### GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MDSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE
- 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.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL. VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES"
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY GRS GROUP, LLC ON MAY 12, 2018.
- 7.1. ALL EXISTING CONDITIONS ARE SUPPLEMENTED BY HOWARD COUNTY GIS DATA, AERIAL IMAGERY, PREVIOUSLY RECORDED PLATS, AND PREVIOUSLY APPROVED SITE DEVELOPMENT PLANS. 8. THREE MICRO-BIORETENTION FACILITIES ARE TO UTILIZED ONSITE TO MEET STORMWATER MANAGEMENT REQUIREMENTS FOR THE DEVELOPMENT. THESE FACILITIES WILL BE MAINTAINED BY
- 10. THIS DEVELOPMENT IS EXEMPT FROM ADEQUATE TRANSPORTATION FACILITIES TEST EVALUATION IN ACCORDANCE WITH SECTION 16.1107(b)(1)(i). THE EXEMPTION REQUEST WAS ACCEPTED BY HOWARD COUNTY DED ON 07/26/2023
- 11. THE SUBJECT PROPERTY IS ZONED R-SC PER THE OCTOBER 6, 2013 HOWARD COUNTY COMPREHENSIVE ZONING PLAN. 12. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS,
- 13. FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND
- NOT ONTO THE PIPESTEM LOT DRIVEWAY. 14. WATER IS PUBLIC (CONTRACT #320-W). SEWER SERVICE IS PUBLIC (CONTRACT #10-1351).
- 15. PUBLIC WATER AND SEWERAGE ALLOCATION WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- 16. THERE IS AN EXISTING DWELLING LOCATED ON LOT 2 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS
- THE STREET TREE REQUIREMENTS ARE MET WITH THE SUPPLEMENTAL PLAN. A LANDSCAPE SURETY OF \$2,100 WILL BE PROVIDED FOR THE REQUIRED PLANTINGS. THE REQUIRED 4 STREET
- 18. SANITARY SEWER EASEMENT LOCATED ON SUBJECT PROPERTY IS ACCORDING TO RECORDED PLAT OF BADART SUBDIVISION LOTS 1 AND 2 (PLAT #9357)
- 19. A SINGLE LOT RESIDENTIAL DOLHAS BEEN SUBMITTED TO THE COUNTY FOR APPROVAL AS THE PROPOSED DEVELOPMENT IS CLEARING LESS THAN 20,000 SQUARE FEET OF FOREST. 20. ACCORDING TO GIS DATA AND AERIAL IMAGERY, THERE IS NO OBSERVABLE EVIDENCE OF WETLAND AREAS, WETLAND BUFFERS, STREAMS, STREAM BUFFERS, FLOODPLAIN, NOR FOREST
- STANDS. PER SITE VISIT, AN ABSENCE OF WETLAND AND FOREST LETTER HAS BEEN SUBMITTED TO THE COUNTY.
- 21. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NOS. 37DM2 AND 37DM5 WERE USED FOR THIS PROJECT. 37DM2: N 559644 0000 F 1370513 0100
  - 37DM5: N 559429.9950. E 1370346.9900
- 22. THE EXISTING STRUCTURE ON THE PROPERTY IS TO REMAIN
- 23. PROPERTY LINE OF SUBJECT PROPERTY IS ACCORDING TO RECORDED PLAT (PLAT #9357) OF BADART SUBDIVISION LOTS 1 AND 2 (F-87-154).
- 25.1 A PARKING STUDY WAS PREPARED BY TRAFFIC CONCEPTS. INC. ON 11/01/2023 AND WAS SUBMITTED TO HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING TO REQUEST RELIEF FROM THE STANDARD PARKING RATIO OF 2.0 PARKING SPACES PER UNIT PLUS 0.3 VISITOR PARKING SPACES PER UNIT TO A COMBINE RESIDENTIAL & VISITOR PARKING RATIO OF 1 SPACE
- DU = 5 REQUIRED PARKING SPACES 25.1.2. FOR APARTMENTS: 1.0 SPACES PER BEDROOM x 8 BEDROOMS (EXISTING DWELLING UNIT) = 8 REQUIRED PARKING SPACES
- 26. NONCONFORMING USE HAS BEEN SUBMITTED NO. NCU-19-001. THE USE WAS WITHDRAWN AS THE APARTMENT USE WAS ESTABLISHED IN 1954. 26.1. PER EMAIL CORRESPONDENCE, THE AFFIDAVIT PROVIDED BY THE LAND OWNER ESTABLISHED THAT THE APARTMENT USE WAS EXISTING BACK IN 1954. THEREFORE, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CONFIRMED ON 09/26/2019 THAT THE SUBJECT PROPERTY WOULD NOT NEED TO GO THROUGH A NON-CONFORMING USE CONFIRMATION HEARING
- 27. ALTERNATIVE COMPLIANCE PLAN APPROVAL: 08/23/2021
- 27.2. APPROVAL WAS GRANTED FOR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTION 16.119(g) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO RETAIN
- THE DEVELOPER WILL RESERVE THE REQUIRED ROADWAY DEDICATION AREA THE LENGTH OF THE PROPERTY ALONG THE WATERLOO ROAD FRONTAGE PARALLEL TO THE TRAVEL LANES. AN EASEMENT WILL BE PLACED OVER THE AREA RESERVING THE AREA. THE PURPOSE OF THE PROTECTED STRIP WILL BE TO ENSURE THERE IS ENOUGH SPACE FOR POSSIBLE BICYCLE AND/OR PEDESTRIAN IMPROVEMENTS IN THE FUTURE.
- FUTURE SUBDIVISION, REDEVELOPMENT, OR ADDITIONAL USES ADDED TO THE ENTRANCE ON WATERLOO ROAD WILL REQUIRE RECONSTRUCTION OF THE WATERLOO ROADWAY ACCESS TO THE CURRENT STANDARDS. REVIEW AND PERMITTING WILL BE REQUIRED BY MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- APPROVAL IS SUBJECT TO A RIGHT OF WAY RESERVATION TO MEET THE SHA STANDARDS
- COMPLIANCE WITH THE SRC PLAN REVIEW COMMENTS FOR THE ENVIRONMENTAL CONCEPT PLAN. ECP-18-056.
- INCLUDE THE ALTERNATIVE COMPLIANCE REQUEST NUMBER. STATUS, AND ANY CONDITIONS IMPOSED ON ALL FUTURE ASSOCIATED PLANS
- 28. ENVIRONMENTAL CONCEPT PLAN APPROVAL: 08/26/2022 28.1. PLAN: ECP-18-056
- 29. ALTERNATIVE COMPLIANCE PLAN APPROVAL: 02/27/2023
- 29.2. APPROVAL WAS GRANTED FOR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTION 16.144(M) TO EXTEND THE SUBMISSION DEADLINE. APPROVAL IS SUBJECT TO THE
- 29.2.1. F-22-070 SHALL BE RESUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING WITHIN 60 DAYS FROM THE DATE OF THE ALTERNATIVE COMPLIANCE APPROVAL (ON OR BEFORE
- 29.2.2. COMPLIANCE WITH ALL COMMENTS GENERATED WITHIN THE REVIEW OF THE SUBDIVISION PLAT, F-20-070. 29.2.3. ADD A GENERAL NOTE TO THE FINAL PLAT AND ALL SUBSEQUENT PLANS DESCRIBING THIS ALTERNATIVE COMPLIANCE PETITION AND THE CONDITIONS OF ITS DECISION.
- 30. ALTERNATIVE COMPLIANCE PLAN APPROVAL: 02/07/2024
- 30.1. PLAN: <u>WP-24-043</u> 30.2. APPROVAL WAS GRANTED FOR REQUEST FOR ALTERNATIVE COMPLIANCE WITH RESPECT TO SECTION 16.120(b)(6)(v) TO PERMIT A FRONT TO REAR ORIENTATION FOR THE PROPOSED HOUSES TO THE EXISTING APARTMENT DWELLING. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
- 30.2.1. COMPLIANCE WITH ALL COMMENTS GENERATED WITH THE REVIEW OF THE SUBDIVISION PLAT, F-20-070.
- 30.2.2. THE PROPOSED EVERGREEN LANDSCAPE SCREENING PROVIDED ON THE ALTERNATIVE COMPLIANCE EXHIBIT SHALL BE INCLUDED AS PART OF THE LANDSCAPE PLAN ON THE ASSOCIATED SITE DEVELOPMENT PLAN.
- 30.2.3. THE PROPOSED HOUSE ON LOT 3 SHALL BE ROTATED SOUTH TOWARDS THE SHARED DRIVEWAY ENTRANCE TO REDUCE THE FRONT TO REAR ORIENTATION CONFLICT WITH THE EXISTING APARTMENT BUILDING
- 30.2.4. FUTURE REDEVELOPMENT OF LOT 2 WILL BE REQUIRED TO PROVIDE SCREENING PLANTINGS TO ADEQUATELY SCREEN THE VIEW FROM LOT 3.
- 30.2.5. ADD A GENERAL NOTE ON THE FINAL PLAT AND ALL SUBSEQUENT PLANS DESCRIBING THIS ALTERNATIVE COMPLIANCE PETITION AND THE CONDITIONS OF ITS DECISION.
- 31.1. APPROVAL WAS GRANTED FOR REQUEST FOR WAIVER FROM DESIGN MANUAL, VOLUME IV. STANDARD DETAIL R-5.05, PERMANENT TEE TURN-AROUND TO ALLOW THE USE OF AN ATYPICAL
- FIRE TRUCK TURN AROUND. 32. DESIGN MANUAL WAIVER REQUEST DENIAL: 11/14/2023
- 32.1. THE REQUEST FOR A WAIVER FROM DESIGN MANUAL, VOLUME III, COMPLETE STREETS AND BRIDGES, SECTION 1.3.C APPENDIX F, MINOR COLLECTOR (TOWN CENTER STREET) TYPICAL SECTION REQUIREMENTS FOR BIKEHOWARD (BIKE LANES) AND WALKHOWARD (SIDEWALK CONNECTIVITY) HAS BEEN DENIED PRINCIPALLY ON THE FACT THAT THE PROCESSING OF ALTERNATIVE COMPLIANCE WP-21-137 ALLOWED THE ROAD DEDICATION APPROVAL TO PRESERVE THE EXISTING BUILDING WITH THIS PLAN. THE APPROVAL CONDITIONS SPECIFIED THAT A RESERVATION WOULD BE PLACED ON THE PROPERTY AND WOULD LEAVE ROOM TO ALLOW FOR BIKE LANES AND SIDEWALK. THE REQUIREMENTS FOR THE BIKE LANE AND SIDEWALK REMAIN UNTIL DEDICATION OF THE FRONTAGE OCCURS

- BENCHMARK: 37DM5 1.1. NAVD ELEVATION: 120.253
- 1.2. GENERAL LOCATION: COR. MD108 AND OLD STOCKBRIDGE RD 1.3. DESCRIPTION:  $\frac{3}{4}$ " REBAR
- 2.1. NAVD ELEVATION: 121.108
- 2.2. GENERAL LOCATION: RT-108 SE OF OLD MONTGOMERY RD
- 2.3. DESCRIPTION: CONCRETE MONUMENT

Stormwater Management Information										
Lot/Parcel Number	Facility Name & Number	Practice Type (Quantity)	Public	Private	<b>HOA Maintains</b>	Misc.				
Lot 2 / Parcel 122	MBR-1	MICRO-BIORETENTION	Ν	Υ	Υ					
Lot 3 / Parcel 122	MBR-3	MICRO-BIORETENTION	Ν	Υ	Υ					
Lot 4 / Parcel 122	MBR-2	MICRO-BIORETENTION	N	Υ	Υ					

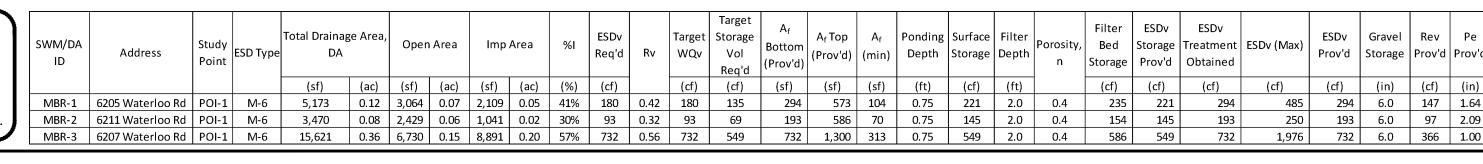
		ADDRESS	GREEN ROOFS	PERMEABLE PAVEMENTS	REINFORCED TURF	DISCONNECTION OF ROOFTOP RUNOFF	DISCONNECTION OF NON-ROOFTOP RUNOFF	SHEETFLOW TO CONSERVATION AREAS	RAINWATER HARVESTING	SUBMERGED GRAVEL WETLANDS	LANDSCAPE INFILTRATION	INFILTRATION BERMS	DRY WELLS	MICRO- BIORETENTION	RAIN GARDENS	SWALES	ENHANCED FILTERS
			A-1	A-2	A-3	N-1	N-2	N-3	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8	M-9
			(Y/N)	(Y/N)	(Y/N)	(NUMBER)	(Y/N)	(Y/N)	(NUMBER)	(NUMBER)	(NUMBER)	(NUMBER)	(NUMBER)	(NUMBER)	(NUMBER)	(NUMBER)	(NUMBER)
13	3	6207 WATERLOO ROAD, ELLICOTT CITY, MD	N	N	N	-	-	-	-	-	-	-	M-5		-		-
2	4	6211 WATERLOO ROAD, ELLICOTT CITY, MD	N	N	N	-			-	*	-	-	M-5	•			-

D		COLL WATER	The second secon								+													
ano	4	6211 WATER ELLICOTT		N	N	N	-1	-		-	-	-	-		-	M-5 -		-	-					
ots (												DRY	WELL											
concep	Outfall	SWM and	Ar	ea (sq.ft.	)		Area (ac)		I	Soil	Rv	RCN	P <sub>E</sub>	ESD <sub>v</sub>	ESD <sub>v</sub>	ESD / SWM	Lf	Wf	# of Wells	A <sub>f</sub>	Df	v <sub>s</sub>	ESD <sub>v</sub>	P <sub>E</sub>
0			Impervious	Open	Total	Impervious	Open	Total	%	Туре		Target	Target	Target	Max	Practice	(ft)	(ft)		Prov.	(ft)		Prov.	Prov.
후	POI-1	Lot 3	950	0	950	0.02	0.00	0.02	100%	D	0.95	77	1.65	125	203	Drywell (M-5)	8.0	8.0	1	64	5.00	0.40	128	1.70

POI-1 Lot 4 711 0 711 0.02 0.00 0.02 100% D 0.95 77 1.65 93 152 Drywell (M-5) 8.0 8.0 1 64 5.00 0.40 128 2.27

