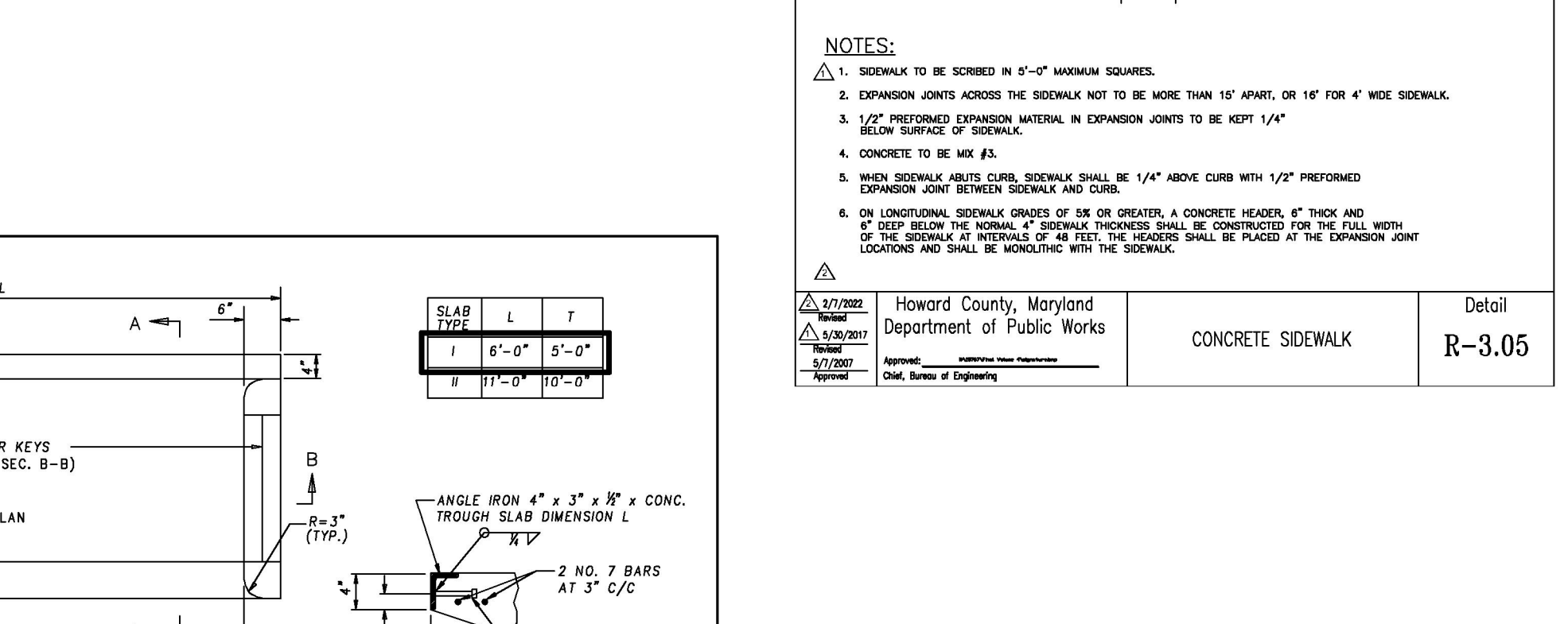


ZURN Z882 12' (305) WIDE REVEAL TRENCH DRAIN SYSTEM CONCRETE INSTALL



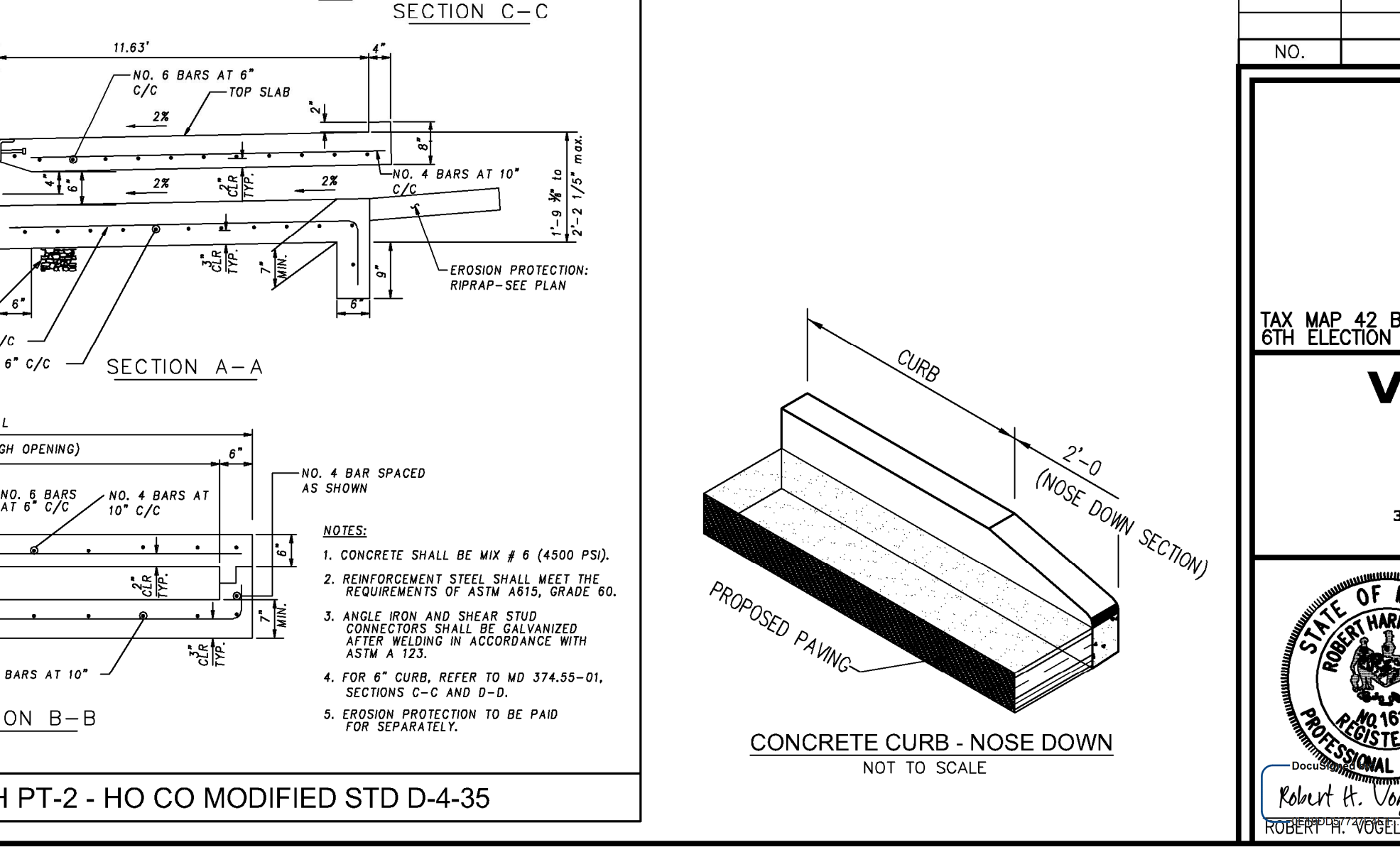
Howard County, Maryland
Department of Public Works
Curb and Gutter 7' Modified

Detail R-3.01

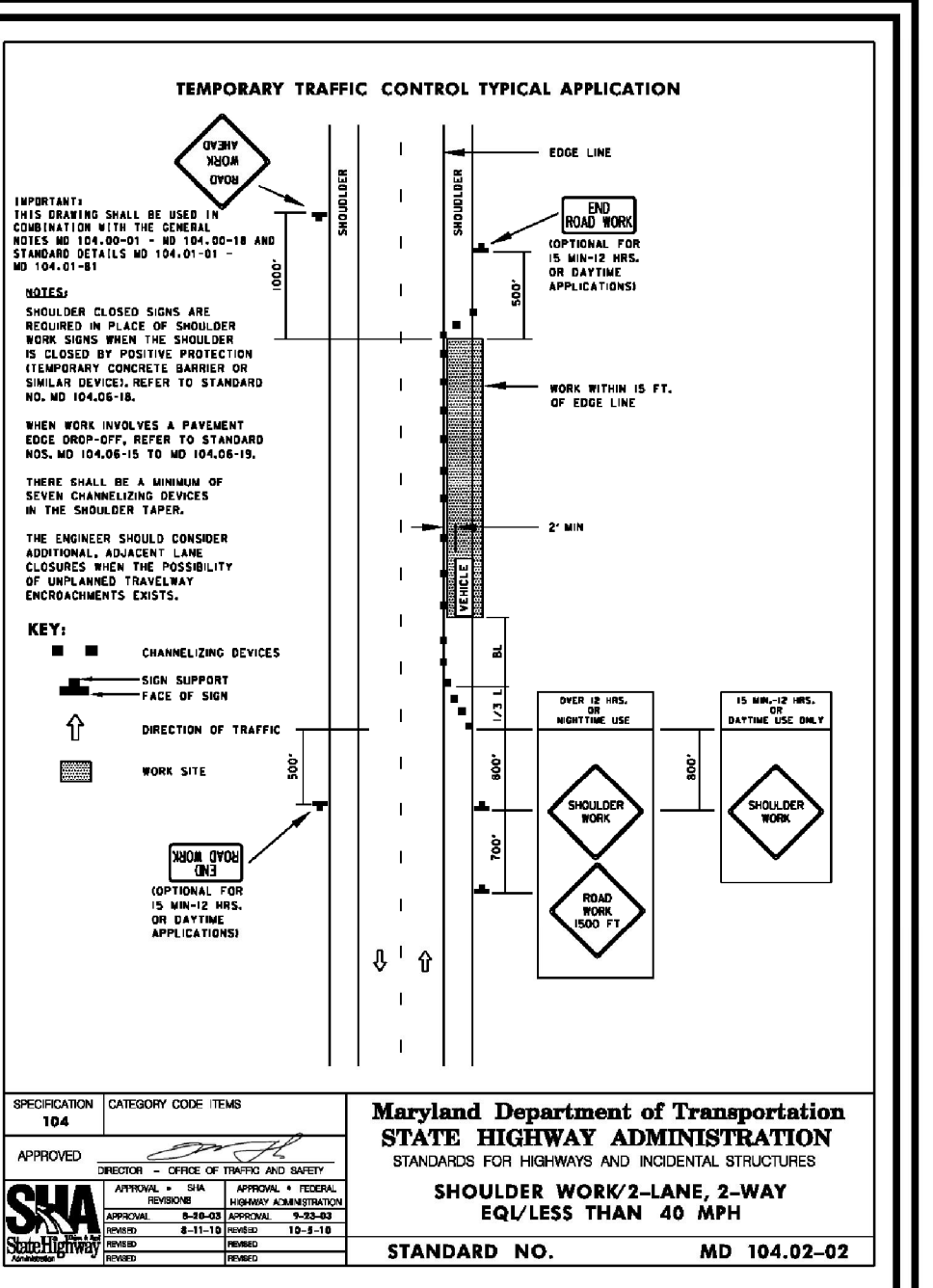


Howard County, Maryland
Department of Public Works
Concrete Sidewalk

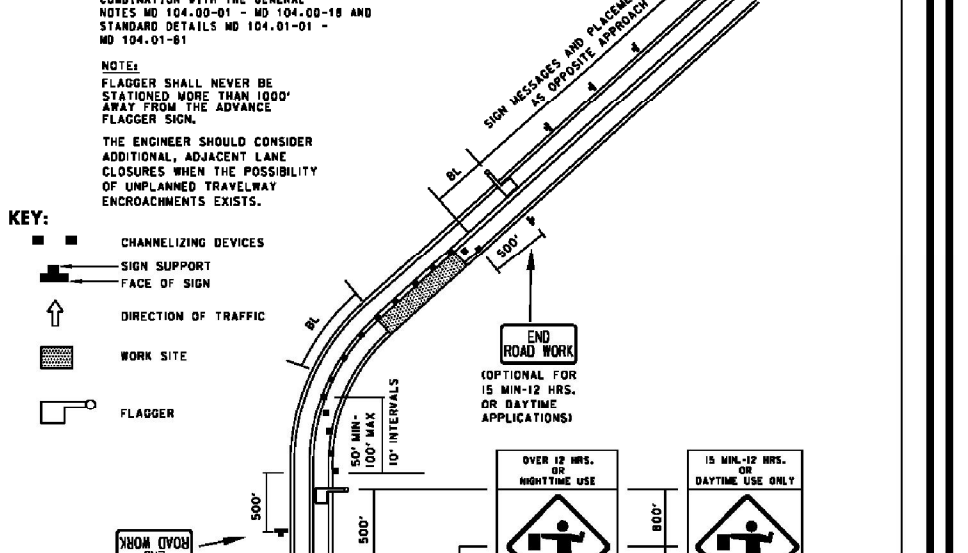
Detail R-3.05



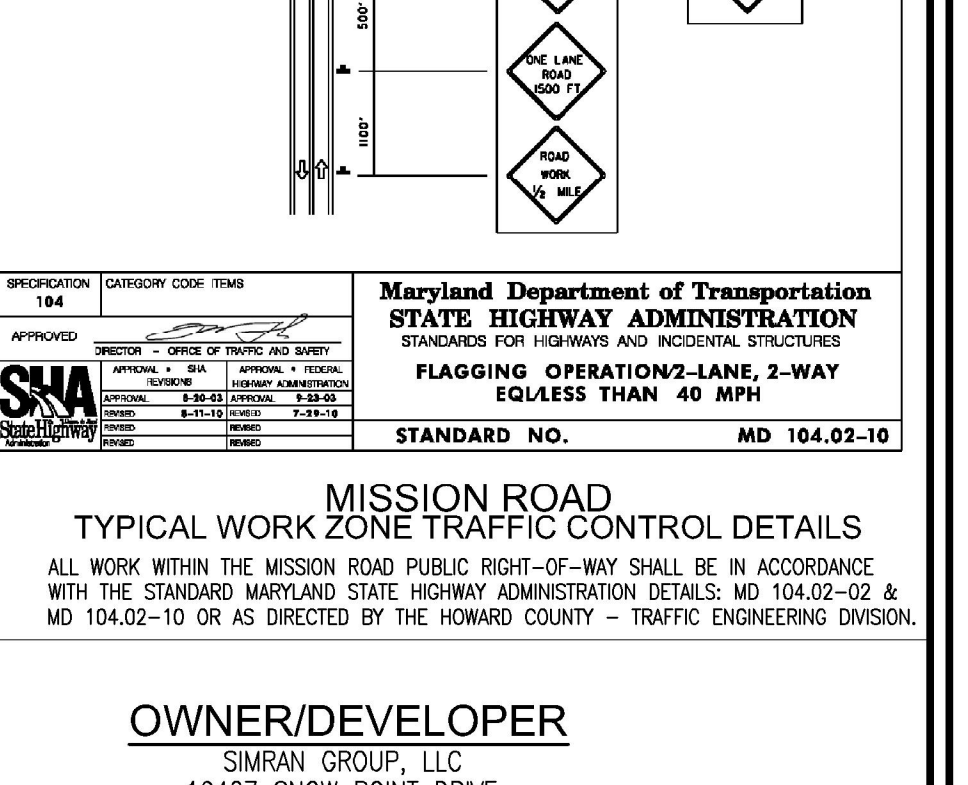
Precast Concrete Top Slab
Pass Through PT-2 - HO CO Modified STD D-4-35



TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



Typical Work Zone Traffic Control Details



MISSION ROAD
SITE DEVELOPMENT PLAN
SITE DETAILS

8570 MISSION ROAD
DEED L.16875 - F.188
ZONED M-1
PARCEL 352
HOWARD COUNTY, MARYLAND

TAX MAP 42 BLOCK 18
6TH ELECTION DISTRICT

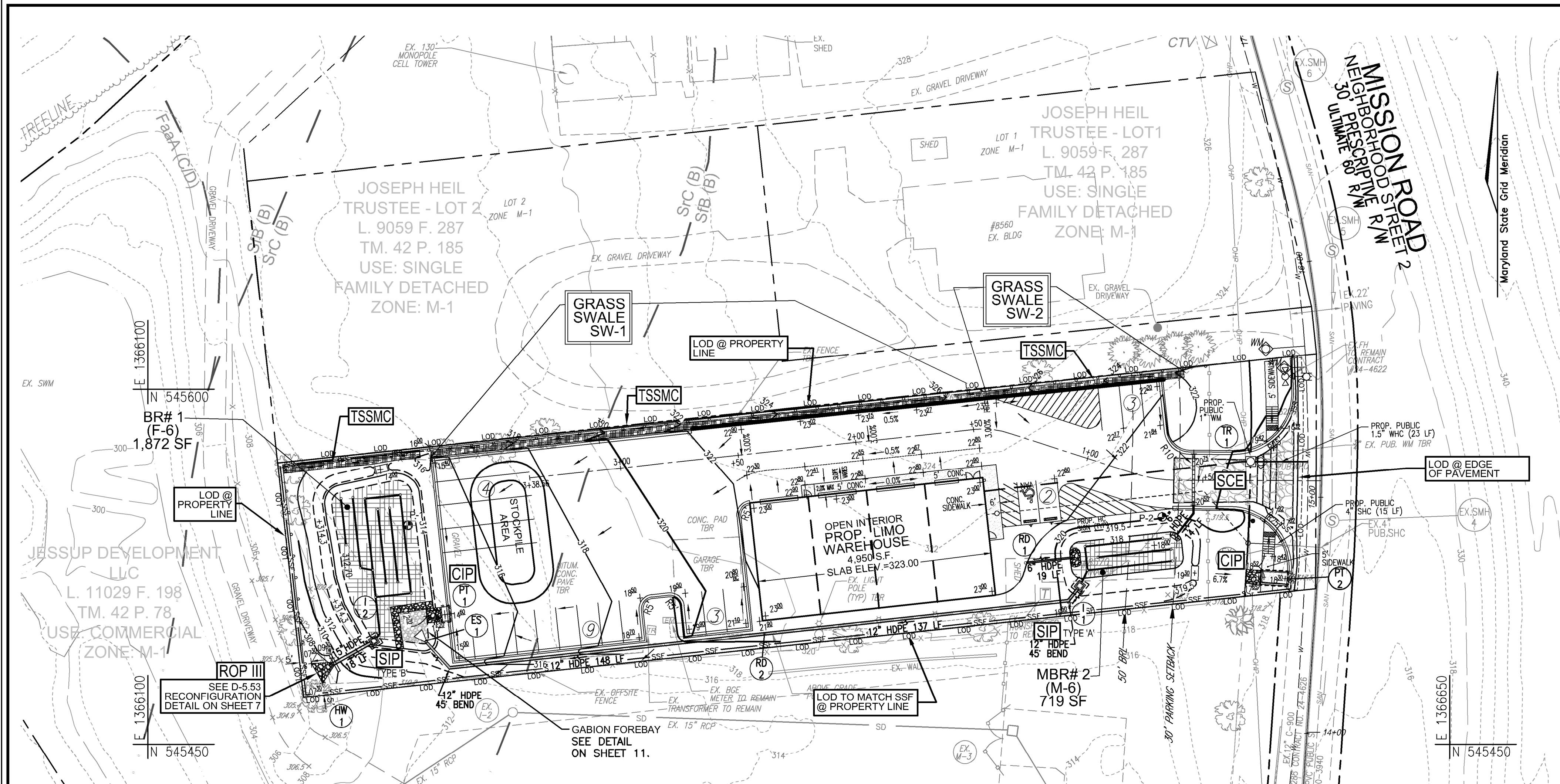
OWNER/DEVELOPER
SIMRAN GROUP, LLC
10427 SNOW POINT DRIVE
BETHESDA, MD 20814
PHONE: (410) 504-9416

VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHV
DRAWN BY: ONB
CHECKED BY: RHV
DATE: AUGUST 2023
SCALE: AS SHOWN
W.C.O. NO.: 4956B

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. 16193, EXPIRATION DATE: 09-27-2024

4 SHEET OF 12



NOTE:
 1. STABILIZATION IS TO BE DONE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 STDS. & SPECS. WHICHEVER IS MORE RESTRICTIVE.
 2. LOCATE STOCKPILE AS SHOWN HEREON OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR. ANY STOCKPILES EXCEEDING 15 FEET IN HEIGHT SHALL BE BENCHED.
 3. SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 4. SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART.
 5. DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

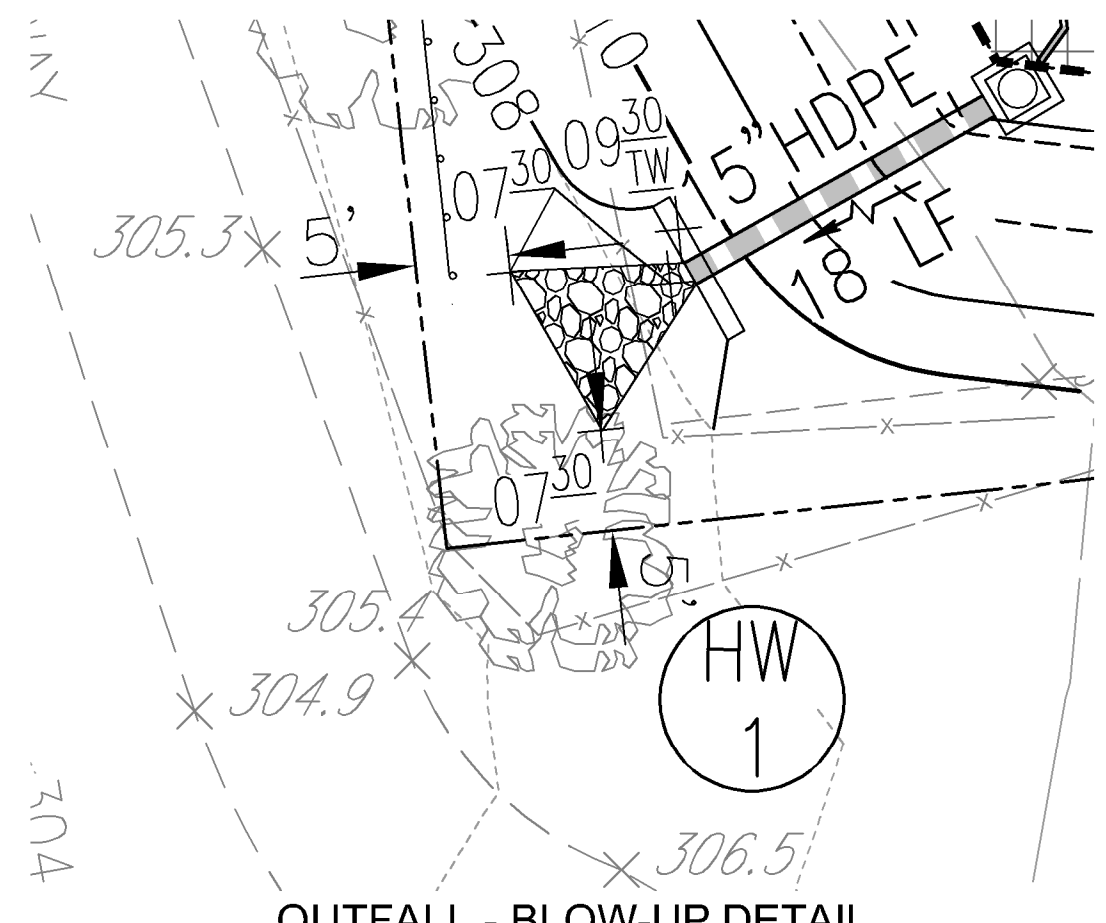
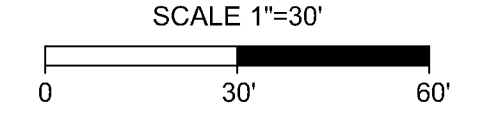
NOTE:
 EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

LEGEND:

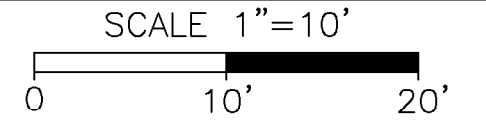
---	EXISTING CONTOUR	◆	WATER METER
---	PROPERTY LINE	◆	FIRE HYDRANT
---	ADJACENT PROPERTY LINE	◆	SOIL TYPE
---	RIGHT-OF-WAY LINE	◆	PROPOSED CONTOUR
---	EXISTING EDGE OF PAVING	◆	PROPOSED SPOT ELEVATION
---	EXISTING TREES	◆	PROPOSED TREELINE
---	EXISTING TREELINE	◆	PROPOSED MICRO-BIORETENTION
---	WROUGHT IRON FENCE	◆	PROPOSED STORM DRAIN
---	CHAIN LINK FENCE	◆	PROPOSED STORM DRAIN INLET
---	POWER LINE STAKED ABOVE GROUND	◆	PRIVATE WATER
---	OVERHEAD POWER LINES	---	PRIVATE SEWER
---	UNDERGROUND WATER LINE	---	STANDARD INLET PROTECTION
---	UNDERGROUND SANITATION LINE	---	ROCK OUTLET PROTECTION
---	SHRUB LINE	---	TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION
---	TREE LINE	---	SSF SUPER SILT FENCE
---	TELECOMMUNICATION PEDESTAL	---	STABILIZED CONSTRUCTION ENTRANCE
---	COMMUNICATION VAULT	---	LOD LIMIT OF DISTURBED AREA
---	ELECTRIC TRANSFORMER W/ CONCRETE PAD	---	P-1 TEST PIT
---	ELECTRIC METER		
---	LIGHT POLE WITH CONCRETE BASE		

NOTE:
 FOR BR#1 AND MBR#2 CONSTRUCTION DETAILS TO INCLUDE UNDERDRAIN, OVERDRAIN DETAILING, REFER TO SHEETS 11 & 12.