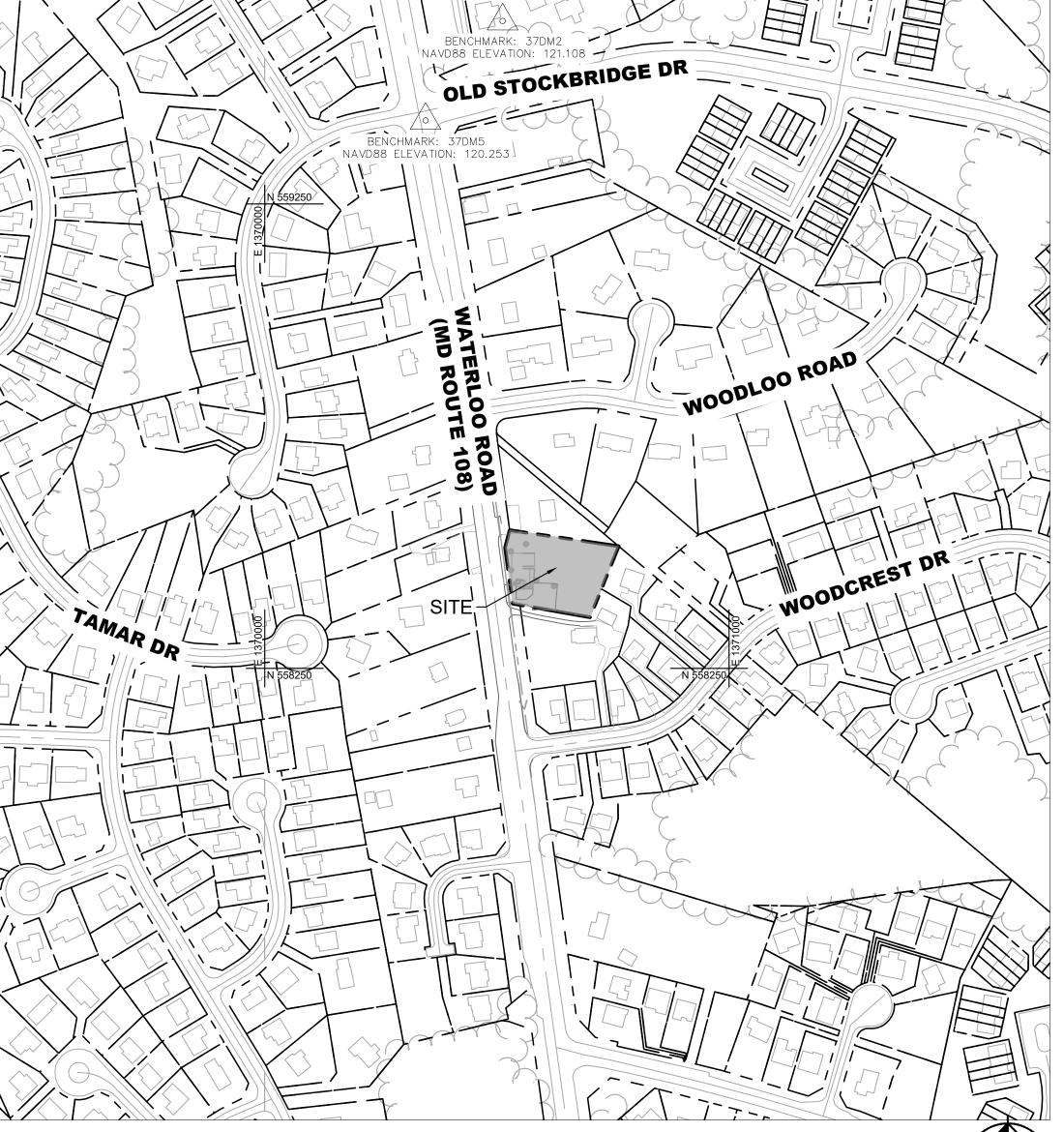






# FINAL PLAN (F-22-070)

# **BADART SUBDIVISION** HOWARD COUNTY, MD



**LOCATION PLAN** 

**SCALE: 1"=200"** 

### STANDARD STABILIZATION NOTE

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

- a. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

## SITE LEGEND

PROPERTY LINE (LOTS 2, 3, AND 4) PROPERTY LINE (OFF-SITE) PROPERTY LINE (SUBDIVISION) FUTURE R.O.W. DEDICATION — EXISTING BUILDING RESTRICTION LINE — — -10- — EXISTING MAJOR CONTOUR —————7 ———— EXISTING MINOR CONTOUR EXISTING PAVEMENT EDGE

## **Existing Natural Resources:**

reuerai		State		Local	Site Aleas allu Oses			
N/A	Wetlands	N/A	Tidal and Nontidal Wetlands	Υ	Steep Slopes (>15%)	0.61	LOD Area (AC)	
N/A	Major Waterways	N/A	Wetlands of Special State Concern	N/A	Highly Erodible Soils	0.09	Imp. Area (AC)	
N/A	Floodplains	N/A	Wetland Buffers	N/A	Enhanced Stream Buffers	0.52	Open Area (AC)	
		N/A	Stream Buffers	Υ	Topography/Slopes	Υ	Buildings	
		N/A	Perennial Streams	N/A	Springs	N/A	Roadways	
		N/A	Floodplains	N/A	Seeps	Υ	Parking Lots	
		N/A	Forest	N/A	Intermittent Streams	N/A	Sidewalks	
		N/A	Forest Buffers	Y	Vegetative Cover	Υ	Storm Drain	
		N/A	Critical Areas	Υ	Soils	Υ	SWM Facilities	
				N/A	Bedrock/Geology	Υ	Dom. Water/Sewer	
				Υ	Existing Drainage Areas	Υ	Dry Utilities	
N/A	Not applicable, fea	ature not p	present on site.		No, feature present	on site	e but not shown	
Υ	Yes, feature prese	nt on site	and shown	N	due to lack of information			

GRAPHIC SCALE IN FEET

	ADDRESS CHART						
LOT/PARCEL#	STREET ADDRESS						
LOT 2 / 122	6205 WATERLOO ROAD, ELLICOTT CITY, MD 21043						
LOT 3 / 122	6207 WATERLOO ROAD, ELLICOTT CITY, MD 21043						
LOT 4 / 122	6211 WATERLOO ROAD, ELLICOTT CITY, MD 21043						

		PERMIT INFORMATION CHART										
	Subdivision Name BADART SUBDI	VISION		Section/Area		Lot/Parcel No. LOT 2, 3 & 4 / PARCEL 122						
•	Plat # or L/F 9357	Grid # 14	Zoning R-SC	Tax Map No. 37	Elect District 1ST	Census Tract 601108						
	Water Code EXISTING SERV	ICE		Sewer Code EXISTING SERVICE								

## LANDSCAPE **ARCHITECT/ CIVIL ENGINEER**

KIMLEY-HORN AND ASSOCIATES, INC ATTN: JEFF SMITH, P.E. 3904 BOSTON STREET SUITE 202 BALTIMORE, MD 21224 TEL: (443) 743-3470 EMAIL: JEFF.SMITH@KIMLEY-HORN.COM

### PROPERTY OWNER

GLOBAL NOVARE INC ATTN: JAMES C. FOSTER PO BOX 27006 BALTIMORE, MD 21230 TEL: (443) 668-2527 EMAIL: FOSTER@ZEROFOX.COM



ADC MAP GRID # 4936-C9

#### **Sheet List Table** Sheet Title Sheet Number **COVER SHEET** NOTES AND DETAILS 3 NOTES AND DETAILS **EXISTING CONDITIONS PLAN** SITE PLAN 5 6 UTILITY PLAN WATER PROFILES 8 SEWER PROFILES CERTIFICATION LOCATION PLAN 10 PRE DRAINAGE AREA MAP POST DRAINAGE AREA MAP 12 STORMWATER MANAGEMENT PLAN STORMWATER MANAGEMENT NOTES & DETAILS 13 STORM DRAIN PROFILES FINAL SESC PLAN 17 SESC NOTES & DETAILS SESC NOTES & DETAILS 19 SESC NOTES & DETAILS SWM LANDSCAPE PLAN 20 SWM LANDSCAPE NOTES AND DETAILS 21 TRAFFIC CONTROL PLAN - PHASE I 22 TRAFFIC CONTROL PLAN - PHASE II 23

SITE A	NALYSIS DATA TABLE
TOTAL PROJECT AREA	0.757 ACRES (32,962 SF)
ZONING	R-SC (RESIDENTIAL-SINGLE CLUSTER)
EXISTING USES	1 MULTI-FAMILY RESIDENTIAL BUILDING (6 UNITS; 8 BEDROOMS)
PROPOSED USES	1 EXISTING MULTI-FAMILY RESIDENTIAL BUILDING (6 UNITS; 8 BEDROOMS) TO REMAIN AND 2 PROPOSED SINGLE-FAMILY DETACHED HOMES
LOD AREA	0.65 ACRES
LOT 2 FLOOR AREA	EXISTING: 2,803 SF
LOT 3 FLOOR AREA	PROPOSED: 1,260 SF
LOT 4 FLOOR AREA	PROPOSED: 1,260 SF
GREEN OPEN AREA	0.38 ACRES
PROPOSED IMPERVIOUS AREA	0.27 ACRES
WETLAND AREA	0 ACRES
WETLAND BUFFER AREA	0 ACRES
STREAM AREA	0 ACRES
STREAM BUFFER AREA	0 ACRES
FLOODPLAIN AREA	0 ACRES
STEEP SLOPE AREA (>15%)	0.04 ACRES
REQUIRED PARKING	EXISTING APARTMENTS *: 1 SPACES/BEDROOM = 8 REQUIRED SPACES PROPOSED SINGLE-FAMILY: 2 SPACES/DU + 0.5 SPACES/DU FOR VISITORS = 5 REQUIRED SPACES TOTAL REQUIRED SPACES = 13 SPACES
PROPOSED PARKING	16 TOTAL PARKING SPACES  PARKING LOT: 7 STANDARD PARKING SPACES + 1 ADA PARKING SPACE SINGLE-FAMILY HOMES: 4 PARKING SPACES TOTAL PER EACH RESIDENTIAL HOME (2 SPACES IN

NOTE: A PARKING NEEDS STUDY WAS PREPARED BY TRAFFIC CONCEPTS, INC. ON 11/01/2023 AND WAS APPROVED BY HOWARD COUNTY DIVISION OF LAND DEVELOPMENT FOR APPLICATION OF A COMBINED RESIDENTIAL & VISITOR PARKING RATIO OF 1 SPACE PER BEDROOM FOR THE EXISTING APARTMENT UNITS FROM THE STANDARD PARKING RATIO

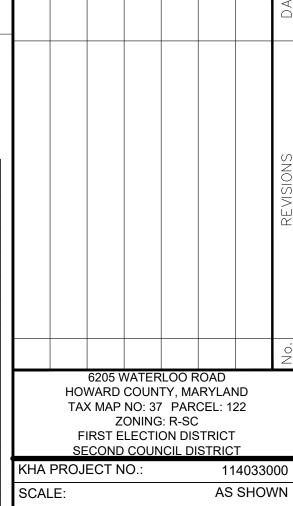
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer **Howard County Health Department** 

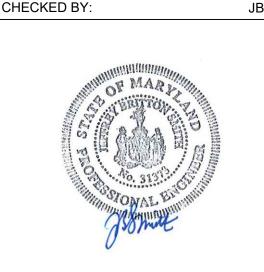
GARAGE, 2 SPACES IN DRIVEWAY)

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024 (Hd) Edmondson Chief, Develop<u>ment jako kiring</u> Division 5/8/2024 Chief, Division of Leave ທີ່ ຍ້ອງເຂົ້າ ເຄື່ອນ ຄວາມ ເຄື່ອນ ເຄື່ອນ ຄວາມ ເຄື່ອນ 5/9/2024 lynda Eisenberg

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527





DESIGNED BY:

DRAWN BY:

03/08/2024

MZM

PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WERI PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/202

## FINAL PLAN

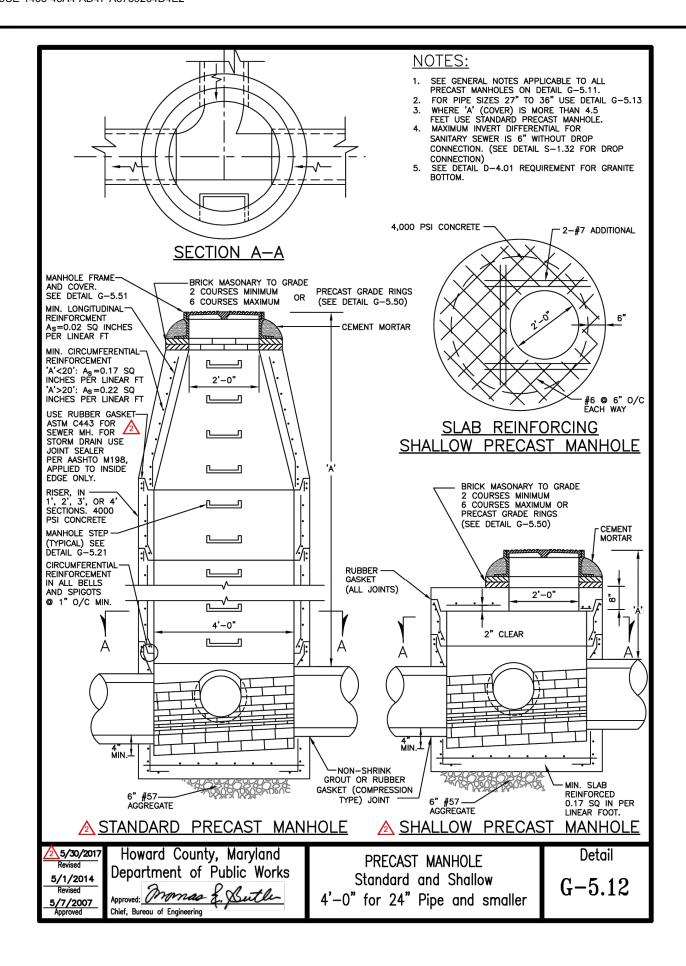
**BADART SUBDIVISION ZONING - R-SC** 

6205 WATERLOO RD GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND

COVER SHEET

SHEET NUMBER



1/2" PREFORMED EXPANSION JOINT

DETECTABLE WARNING SURFACE TRUNCATED DOMES
AS APPLICABLE

<u>PLAN</u>

#4 STRAIGHT BARS VERTICAL @1"-6" MIN A

TO 60" DIA PIPE ENDWALLS INCLUSIVE.

**ELEVATION** 

'S' DISTANCES FROM INSIDE SURFACE OF PIPE TO VERTICAL BARS IN FRONT AND REAR FACE.

QUANTITIES FOR ESTIMATION PURPOSES ONLY

Department of Public Works

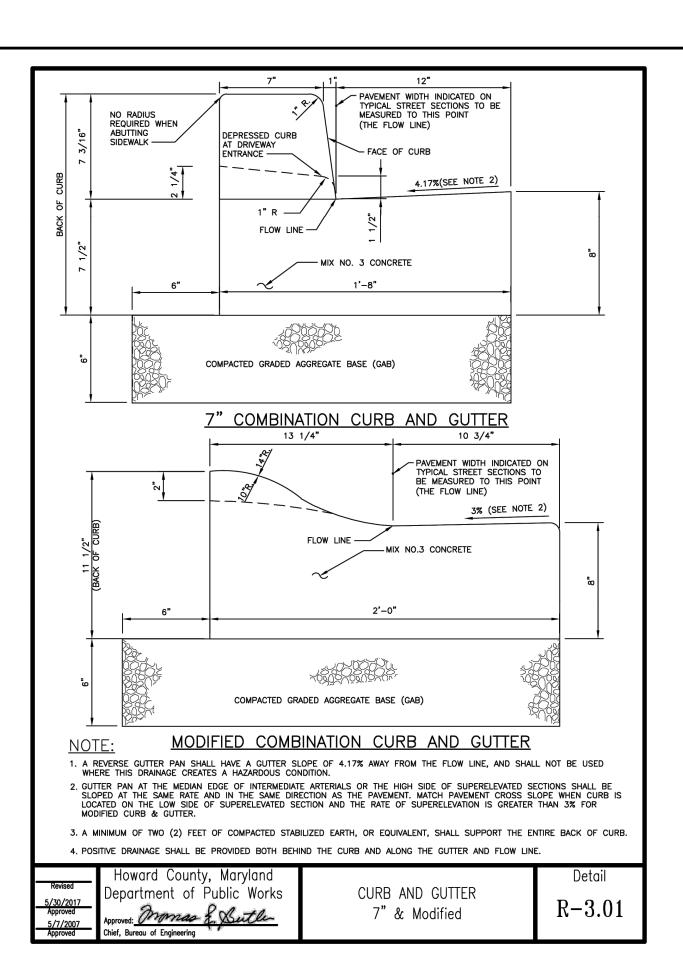
Approved: Oromas & Sutlu Chief, Bureau of Engineering

5/30/2017 Approved

4" FOR 12" DIA TO 18" DIA PIPES INCLUSIVE 6" FOR 24" DIA TO 36" DIA PIPES INCLUSIVE

B" FOR 42" DIA TO 60" DIA PIPES INCLUSIVE

FRONT FACE FOR 12" DIA TO 18" DIA PIPE ENDWALLS INCLUSIVE.