GRADING, SOIL EROSION & SEDIMENT CONTROL PLAN



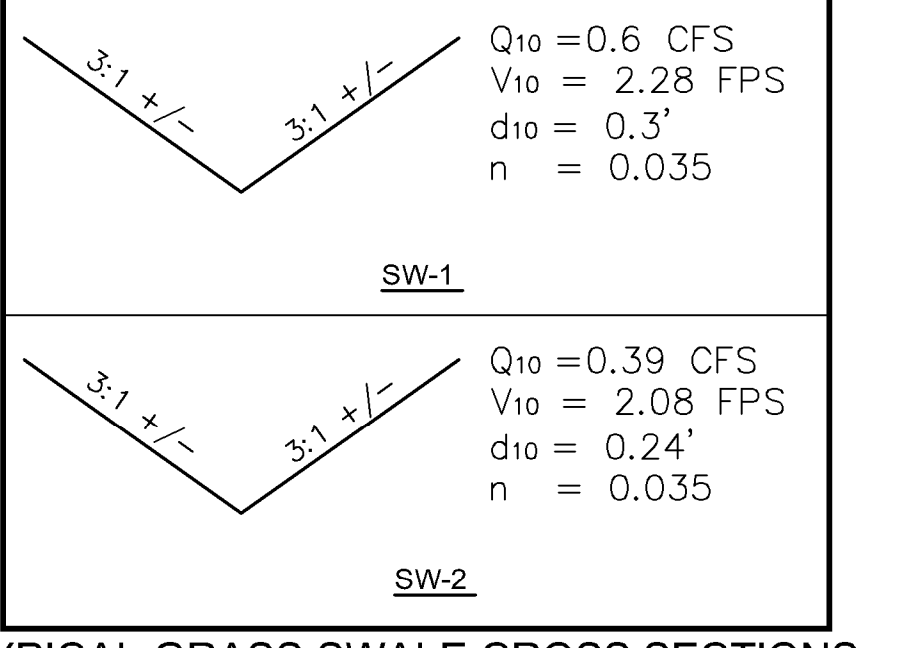
OUTFALL - BLOW-UP DETAIL



MAPPED SOILS TYPES - HOWARD COUNTY, MARYLAND

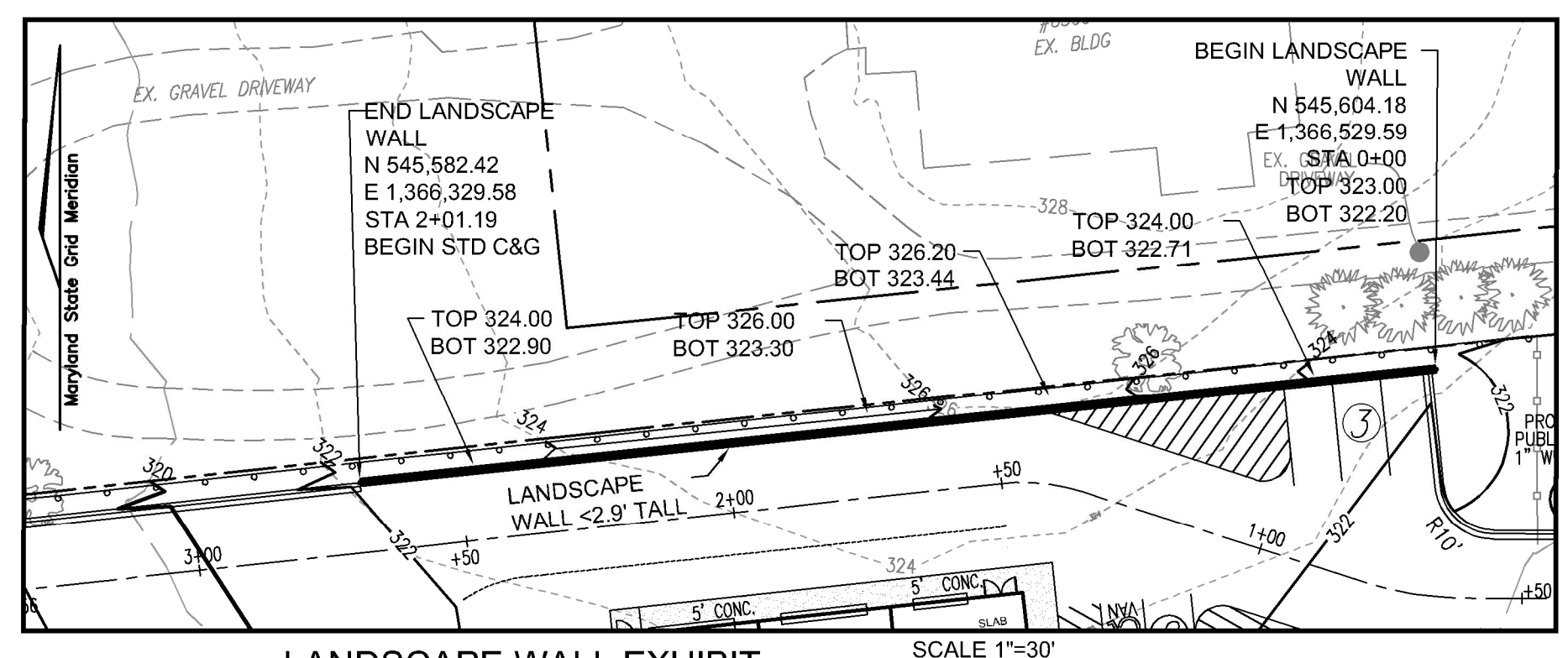
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	Kw	RANGE*	HIGHLY ERODIBLE
S19	SASSAPRAS GRAVELLY SANDY LOAM - 2 TO 5 PERCENT SLOPE	B	NO	0.32	NO	NO
S1C	SASSAPRAS AND GROOM SOILS - 5 TO 10 PERCENT SLOPE	B	NO	0.32	NO	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
NOTE:
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

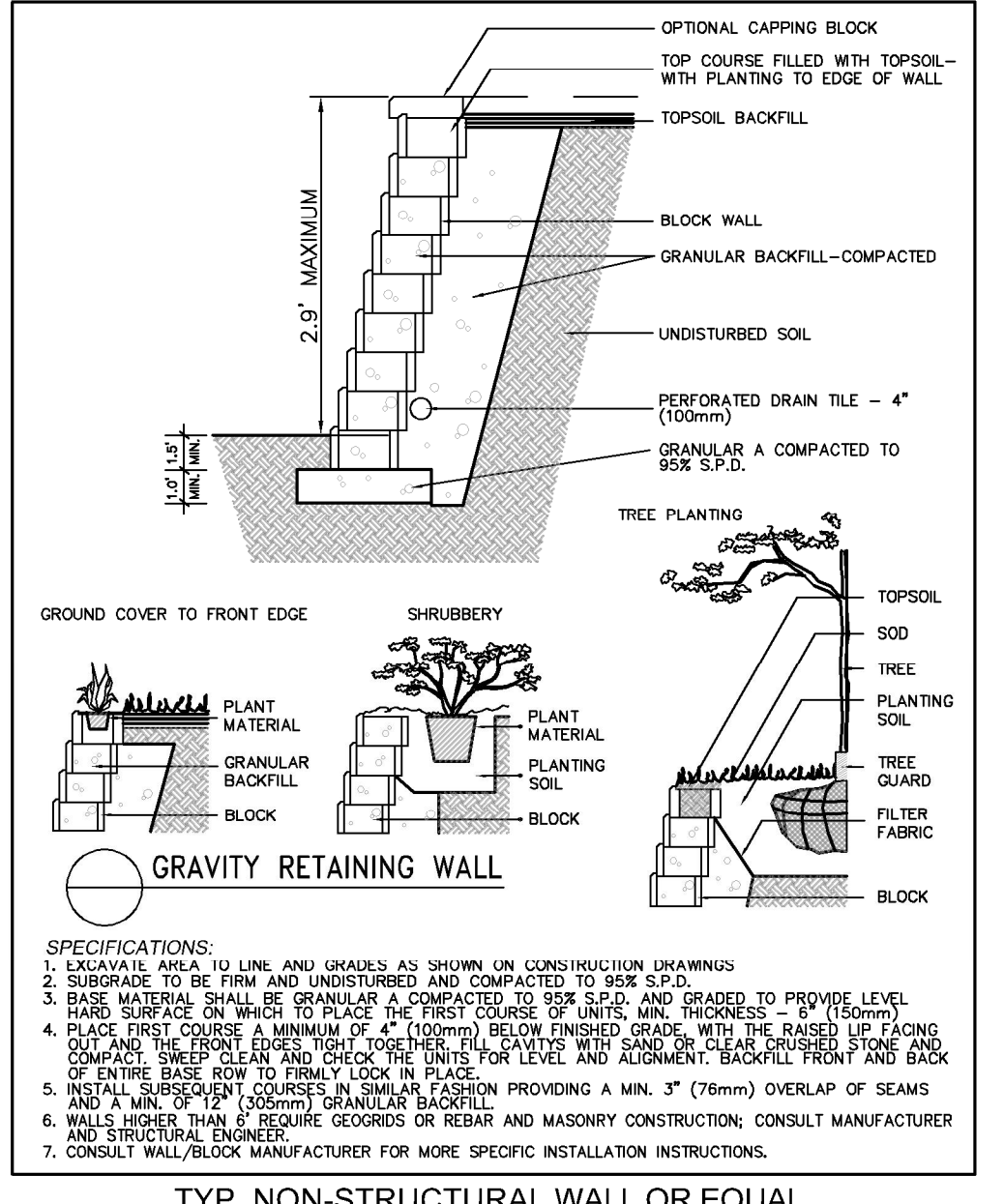


TYPICAL GRASS SWALE CROSS SECTIONS
 SCALE : N.T.S.

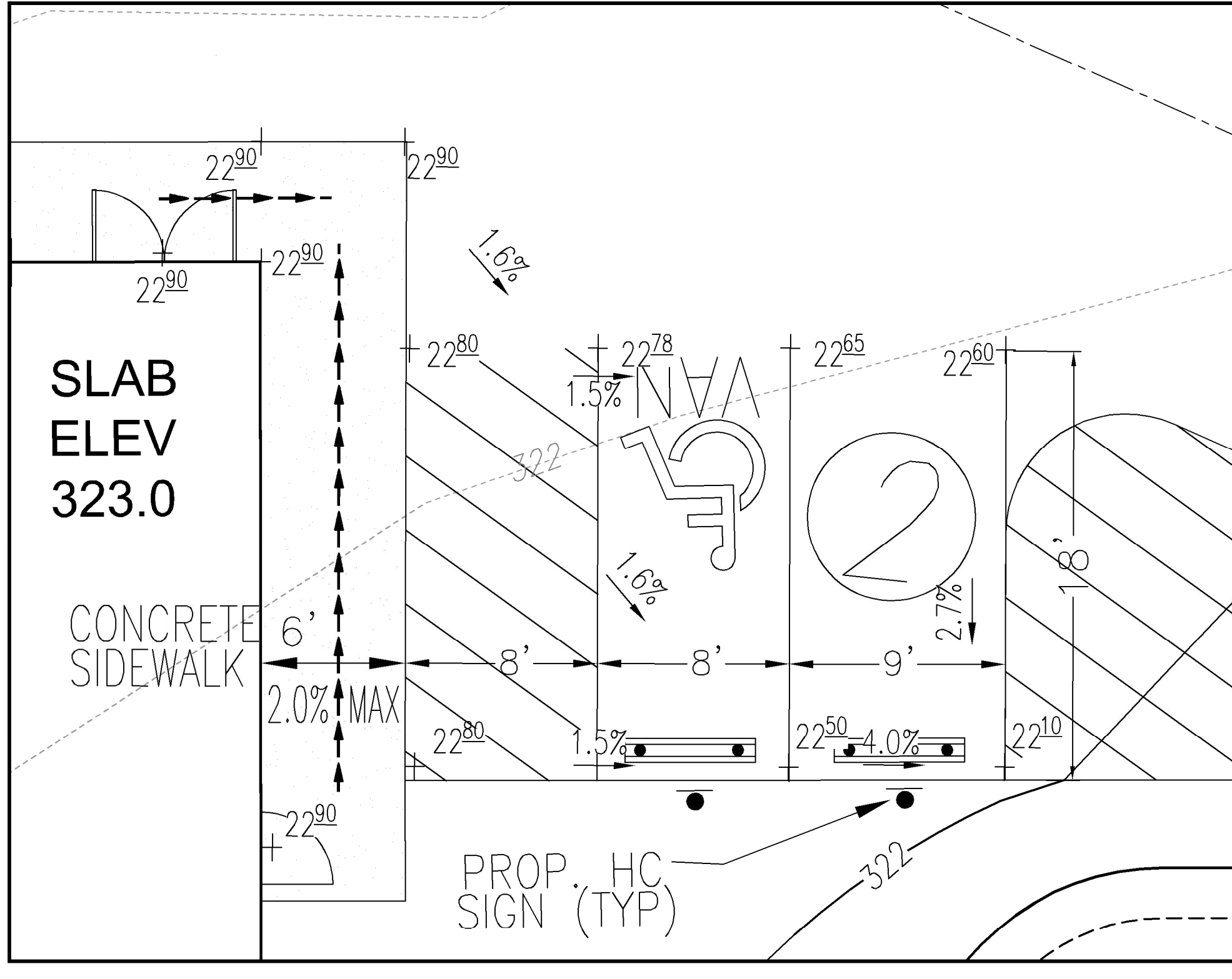
OWNER/DEVELOPER
 SIMRAN GROUP, LLC
 10427 SNOW POINT DRIVE
 BETHESDA, MD 20814
 PHONE: (410) 504-9416



LANDSCAPE WALL EXHIBIT
 SCALE: 1"=30'



TYP. NON-STRUCTURAL WALL OR EQUAL



ADA PARKING EXHIBIT
 SCALE: 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Chief, Division of Land Development
 Director

OWNER/DEVELOPER CERTIFICATION:
 I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.
 Manish P. Singh
 OWNER/DEVELOPER SIGNATURE
 Manish P. Singh
 PRINTED NAME & TITLE

DESIGN CERTIFICATION:
 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.
 Robert H. Vogel
 DESIGNER'S SIGNATURE
 ROBERT H. VOGEL
 PRINTED NAME

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Alexander Bratovich/27/2024
 HOWARD S.C.D. 05000004800001

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
8570 MISSION ROAD
 DEED L.16875 - F.188
 ZONED M-1
 PARCEL 352
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHV
 DRAWN BY: QNB
 CHECKED BY: RHV
 DATE: AUGUST 2023
 SCALE: AS SHOWN
 W.D. NO.: 49588

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. 15143
 EXPIRATION DATE: 09-27-2024

5 SHEET OF 12

STANDARD SEDIMENT CONTROL NOTES

- 1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS...
2. UPON COMPLETION OF THE INSTALLATION OF PERMIETER EROSION AND SEDIMENT CONTROLS...
3. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES...

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.
PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- 1. SEED MIXTURES
GENERAL USE
A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE...
2. TURFGRASS MIXTURES
A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES...

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

DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.
PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
CONDITIONS WHERE PRACTICE APPLIES: WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- 1. TEMPORARY STABILIZATION
A. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT...
2. PERMANENT STABILIZATION
A. A SOIL TEST IS REQUIRED FOR EVERY EARTH DISTURBANCE OF 5 ACRES OR MORE...

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

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.
PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.
CONDITIONS WHERE PRACTICE APPLIES: TO THE SURFACE OF ALL PERMIETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

- A. SEEDING
1. SPECIFICATIONS
A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW...
2. APPLICATION
A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS...
B. MULCHING
I. MULCH MATERIALS (IN ORDER OF PREFERENCE)
1. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LEE, OAT, OR BARLEY...

B-4-4 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 CONTAINS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

CRITERIA

- 1. THE STOCKPILE LOCATIONS AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN...
2. THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE...
3. ACCESS TO THE STOCKPILE AREA FROM THE UPGRADE SIDE...
4. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE...

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT. - 1 DAY
2. DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY...
3. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK...
4. STAKEOUT LIMITS OF DISTURBANCE. - 3 DAYS

UTILITY NOTE:

- EXISTING ELECTRIC, WATER AND SEWER SERVICE SHALL BE LOCATED AND PROTECTED PRIOR TO BEGINNING WORK. - 1 WEEK.
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
1. INSTALL THE PROJECT STABILIZED CONSTRUCTION ENTRANCE (SCE), WHERE SHOWN HEREON. - 1 DAY
2. REMOVE EXISTING ROLL GATE AND BUILDING STRUCTURE. TRAILER. - 2 DAYS

- 6. SITE ANALYSIS:
TOTAL AREA OF SITE: 1.00 ACRES +
AREA TO BE ROOFED OR PAVED: 0.58 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.38 ACRES
TOTAL CUT: 482.00 CU YDS TOTAL
TOTAL FILL: 503.46 CU YDS TOTAL
OFFSITE WASTE/BORROW AREA LOCATION: DISTRICT 7, SDP-23-030
7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

- 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEMAND NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY...
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY...
10. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGON ON ONE GRADING UNIT (MAXIMUM GRADE OF 20 AC. PER GRADING UNIT) AT A TIME...

ITEM 11. REGARDING PROJECT DISTURBANCE IS NO LONGER A REQUIREMENT OF THE STATE OF MARYLAND, HOWEVER REMAINS A REQUIREMENT OF HOWARD COUNTY.

- 11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGON ON ONE GRADING UNIT (MAXIMUM GRADE OF 20 AC. PER GRADING UNIT) AT A TIME...
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE...
14. ALL SILL FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-COUNTOR, AND BE MCHRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION...

- 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUDES):
USE 1 AND IF MARCH 1 - JUNE 15
USE 2 AND IF MARCH 1 - APRIL 30
USE 3 AND IF MARCH 1 - APRIL 30
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

REV. 8/2015

PERMANENT SEEDING SUMMARY table with columns: NO, SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), N, P2O5, K2O, LIME RATE.

TEMPORARY SEEDING SUMMARY table with columns: NO, SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), N, P2O5, K2O, LIME RATE.

FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

- 17. TURFGRASS MIXTURES
A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE...
18. TURFGRASS MIXTURES
A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE...
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- 20. TURFGRASS MIXTURES
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- 23. TURFGRASS MIXTURES
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25. TURFGRASS MIXTURES
A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE...

- 26. TURFGRASS MIXTURES
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FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

- 29. TURFGRASS MIXTURES
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FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

- 41. TURFGRASS MIXTURES
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FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

- 53. TURFGRASS MIXTURES
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- 62. TURFGRASS MIXTURES
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FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development and Zoning Division
Date: 6/27/2024

OWNER/DEVELOPER CERTIFICATION
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...
Date: 4/22/2024

DESIGN CERTIFICATION
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT EROSION AND SEDIMENT CONTROL STANDARDS AND STANDARDS...
Date: 4/23/2024

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Date: 4/23/2024

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development and Zoning Division
Date: 7/1/2024

OWNER/DEVELOPER CERTIFICATION
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...
Date: 4/22/2024

DESIGN CERTIFICATION
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT EROSION AND SEDIMENT CONTROL STANDARDS AND STANDARDS...
Date: 4/23/2024

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Date: 4/23/2024

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development and Zoning Division
Date: 7/1/2024

OWNER/DEVELOPER CERTIFICATION
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...
Date: 4/22/2024

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development and Zoning Division
Date: 7/1/2024

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I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...
Date: 4/22/2024

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT. - 1 DAY
2. DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY...
3. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK...
4. STAKEOUT LIMITS OF DISTURBANCE. - 3 DAYS

UTILITY NOTE:

- EXISTING ELECTRIC, WATER AND SEWER SERVICE SHALL BE LOCATED AND PROTECTED PRIOR TO BEGINNING WORK. - 1 WEEK.
GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
1. INSTALL THE PROJECT STABILIZED CONSTRUCTION ENTRANCE (SCE), WHERE SHOWN HEREON. - 1 DAY
2. REMOVE EXISTING ROLL GATE AND BUILDING STRUCTURE. TRAILER. - 2 DAYS

- 6. SITE ANALYSIS:
TOTAL AREA OF SITE: 1.00 ACRES +
AREA TO BE ROOFED OR PAVED: 0.58 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.38 ACRES
TOTAL CUT: 482.00 CU YDS TOTAL
TOTAL FILL: 503.46 CU YDS TOTAL
OFFSITE WASTE/BORROW AREA LOCATION: DISTRICT 7, SDP-23-030
7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

- 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEMAND NECESSARY BY THE CID, THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY...
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY...
10. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGON ON ONE GRADING UNIT (MAXIMUM GRADE OF 20 AC. PER GRADING UNIT) AT A TIME...

ITEM 11. REGARDING PROJECT DISTURBANCE IS NO LONGER A REQUIREMENT OF THE STATE OF MARYLAND, HOWEVER REMAINS A REQUIREMENT OF HOWARD COUNTY.

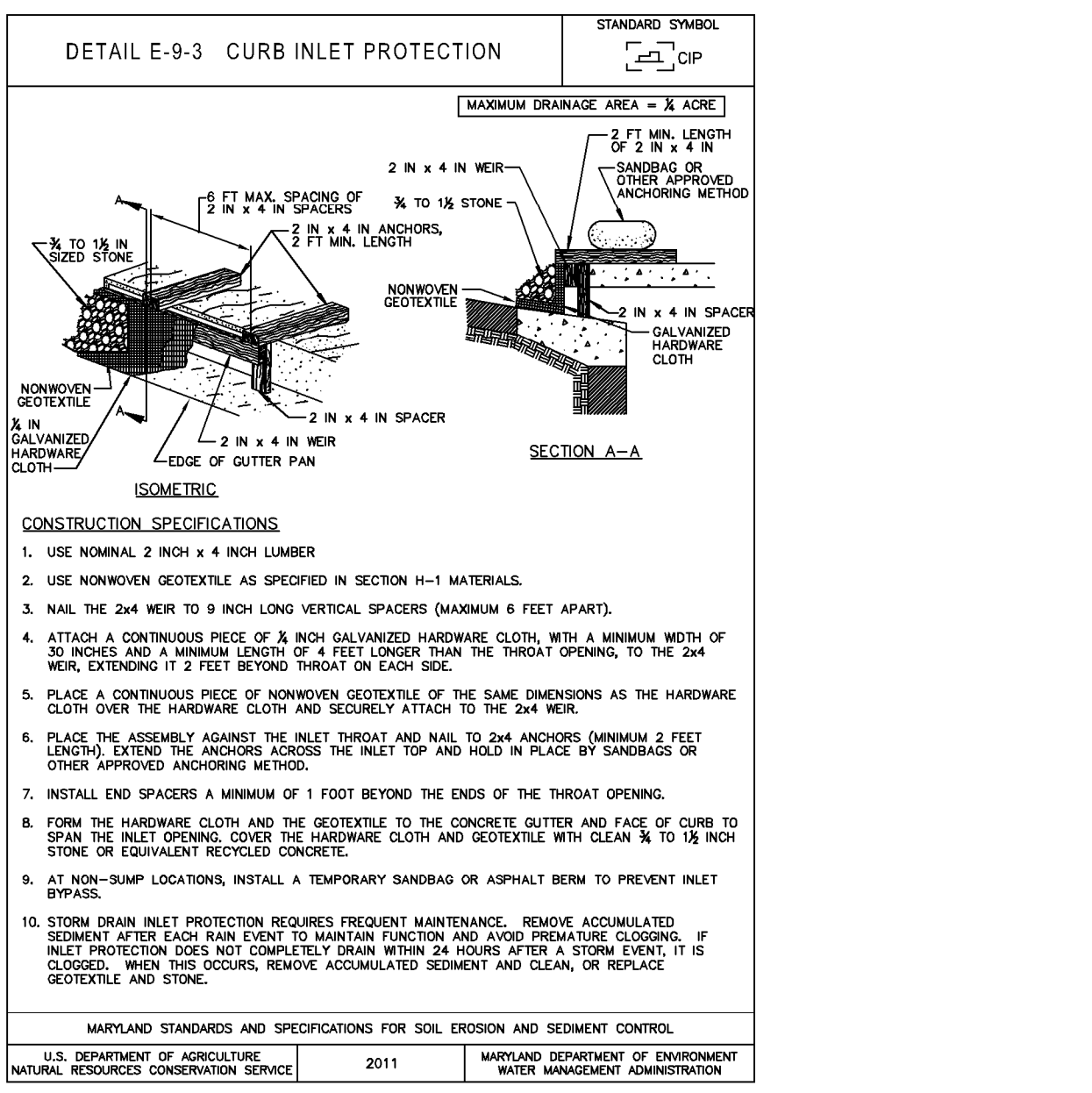
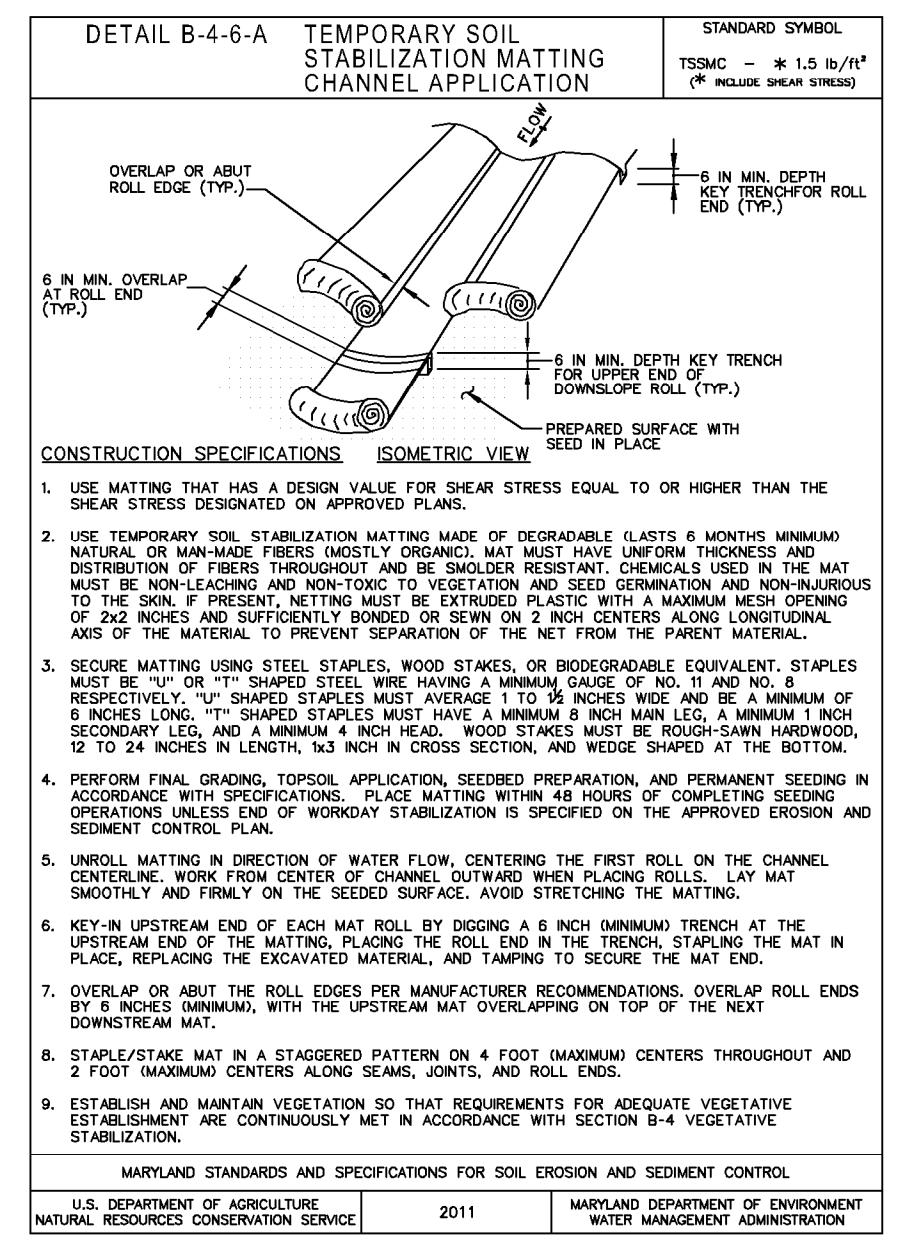
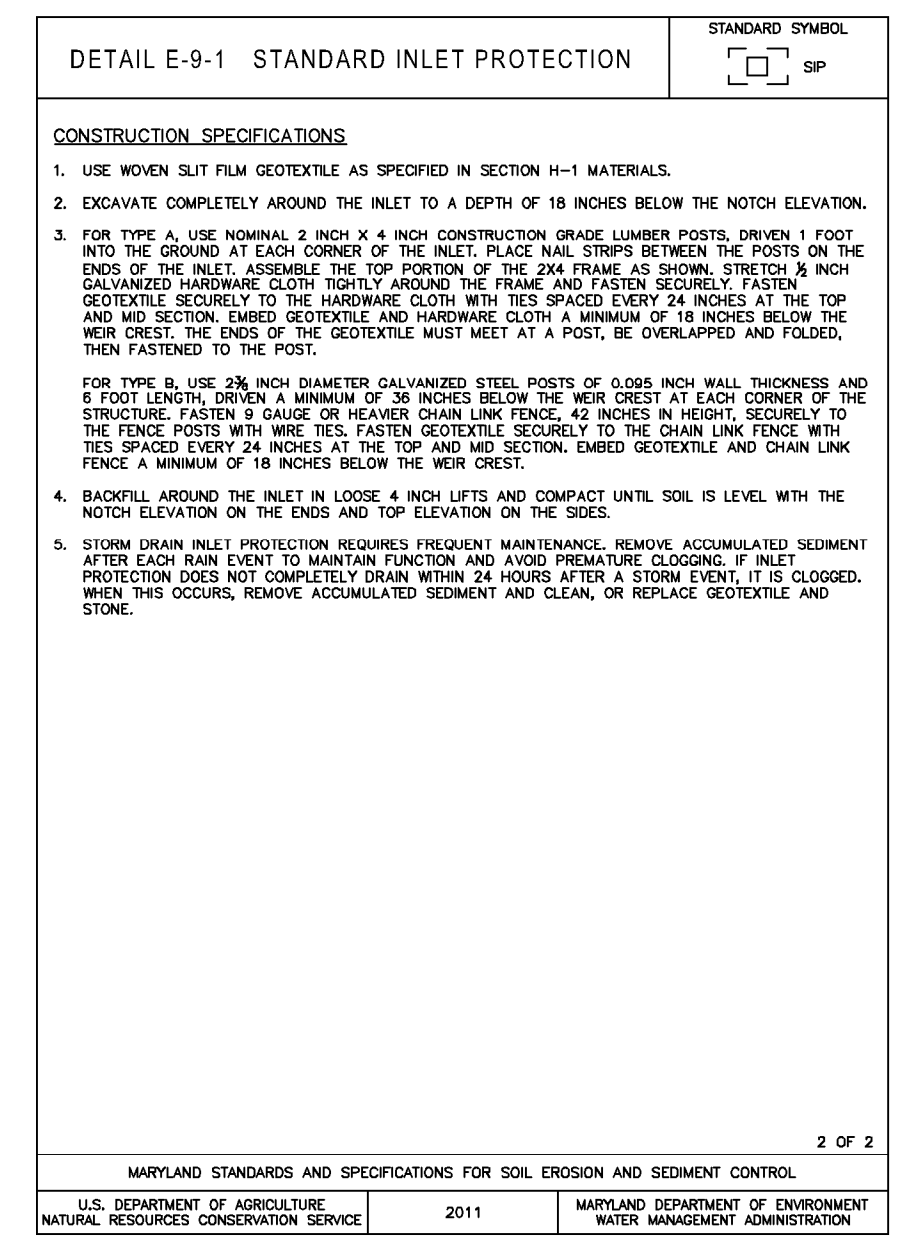
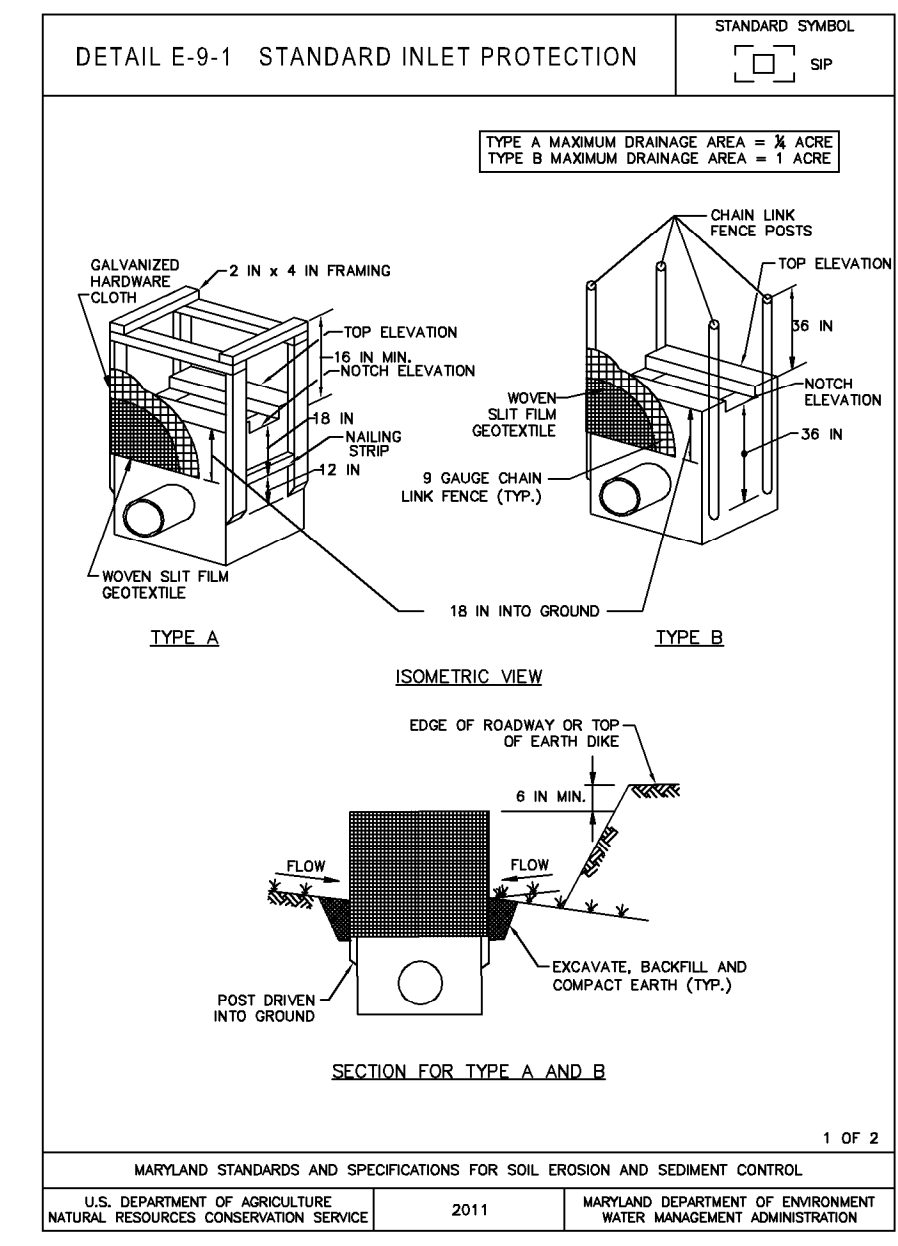
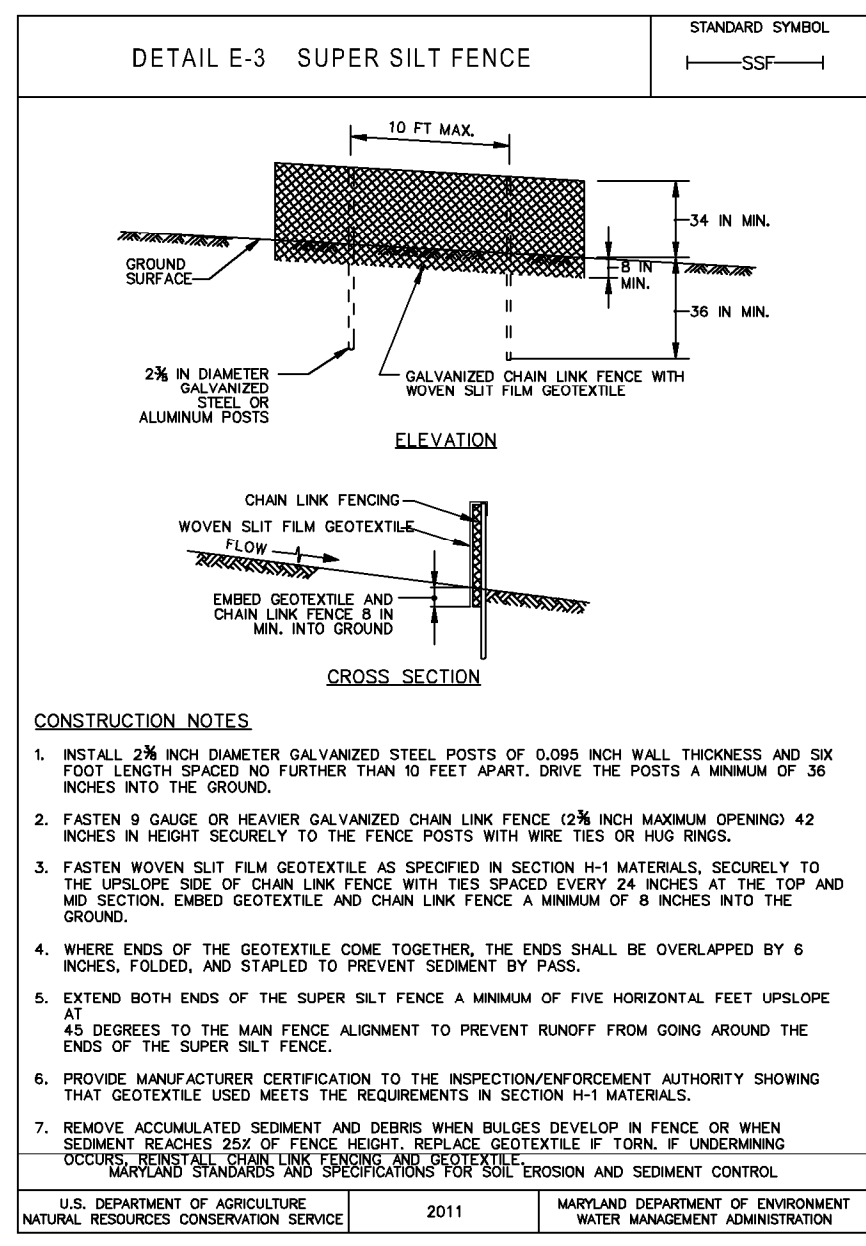
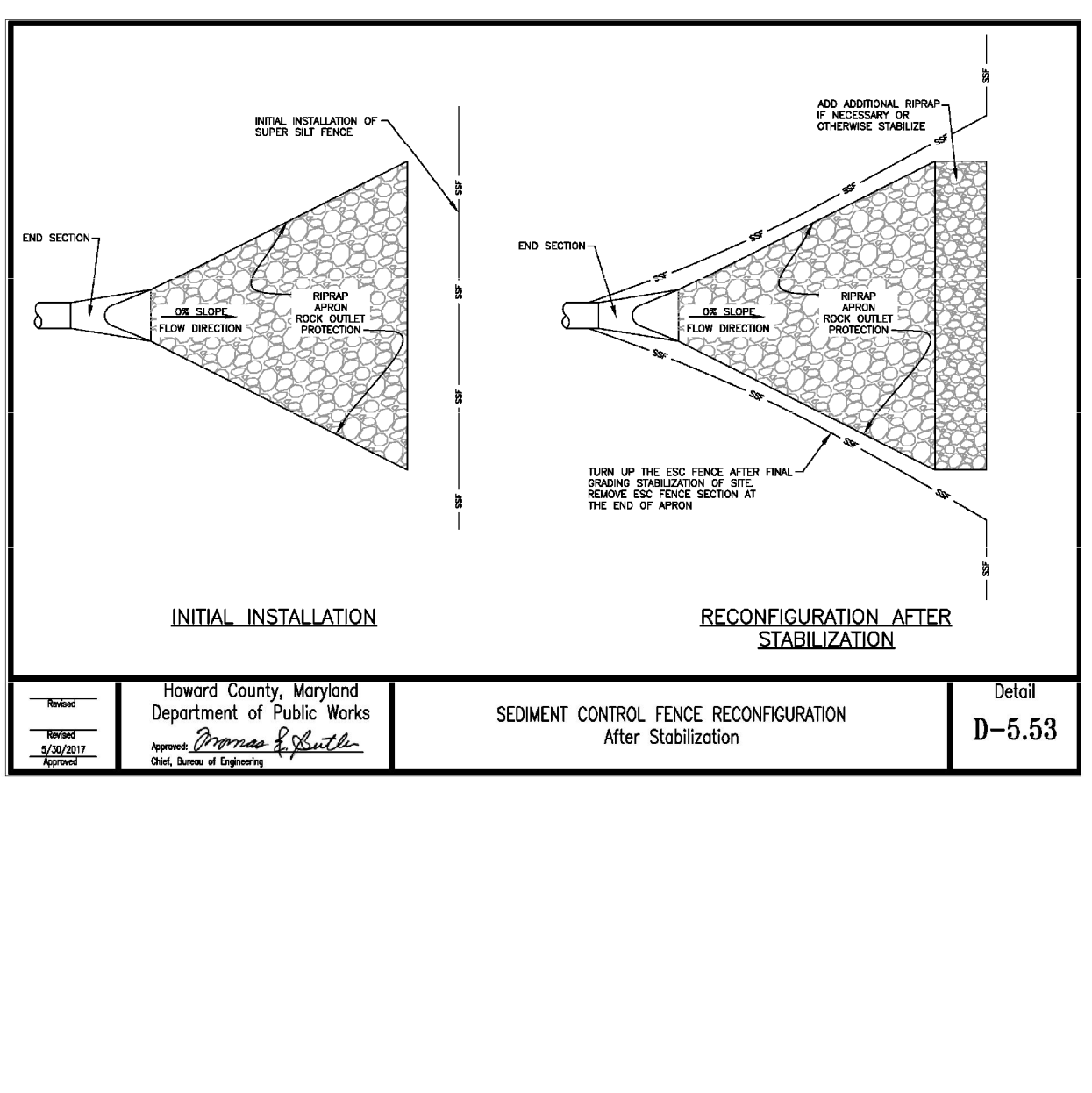
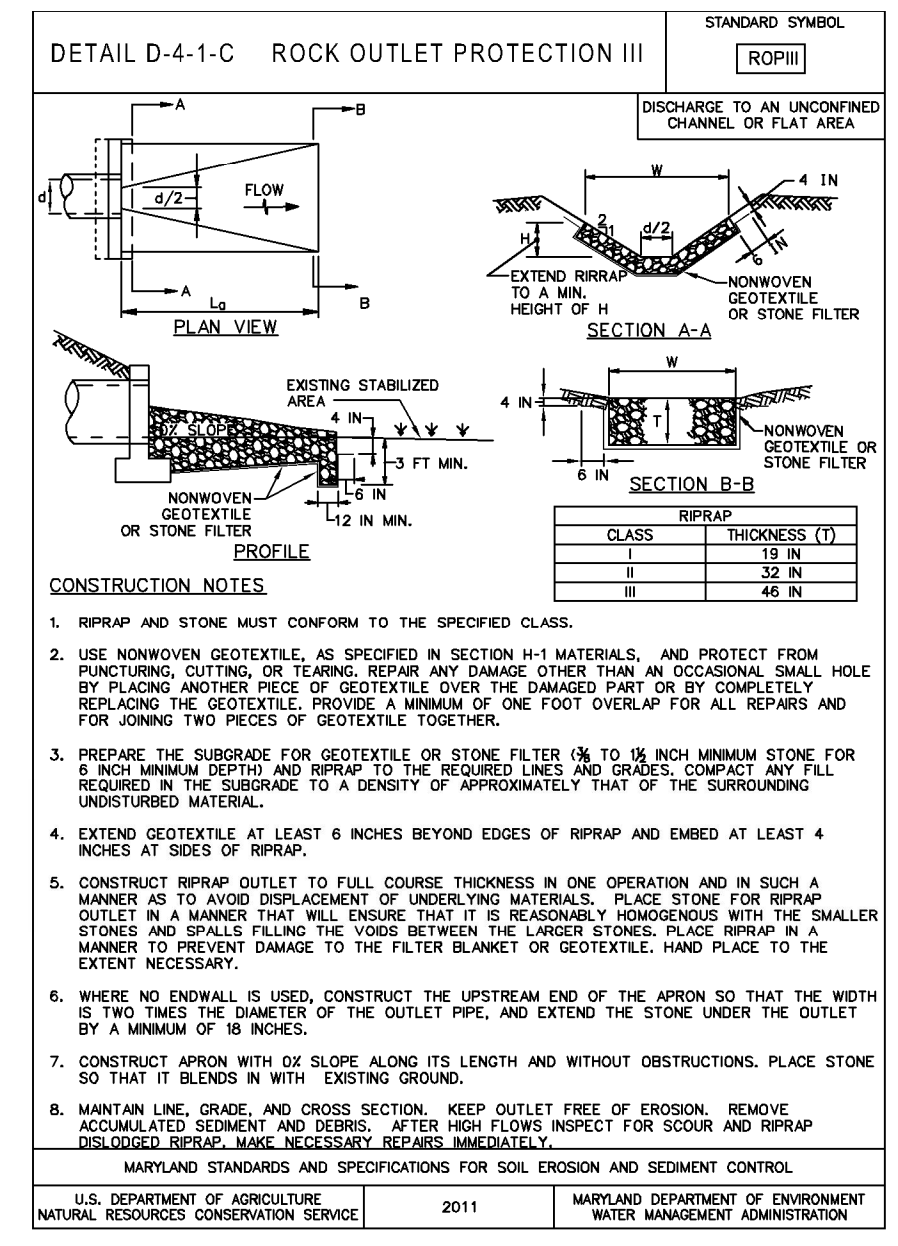
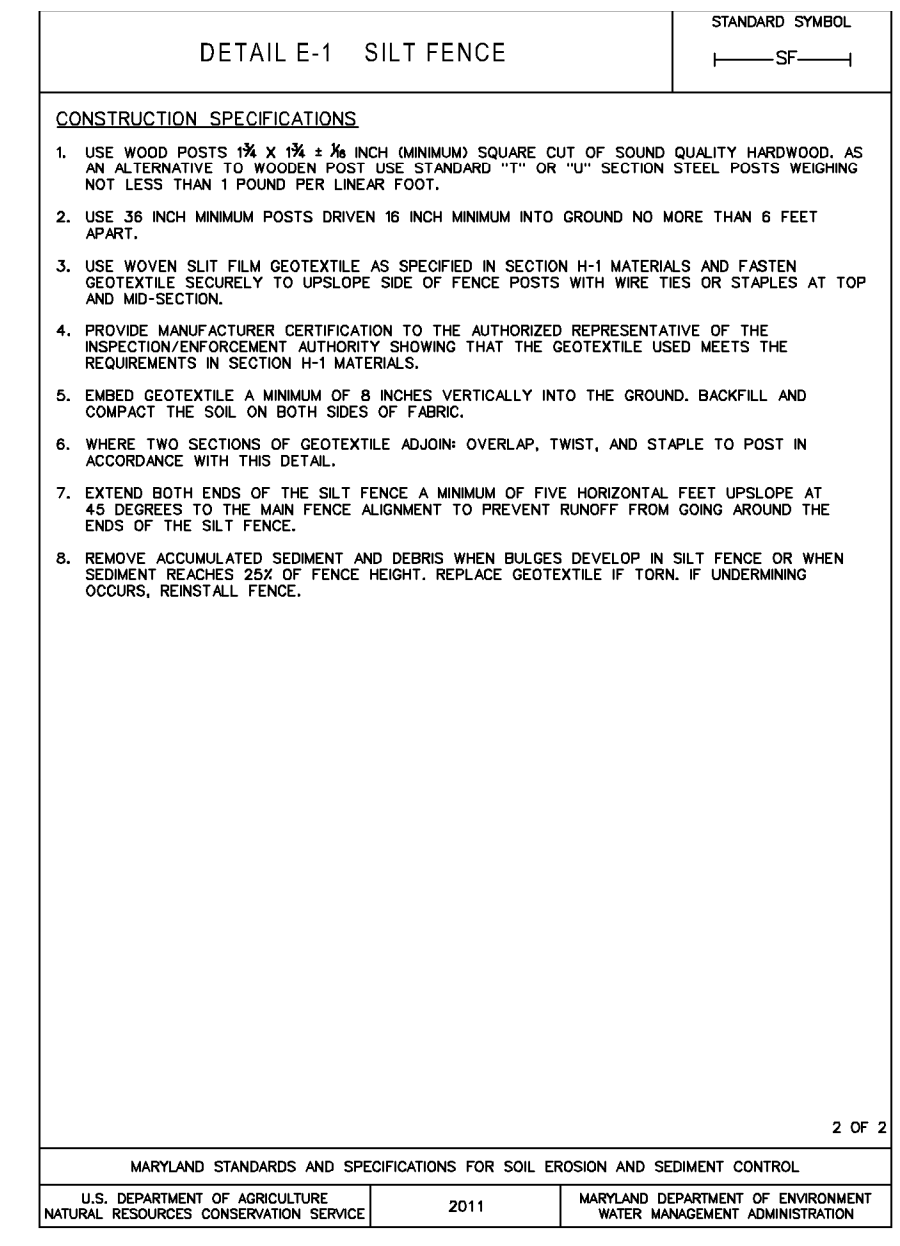
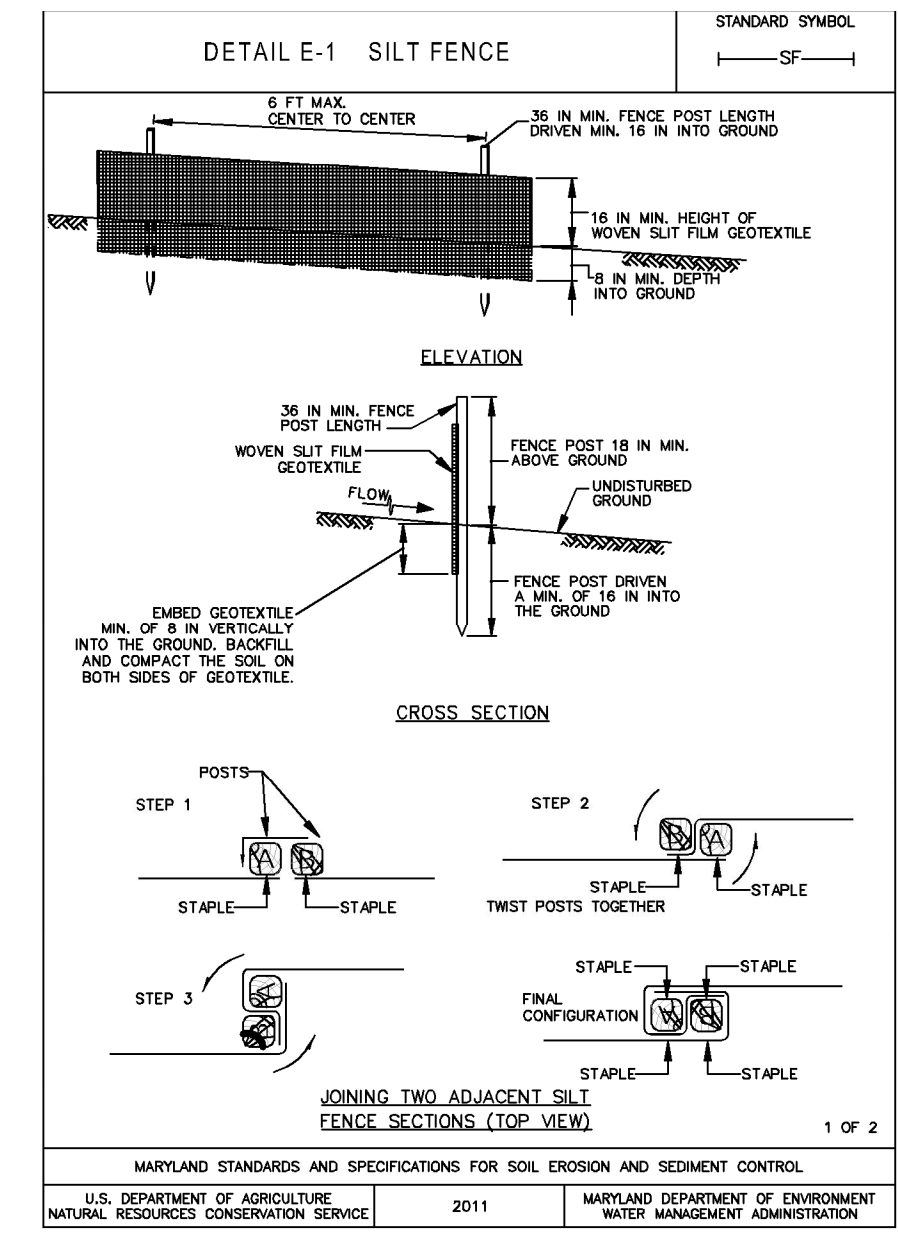
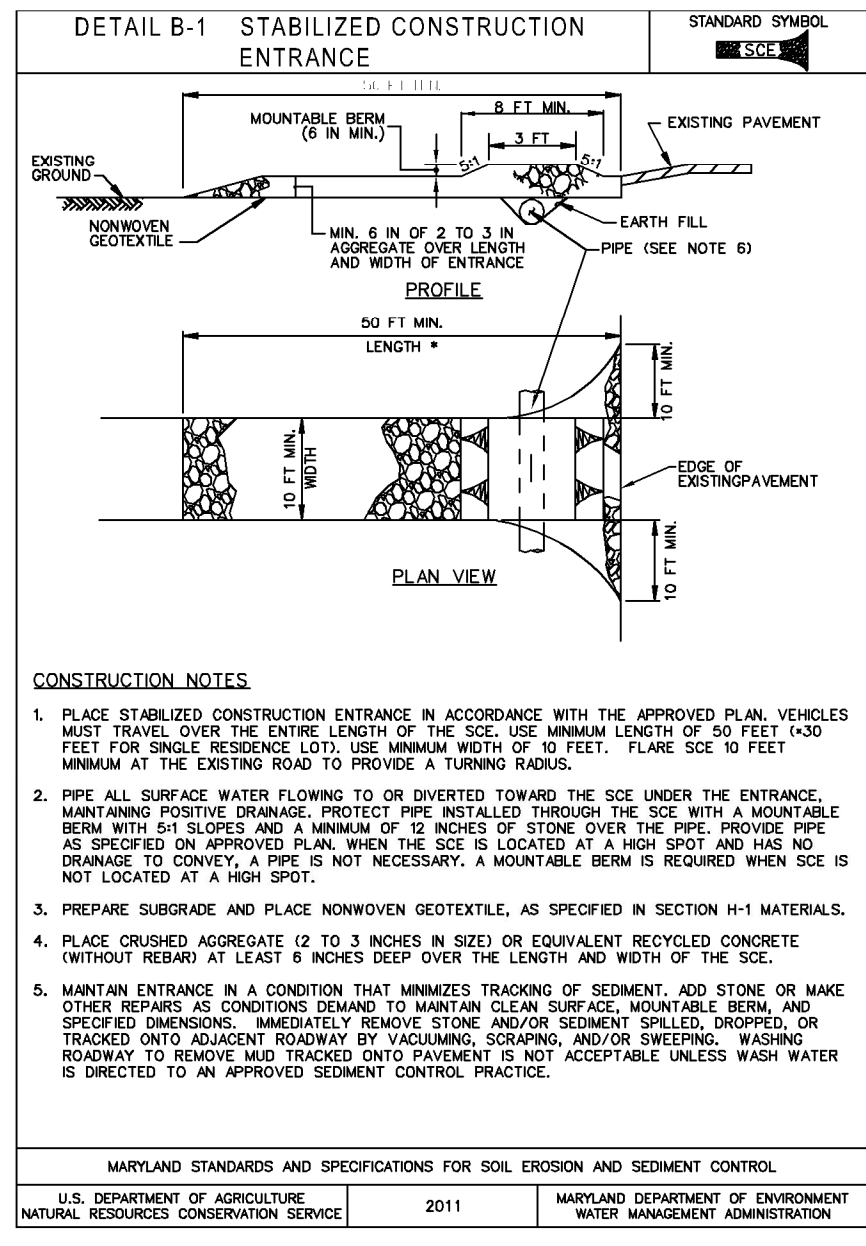
PERMANENT SEEDING SUMMARY table with columns: NO, SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), N, P2O5, K2O, LIME RATE.