<u> DISPOSITION OF BARS — DETAIL</u>

REINFORCING: DEFORMED STEEL BARS (1/2" DIA) CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED CONCRETE SHALL BE MIX NO. 2.

SECTION A-A

2 #4 STRAIGHT BARS

HORIZONTAL FOR 36" TO

60" DIA PIPE ENDWALLS

4 STRAIGHT BARS HORIZONTAL

@1'-7" O/C BOTH FACES-TOP AND BOTTOM BARS TO BE FULL LENGTH-ALL ENDWALLS.

#4 BENT BARS @ 1 O/C ALL ENDWALLS

D-5.21

EA FACE FOR 36" DIA TO 60" DIA PIPE ENDWALLS INCLUSIVE.

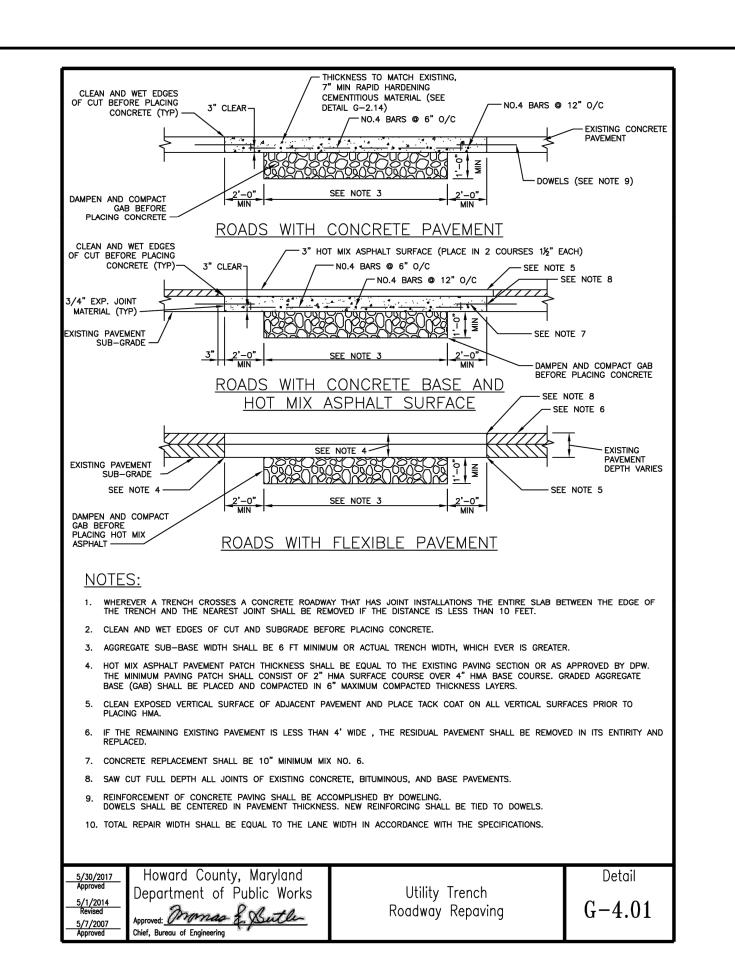
#4 STRAIGHT BAR HORIZONTAL

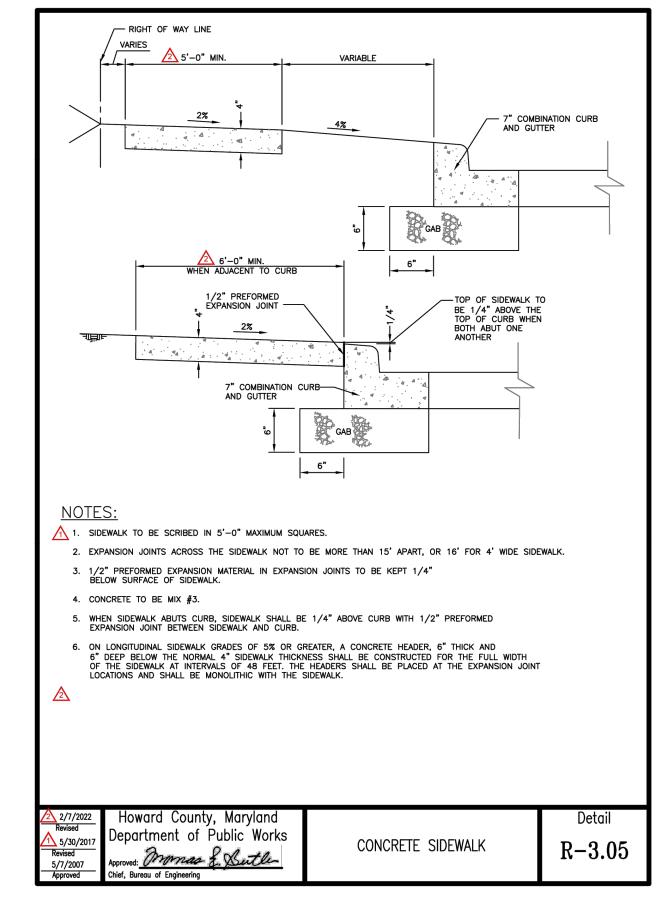
©1'-0" O/C BOTH SIDES OF OPENING FOR 36" TO 60" DIA PIPE ENDWALLS

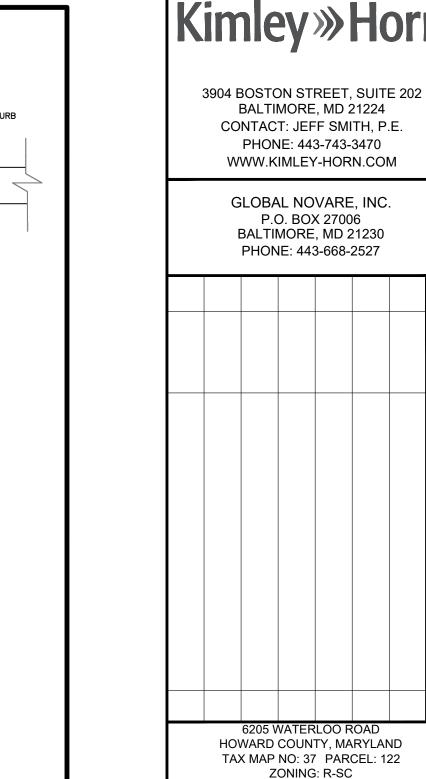
HORIZONTAL—ALL ENDWALLS.

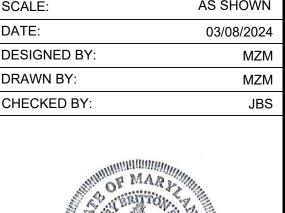
Type 'C' Endwall

Circular Pipe









FIRST ELECTION DISTRICT

SECOND COUNCIL DISTRICT

114033000

AS SHOWN

KHA PROJECT NO.:



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/202

FINAL PLAN

**BADART SUBDIVISION ZONING - R-SC** 

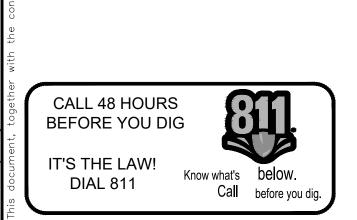
6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

Detail

R-2.01

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024 (HdD) Edmondson Chief, Development 5 gingering Division Date 5/8/2024 Chief, Division of Lands เมื่องเข้า Chief 5/9/2024 lynda Eisenberg Date Director

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer Howard County Health Department



RIGHT OF WAY LINE —

7" REINFORCED CONCRETE

-1/2" PREFORMED EXPANSION JOINT

RAMP PARALLEL TO CURB

- DETECTABLE WARNING TRUNCATED DOMES AS APPLICABLE

RAMP THRU MEDIAN

SIDEWALK RAMP

Layout & Grading

Parallel to Curb & Thru Median

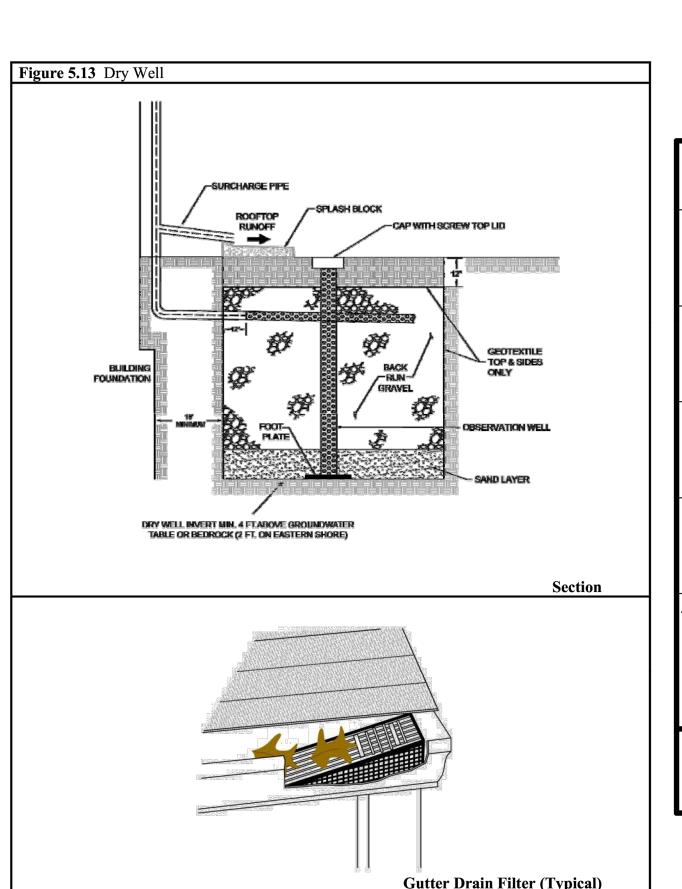
1. ALL RAMPS SHALL HAVE DETECTABLE WARNING SURFACES. SEE DETAIL R-4.07.

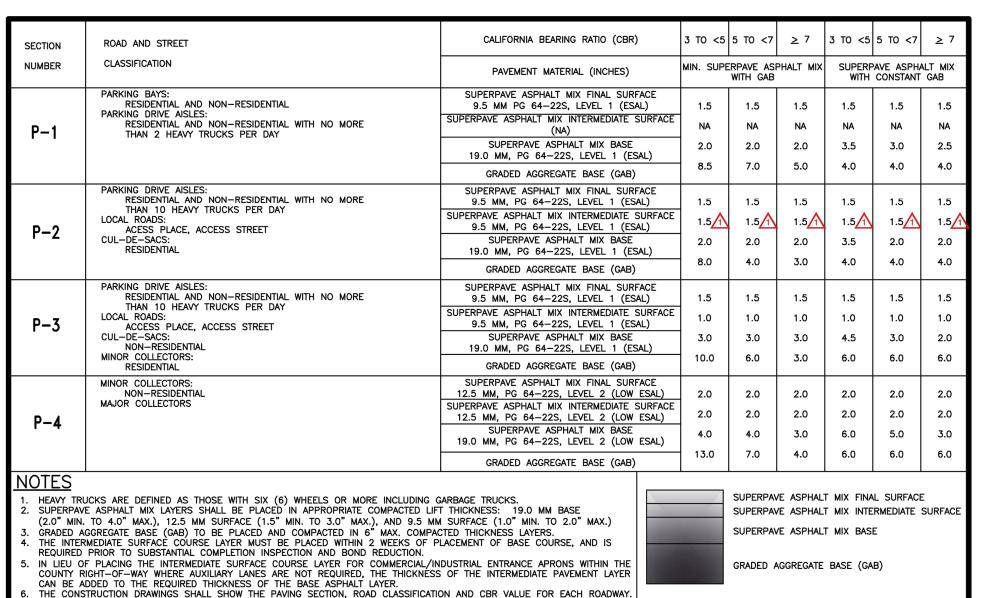
3. THE WIDTH OF THE RAMP THRU MEDIAN SHALL NOT BE LESS THAN THE WIDTH OF THE ADJACENT SIDEWALK, SHARED USE PATH, AND/OR SEPARATED BIKEWAY

2. GRASS AREA ADJACENT TO SIDEWALK MUST BE SLOPED TO MEET RAMP.

Department of Public Works

ved: mornas E. Sutle





S. IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.

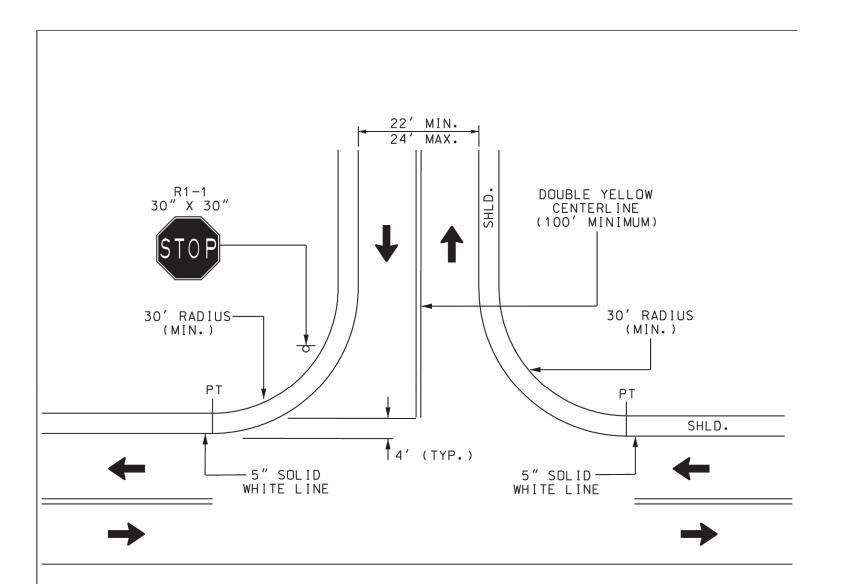
THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY. Howard County, Maryland Revised 5/30/201 Revised

PAVING SECTIONS Department of Public Works Approved: monas & Sutle P-1 to P-4 Chief, Bureau of Engineering