TEMPORARY SEEDING SUMMARY table with columns: NO, SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (10-20-20), N, P2O5, K2O, LIME RATE.

FOR ALTERNATES, REFER TO THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL - PAGES B.26 - B.32

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief, Development and Zoning Division
Date: 6/27/2024

OWNER/DEVELOPER CERTIFICATION
I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN...
Date: 4/22/2024

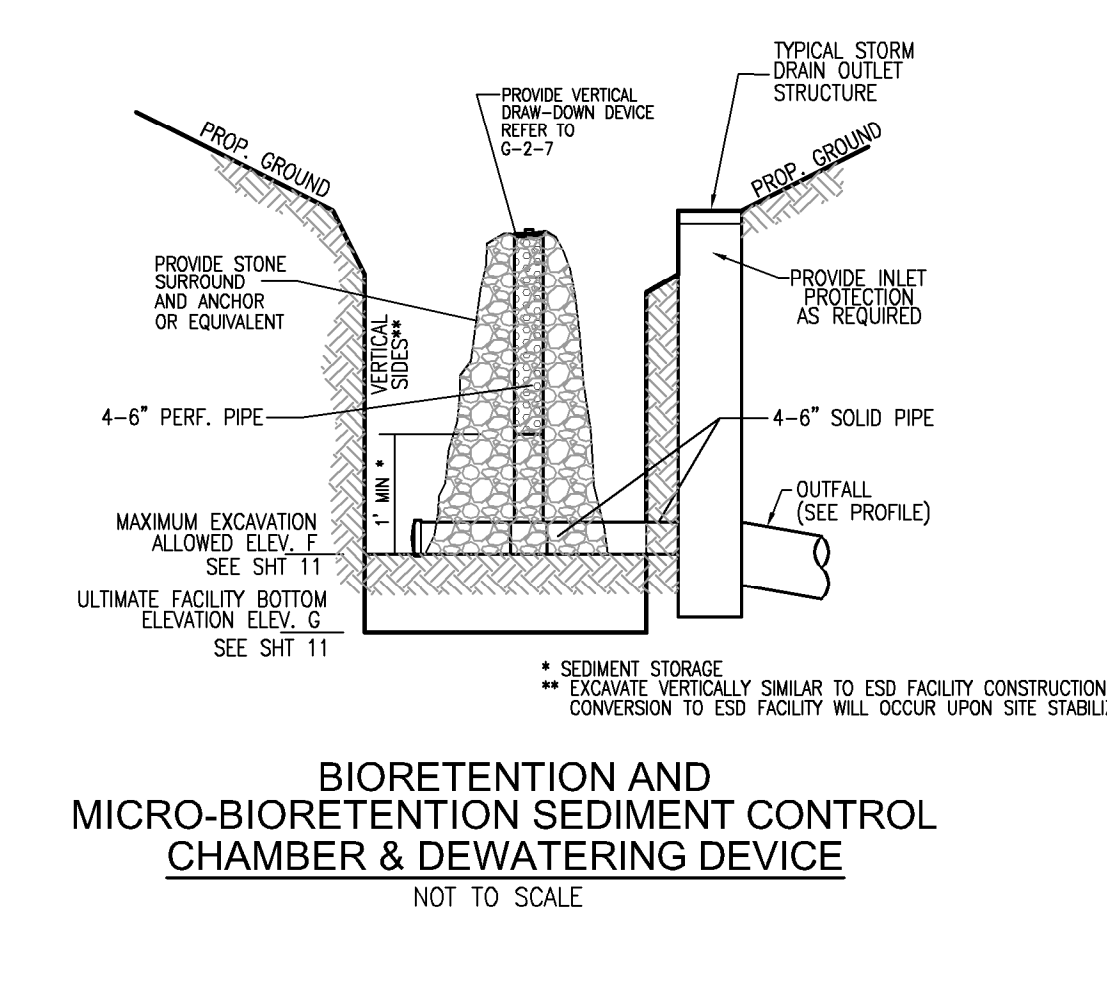


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 6/27/2024

OWNER/DEVELOPER CERTIFICATION:
 I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT MUST BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.
 Manish P. Singh
 Date: 4/22/2024

DESIGN CERTIFICATION:
 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.
 Robert H. Vogel
 Date: 4/25/2024

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Alexander Brosteb
 Date: 6/27/2024



OWNER/DEVELOPER
 SIMRAN GROUP, LLC
 10427 SNOW POINT DRIVE
 BETHESDA, MD 20814
 PHONE: (410) 504-9416

SITE DEVELOPMENT PLAN
 SOIL EROSION AND SEDIMENT CONTROL PLAN DETAILS

8570 MISSION ROAD
 DEED L.16875 - F.188

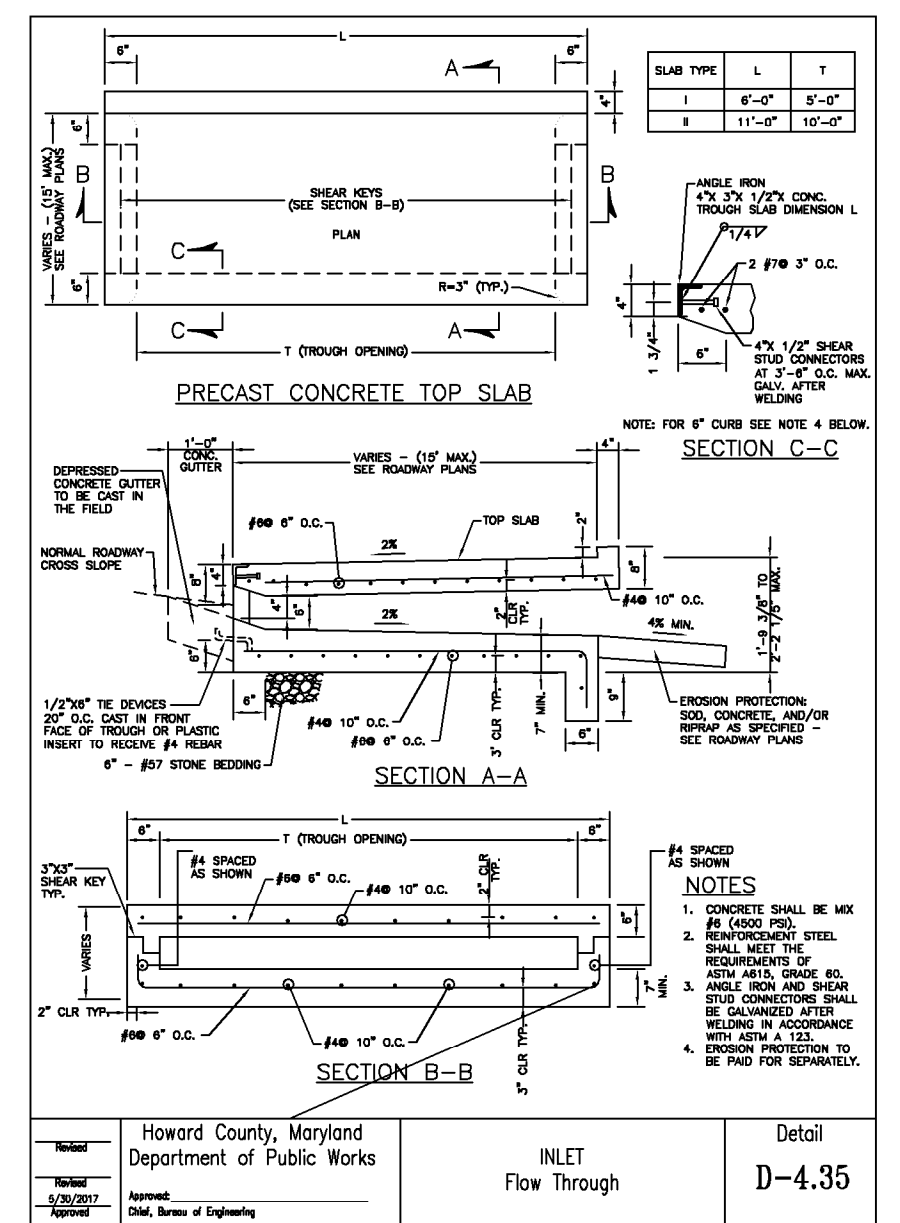
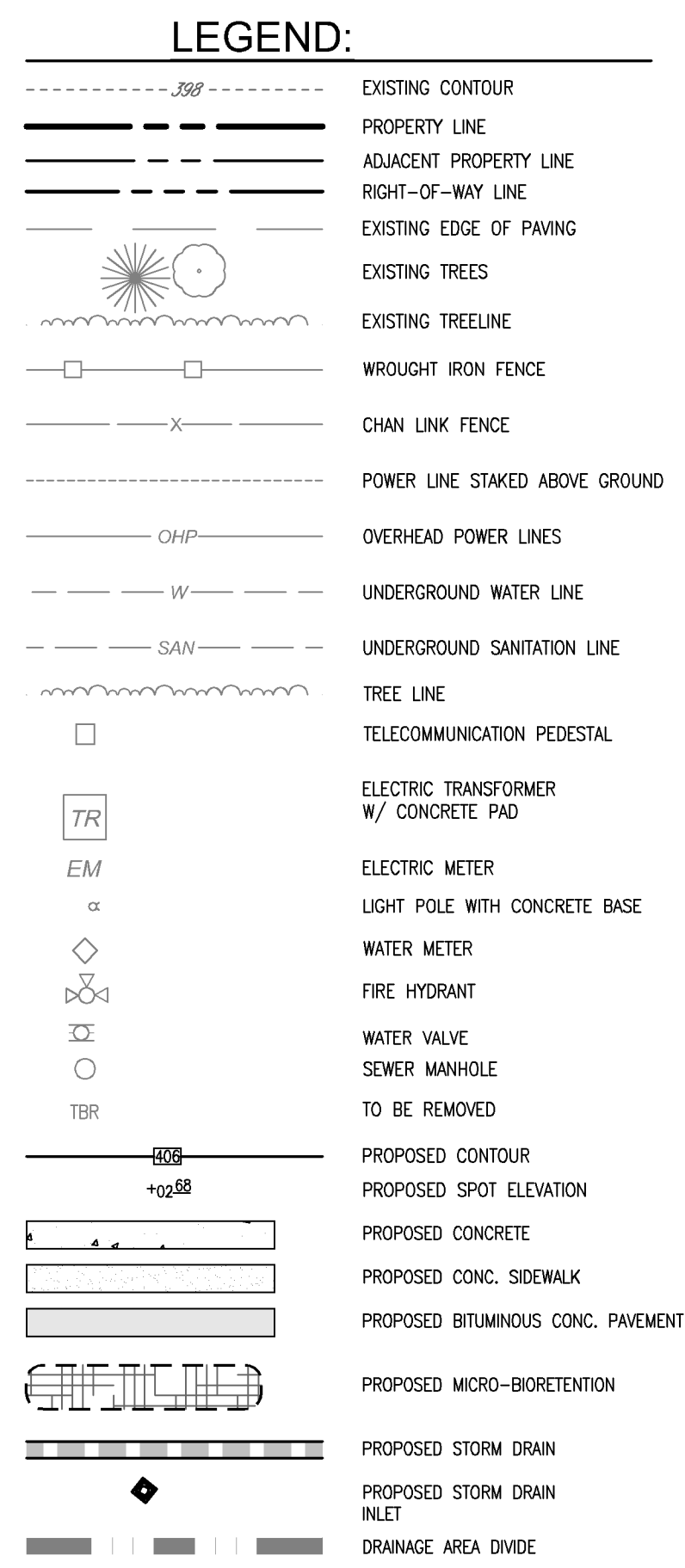
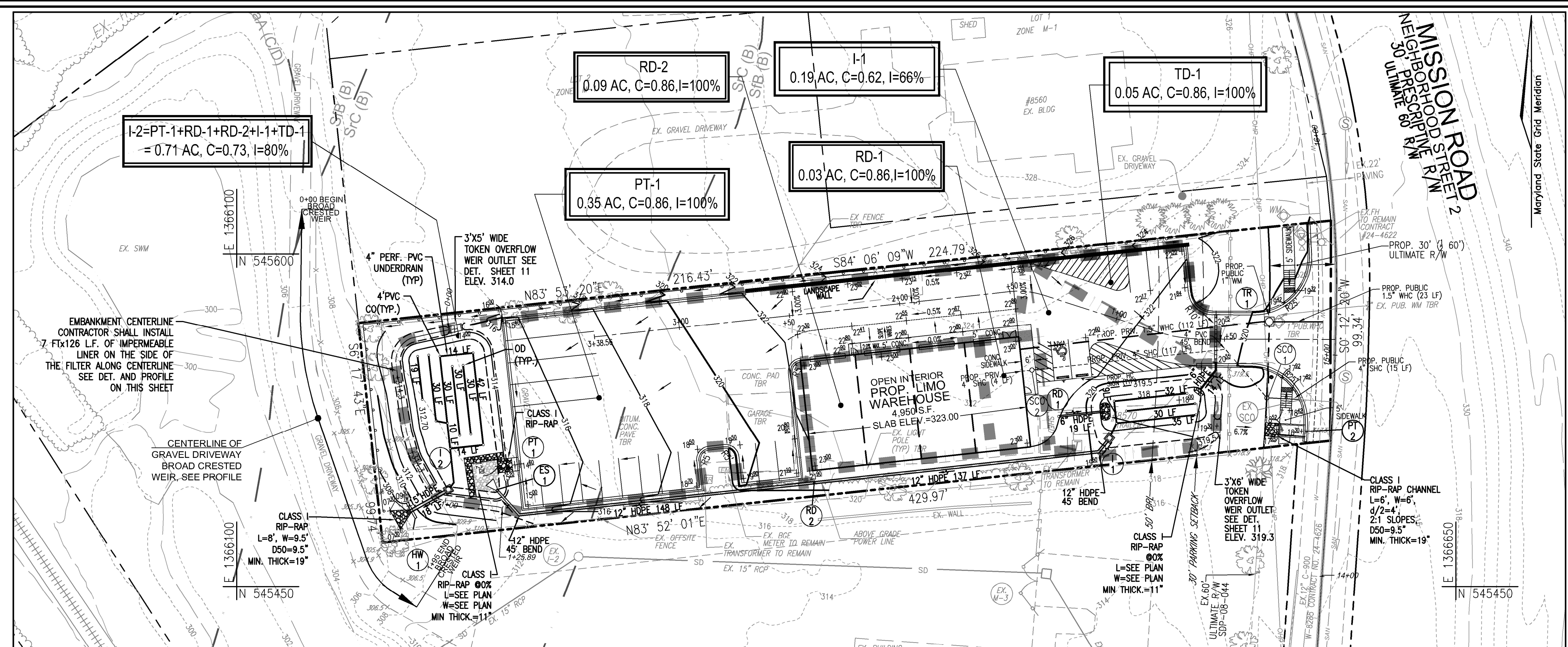
TAX MAP 42 BLOCK 18
 6TH ELECTION DISTRICT

ZONED M-1
 PARCEL 352
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING
TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHV
 DRAWN BY: ONB
 CHECKED BY: RHV
 DATE: AUGUST 2023
 SCALE: AS SHOWN
 W.O. NO.: 49568

7 SHEET OF 12



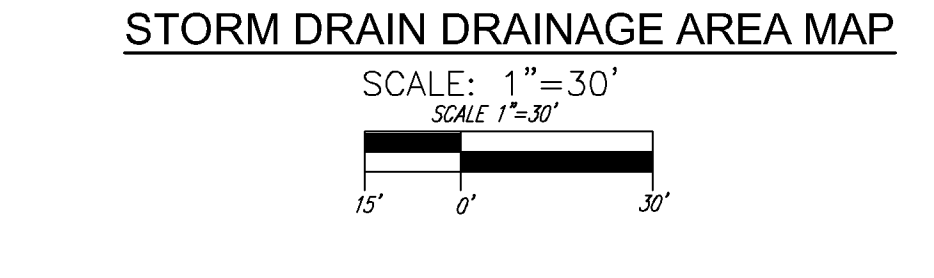
STRUCTURE SCHEDULE

STR #	TYPE	INV. IN	INV. OUT	TOP ELEV	DETAIL	LOCATION	REMARKS
I-1	"D"	315.25	314.58	319.83	D-4.10	E=1366195.7 N=545493.68	(1)
I-2	"D"	309.37	308.20	314.53	D-4.10	E=1366195.6 N=545493.67	(1)
ES-2	12" HDPE END SECTION	-	312.70	313.70	-	E=1366217.24 N=545484.56	(1)
HW-1	"C"	307.30	309.30	309.30	D-5.21	E=1366179.35 N=545493.70	(1)
RD-1	CLEANOUT	321.00	318.38	322.00	-	E=1366470.7 N=545526.71	(1) CONNECT TO ROOF DRAIN
RD-2	CLEANOUT	317.66	314.72	320.95	-	E=1366360.5 N=545496.76	(1) CONNECT TO ROOF DRAIN

(1) Coordinate for Proposed Structure = Centerline of Structure
(2) Coordinate for End Section = Centerline of Pipe @ Downstream Face

PIPE SCHEDULE

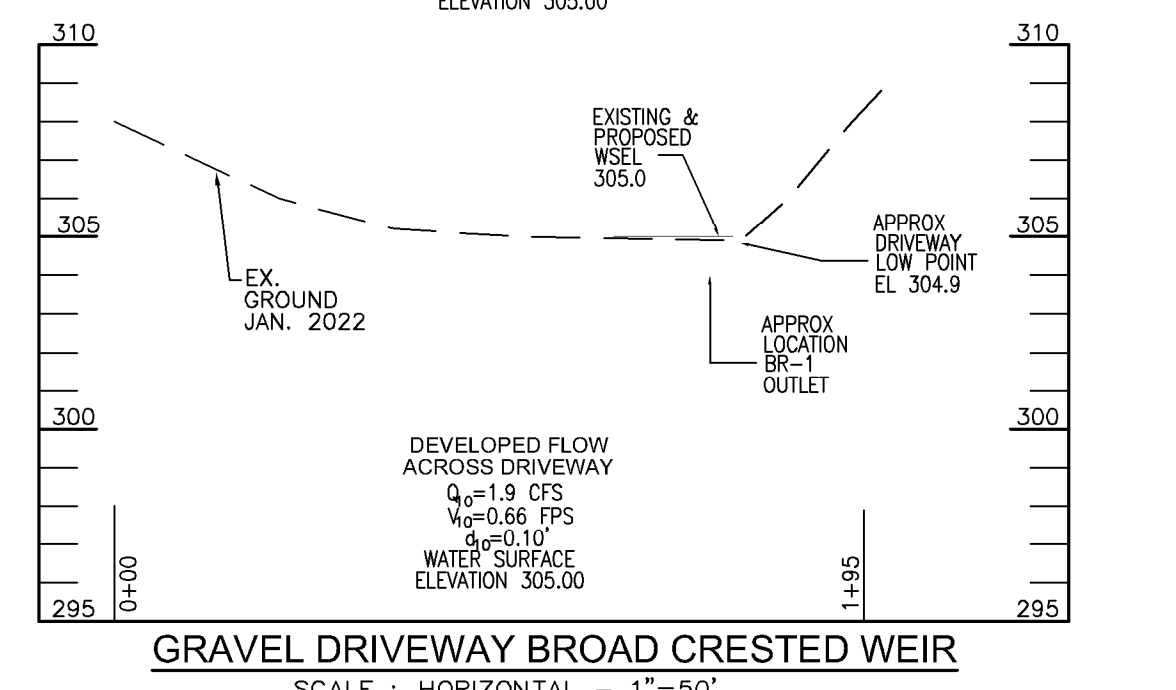
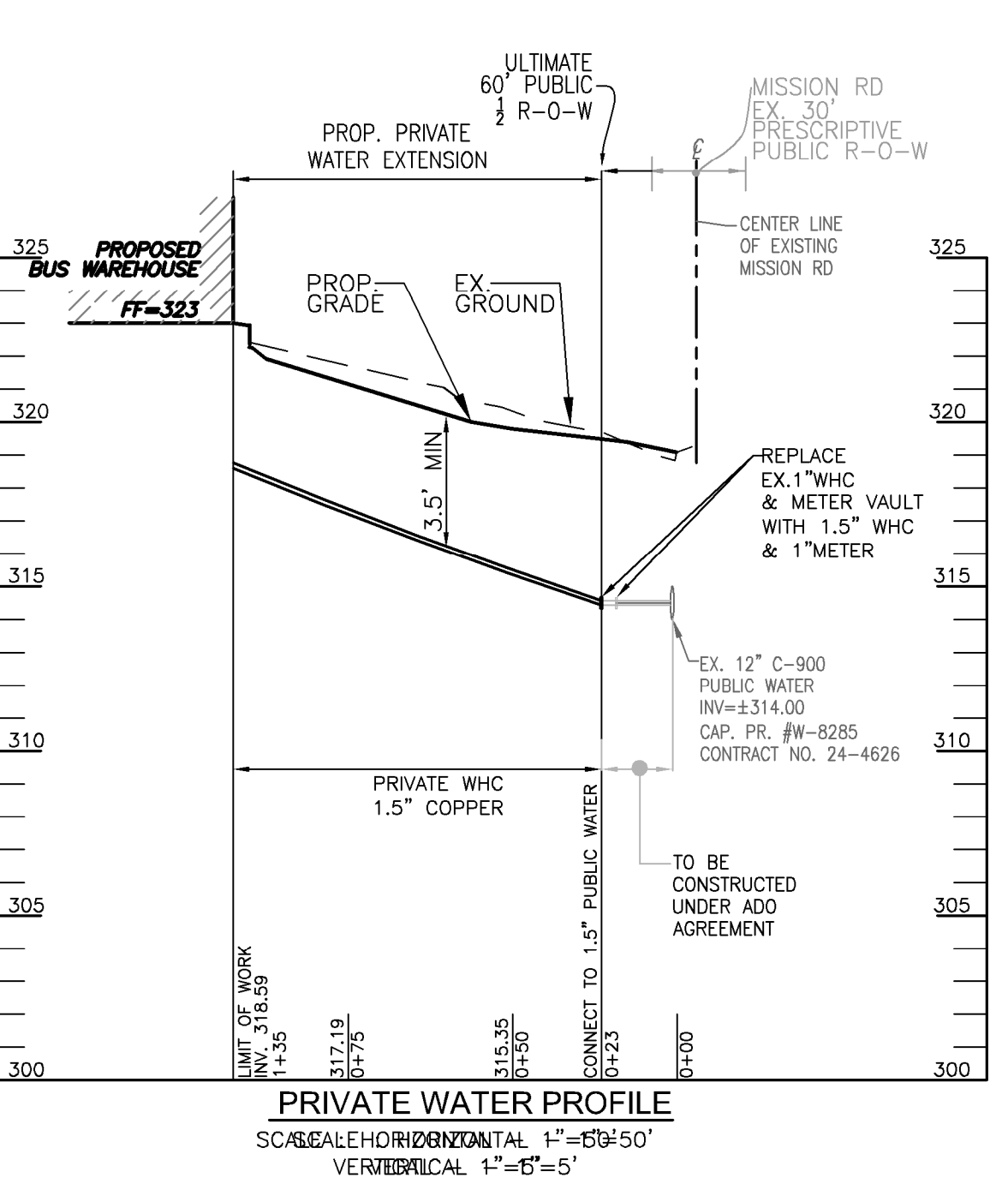
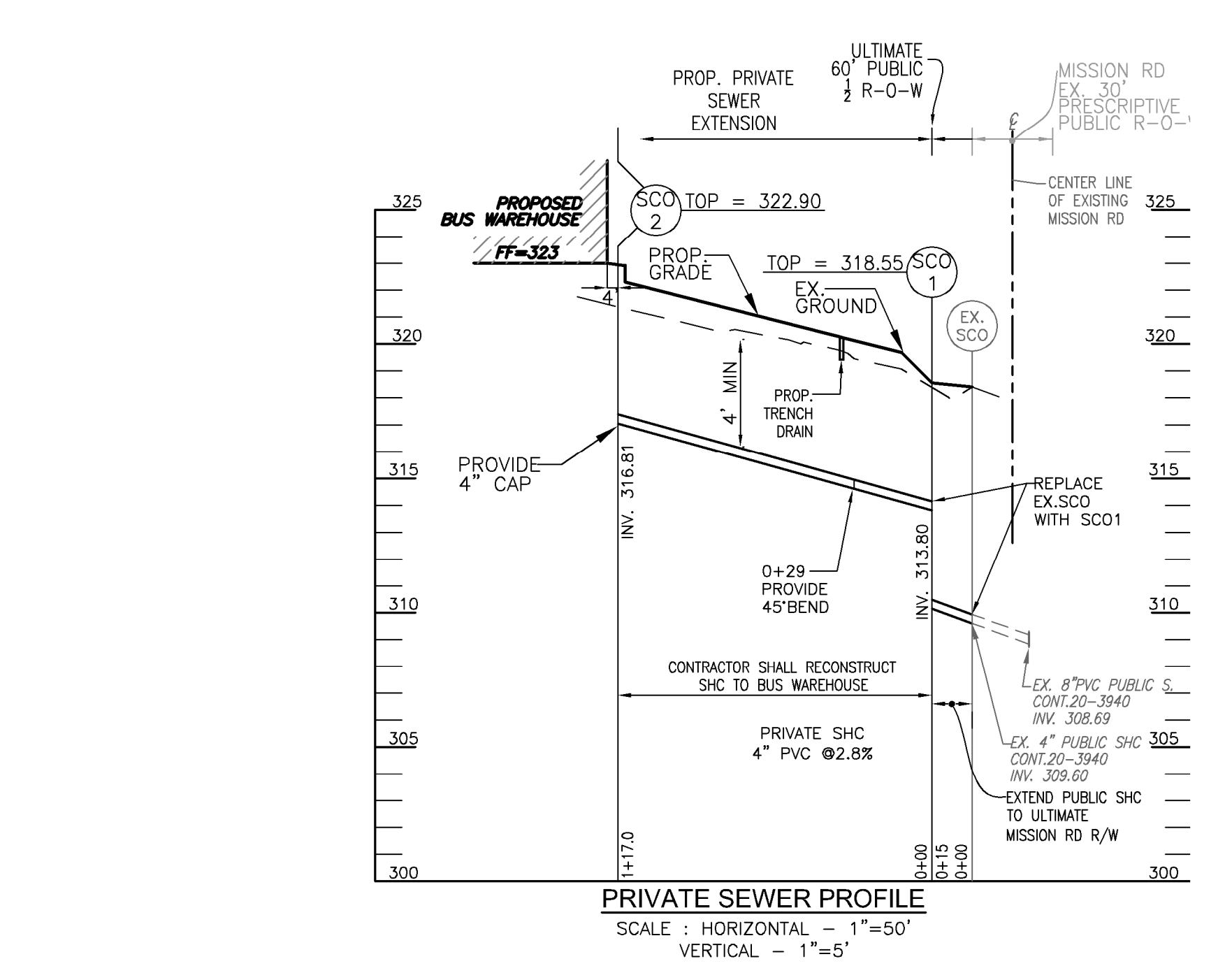
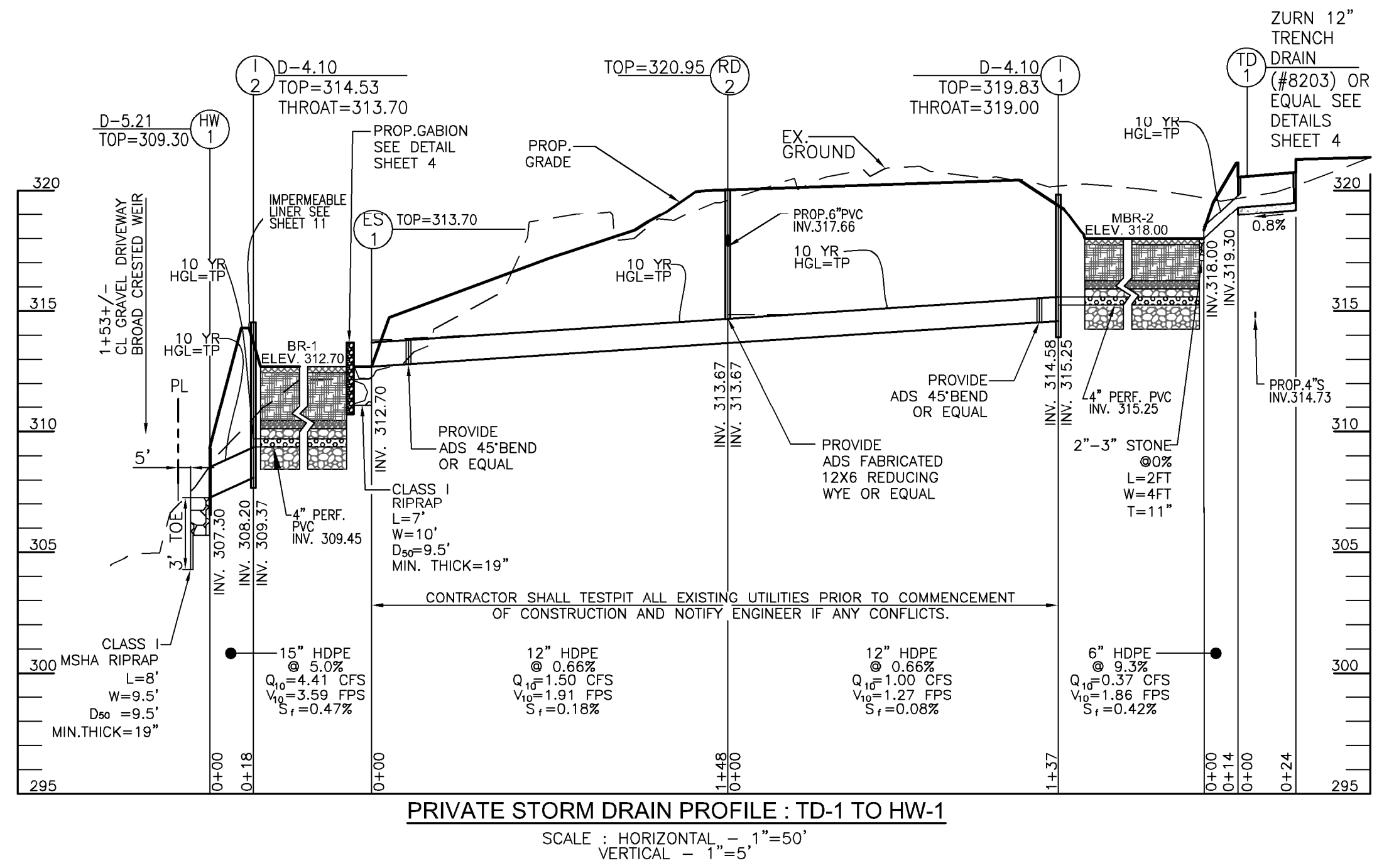
SIZE	PUBLIC/PRIVATE	TYPE	LENGTH (ft)
6"	PRIVATE	HDPE	33
12"	PRIVATE	HDPE	285
15"	PRIVATE	HDPE	18



CONTRACTOR TO TEST PIT ALL EXISTING UTILITY CROSSINGS AND TIES PRIOR TO CONSTRUCTION

PASS THRU STRUCTURE SCHEDULE

STR #	TYPE	DEPTH REQ	TOP/CL STR	DETAIL	LOCATION	PUBLIC / PRIVATE	REMARKS
PT-1	PASS TROUGH	D=3.0'	314.63	D-4.35	E=1366227.28 N=545505.09	PRIVATE	L=6.0', T=6" L=6.0', T=6" SEE DET. SHEET 4
PT-2	PASS TROUGH	D=11.63'	318.52/318.30	D-4.36 MODIFIED	E=1366575.86 N=545520.24	PRIVATE	



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 6/27/2024
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF PLANNING AND DEVELOPMENT
 DIRECTOR

PRIVATE SEWER - STRUCTURE LOCATION CHART

MH NO.	TYPE	LOCATION	TOP ELEV.	INV. OUT	REMARKS
SCO-2	STD. SHC CLEANOUT (S-2-22)	N 545,547.58 E 1,366,458.71	322.90	316.81	

PRIVATE WATER MAIN LOCATION CHART

WL STA.	APPURTENANCE	NORTHING	EASTING
0+23	BEGIN 1.5" PRIVATE WATER FROM 1" WM	545,569.54	1,366,565.83

PRIVATE WATER AND SEWER PIPE SCHEDULE

SIZE	TYPE	MATERIAL	LENGTH (ft)
1.5"	PRIVATE WATER	COPPER	75
4"	PRIVATE SEWER	PVC	108.6

PROFESSIONAL CERTIFICATE

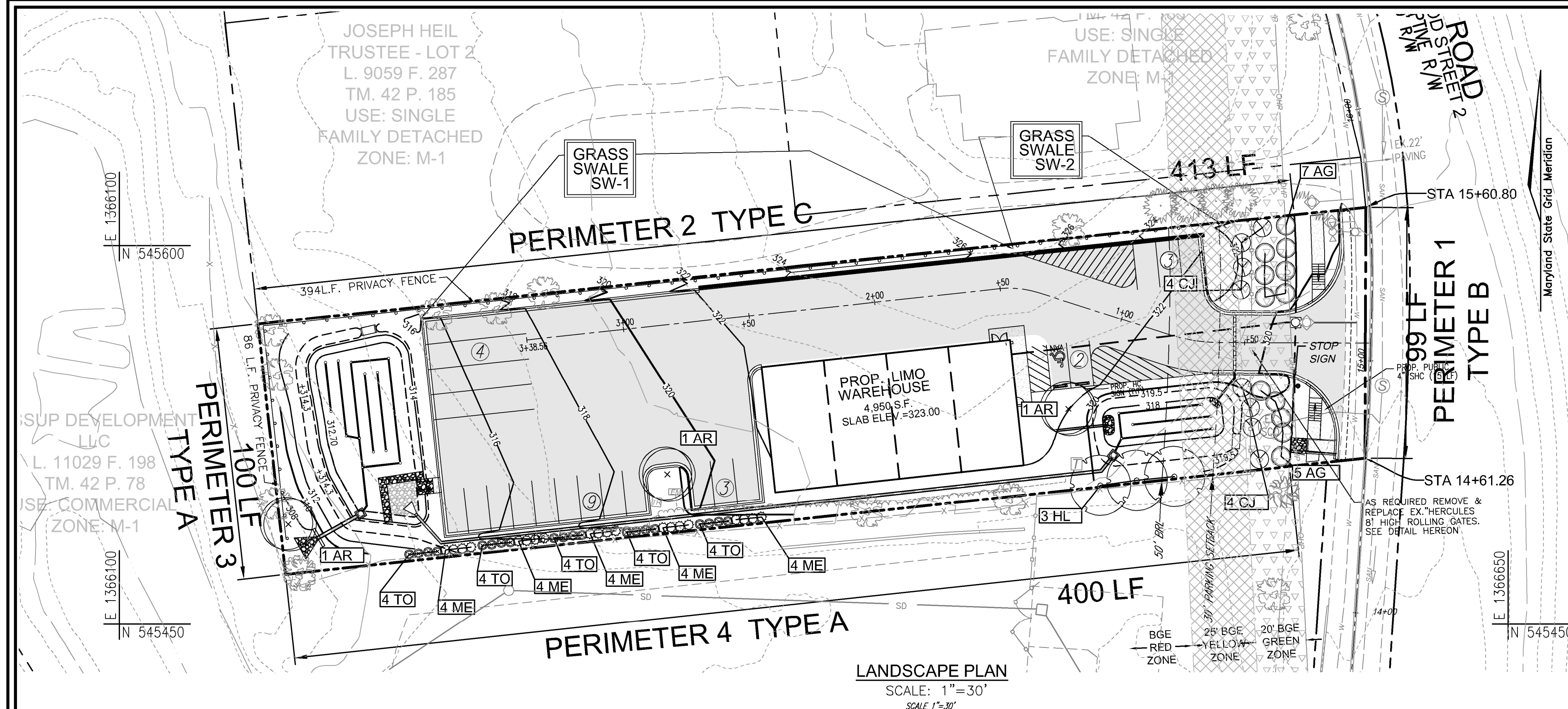
DESIGN BY: RHV
 DRAWN BY: ONB
 CHECKED BY: RHV
 DATE: AUGUST 2023
 SCALE: AS SHOWN
 W.O. NO.: 49568

VOGEL ENGINEERING
TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 ROBERT H. VOGEL, PE No. 16193

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. 16193, EXPIRATION DATE: 09-27-2024

8 SHEET OF 12



LANDSCAPE PLAN
SCALE: 1" = 30'
SCALE 1"=30'

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE					
CATEGORY	ADJACENT TO PERIMETER PROPERTIES				TOTAL
	1	2	3	4	
PERIMETER/FRONTAGE DESIGNATION	B	C	A	A	
LANDSCAPE TYPE					
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	99'	413'	100'	400'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES 394'	YES 86'	NO	
NUMBER OF PLANTS REQUIRED	99'	19'	14'	400'	
SHADE TREES	1:50	1:40	1:60	1:60	7
EVERGREEN TREES	1:40	3	1:20	1	4
SHRUBS	-	-	-	-	-
NUMBER OF PLANTS PROVIDED					
SHADE TREES	-	-	1	3	4
EVERGREEN TREES	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	10*	4*	-	-	14*
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	40***
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)					

* PERIMETER 1 AND PERIMETER 2 WILL BE REPLACED WITH BGE COMPLIANT PLANTINGS AT A 2:1 RATIO.
** 40 SHRUBS SUBSTITUTION FOR 4 SHADE TREES AT A 1:10 RATIO

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE SURETY MANUAL. A FINANCIAL SURETY SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE LANDSCAPING IN THE AMOUNT OF \$ 6,000.
\$ 1,200 FOR 4 SHADE TREES, \$ 2,100 FOR 14 EVERGREEN TREES, AND \$ 1,200 FOR 40 SHRUBS, \$ 600 FOR 2 PARKING LOT TREES AND \$ 900 FOR 6 STREET TREES.