HOWARD COUNTY MARYLAND

NOTES AND **DETAILS** 

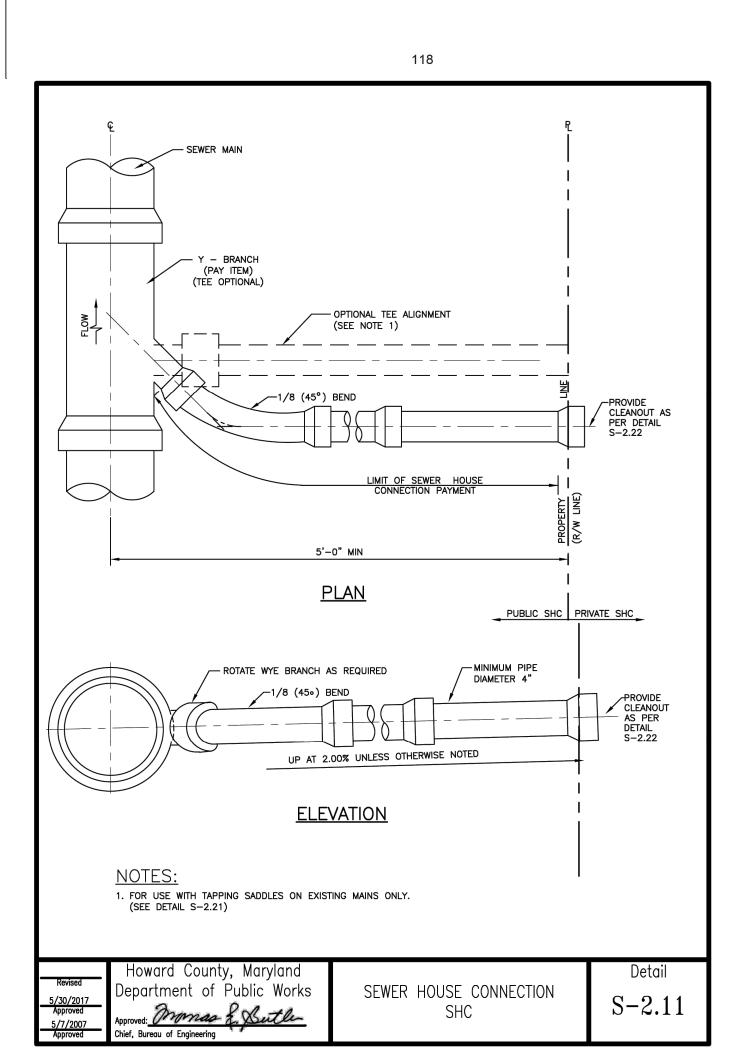
SHEET NUMBER

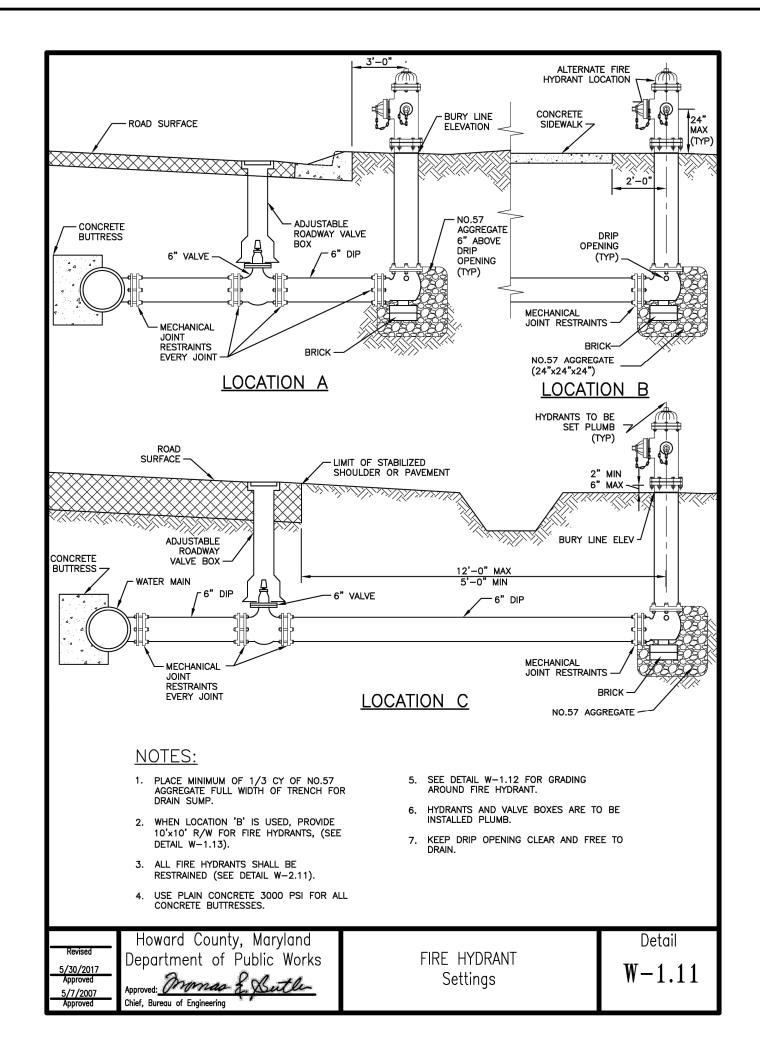


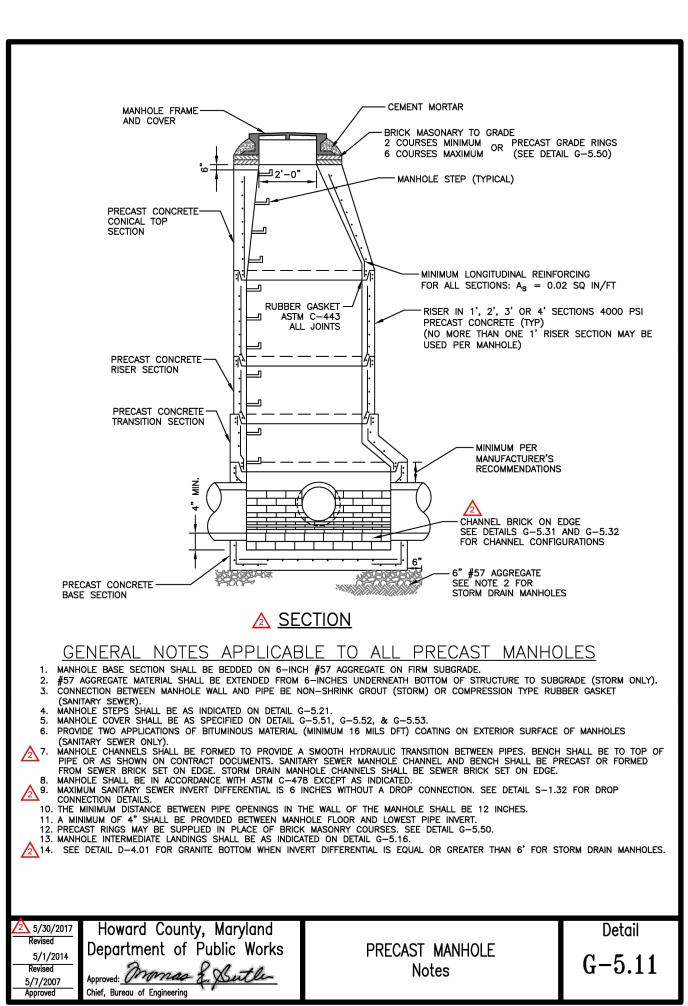
### NOTES:

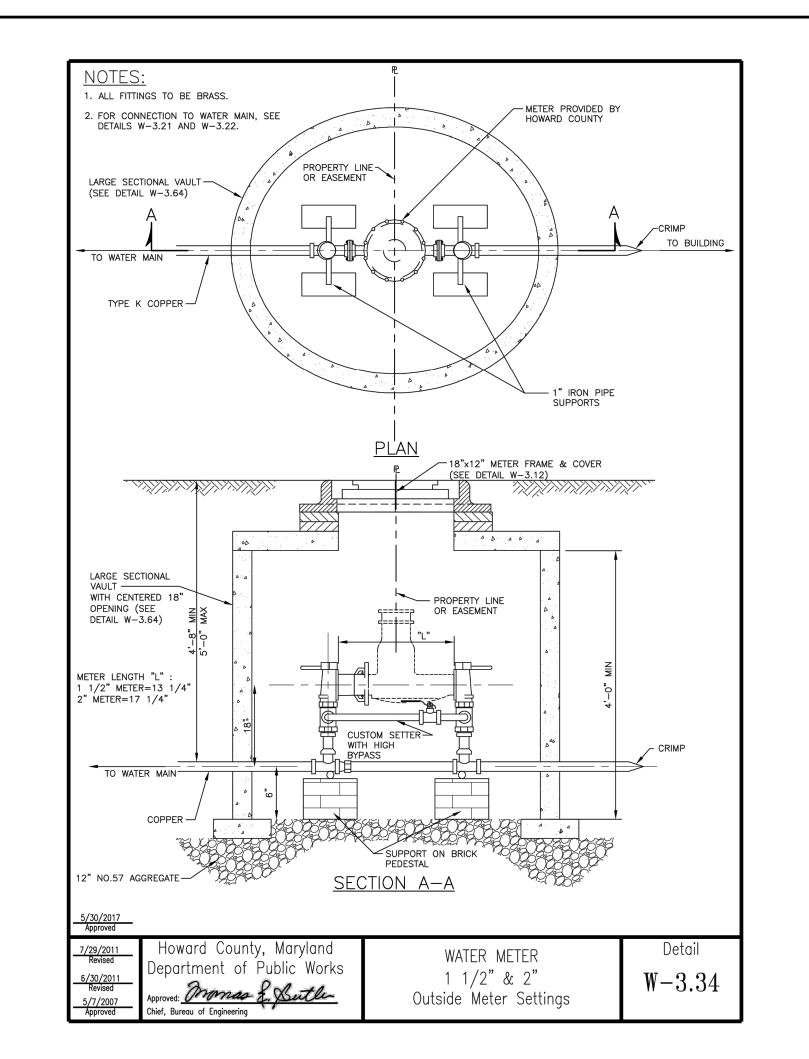
- 1. CANALIZATION MAY BE REQUIRED ALONG THE STATE HIGHWAY IN ACCORDANCE WITH 13.2.
- 2. TURNING LANES ARE NOT SHOWN.
- 3. REFER TO 12.0 FOR STREET CONNECTION STANDARDS.

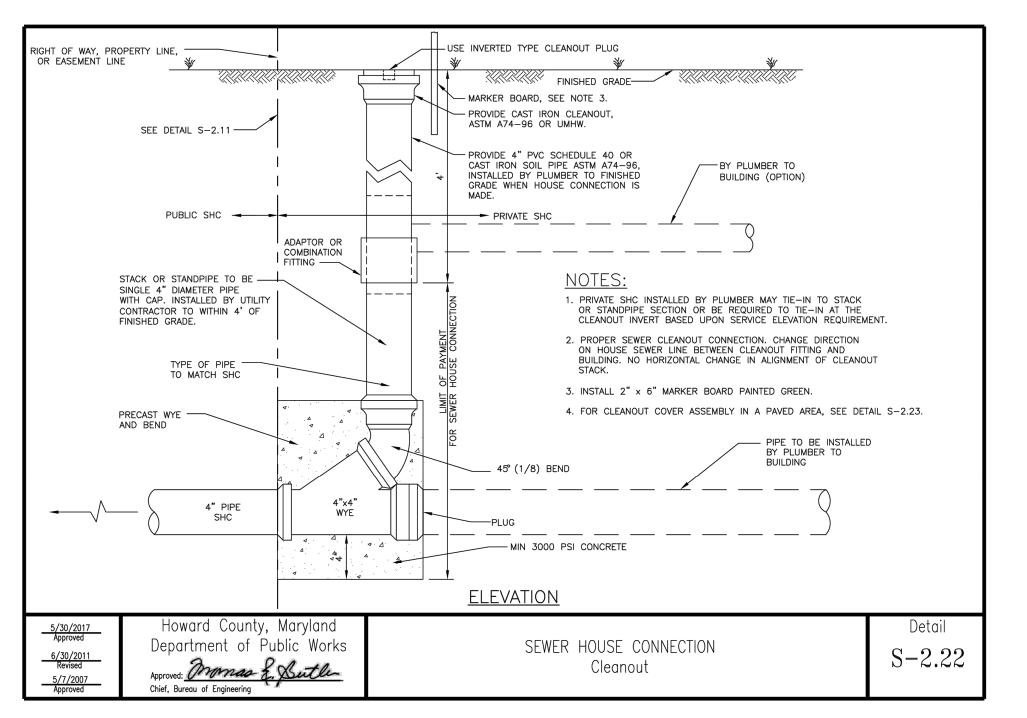
### TYPICAL OPEN SECTION STREET CONNECTION ENGINEERING ACCESS PERMITS





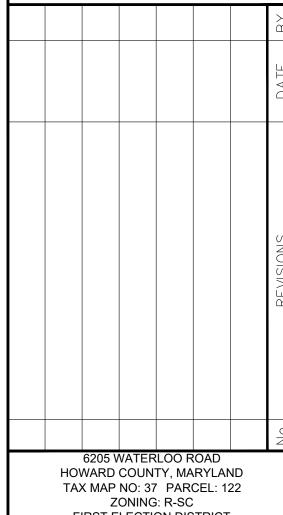






3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

> GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT KHA PROJECT NO.: 114033000 AS SHOWN SCALE:

DATE: 03/08/2024 **DESIGNED BY:** MZM DRAWN BY: MZM CHECKED BY:



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/2025

## FINAL PLAN

**BADART SUBDIVISION ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND

**NOTES AND DETAILS** 

> SHEET NUMBER 3 OF 23

**APPROVED**: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer **Howard County Health Department** 

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024 (HD) Edmondson Chief, Development Light spring Division 5/8/2024 Chief, Division of Land Development 5/9/2024 lynda Eisenberg Director

CALL 48 HOURS **BEFORE YOU DIG** IT'S THE LAW! Know what's **below**. **DIAL 811** Call

before you dig.