SCHEDULE 'B' PARKING LOT INTERNAL LANDSCAPING		
NUMBER OF PARKING SPACES PROVIDED	21*	
NUMBER TREES REQUIRED 1 SHADE TREE PER 20 PS	1	
NUMBER OF ISLANDS AND TREES PROVIDED		
ISLANDS AND SHADE TREES	2	
OTHER TREES (2:1 SUBSTITUTION)	-	

*SURFACE SPACES. REFER TO PARKING TABULATION, SHEET 1

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature of Developer
Date: 6/4/2024

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Date: 6/27/2024

Date: 7/1/2024

Date: 7/1/2024

Date: _____

LANDSCAPING NOTES

- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- 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 COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
- SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.
- THE REMOVAL OF TREES 30" OR GREATER DBH IS PROHIBITED WITHOUT COUNTY APPROVAL.

LANDSCAPE SCHEDULE PROVIDED PLANTING						
LEGEND	KEY	QUAN	BOTANICAL NAME	SIZE	CAT	
SHADE TREES	AR	3	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2.5"-3" CAL	B & B	
	HL	3	GLEDITSIA TRIACANTHOS INERMIS SHADBLASTER THORNLESS HONEYLOCUST 'SHADEMASTER'	2.5"-3" CAL	B & B	
	AG	12	ACER GINNALA AMUR MAPLE (BGE COMPLIANT)	1 1/2"-2" CAL	B & B	
BGE COMPLIANT PLANTINGS	CJ	8	CHINESE JUNIPER ROBUSTA GREEN (BGE COMPLIANT)	10"-12" HT.	B & B	
	TO	20	TAXUS CUSPIDATA 'NANA' DWARF JAPANESE YEW	18" x 24" (R60)	B & B	
SHRUBS	ME	20	EUNYMIOS KIAUTSCHOVICUS 'MANHATTAN' MANHATTAN EUONYMIOS	2.5"-3" HT.	B & B	

NOTE: WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN APPENDIX B & C OF THE HOWARD COUNTY LANDSCAPE MANUAL.

* 6 TREES REQUIRED TO MEET STREET TREE REQUIREMENT

LANDSCAPE SCHEDULE NOTE:

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

SCHEDULE 'C' STREET TREE PLANTING				
STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED	
MISSION RD (Sta. 14+61.26-15+60.80)	99/30	3	3	6*

* SUBSTITUTION WITH BGE COMPLIANT PLANTINGS AT A 2:1 RATIO.

PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(a)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$ 900 SHALL BE POSTED AS PART OF THE DEVELOPER AGREEMENT.

STREET TREE NOTES:

- WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR GREATER, TREES SHALL BE LOCATED WITHIN THE RIGHT OF WAY AND SHALL BE CENTERED BETWEEN THE CURB AND THE SIDEWALK.
- WHEN THE DISTANCE BETWEEN THE CURB AND THE SIDEWALK IS LESS THAN 6 FEET, AND WHERE TREES ARE PLANTED CLOSER THAN 3 FEET TO THE SIDEWALK, A BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER BARRIER SHALL BE REQUIRED.
- WHEN THE DISTANCE BETWEEN THE CURB AND THE SIDEWALK IS LESS THAN 6 FEET, TREES MAY BE PLANTED 3 FEET FROM THE SIDEWALK IN THE DIRECTION AWAY FROM THE ROAD. A 10' FOOT WIDE TREE MAINTENANCE EASEMENT SHALL BE REQUIRED IF THE RIGHT OF WAY IS LIMITED.
- TREES SHALL BE PLACED A MINIMUM OF 30 FEET FROM ALL SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB, AND BE LOCATED WITH CONSIDERATION OF UNDERGROUND UTILITIES AND STRUCTURES. STREET TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A DRAIN INLET STRUCTURE, 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.

NOTES:

IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:

- THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
- THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.

TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE

LEGEND:

- EXISTING CONTOUR
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING EDGE OF PAVING
- EXISTING TREES
- EXISTING TRELLENE
- WROUGHT IRON FENCE
- CHAIN LINK FENCE
- POWER LINE STAKED ABOVE GROUND
- OVERHEAD POWER LINES
- UNDERGROUND WATER LINE
- UNDERGROUND SANITATION LINE
- ELECTRIC TRANSFORMER
- W/ CONCRETE PAD
- ELECTRIC METER
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- SEWER MANHOLE
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED CONCRETE
- PROPOSED CONC. SIDEWALK
- PROPOSED BITUMINOUS CONC. PAVEMENT
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- PROPOSED TREES
- PROPOSED MICRO-BIORETENTION
- BGE "GREEN ZONE" TREE HEIGHT LIMITED (TREE HEIGHT 25' MAX.)
- BGE "YELLOW ZONE" TREE HEIGHT LIMITED (TREE HEIGHT 25'-40' MAX.)

SHRUB PLANTING DETAIL
NOT TO SCALE

IRON WORLD

BARCELONA GATE
SINGLE CONTAINER PER SIDE GATE, 1" RADIUS POSTS, 6 FT. TO 8 FT. OPENING

"HERCULES" ROLLING GATE OR EQUAL
NOT TO SCALE

CertainTeed Bufftech Vinyl Fence Products

CERTAINTEED FENCE DECK AND RAIL DIVISION
231 SHIP CANAL PARKWAY
BUFFALO, NY 14218
TOLL FREE: 1-800-333-0569
PHONE: (716) 823-3023
FAX: (716) 823-2843
www.certainteed.com

SELECT DESIRED HEIGHT: 4', 5', 6'

SELECT DESIRED COLOR: WHITE, ALMOND, NATURAL CLAY, WEATHERED BLEND, TIMBER BLEND, FRONTIER BLEND, ABSORB BLEND, ARCTIC BLEND, BRAZILIAN BLEND, SIERRA BLEND

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 035-01C.

PRIVACY FENCING OR EQUAL
(BUFFTECH) CHESTERFIELD W/ CYCLOGRAPH™ TEXTURE, 4.5-6 FT. HEIGHT

6668-00 LANDSC.G 035-01C REVISION DATE 05/01/2024
©2024 CERTAINTEED FENCE DECK AND RAIL DIVISION CAD03688.com

B & G & E NOTES:

- BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
- THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OF A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION.
- CALL MASS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING TREES ALONG MISSION ROAD. PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

OWNER/DEVELOPER

SIMRAN GROUP, LLC
10427 SNOW POINT DRIVE
BETHESDA, MD 20814
PHONE: (410) 504-9416

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN
LANDSCAPE PLAN
NOTES & DETAILS**

8570 MISSION ROAD

DEED L.16875 - F.188 ZONED M-1
PARCEL 352
HOWARD COUNTY, MARYLAND

TAX MAP 42 BLOCK 18
6TH ELECTION DISTRICT

VOGEL ENGINEERING

TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

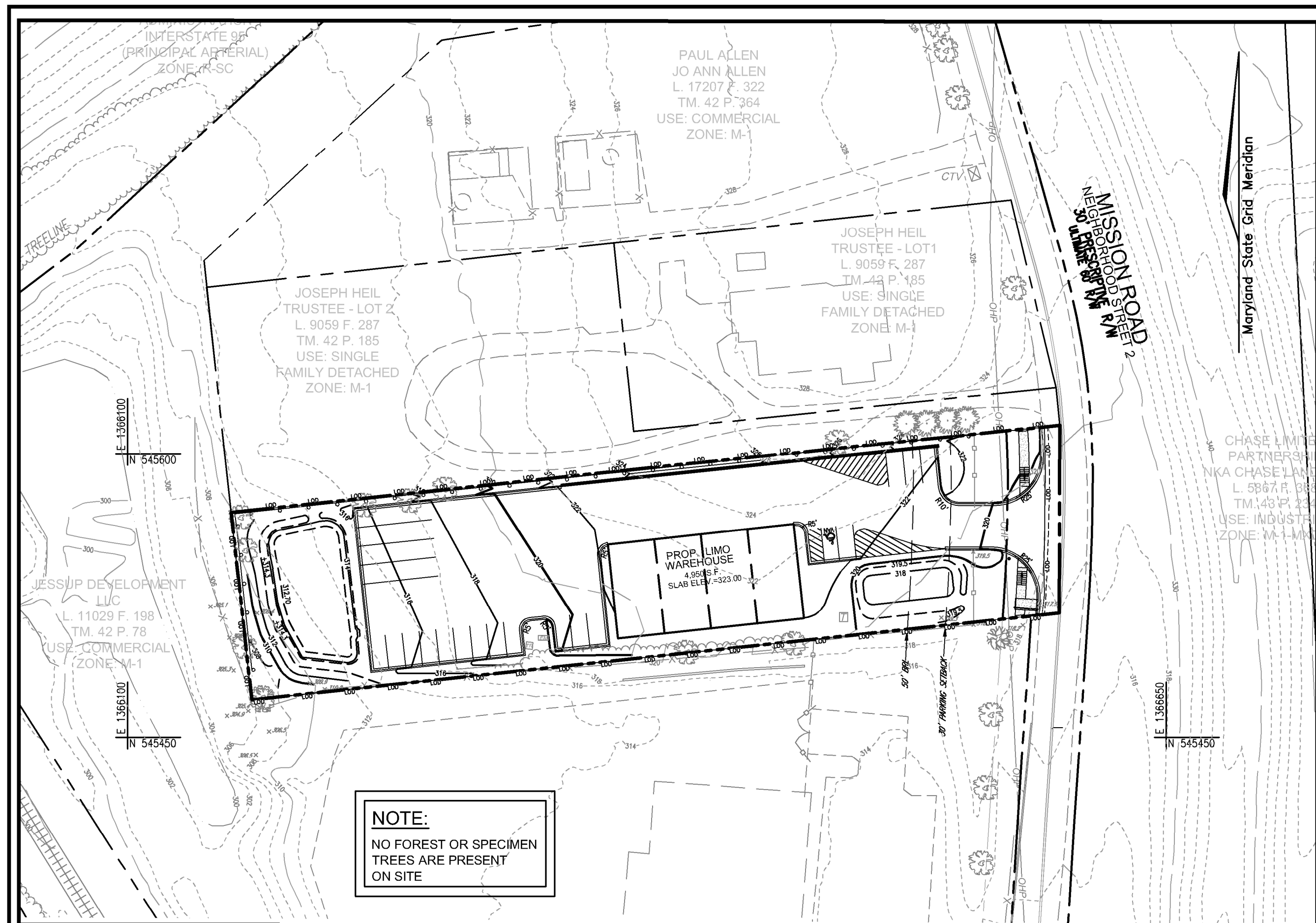
PROFESSIONAL CERTIFICATE

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. 16193 EXPIRATION DATE: 09-27-2024

DESIGN BY: RHV
DRAWN BY: ONB
CHECKED BY: RHV
DATE: AUGUST 2023
SCALE: AS SHOWN
W.O. NO.: 49568

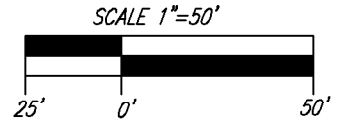
9 SHEET OF 12

Robert H. Vogel
ROBERT H. VOGEL, PE No.16193



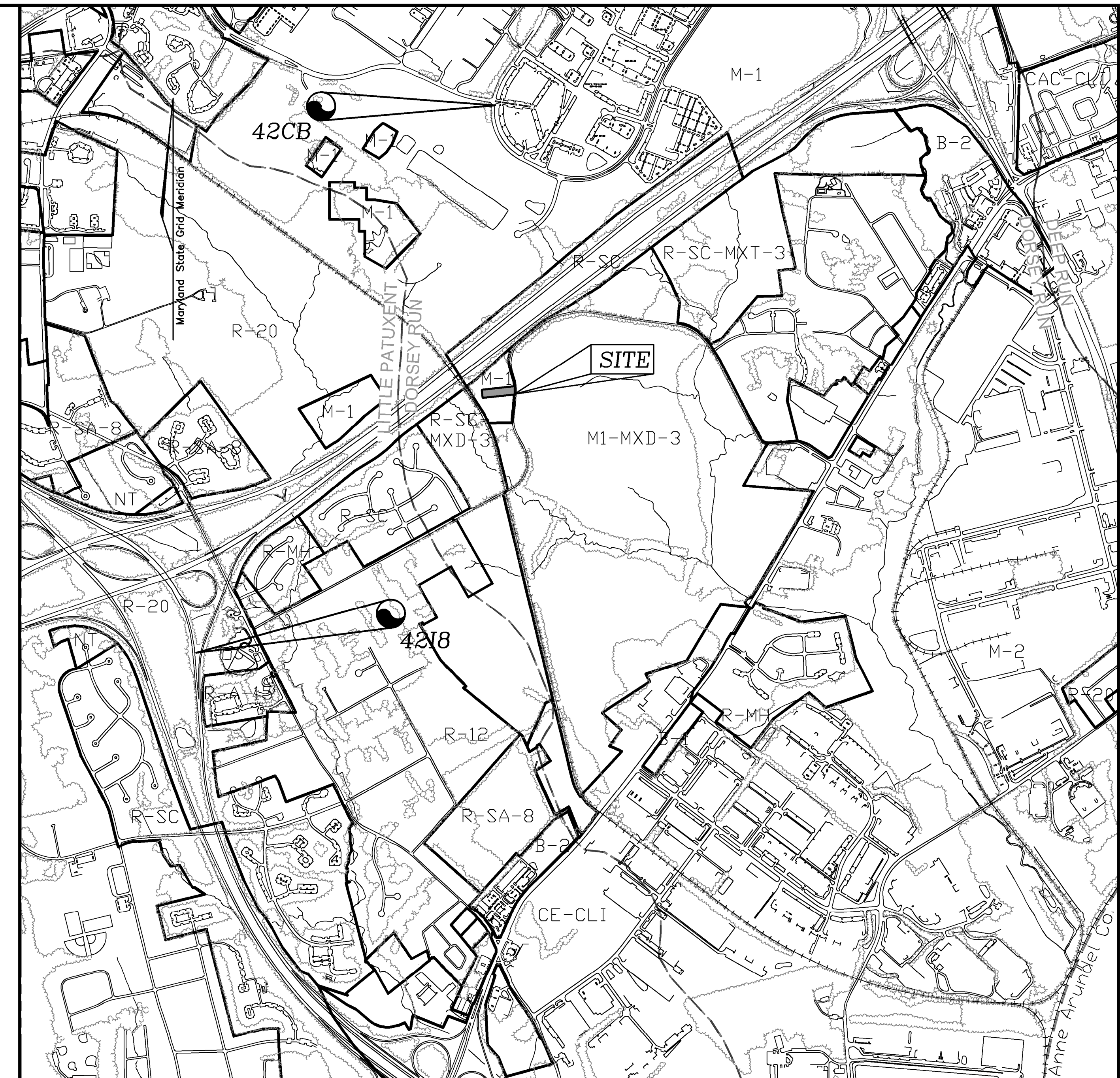
NOTE:
NO FOREST OR SPECIMEN TREES ARE PRESENT ON SITE

FOREST CONSERVATION PLAN
SCALE: 1"=50'

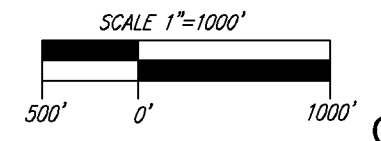


BENCHMARKS
HOWARD COUNTY BENCHMARK
42B N 542.107.856 E 1.362,386.084 NAVD83 ELEV. 301.495
HOWARD COUNTY BENCHMARK
42B N 549.320.827 E 1.366,327.333 NAVD83 ELEV. 335.482

- LEGEND:**
- EXISTING CONTOUR
 - PROPERTY LINE
 - ADJACENT PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - EXISTING EDGE OF PAVING
 - ☀ EXISTING TREES
 - EXISTING TREELINE
 - WROUGHT IRON FENCE
 - CHAIN LINK FENCE
 - OVERHEAD POWER LINES
 - TELECOMMUNICATION PEDESTAL
 - ELECTRIC TRANSFORMER W/ CONCRETE PAD
 - ELECTRIC METER
 - PROPOSED CONTOUR
 - PROPOSED EDGE OF PAVE
 - PROPOSED LANDSCAPE WALL
 - PROPOSED CURB & GUTTER
 - PROPOSED CONC. SIDEWALK



VICINITY MAP
SCALE: 1"=1000'
ADC MAP/GRID NO. 5054/A4



OWNER/DEVELOPER
SIMIRAN GROUP, LLC
10427 SNOW POINT DRIVE
BETHESDA, MD 20814
PHONE: (410) 504-9416

FOREST STAND DELINEATION NARRATIVE

The subject property is a 1.0 acre lot located at the referenced address in the Jessup section of Howard County, Maryland. The property is shown County tax map 42 as parcel 352.

The property was formally maintained as a mowed lawn with scattered trees and hedgerows along the rear portion of the lot. This condition was maintained through 2016 per County aerial photographic records. Woody vegetation on the property in 2016 was less than 10,000 sq.ft and aerial photographs dating back to 1950's indicate that the site has been unforested since at least that time.

By 2017 aerial photographs reveal that the lot had been developed with a metal building and paved/gravel parking. Fencing was installed around most of the property but was not installed along the rear property boundary and the rear portion of the northern property boundary.

These conditions are comparable to the site conditions observed during our field review. The majority of the property has been converted to vehicle parking and storage. Natural vegetation is limited to the perimeter of the property where fencing is not present. In these areas black cherry and black locust are common. Vine growth in this area is heavy with Oriental bittersweet, grape vine, Japanese honeysuckle and poison ivy all noted.

Surrounding land uses include residential property to the north and commercial property to the south. An existing stormwater management facility is present to the west of the property.

No forest or specimen trees are present on the site.

No wetlands, streams or buffers are present on the property. The site is located in a Use I-P portion of the Little Patuxent River watershed (021311050952).

No steep slopes are present on the property.

No 100 year floodplain is present on the property.

No historic elements or cemeteries are known to be present on the property.

No rare, threatened or endangered species are known to occur on the property.

The subject property is zoned M-1.

Forest Conservation Act Compliance

The development of the subject property is required to comply with Forest Conservation Act because there are no exemptions for single lot developments in non-residential zoning, even if no forest impacts are required.

Per the Forest Conservation Worksheet the afforestation obligation is 0.2 acres. Therefore 0.2 acres of afforestation obligation is required for this site. This can be met in a County approved offsite forest conservation bank or payment of the County fee-in-lieu if no banks are available. There are no priority planting areas onsite.

FOREST CONSERVATION COMPUTATIONS

FOREST CONSERVATION WORKSHEET FOR 8570 Mission Road

Net Tract Area

A. Total (Gross) Tract Area	A = 1.00
B. Area within 100-year Floodplain	B = 0.00
C. Other Deductions (Identify)	C = 0.00
D. Net Tract Area	D = 1.00

Land Use Category

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

	Resid.	Resid.	Inst./	Retail/Ind./	Mixed Use/	
	Rural LD	Rural MD	Suburban	Linear	Office	PUD
	0	0	0	0	1	0

E. Afforestation Threshold (Net Tract Area x 15%) E = 0.20
F. Reforestation Threshold (Net Tract Area x 15%) F = 0.20

Existing Forest Cover

G. Existing Forest Cover within the Net Tract Area	G = 0.00
H. Area of Forest above Afforestation Threshold	H = 0.00
I. Area of Forest above Reforestation Threshold	I = 0.00

Break Even Point

J. Break Even Point	J = 0.00
K. Forest Clearing Permitted without Mitigation	K = 0.00

Proposed Forest Clearing

L. Total Area of Forest to be Cleared	L = 0.00
M. Total Area of Forest to be Retained	M = 0.00

Planting Requirements Inside Watershed

N. Reforestation for Clearing above the Reforestation Threshold	N = 0.00
P. Reforestation for Clearing below the Reforestation Threshold	P = 0.00
Q. Credit for Retention above the Reforestation Threshold	Q = 0.00
R. Total Reforestation Required	R = 0.00
S. Total Afforestation Required	S = 0.20
T. Total Reforestation and Afforestation Requirement	T = 0.20
U. 75% of Total Obligation (Retention + Planting)	U = 0.20
V. Planting Required Onsite to meet 75% Obligation	V = 0.20

Planting Requirements Outside Watershed

W. Total Planting within Development Site Watershed	W = 0.00
X. Total Afforestation Required	X = 0.20
Y. Remaining Planting within Watershed for Reforestation Credit	Y = 0.00
Z. Reforestation for Clearing above the Reforestation Threshold	Z = 0.00
AA. Reforestation for Clearing below the Reforestation Threshold	AA = 0.00
BB. Credit for Retention above the Reforestation Threshold	BB = 0.00
CC. Total Reforestation Required	CC = 0.00
DD. Total Afforestation and Reforestation Requirement	DD = 0.20

FOREST CONSERVATION GENERAL NOTES

WATERSHED NAME: PATUXENT RIVER (LITTLE PATUXENT RIVER)
 WATERSHED NUMBER: MDE 8-DIGIT 2131105
 MDE 12-DIGIT WATERSHED #021311050952

A. GROSS SITE AREA: 1.00 AC.
 NET SITE AREA (GROSS-FLOODPLAIN-STEEP SLOPES): 1.00 AC.

B. AREA OF 100YEAR FLOODPLAIN: 0.00 AC.
 C. AREA OF WETLANDS AND BUFFERS (ONSITE): 0.00 AC.
 D. AREA OF STREAMS AND BUFFERS (ONSITE): 0.00 AC.
 E. AREA OF >25% STEEP SLOPES (ONSITE): 0.00 AC.
 F. ZONED: M-1
 G. EXISTING USE: COMMERCIAL
 H. PROPOSED USE: COMMERCIAL

2016 aerial photograph



2020 aerial photograph



FOREST STAND DELINEATION NOTES

1. THERE ARE NO 100 YEAR FLOOD PLAINS ON SITE.
2. THERE ARE NO STATE CHAMPION TREES ON SITE.
3. THERE ARE NO HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES ON SITE.
4. THERE ARE NO KNOWN HISTORIC STRUCTURES OR RESOURCES ON SITE.

MAPPED SOILS TYPES - HOWARD COUNTY, MARYLAND

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	Kw	HI	HIGHLY ERODIBLE
S1B	SASSAPRAS GRAVELLY SANDY LOAM 2 TO 5 PERCENT SLOPE	B	NO	0.32	NO	NO
S1C	SASSAPRAS AND GROOM SOILS 5 TO 10 PERCENT SLOPE	B	NO	0.32	NO	NO

NOTE: TAKEN FROM: USDA, SCS-WEBSOIL SURVEY, AND HOWARD COUNTY SOIL CONSERVATION DISTRICT WEBSITE DOCUMENTS [HTTPS://WWW.HOWARDSCD.ORG/DOCUMENTS](https://www.howardscd.org/documents)

HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

SILVA, LLC
CONSULTING ECOLOGIST & ARBORIST
8800 V. SILVA FOREST, MD
930 BELFAST ROAD, SPARKS, MD 21152 (410) 834-3499

J. Brody McAllister
ISA Certified Arborist
Cert. # 1844274
MD CMR FCA Qualified Professional

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
P.O. BOX 3066, GLENN ARMS, MARYLAND 20877

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *Chad Edmondson* 6/27/2024

Chief, Division of Land Development: *Linda Eisenberg* 7/1/2024

Director: *Linda Eisenberg* 7/1/2024

FOREST CONSERVATION FOR THIS PROJECT IS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY FOREST CONSERVATION MANUAL.

TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT TO BE FULFILLED IN ACCORDANCE WITH THE HOWARD COUNTY CODE, SECTION 16.1211 BY A PAYMENT OF FEE-IN-LIEU FOR THE REQUIRED AFFORESTATION OBLIGATION. THE AFFORESTATION OBLIGATION FOR 0.2 AC. = 8,712 SQ. FT. X \$1.25 = \$10,890.00

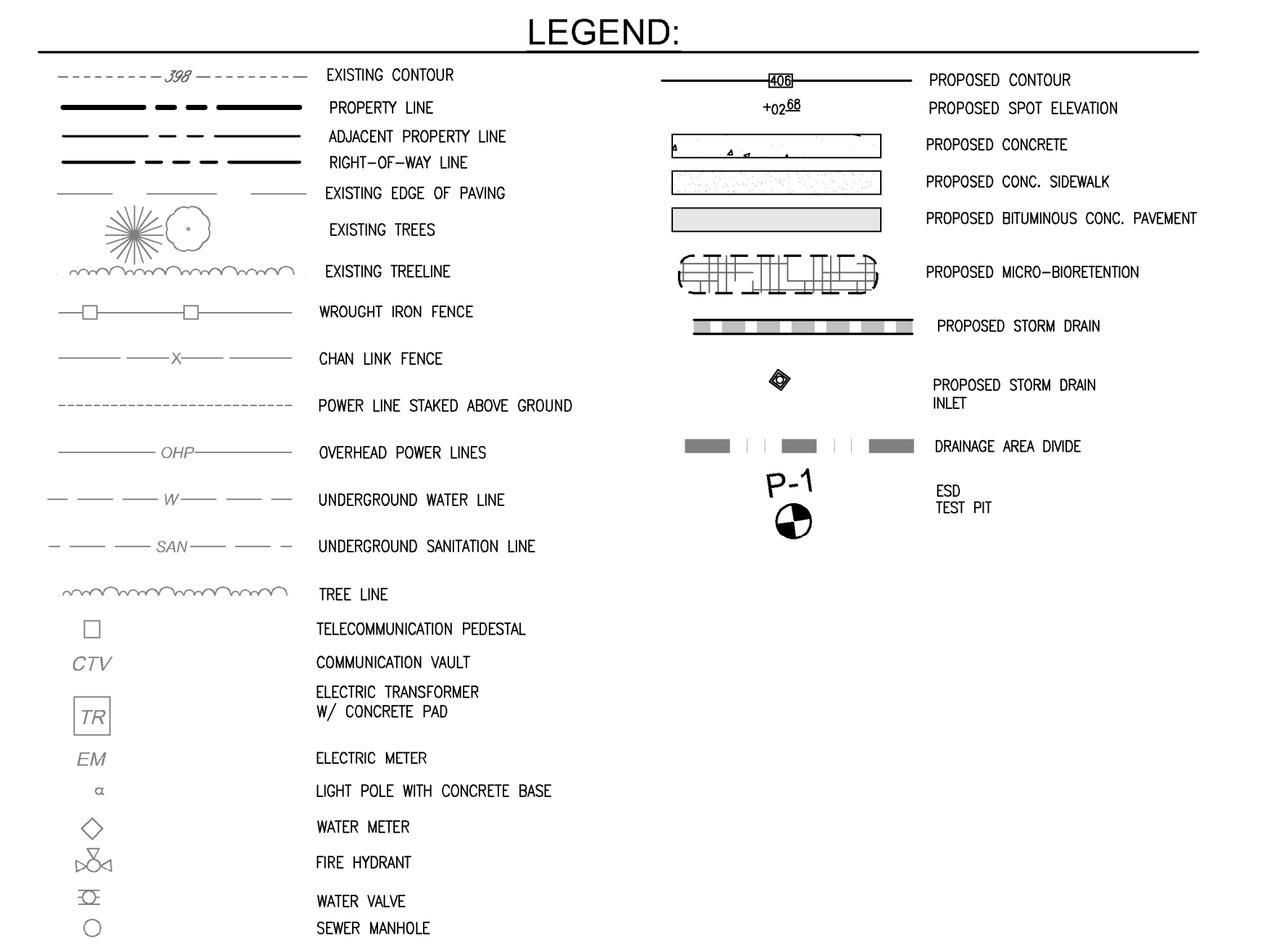
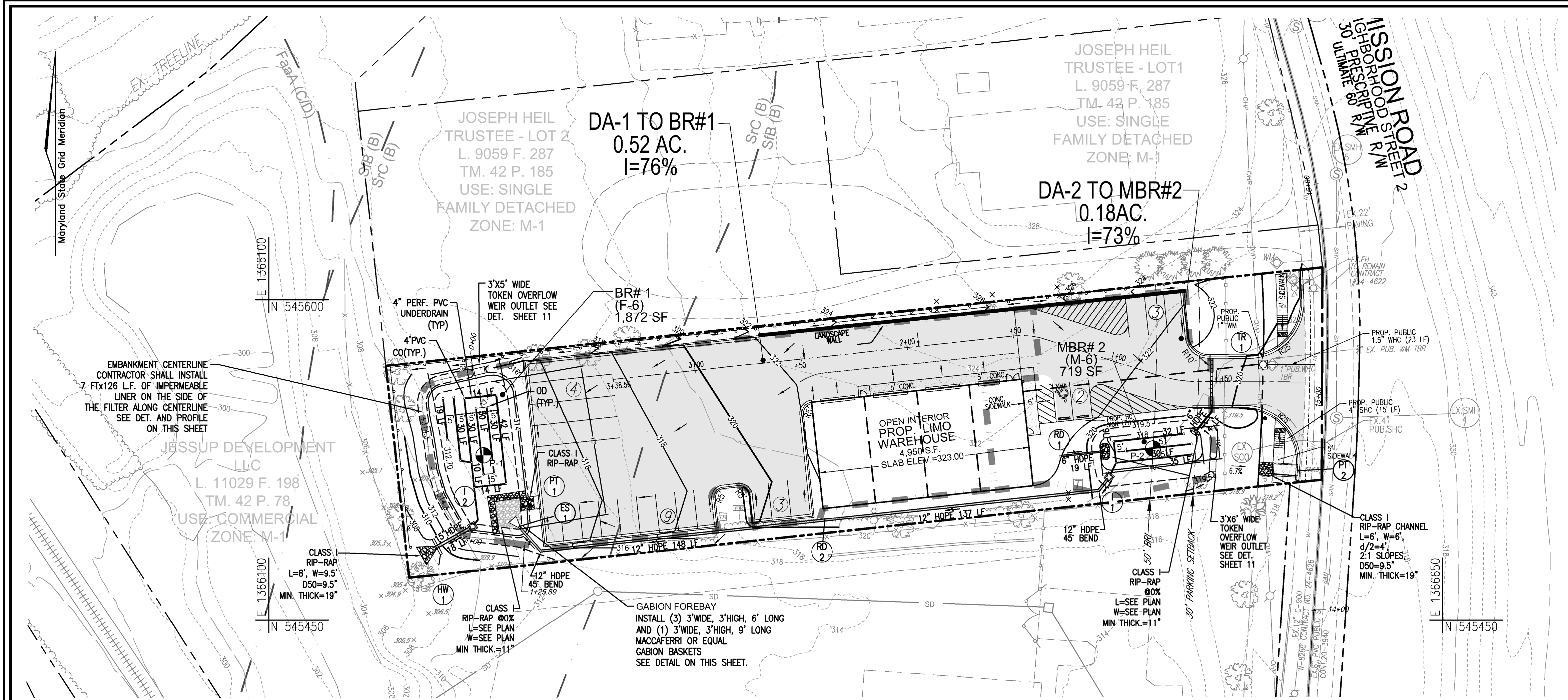
VOGEL ENGINEERING
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

STATE OF MARYLAND
ROBERT H. VOGEL
REGISTERED PROFESSIONAL ENGINEER
NO. 16193

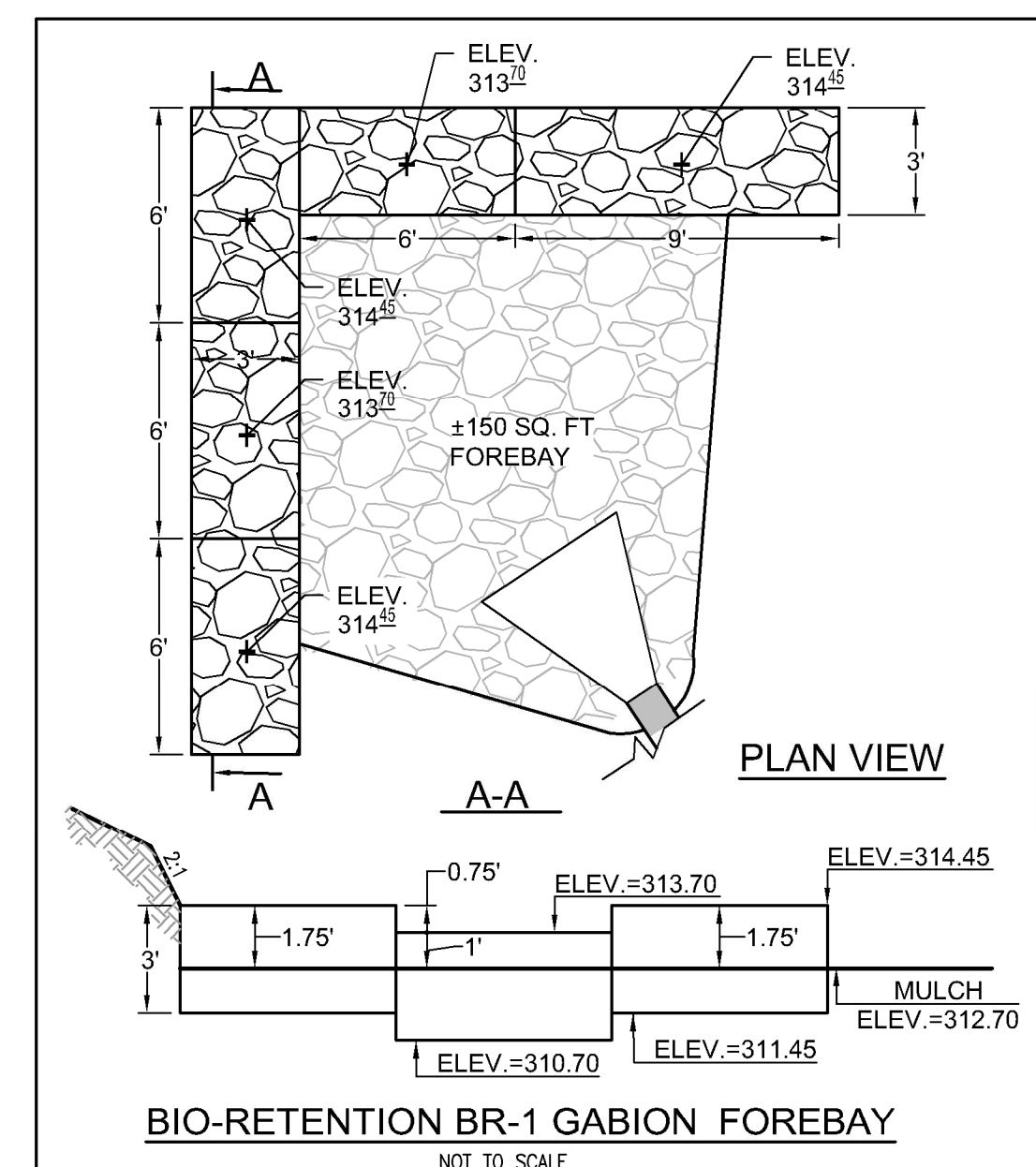
DESIGN BY: RHV
DRAWN BY: ONB
CHECKED BY: RHV
DATE: AUGUST 2023
SCALE: AS SHOWN
W.O. NO.: 49568

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 08-27-2024

10 SHEET OF 12



STORMWATER MANAGEMENT DRAINAGE AREA MAP
SCALE: 1"=30'



BIO-RETENTION BR-1 GABION FOREBAY
NOT TO SCALE
OWNER/DEVELOPER
SIMRAN GROUP, LLC
10427 SNOW POINT DRIVE
BETHESDA, MD 20814
PHONE: (410) 504-9416

VOGEL ENGINEERING + TIMMONS GROUP
3300 North Ridge Road, Suite 110, Ellicott City, MD 21043
P 410.461.7666 F 410.461.8961 www.timmons.com

MISSION ROAD INDIVIDUAL PRACTICE ESDV DESIGN COMPUTATIONS

Target P_i (New Development Criteria): 2.0 in
Total ESDv Required (Ex. & Prop.): 4,153 CF
ESDv = (P_i x R_v x A) / 12
R_v = 0.05 + 0.009 x I
V_{min} for rainfall = 1"
V_{max} for rainfall = 2.6"

PRACTICE DA #	PRACTICE DA (SF)	IMP. PERV. DA (AC)	IMP. PERV. (SF)	PERV. (SF)	PRACTICE % IMP. PERV. (AC)	PRACTICE % IMP. PERV. (SF)	PRACTICE I _v MIN. VOLUME	PRACTICE I _v P _i VOLUME	PRACTICE I _v MAX. VOLUME	TOTAL ESD. VOLUME PROVIDED	Rev. REQUIRED	Rev. PROVIDED	CF	REMARKS	depth	porosity
BR#1	22,586	0.52	17,223	0.40	5,363	0.12	76.3	0.74	1,386	2,772	3,603	3,098	624	624	0.83	0.4
MBR#2	8,003	0.18	5,833	0.13	2,170	0.05	72.9	0.71	471	942	1,224	1,174	240	240	0.83	0.4
TOTALS	30,589	0.70	23,056	0.53	7,533	0.17	75.4	0.73	1,857	3,713	4,232	864	864			

Pe = 2.28

BIORETENTION / MICRO-BIORETENTION FACILITY - DESIGN ELEVATION CHART

FACILITY #	FACILITY TYPE	ESD WSEL	TOP MULCH	TOP PLANT SOIL	BOTTOM PLANT SOIL	BOTTOM PEA GRAVEL	INV. PIPE (1)	INV. STONE	SURFACE AREA	APPROX. DIM	OWNER	MAINTENANCE
BR-1	M-6	313.70	312.40	312.45	310.45	310.12	309.45	308.45	1890	SEE PLAN	PRIVATE	PRIVATE
MBR-2	M-6	319.00	318.00	317.75	316.25	315.92	315.25	314.25	719	SEE PLAN	PRIVATE	PRIVATE

(1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE

TEST PIT LOG

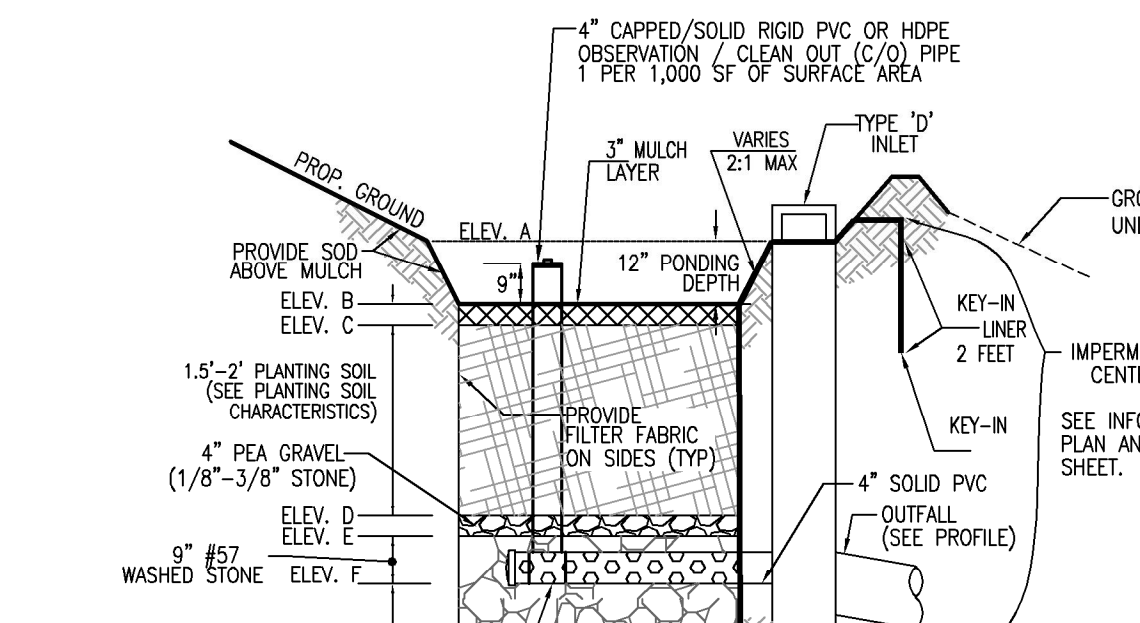
TEST PIT #	DEPTH	NOTES
P-1	12 FT	NO ROCK OR WATER
P-2	12 FT	NO ROCK OR WATER

MAPPED SOILS TYPES - HOWARD COUNTY, MARYLAND

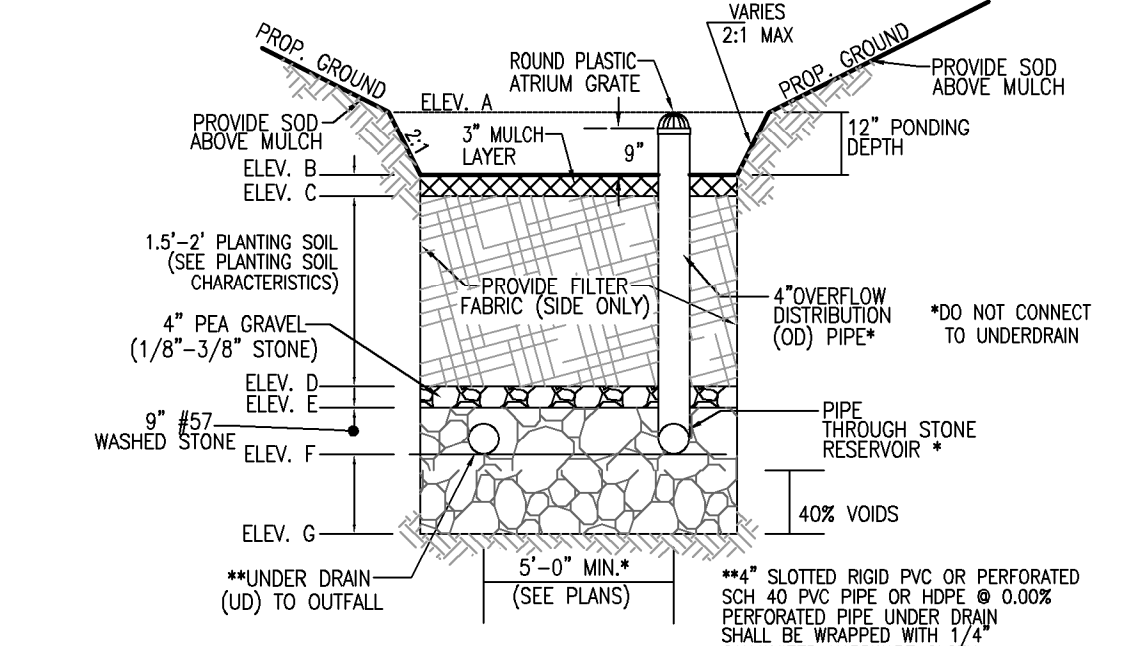
SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	K _w	HIGHLY ERODIBLE
SMB	SANDS AND GRAVELS SANDY LOAM - 2 TO 5 PERCENT SLOPE	B	NO	0.32	NO
SF	SANDS AND GRAVELS SANDS - 5 TO 10 PERCENT SLOPE	B	NO	0.32	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

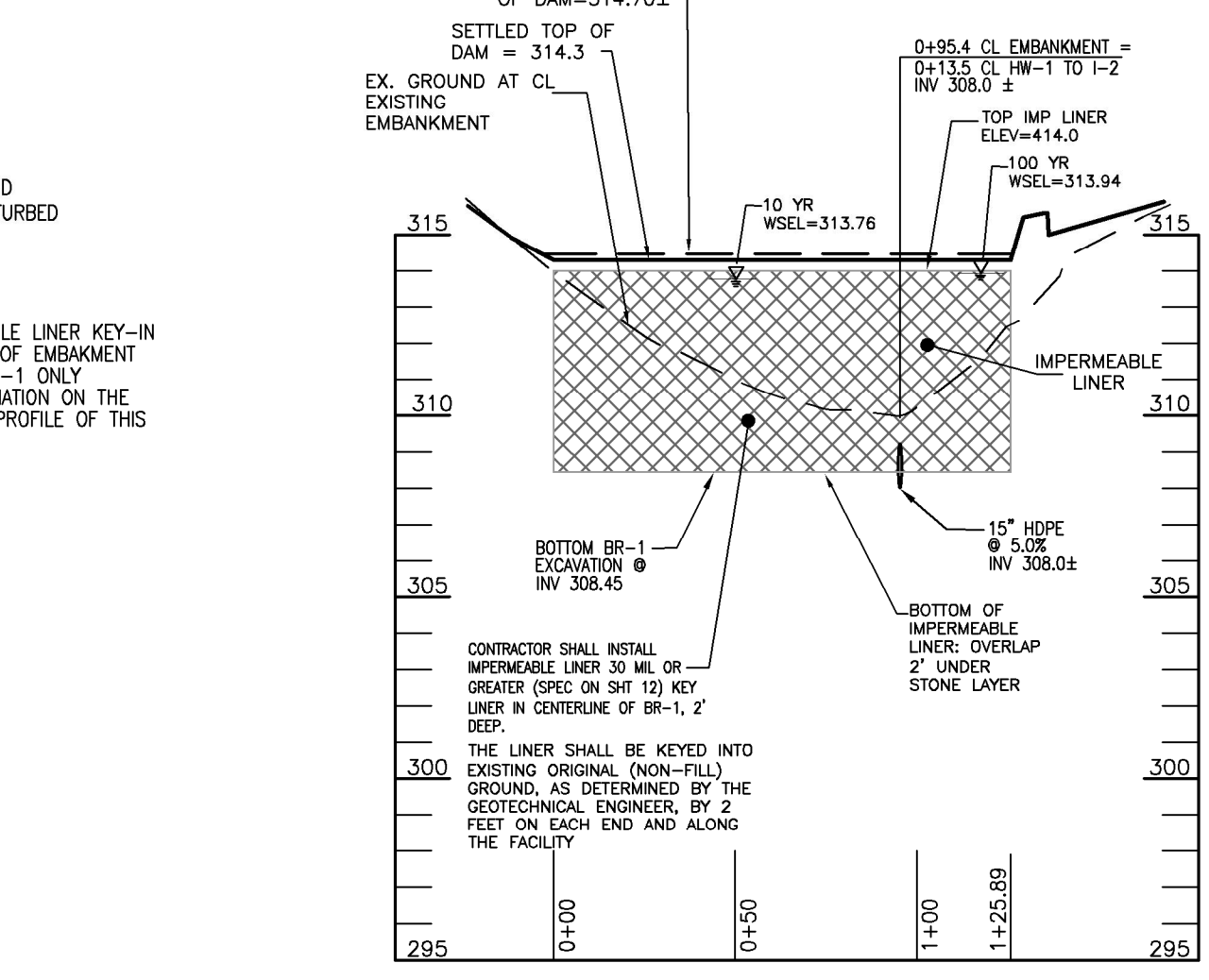
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT



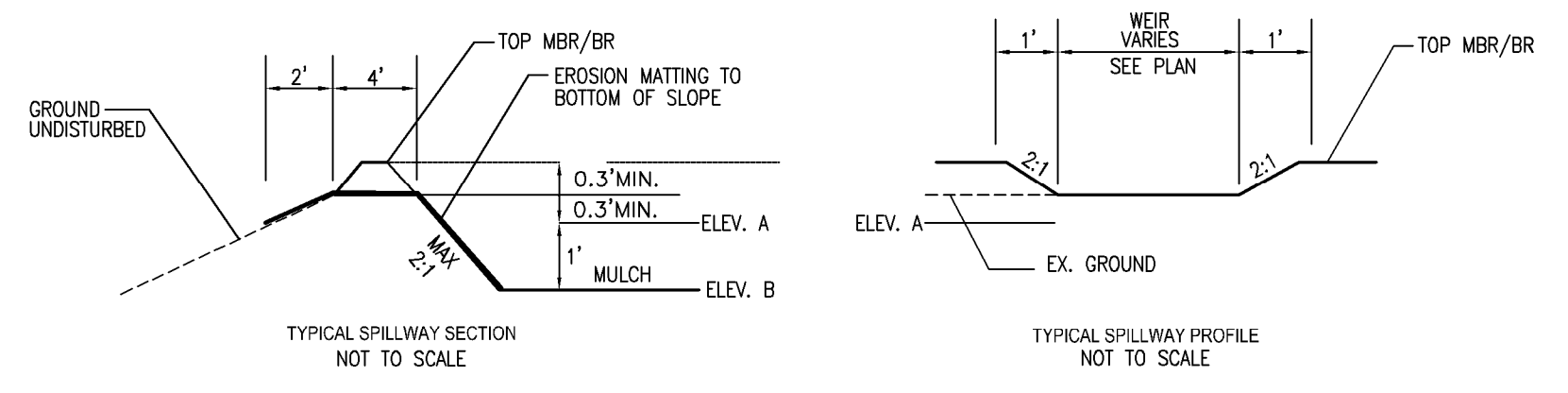
BIO-RETENTION (F-6) AND MICRO-BIORETENTION (M-6) UNDERDRAIN
NOT TO SCALE



BIO-RETENTION (F-6) AND MICRO-BIORETENTION (M-6) OVERFLOW
NOT TO SCALE



PROFILE ALONG CL OF BR-1 EMBANKMENT
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'