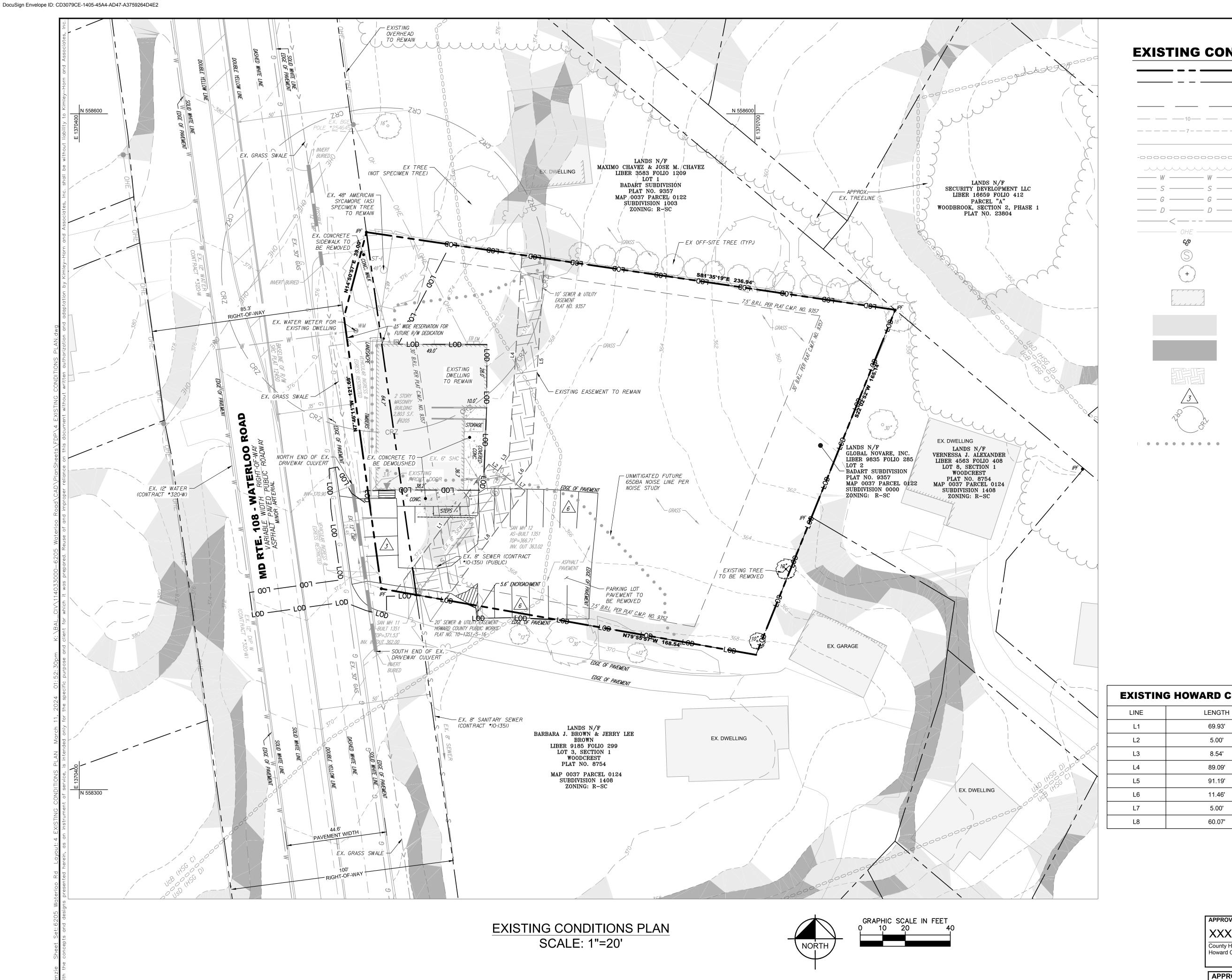
CALL 48 HOURS **BEFORE YOU DIG** 

IT'S THE LAW!

**DIAL 811** 

Know what's **below**.

Call before you dig.



### **EXISTING CONDITIONS LEGEND**

PROPERTY LINE (OFF-SITE) **EXISTING EASEMENT** ——— ——— EXISTING BUILDING RESTRICTION LINE — — 10— — EXISTING MAJOR CONTOUR ---- EXISTING MINOR CONTOUR EXISTING PAVEMENT EDGE EXISTING TREE LINE

PROPERTY LINE (LOTS 2, 3, AND 4)

— W — W — EXISTING WATER LINE ————— S ———— EXISTING SANITARY SEWER LINE ———— G ———— EXISTING GAS LINE ——— D ——— EXISTING STORM DRAIN **EXISTING GRASS SWALE** EXISTING OVERHEAD ELECTRIC LINE **EXISTING SANITARY CLEANOUT** 

**EXISTING TREE** 

SLOPES, 15-25%

**EXISTING BUILDING** 

SLOPES >25%

EXISTING 20' SEWER AND UTILITY EASEMENT (PLAT NO. 10-1351-5-16)

**EXISTING SANITARY SEWER MANHOLE** 

**EXISTING PARKING COUNT** 

CRITICAL ROOT ZONE

NOISE STUDY LINE

## **EXISTING HOWARD COUNTY SEWER & UTILITY EASEMENT**

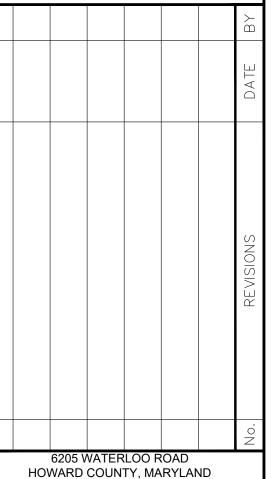
LINE	LENGTH	BEARING
L1	69.93'	N36°14'52.63"E
L2	5.00'	S53°45'07.37"E
L3	8.54'	N36°14'52.63"E
L4	89.09'	N3°38'15.63"E
L5	91.19'	S3°38'15.63"W
L6	11.46'	N36°14'52.63"E
L7	5.00'	S53°45'07.37"E
L8	60.07'	N36°14'52.63"E

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer Howard County Health Department

APPROVED: DEPLARTMENT OF PLANNING AND ZONING 5/9/2024 CHAD Edmondson Chief, Development โรกูนเกิดยากับ Division Date 5/8/2024 Chief, Division of Land Development 5/9/2024 lynda Eisenberg

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

> GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



TAX MAP NO: 37 PARCEL: 122 ZONING: R-SC FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT KHA PROJECT NO.: 114033000

1" = 20' DATE: 03/08/2024 DESIGNED BY: MZM DRAWN BY: MZM CHECKED BY:



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/2025

FINAL PLAN

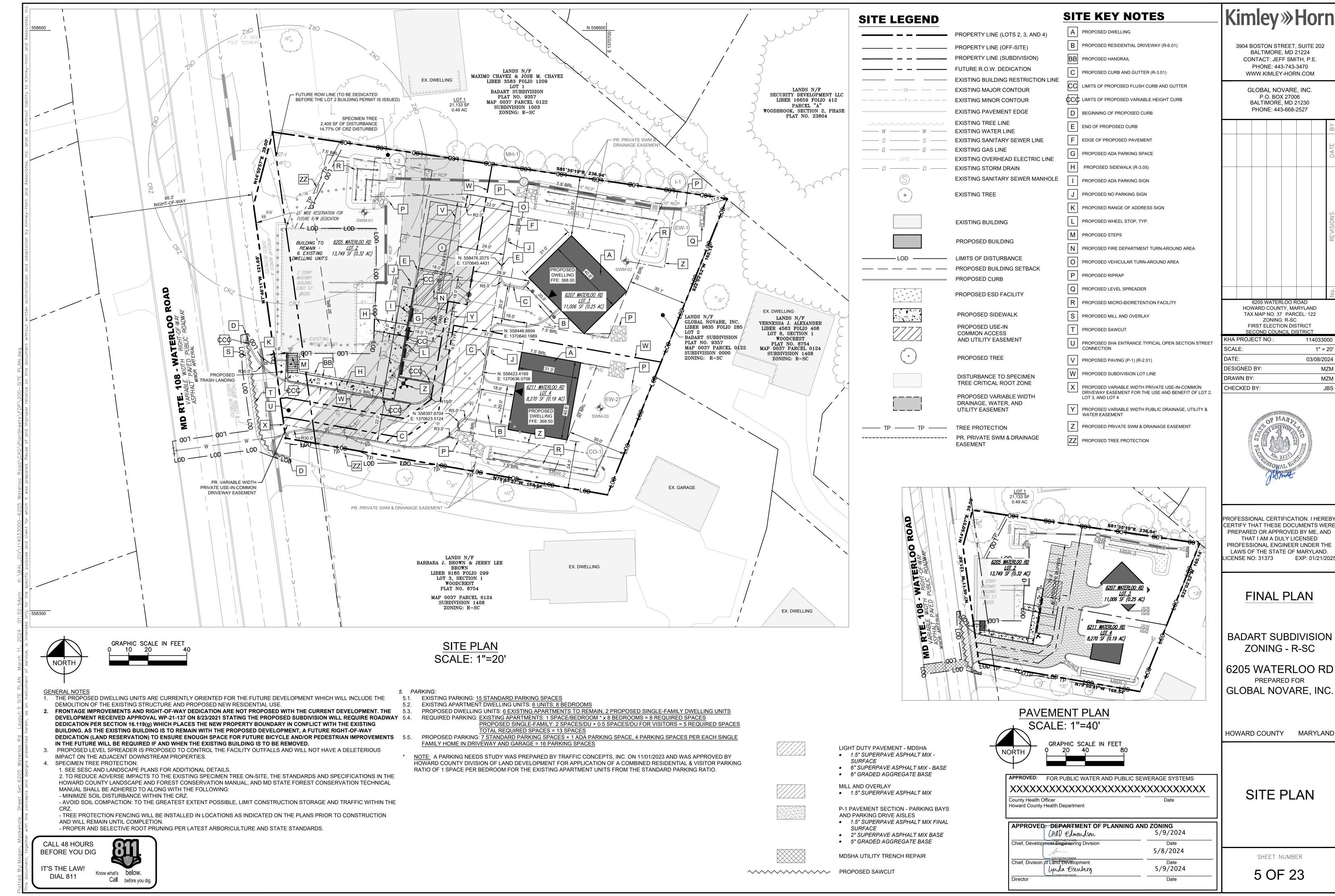
BADART SUBDIVISION **ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC.

HOWARD COUNTY MARYLAND

**EXISTING** CONDITIONS PLAN

SHEET NUMBER



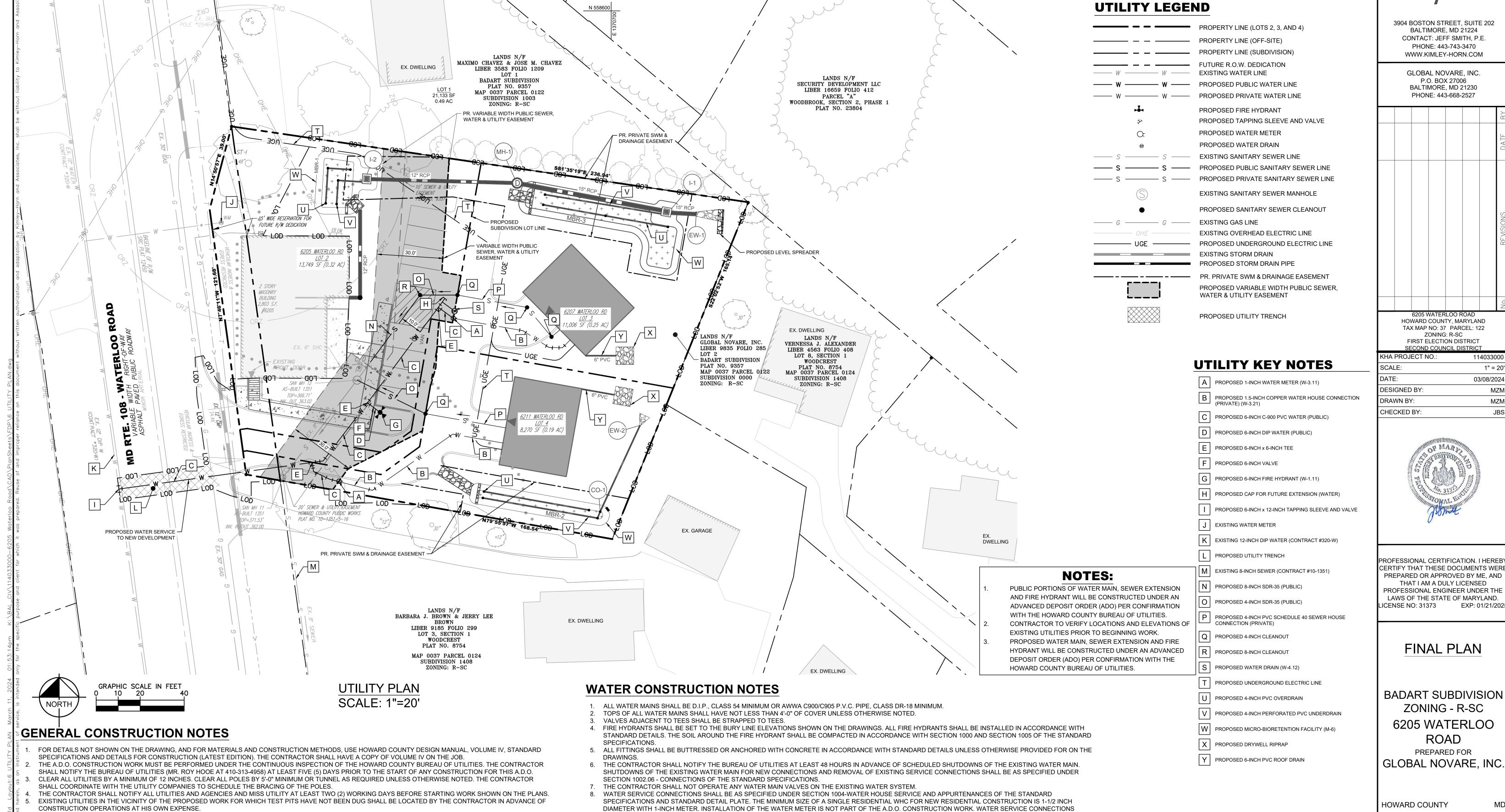
3904 BOSTON STREET, SUITE 202

114033000 1" = 20' 03/08/2024 MZM MZM

PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXP: 01/21/2025

6205 WATERLOO RD GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND



- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY BUREAU OF HIGHWAYS, 410-313-7450, AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR
- BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER OF SEWER MAINS OR SERVICE CONNECTIONS. WORK PERFORMED WITHIN MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA) RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE MSHA PERMIT
- ISSUED FOR THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE MARYLAND STATE HIGHWAY ADMINISTRATION, 410-313-5533, AT LEAST FIVE (5) WORKING DAYS BEFORE EXCAVATING WITHIN THE MARYLAND STATE RIGHT-OF-WAY FOR LAYING WATER OR SEWER MAINS OR SERVICE CONNECTIONS.
- EXCAVATIONS MUST BE SUPPORTED FOR THE PROTECTION OF WORKERS, THE CONSTRUCTION WORK AREA, AND ADJACENT PROPERTY. REFER TO TEMPORARY EXCAVATION SUPPORT SYSTEMS UNDER SECTION 1000.03.03 OF THE STANDARD SPECIFICATIONS.
- EXCAVATIONS MUST BE KEPT WELL DRAINED AT ALL TIMES. DEWATERING, DRAINAGE, AND PUMPING IS REQUIRED DURING CONSTRUCTION. REFER TO DEWATERING, DRAINAGE, AND PUMPING UNDER SECTION 1000.03.03 OF THE STANDARD SPECIFICATIONS. PUMPS MUST BE THE PROPER TYPE AND CAPACITY TO MAINTAIN A DRY WORK AREA.
- 10. THE USE OF STEEL PLATES TO PROTECT THE TRENCH AND ROADWAY SHALL BE AS SPECIFIED UNDER SECTION 1000.03.05, SECTION 104 AND STANDARD DETAIL PLATE G-4.02 OF THE STANDARD SPECIFICATIONS.
- TEMPORARY AND PERMANENT REPAIR OF ROADWAY OPENINGS SHALL BE AS SPECIFIED UNDER SECTION 1000.03.08 AND STANDARD DETAIL PLATE G-401 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED BY PERMIT FROM THE AUTHORITY HAVING JURISDICTION. TEMPORARY PAVING SHALL CONSIST OF NOT LESS THAN TWELVE (12) INCHES OF CRUSHED STONE AND TWO (2) INCHES OF BITUMINOUS COLD PATCH MATERIAL

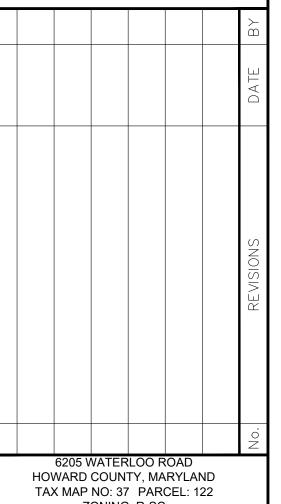
CALL 48 HOURS



### **SEWER GENERAL NOTES**

- 1. ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED. 2. ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- 3. SEWER FORCE MAINS SHALL BE D.I.P. UNLESS OTHERWISE NOTED.
- 4. SEWER HOUSE CONNECTIONS SHALL BE AS SPECIFIED UNDER SECTION 1009.03 OF THE STANDARD SPECIFICATIONS AND THE
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED BY A GRAVITY SEWER SERVICE CONNECTION.

- INCLUDE PRESSURE AND LEAK TESTING, DISINFECTION, AND BACTERIOLOGICAL TESTING.
- 9. (FOR COMMERCIAL METER) THE NEW WATER METER ASSEMBLY SHALL E THE (TYPE) PER HOWARD COUNTY DETAIL PLATE W-3.24. INSTALLATION OF THE WATER METER IS NOT PART OF THE A.D.O. CONSTRUCTION WORK.
- 10. IF THE EXISTING WATER METER WILL BE MOVED TO THE NEW METER CONNECTION INSIDE THE BUILDING, THE CONTRACTOR SHALL CONTACT THE METER DIVISION OF THE BUREAU OF UTILITIES AT 410-313-4948 TO SCHEDULE RELOCATION OF THE METER SETTING.
- 11. THE ABANDONMENT OF EXISTING WATER SERVICE CONNECTIONS SHALL BE AS SPECIFIED UNDER SECTION 1015.03 OF THE STANDARD SPECIFICATIONS. REMOVAL OF THE EXISTING CORPORATION STOP OF TAPPING SADDLE REQUIRES A SCHEDULED SHUTDOWN OF THE WATER MAIN. THE EXISTING CORPORATION STOP SHALL BE REMOVED FROM THE WATER MAIN AND THE PIPE REPAIRED WITH A COUNTY APPROVED STAINLESS STEEL FULL CIRCLE REPAIR CLAMP SUCH AS A FORD METER FS2, MUELLER 550, OR ROMAC SS2 SERIES.
- 12. TRACER WIRE AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH DETAIL PLATE G-8.21 OF THE STANDARD SPECIFICATIONS.
- 13. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS. THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL
- 14. TEES, CROSSES, BENDS GREATER THAN 5 DEGREES, AND SIMILAR FITTINGS FOR USE WITH C-900 PVC WATER PIPE SHALL BE DUCTILE IRON CONFORMING TO AWWA C153
- 15. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH HIGH-DEFLECTION COUPLINGS, 5 DEGREE SWEEPS OR STANDARD BENDS. NO BENDING OF PIPE OR DEFLECTION OF PVC PIPE JOINTS IS PERMITTED. 16. SEVENTEEN (17) POUND SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE
- WITH THE STANDARD SPECIFICATIONS AND DETAILS. MAGNESIUM ANODES SHALL BE INSTALLED ON ALL IRON VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC WATER MAINS.



1" = 20' MZM MZM

UTILITY PLAN

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

(Hdl) Edmondson

lynda Eisenberg

County Health Officer

Howard County Health Department

Chief, Developmento Engineering Division

Chief, Division of Land Developmen

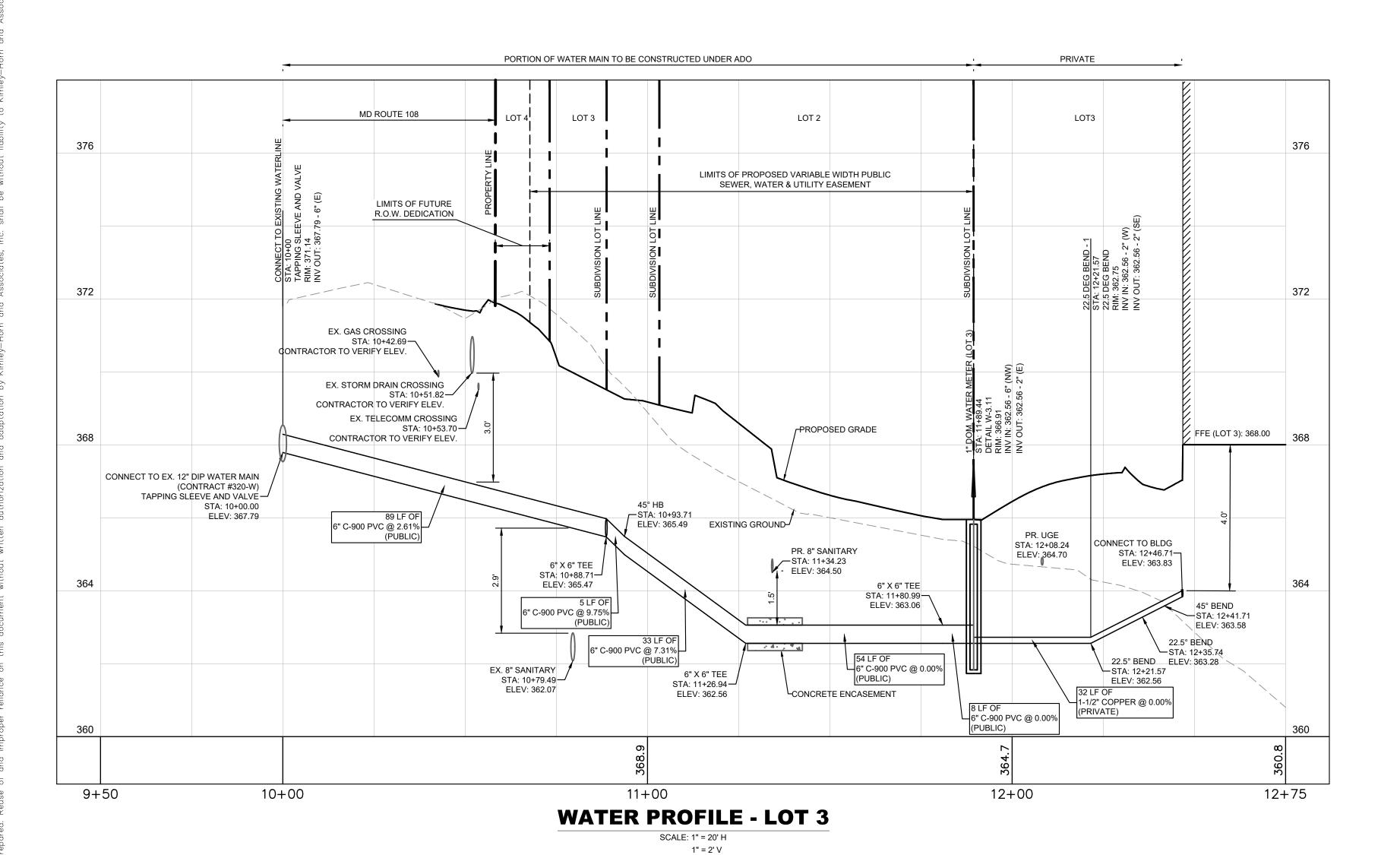
5/9/2024

5/8/2024

Date

5/9/2024

SHEET NUMBER

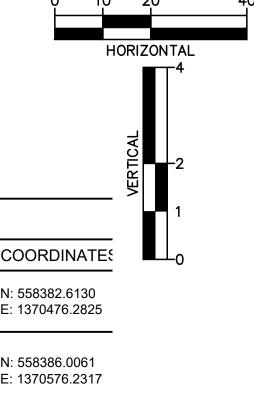


BE CONSTRUCTED UNDER ADO PRIVATE 376 376 LIMITS OF PROPOSED WATER AND SEWER EASEMENT 372 372 ; FFE (LOT 4): 368.50 PROPOSED GRADE 11.25° HB 368 368 STA: 10+12.07-ELEV: 365.75 PR. UGE CROSSING STA: 10+87.16— 45° HB ELEV: 366.24 STA: 10+04.12 ELEV: 365.86 EXISTING GROUND-6" X 6" TEE STA: 10+00.00 ELEV: 365.47 364 13 LF OF CONNECT TO BLDG 6" C-900 PVC @ 1.41% ➤STA: 11+00.07 ELEV: 363.85 14 LF OF 1-1/2" COPPER @ 9.11% (PRIVATE) └─STA: 10+32.31 23 LF OF ELEV: 363.83 1-1/2" COPPER @ 0.00% (PRIVATE) 78 LF OF 1-1/2" COPPER @ 0.00% (PRIVATE) 45° HB STA: 10+76.94 EX. 8" SANITARY STA: 9+90.82 ELEV: 362.32 360 9+50 11 + 2511+00 **WATER PROFILE - LOT 4** 

PORTION OF WATER MAIN TO

NOTES:

PUBLIC PORTIONS OF WATER MAIN, SEWER EXTENSION
AND FIRE HYDRANT WILL BE CONSTRUCTED UNDER AN
ADVANCED DEPOSIT ORDER (ADO) PER CONFIRMATION
WITH THE HOWARD COUNTY BUREAU OF UTILITIES.
CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF
EXISTING UTILITIES PRIOR TO BEGINNING WORK.



GRAPHIC SCALE IN FEET

	PUBLIC PIPE TABLE									
Pipe Name	Size	Length	Slope	Material						
PIPE -32	6"	88.709	2.61%	PVC						
PIPE -40	6"	7.184	3.95%							
PIPE -59	6"	7.945	1.41%	PVC						
PIPE -60	6"	4.122	2.71%	PVC						
PIPE -61	6"	3.012	2.24%	PVC						
PIPE -50	6"	5.000	9.75%	PVC						
PIPE -51	6"	33.227	7.31%	PVC						
PIPE -65	6"	54.057	0.00%	PD/MPC						
PIPE -66	6"	8.449	0.00%	PVC						

PRIVATE PIPE TABLE									
Pipe Name	Size	Length	Slope	Material					
PIPE -36	1-1/2"	14.238	9.11%	COPPER					
PIPE -37	1-1/2"	44.628	0.00%	COPPER					
PIPE -49	1-1/2"	23.138	0.00%	COPPER					
PIPE -67	1-1/2"	32.131	0.00%	COPPER					

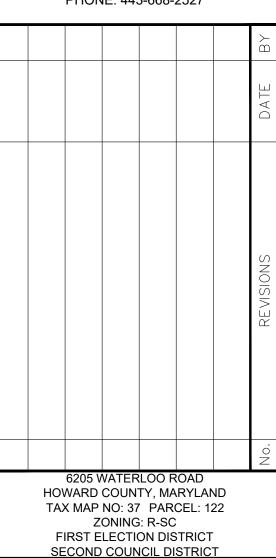
					∀
		PUBLIC STRUCTURE	E TABLE		
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	STATION:	COORDINATES
CONNECT TO EXISTING WATERLINE	TAPPING SLEEVE AND VALVE RIM: 371.14 INV OUT: 367.79		TO TEE-2, 6" PVC INV OUT: 367.79 @ 2.61%	10+00.00	N: 558382.6130 E: 1370476.2825
1" DOM. WATER METER (LOT 4)	DETAIL W-3.11 RIM: 369.40 INV IN: 365.15 INV OUT: 365.15	FROM 87, 1-1/2" COPPER INV IN: 365.15 @ 2.24%	TO 86, 1-1/2" COPPER INV OUT: 365.15 @ 0.00%	10+16.57	N: 558386.0061 E: 1370576.2317
FIRE HYDRANT	FIRE HYDRANT RIM: 368.52 INV OUT: 364.11		TO TEE-1, 6" INV OUT: 364.11 @ 3.95%	11+26.94	N: 558417.4788 E: 1370594.9730
1" DOM. WATER METER (LOT 3)	DETAIL W-3.11 RIM: 366.91 INV IN: 362.56 INV OUT: 362.56	FROM 90, 6" PVC INV IN: 362.56 @ 0.00%	TO 22.5 DEG BENI 1-1/2" COPPER INV OUT: 362.56 @ 1.00% 0.00%	11+89.44	N: 558460.2065 E: 1370628.2505

		PRIVATE STRUCTURE TABLE							
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	STATION					
WHC - LOT 4	WATER HOUSE CONNECTION - LOT 4 RIM: 364.05 INV IN: 363.85	FROM 45 DEG BEND-3, 1-1/2" COPPER INV IN: 363.85 @ 0.00%		11+00.07					
22.5 DEG BEND - 1	22.5 DEG BEND RIM: 362.75 INV IN: 362.56 INV OUT: 362.56	FROM 1" DOM. WATER METER (LOT 3), 1-1/2" COPPER INV IN: 362.56 @ 0.00%	TO 22.5 DEG BEND - 2, 2" INV OUT: 362.56 @ -5.08%	12+21.57					

**Kimley** » Horr

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

> GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



FIRST ELECTION DISTRICT
SECOND COUNCIL DISTRICT

KHA PROJECT NO.: 114033000

SCALE: 1" = 20'

DATE: 03/08/2024

DESIGNED BY: MZM

DRAWN BY: MZM



CHECKED BY:

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: 31373 EXP: 01/21/2025

FINAL PLAN

BADART SUBDIVISION ZONING - R-SC

6205 WATERLOO RD
PREPARED FOR
GLOBAL NOVARE, INC.

HOWARD COUNTY MARYLAND

WATER PROFILES

SHEET NUMBER

7 OF 23

CALL 48 HOURS
BEFORE YOU DIG

IT'S THE LAW!
DIAL 811

Know what's below.
Call before you dig.