DETAILS OF WEIR OVERFLOW OUTLET PROTECTION MICRO-BIORETENTION / BIORETENTION
NOT TO SCALE

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

6/27/2024
 DATE
 DATE
 DATE

VOGEL ENGINEERING + TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELlicOTT CITY, MD 21043
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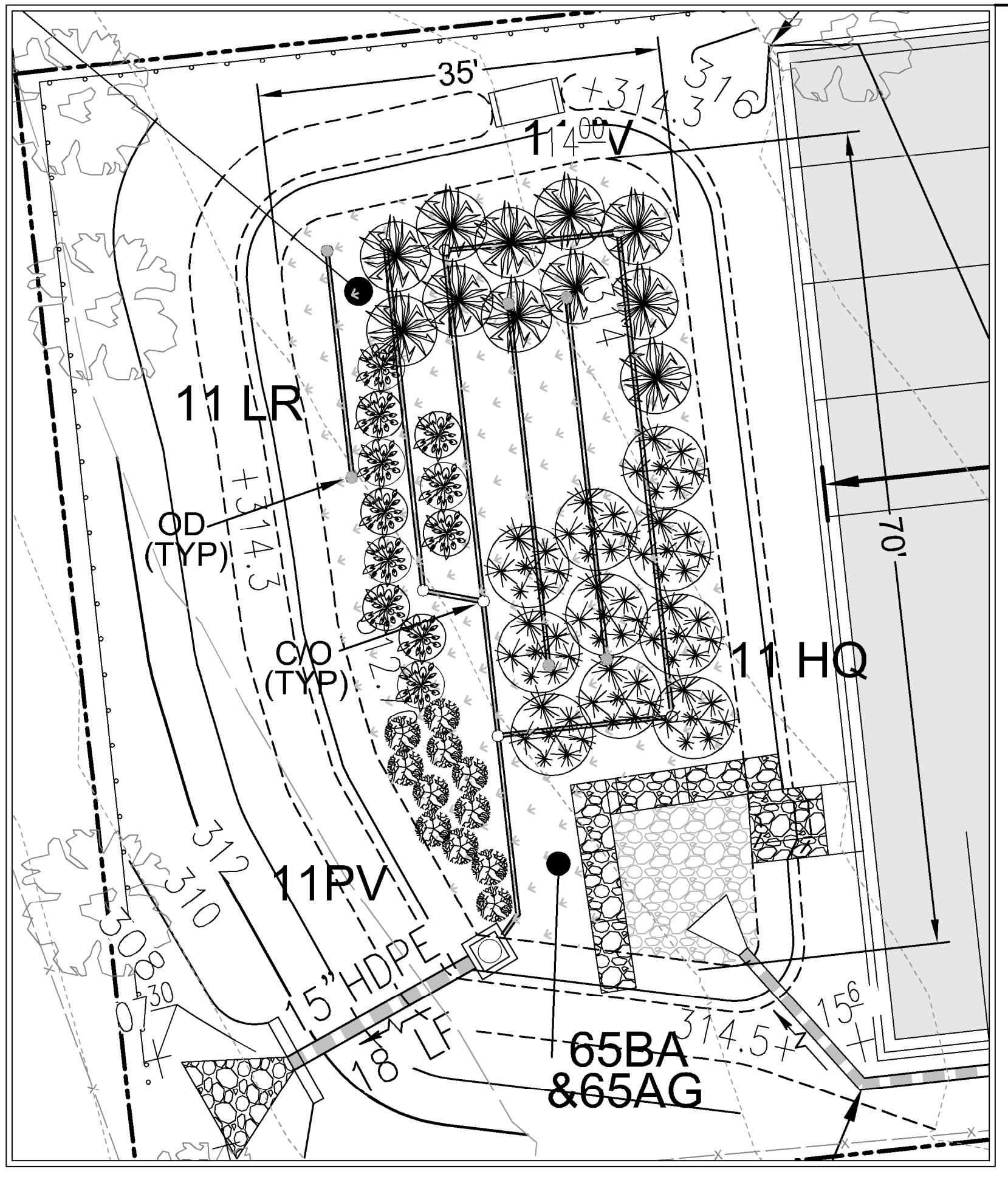
**SITE DEVELOPMENT PLAN
ESD STORMWATER MANAGEMENT
DRAINAGE AREA MAP, NOTES & DETAILS**

8570 MISSION ROAD
DEED L.16875 - F.188
TAX MAP 42 BLOCK 18
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ZONED M-1
PART 350

DESIGN BY: RHV
DRAWN BY: ONB
CHECKED BY: RHV
DATE: AUGUST 2023
SCALE: AS SHOWN
W.O. NO.: 49568

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11 SHEET OF 12



BR-1 PLANTING DETAILS
SCALE: 1"=10'

PRACTICE #	AREA	PLANTING REQUIREMENTS		PLANTINGS PROVIDED					PERENNIALS/GROUND COVER	
		STEMS REQUIRED (0.0227)	STEMS PROVIDED	IV	PV	HQ	LR	BA	AG	TOTAL
BR-1	1872	43	44	11	11	11	11	65	65	130
MBR-2	719	17	20	5	5	5	5	25	25	50
TOTALS	2591	60	64	16	16	16	16	90	90	180

AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0227 STEMS PER SQUARE FOOT).

Appendix A. Landscaping Guidance for Stormwater BMPs..... Specific Landscaping Criteria

Trees	Shrubs	Herbaceous Species
Acer rubrum	Asterias parviflora	Andropogon virginicus
Red Maple	Bottlebrush Buckeye	Broomrape
Betula nigra	Cephalanthus occidentalis	Eragrostis perparva
River Birch	Joe Pye Weed	Joe Pye Weed
Juniperus virginiana	Hemelia virginiana	Scirpus pungens
Eastern Red Cedar	Witch Hazel	Three Square Bulrush
Chionodoxa virginica	Yucca corymbosa	Iris versicolor
Fringe-tree	Highbush Blueberry	Blue Flag
Nyssa sylvatica	Ilex glabra	Loebelia cardinalis
Black Gum	Lakberry	Cardinal Flower
Diospyros virginiana	Ilex verticillata	Panicum virgatum
Winterberry	Winterberry	Switchgrass
Platanus occidentalis	Yucca dentata	Dichanthium scoparium
Sycamore	Aluminum Grass	Broom Panic Grass
Quercus palustris	Lindera benzoin	Rudbeckia hirta
White Oak	Spiraea	Tall Coreopsis
Green Oak	Morita pennsylvanica	Scirpus operatus
Black willow	Bayberry	Woolgrass
		Veronica menziesiana
		New York Ironweed

Note 1: For more options on plant selection for bioretention, consult Bioretention Manual (ETAB, 1993) or the Design of Stormwater Filtering Systems (Clayton and Schueler, 1997).

MBR PLANTING SCHEDULE (SHRUB/ORNAMENTAL GRASSES)				
LEGEND/KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
IV	16	ITA VIRGINICA 'HENRY'S GARNETT'	1 GALLON	-
		VIRGINIA SWEETSPICE		
HQ	16	HYDRANGEA QUEROIFOLIA	1 GALLON	-
		OAKLEAF HYDRANGEA		
LR	16	LEUCOTHEA RACEMOSA	1 GAL.	-
		FETTERBUSH		
PV	16	PANICUM VIRGATUM	1 GAL.	-
		SWITCHGRASS		

MBR PERENNIALS/GROUND COVER PLANTING SCHEDULE				
LEGEND	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
BA	90	BAPTISIA AUSTRALIS	4" POT	12"-15" O.C. FOR SIDES AND BOTTOM OF MBR. MIX ALL VARIETIES IN A NATURALIZED RANDOM PATTERN THROUGHOUT. PLANT IN GROUPS OF NO LESS THAN 9 PLANTS PER CLUMP.
		FALSE INDIGO		
AG	90	ACORUS GRAMINEUS 'OGON'	1 QT.	
		GOLDEN VARIEGATED SWEET FLAG		

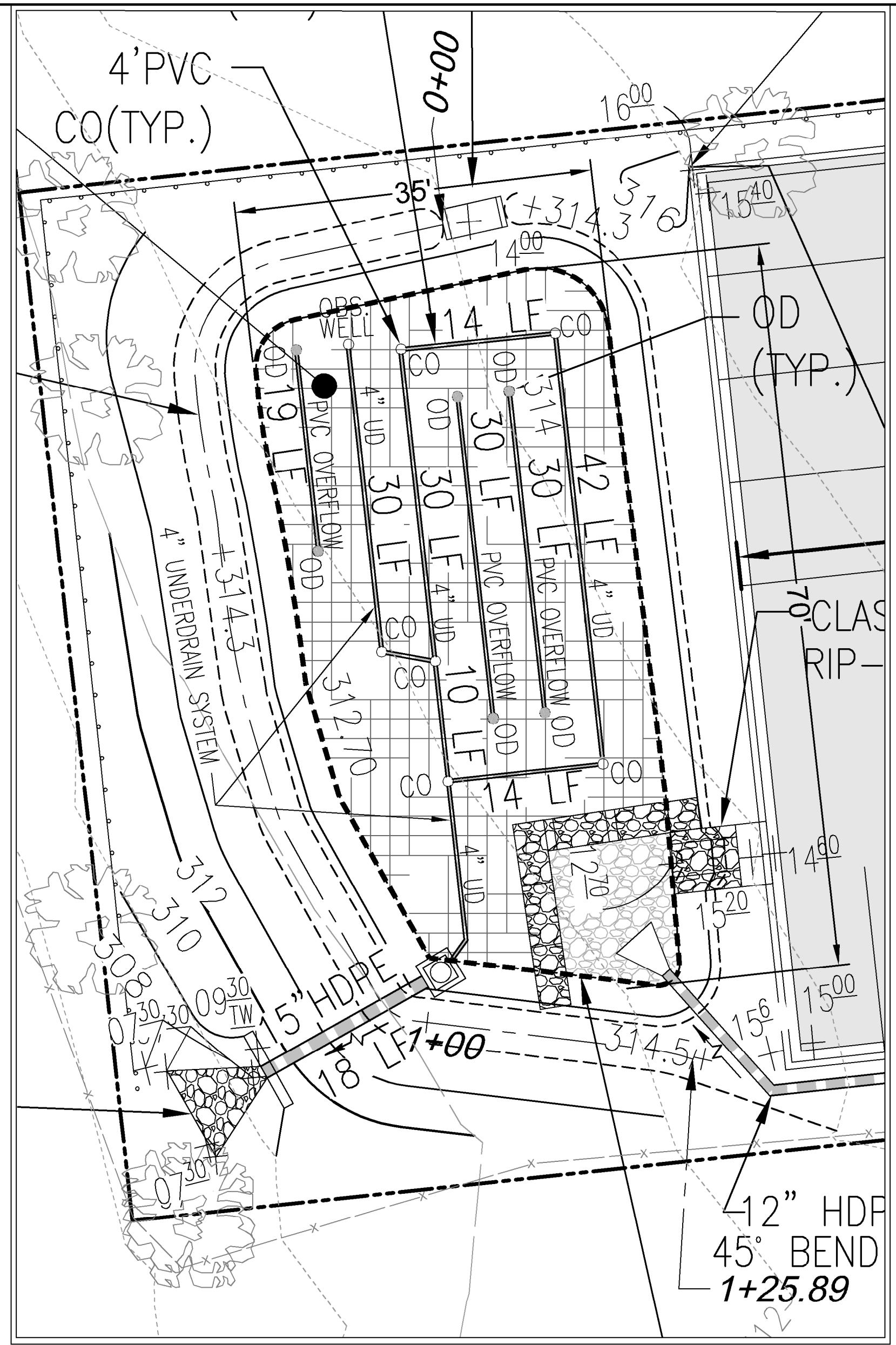
NOTE: WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN TABLE A-4 AS SHOWN HEREON.

"BIO-RETENTION AND MICRO-BIORETENTION" PLANTING SCHEDULE NOTES:

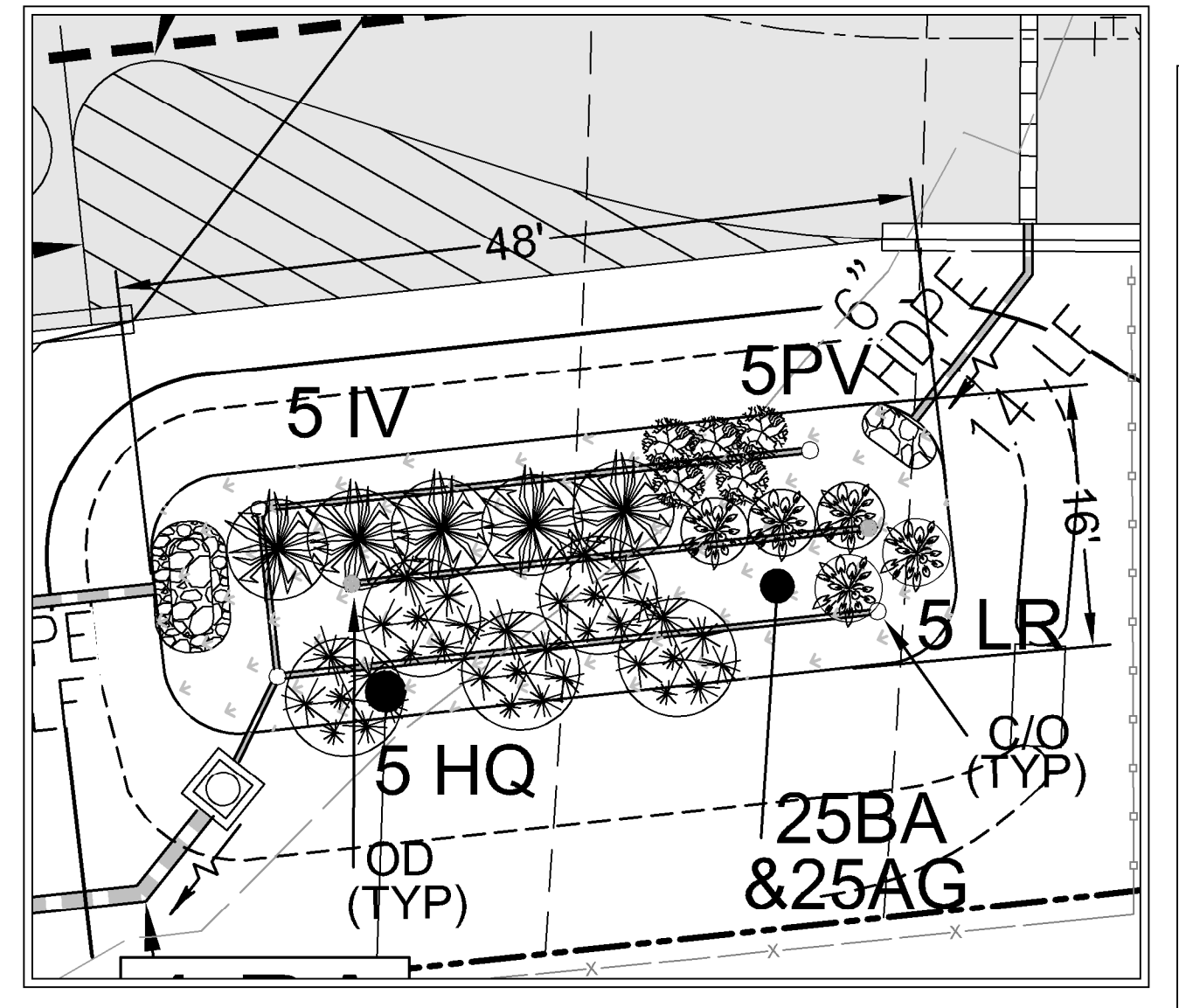
- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDV SUMMARY.
- FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH.

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

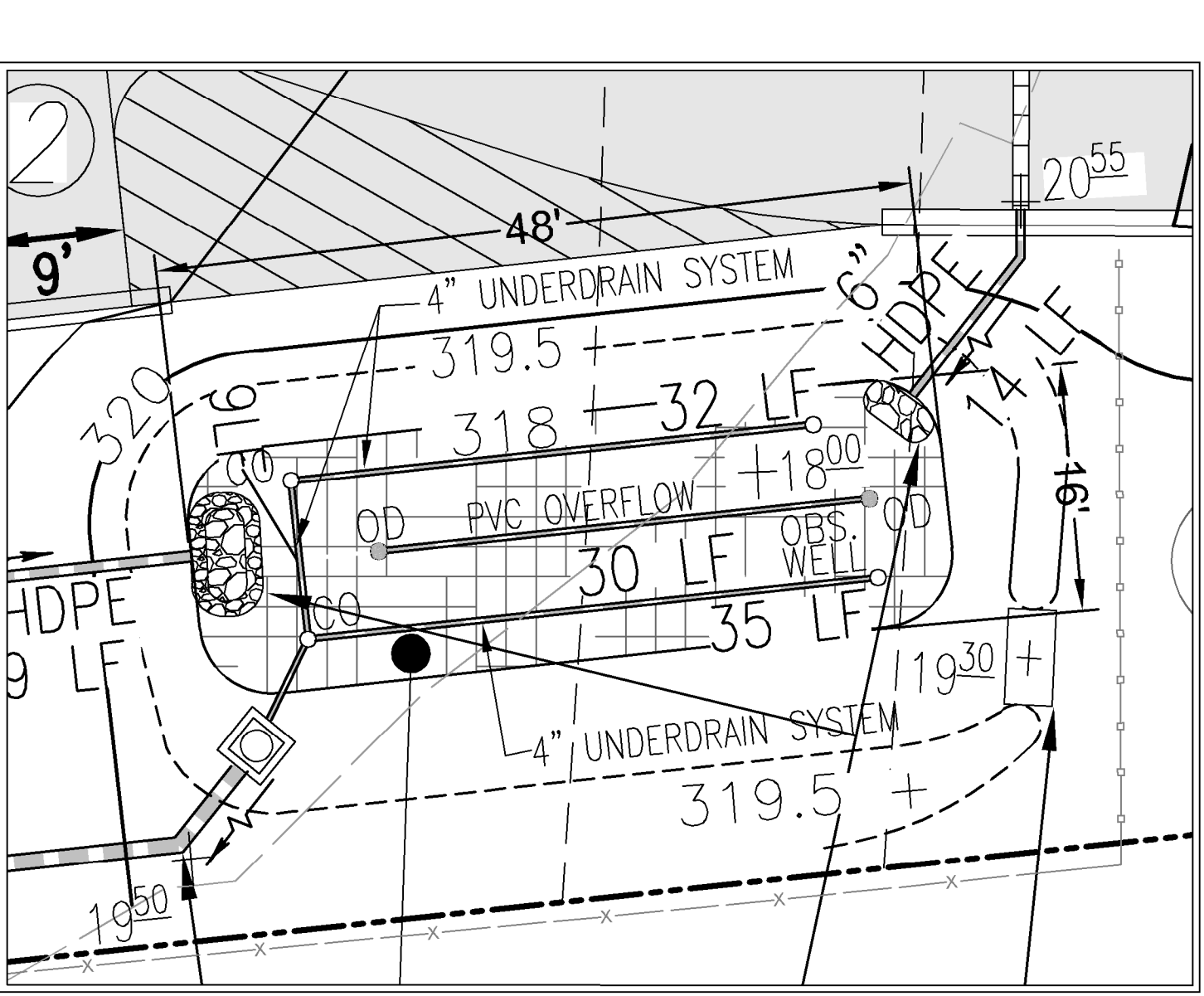
DATE: 6/27/2024
 DATE: 7/1/2024
 DATE: 7/1/2024



BR-1 CONSTRUCTION DETAILS
SCALE: 1"=10'



MBR-1 PLANTING DETAILS
SCALE: 1"=10'



MBR-1 CONSTRUCTION DETAILS
SCALE: 1"=10'

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A-4	n/a	plantings are site-specific
planting soil	sand 35 - 60% silt 30 - 55% clay 10 - 25%	n/a	USDA soil types loamy sand, sandy loam or loam
mulch	shredded hardwood	n/a	aged 6 months, minimum
pea gravel diaphragm and curtain drain	pea gravel: ASTM-D-448 ornamental stone: washed cobbles	pea gravel: No. 6 stone: 2" to 5"	
geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	n/a	for use as necessary beneath underdrains only
underdrain gravel	AASHTO M-43	0.375" to 0.75"	
underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	3/8" pipe @ 6' on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underdrain pipes
poured in place concrete (if required)	MSHA Min. No. 3, f'c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-A615-60	n/a	on-site testing of poured-in-place concrete required; 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved state or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8(R); vertical loading (H-10 or H-20); allowable horizontal loading based on soil pressure); and analysis of potential cracking
sand (1' deep)	AASHTO M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gneiss (AASHTO #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

Material	Specification / Test Method	Size	Notes
impermeable liner	ASTM-D-852 (thickness) ASTM-D-812 (tensile strength 1,100 lb./in. elongation 200%) ASTM-D-624 (Tear resistance - 150 lb./in.) ASTM-D-471 (water absorption: < 18 to > 25 mm)	50 mil thickness	Liner to be ultraviolet resistant. A geotextile fabric should be used to protect the liner from puncture.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A-4	n/a	plantings are site-specific
planting soil	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (40%) course sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
mulch	shredded hardwood	n/a	aged 6 months, minimum; no pine or wood chips
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 9 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	PE Type 1 nonwoven
Geotextile	AASHTO M-43	n/a	
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" pipe @ 6' on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underdrain pipes. Perforated pipe shall be wrapped with 1/2-inch galvanized hardware cloth.
Poured in place concrete (if required)	MSHA Min. No. 3, f'c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-A615-60	n/a	on-site testing of poured-in-place concrete required; 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved state or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8(R); vertical loading (H-10 or H-20); allowable horizontal loading based on soil pressure); and analysis of potential cracking
Sand	AASHTO M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gneiss (AASHTO #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- MATERIAL SPECIFICATIONS**
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- FILTERING MEDIA OR PLANTING SOIL**
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, JOINTED GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMET 15.08.01.05. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 - SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION).
 - CLAY CONTENT - MAXIMUM (USE BY DRY WEIGHT (ASTM D 2974), IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
 - CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
 - PH RANGE - A SHEDDING BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.
 THESE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOPPED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS OBTAINED.
- COMPACTION**
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADERS, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TIRE EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
- COMPACTION**
COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
- ROTILL**
ROTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 16". DO NOT USE HEAVY EQUIPMENT TO COMPACT THE TOPSOIL. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOIL AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TIRES.

- PLANT MATERIAL**
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
- PLANT INSTALLATION**
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA. DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED TO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRAKED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH NUTRIENTS TO MAINTAIN NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS, DEFATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- UNDERDRAINS**
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
 - PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS 28, OR AASHTO M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HDPE).
 - PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
 - GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
 - THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
 - A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE UNDERDRAIN.
 - A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN THICKNESS EXCEEDS 24".
 THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE PER EVERY 1000 SQUARE FEET OF SURFACE AREA).
- MISCELLANEOUS**
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIO-SWALE (M-8), BIORETENTION (F-6) AND ENHANCED FILTERS (M-9)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OWNER/DEVELOPER
 SMIRAN GROUP, LLC
 10427 SNOW POINT DRIVE
 BETHESDA, MD 20814
 PHONE: (410) 504-9416

SITE DEVELOPMENT PLAN
ESD BIORETENTION AND MICRO-BIORETENTION FACILITY PLANTING & CONSTRUCTION PLANS
NOTES & DETAILS
 8570 MISSION ROAD

TAX MAP 42 BLOCK 18 DEED L.16875 - F.188 ZONED M-1
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND PART OF 350

VOGEL ENGINEERING
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

TIMMONS GROUP
 PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: ONB
 CHECKED BY: RHV
 DATE: AUGUST 2023
 SCALE: AS SHOWN
 W.O. NO.: 49568

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. 16193 EXPIRATION DATE: 09-27-2024

12 SHEET OF 12