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024

(Lill) Edmondson

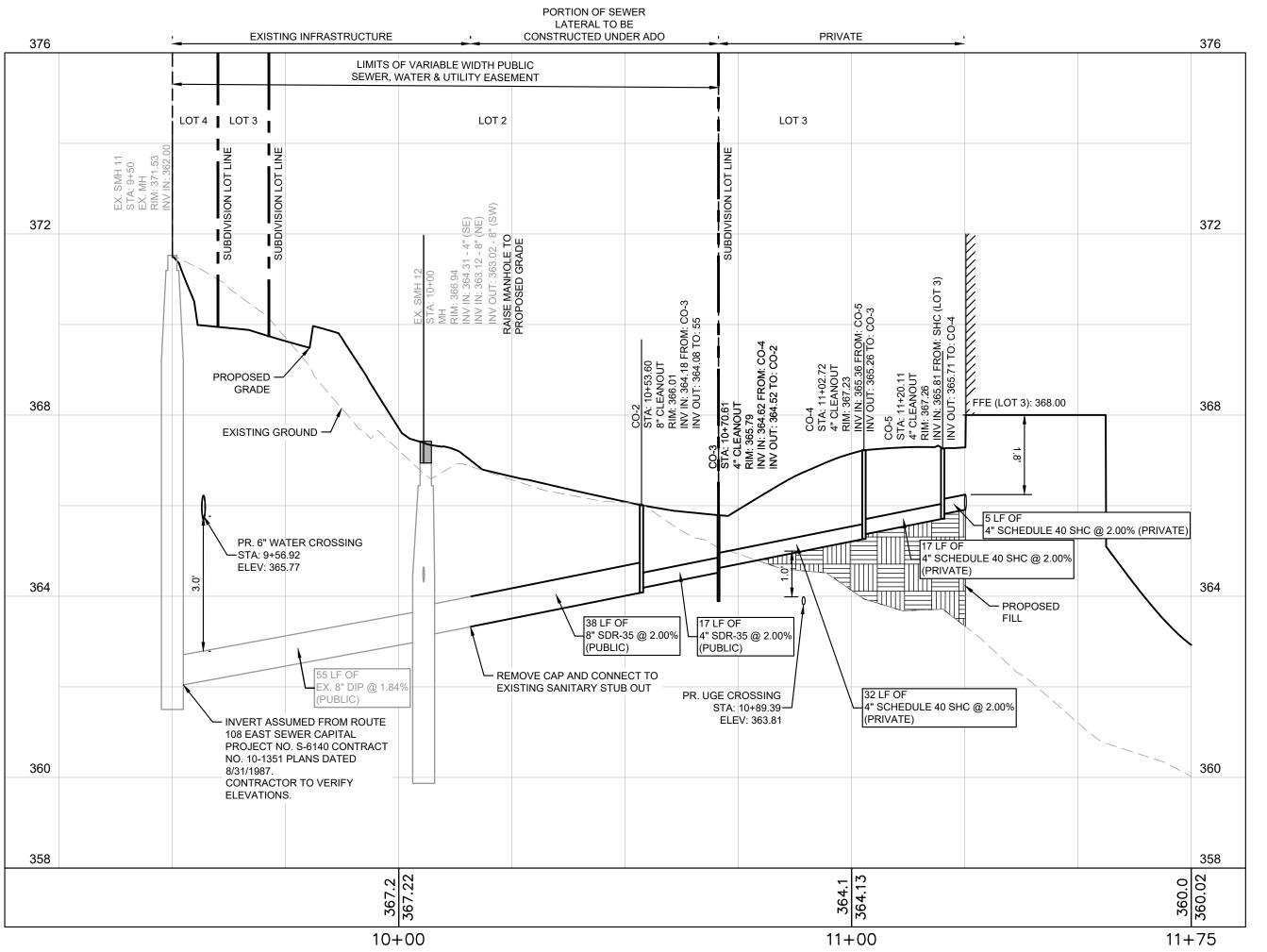
Chief, Development 5/8/2024

Chief, Division of Lands Grands opment

Lynda Eisenburg

Date 5/8/2024

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS



LIMITS OF VARIABLE WIDTH PUBLIC SEWER, WATER & UTILITY EASEMENT LOT 2 LOT 4 EX. SMH 12 STA: 10+00 MH RIM: 366.94 INV IN: 363.12 INV IN: 363.12 INV OUT: 363.0 372 372 - PROPOSED GRADE FFE (LOT 4): 368.50 EXISTING -GROUND — PROPOSED FILL 364 4" SDR-35 @ 2.00% (PUBLIC) └-4" SCHEDULE 40 SHC @ 2.00% (PRIVATE) PR. UGE CROSSING STA: 10+58.30 PR. 6" WATER CROSSING ►STA: 10+10.10 ELEV: 362.54 358 10+00 11+00 **SEWER PROFILE - LOT 4** SCALE: 1" = 20' H 1" = 2' V

PRIVATE

376

GRAPHIC SCALE IN FEET 0 10 20 40

PORTION OF SEWER LATERAL TO BE CONSTRUCTED UNDER ADO

**SEWER PROFILE - LOT 3** 

ALE: 1" = 20' H 1" = 2' V

## NOTES:

EXISTING UTILITIES PRIOR TO BEGINNING WORK.

PUBLIC PORTIONS OF WATER MAIN, SEWER EXTENSION
AND FIRE HYDRANT WILL BE CONSTRUCTED UNDER AN
ADVANCED DEPOSIT ORDER (ADO) PER CONFIRMATION
WITH THE HOWARD COUNTY BUREAU OF UTILITIES.
CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF

PRIVATE STRUCTURE TABLE								
STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	STATION:	COORDINATES:			
SHC (LOT 3)	S-2.22 RIM: 366.28 INV OUT: 365.91		TO CO-5, 4" SDR-35 INV OUT: 365.91 @ 2.00%	11+25.13	N: 558455.0093 E: 1370676.7327			
SHC (LOT 4)	S-2.22 RIM: 366.22 INV OUT: 365.85		TO CO-1, 4" SDR-35 INV OUT: 365.85 @ 2.00%	10+71.63	N: 558410.4306 E: 1370652.0464			

PRI	VATE F	PIPE TABL	.E	
Pipe Name	Size	Length	Slope	MATERIAL
CO-3 TO NS_1	4"	32.115	2.00%	SDR-35
CO-1 TO SHC (LOT 4)	4"	37.000	2.00%	SDR-35

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT	STATION:	COORDINATES:
CO-1	4" CLEANOUT RIM: 367.28 INV IN: 365.11 INV OUT: 365.01	FROM SHC (LOT 4), 4" SDR-35 INV IN: 365.11 @ 2.00%	TO EX. SMH 12, 4" SDR-35 INV OUT: 365.01 @ 2.00%	10+34.63	N: 558416.8407 E: 1370615.6059
CO-2	8" CLEANOUT RIM: 366.01 INV IN: 364.18 INV OUT: 364.08	FROM CO-3, 4" SDR-35 INV IN: 364.18 @ 2.00%	TO 55, 8" P\sdr.35 / OUT: 364.08 @ 2.00%	10+53.60	N: 558470.7981 E: 1370613.1376
CO-3	4" CLEANOUT RIM: 365.79 INV IN: 364.62 INV OUT: 364.52	FROM CO-4, 4" SDR-35 INV IN: 364.62 @ 2.00%	TO CO-2, 8" SDR-35 INV OUT: 364.52 @ 2.00%	10+70.61	N: 558470.7981 E: 1370630.1472
EX. SMH 11	EX. MH RIM: 371.53 INV IN: 362.00	FROM EX. SMH 12, 8" SDR-35 INV IN: 362.00 @ 1.84%		9+50.00	N: 558387.9789 E: 1370550.9072
EX. SMH 12	MH RIM: 366.94 INV IN: 364.31 INV IN: 363.12 INV OUT: 363.02	FROM CO-1, 4" PVC INV IN: 364.31 @ 2.00% FROM 55, 8" SDR-35 INV IN: 363.12 @ 2.00%	TO EX. SMH 11, 8" SDR-35 INV OUT: 363.02 @ 1.84%	10+00.00	N: 558432.1306 E: 1370584.5318

PUBLIC STRUCTURE TABLE

PUBLIC PIPE TABLE							
Pipe Name	Size	Length	Slope	MATERIAL			
CO-2 TO CO-3	4"	17.010	2.00%	SDR-35			
EX. SMH 12 TO CO-1	4"	34.632	2.00%	SDR-35			
55 TO CO-2	8"	37.764	2.00%	SDR-35			

APPROVED: DEPARTMENT OF PLANNING AN	ID ZONING
CHAD Edmondson	5/9/2024
Chief, Developmen প্রিটিট্রিট্রিলিট্রিলী Division	Date
l h	5/8/2024
Chief, Division of Lands of Chief Division of Lands of Lands of Lands of Chief Division of Chief Division of Lands of Chief Division of Lands of Chief Division of Chief Divis	Date
lynda Eisenberg	5/9/2024
Director —4220B635863942E	Date

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527

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								DATE
								REVISIONS
								No.
		HO\	WARD K MAP	COUN <sup>*</sup> NO: 37	LOO R TY, MA 'PAR( :: R-SC	RYLAN CEL: 12		

HOWARD COUNTY, MARYLAND
TAX MAP NO: 37 PARCEL: 122
ZONING: R-SC
FIRST ELECTION DISTRICT
SECOND COUNCIL DISTRICT

 KHA PROJECT NO.:
 114033000

 SCALE:
 1" = 20'

 DATE:
 03/08/2024

 DESIGNED BY:
 MZM

 DRAWN BY:
 MZM

 CHECKED BY:
 JBS



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: 31373 EXP: 01/21/2025

### FINAL PLAN

BADART SUBDIVISION ZONING - R-SC

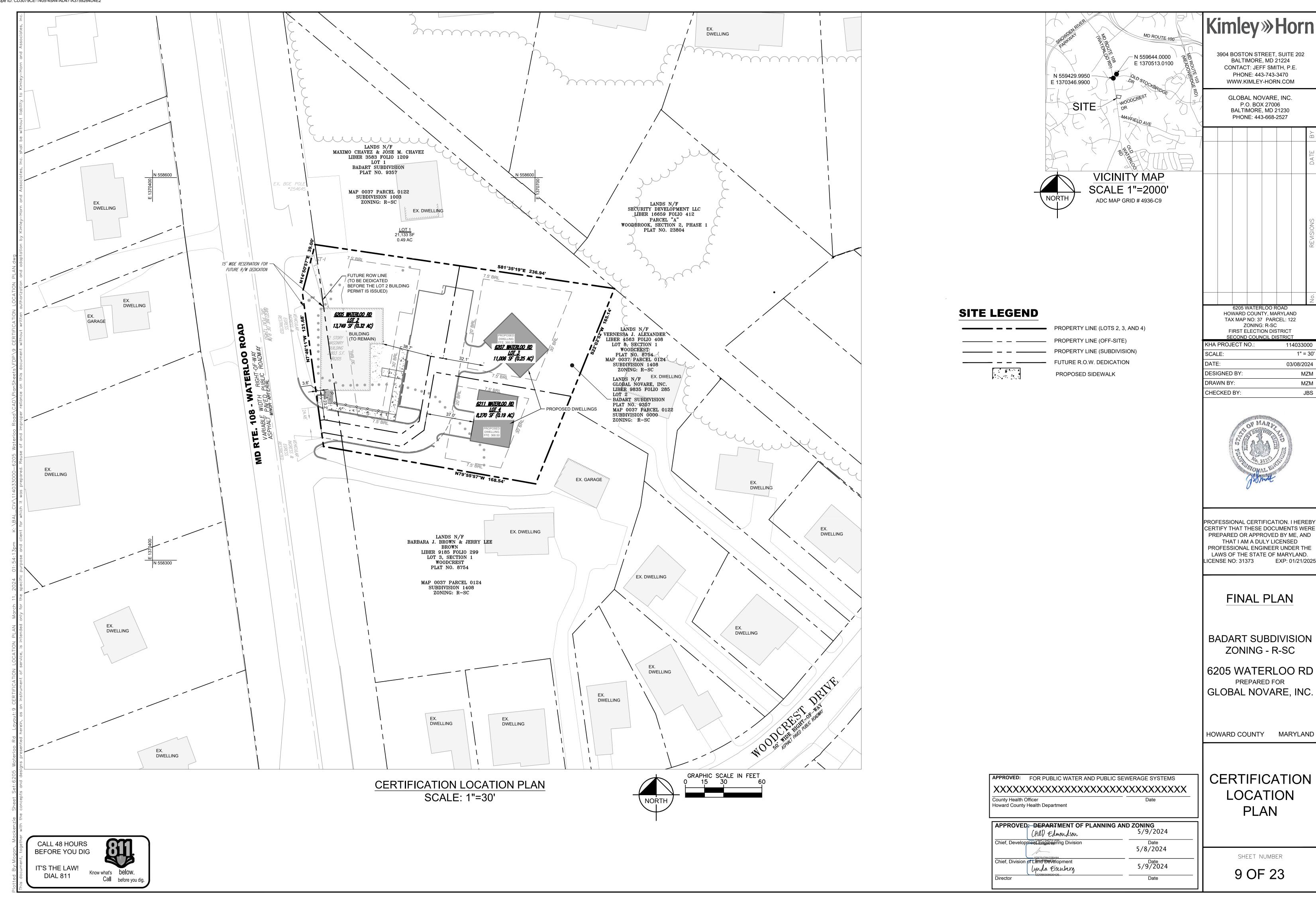
6205 WATERLOO RD
PREPARED FOR
GLOBAL NOVARE, INC.

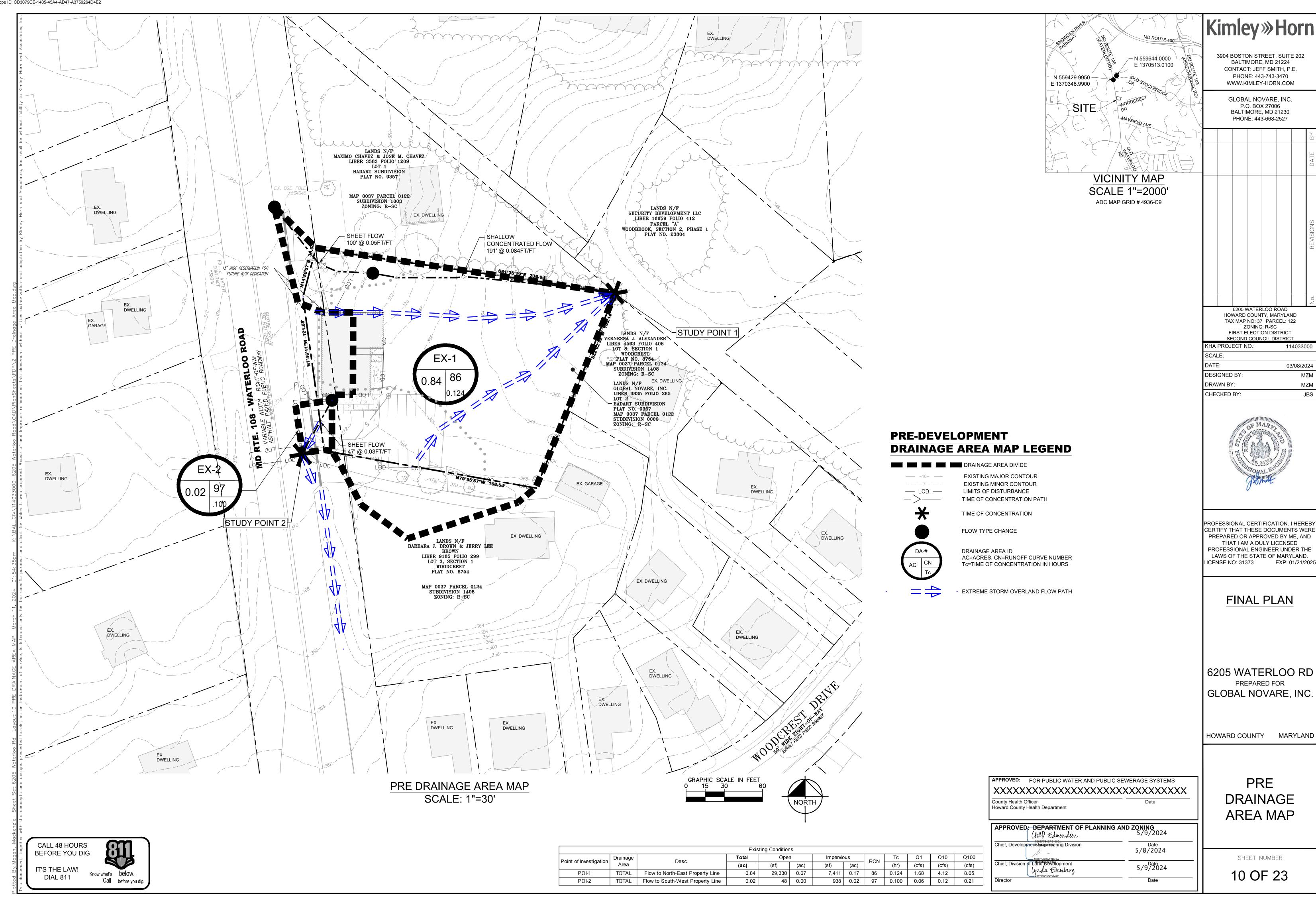
HOWARD COUNTY MARYLAND

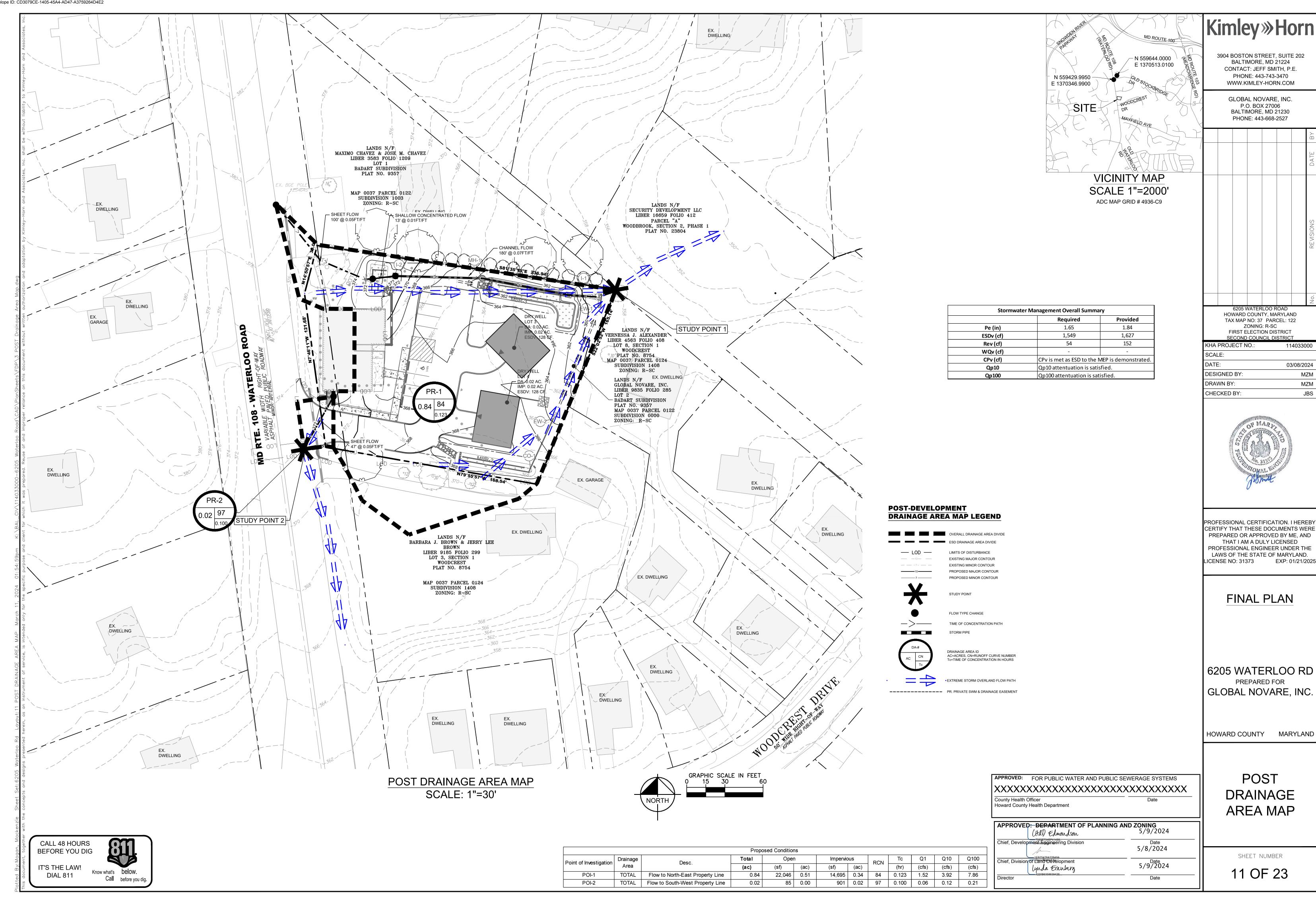
SEWER PROFILES

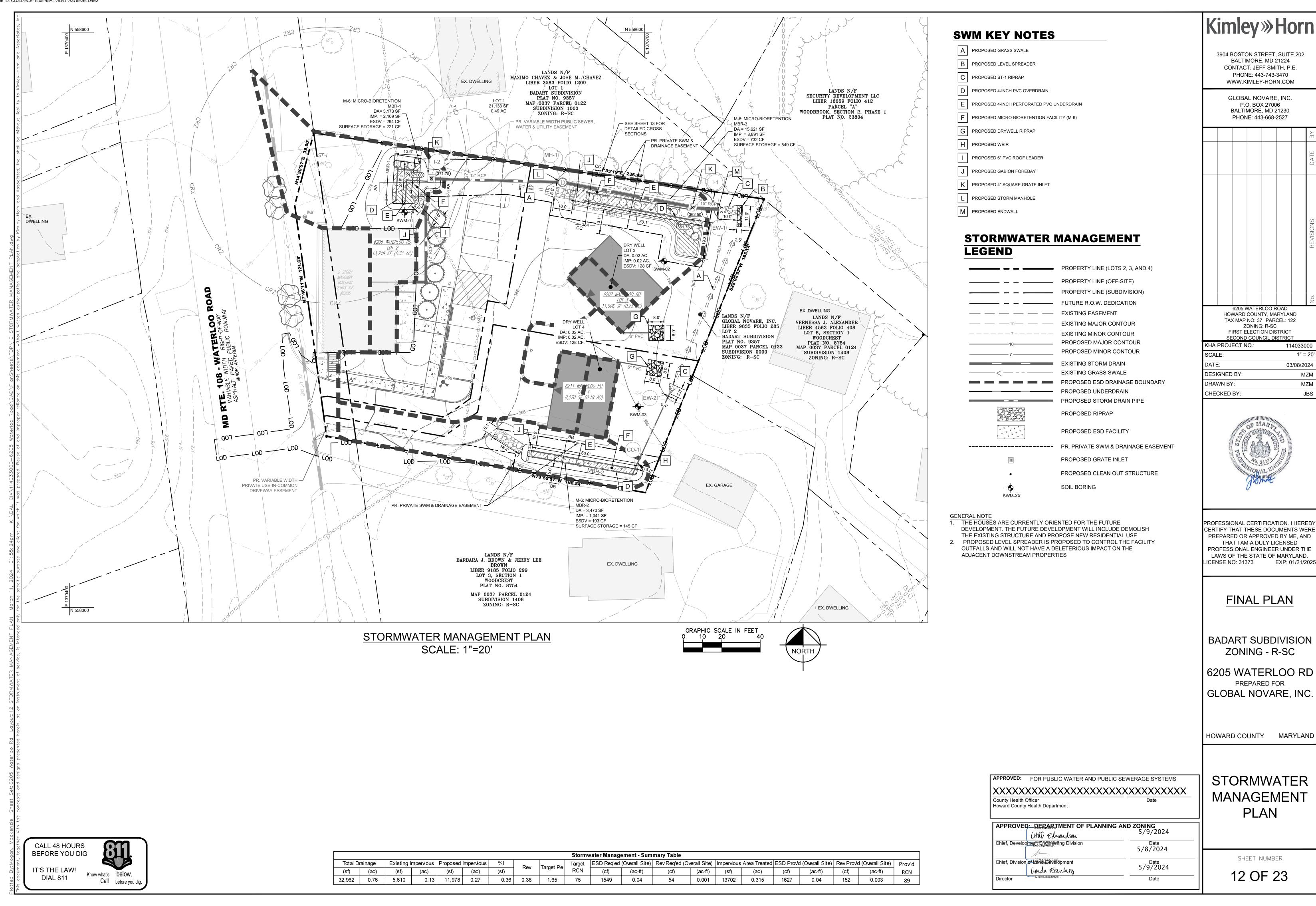
SHEET NUMBER











MZM

### **SWM SEQUENCE OF OPERATIONS**

- PRIOR TO EXCAVATION CONTRACTOR TO:
- VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW. (1 DAY)
- 1.2. VERIFY ALL FLAGGING REQUIRED IN THE AREA OF SENSITIVE AREA PROTECTION. (1 DAY)
- VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION. (1 DAY)
- VERIFY SCARIFICATION OF INVERT AS NEEDED. (1 DAY)
- VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT PRESENT. (1 DAY) 1.5.
- 1.6. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED. (1 DAY)
- VERIFY THAT THE CONTRIBUTING DRAINAGE AREA IS PAVED, ALL BUILDINGS BUILT, AND ALL DISTURBED AREAS SUPPORTING A 2" STAND OF DENSE GRASS. (1 DAY) 1.7.
- CONTRACTOR TO CONTACT INSPECTING ENGINEER 72 HOURS BEFORE INSTALLATION OF STORMWATER MANAGEMENT FACILITIES TO COMPLETE CONSTRUCTION OBSERVATION /VERIFICATION AS NOTED IN SEQUENCE ITEMS 3 THROUGH 6 BELOW. (1 DAY)
- CONTRACTOR TO VERIFY SIZE, MATERIAL, LOCATION, AND ELEVATIONS OF OUTFALL STRUCTURE AND PIPES. VERIFY PIPE JOINTS ARE SEALED. VERIFY THAT ALL STORM DRAINS ARE CONSTRUCTED AND ALL SEDIMENTS ARE REMOVED INCLUDING ACCUMULATED SEDIMENTS IN THE SWM FACILITIES. (3 DAYS)
- LOCATION, SIZE AND MATERIAL OF UNDERDRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" M-6 STONE GRAVEL
- COVER. (2 DAYS) VERIFY INSTALLATION OF FILTER FABRIC ON THE SIDES. VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY PEA GRAVEL AND SAND LAYER MATERIAL AND THICKNESS. VERIFY TOP
- FILTER MEDIA LAYER. VERIFY MULCH LAYER. (1 WEEK)
- VERIFY INSTALLATION OF RIPRAP PAD IS FLUSH WITH TOP OF FILTER MEDIA. (1 DAY) VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY LOCATION, SIZE, TYPE, AND NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED.
- VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE. (3 DAYS)
- VERIFY A MINIMUM OF 2" DENSE GRASS ESTABLISHED ON ALL SIDE SLOPES. (2 WEEKS) SUBMIT AS-BUILT PAPERS TO HOWARD COUNTY WITHIN 30 DAYS OF COMPLETION. (1 DAY)

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

- . MATERIAL SPECIFICATIONS
- THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

#### 2. FILTERING MEDIA OR PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

#### THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA

- SOIL COMPONENT LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
- ORGANIC CONTENT MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%). • CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
- PH RANGE SHOULD BE BETWEEN 5.5 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE

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

#### 3. COMPACTION

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW. RIPPER. OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

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

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY

EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

### 4. PLANT MATERIAL

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

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

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

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

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

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

### 6. UNDERDRAINS

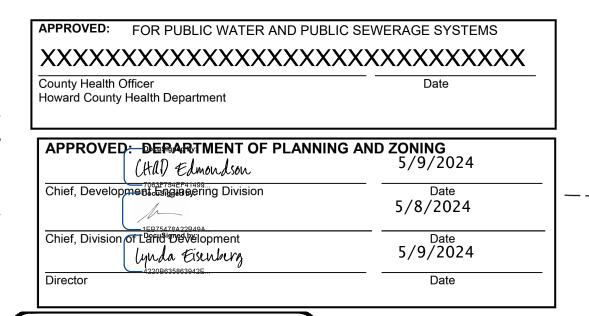
- UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
- PIPE- SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).
- PERFORATIONS IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 36" 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
- A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 10,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR. PERFORMANCE OF THE FILTER.

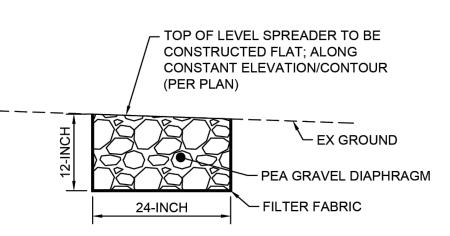
• A 4" LAYER OF PEA GRAVEL (1/4" TO 3/4" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 10000 SQUARE FEET OF SURFACE AREA).

**DIAL 811** 

THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED





### CALL 48 HOURS **BEFORE YOU DIG** IT'S THE LAW!

Know what's **below**.

before you dig.

Call

### TYPICAL LEVEL SPREADER DETAIL

### SCALE: N.T.S.

## MICRO-BIO AND BIORETENTION (M-6) - OPERATION AND MAINTENANCE

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND
- 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
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER, SAND MEDIA AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTION AREAS OF EROSION OR WASHOUT. CHECK FOR DEWATERING WITHIN 48 HOURS. WHEN NECESSARY, REPLACE FILTER MEDIA PER PLAN.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD, DISEASED AND EXCESSIVE VEGETATION CONSIDERED BEYOND TREATMENT. REPLACEMENT OF ALL DISEASED TREES, SHRUBS, DEFICIENT STAKES AND WIRES WILL BE REQUIRED.
- MULCH LAYER SHALL BE INSPECTED EACH SPRING. ONCE EVERY 2 TO 3 YEARS, REMOVE PREVIOUS MULCH LAYER AND APPLY NEW 2 TO 3 INCH LAYER.
- SOIL EROSION AND FLOW BLOCKAGES TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORMS. INSPECT CLEAN OUTS AND OBSERVATION WELLS ALONG WITH OVERFLOW/OUTFALL/EXIT PIPES.

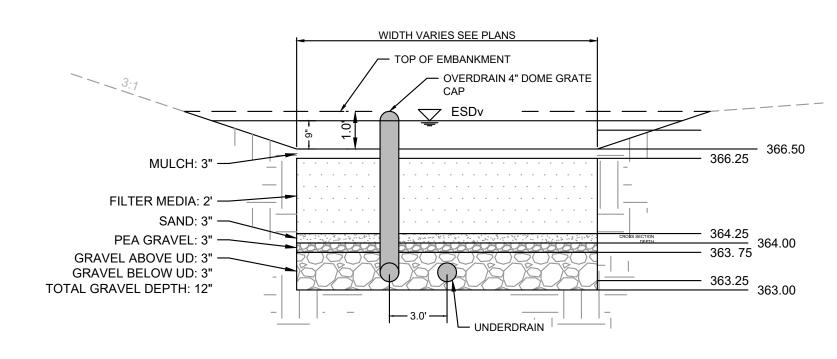
### DRY WELL (M-5) - OPERATION AND MAINTENANCE

- DRY WELLS SHALL BE INSPECTED AND CLEANED ANNUALLLY. THIS INCLUDES PIPES, GUTTERS, DOWNSPOUTS AND ALL THE FILTERS.
- PONDING, STANDING WATER OR ALGAE GROWTH ON THE TOP OF A DRY WELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA.
- IF WATER PONDS FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN 6" OF SEDIMENT HAS BEEN ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND
- PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTANANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE OR OTHER LEGAL MEASURES PREVENTING ITS NEGLECT, ADVERSE ALTERATION AND REMOVAL

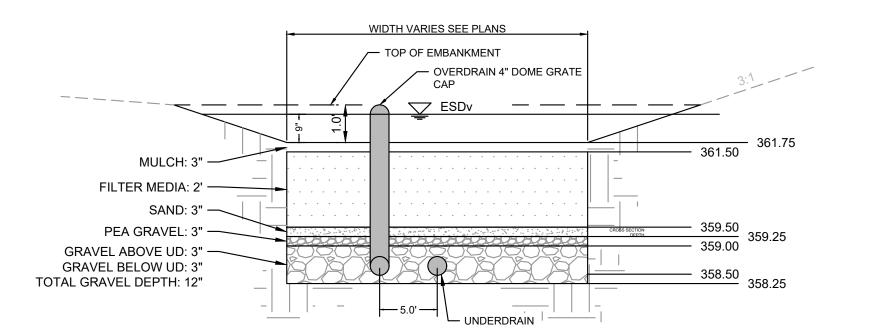
### MBR-1 SECTION AA

## WIDTH VARIES SEE PLANS BERM ▼ FSDv MULCH: 3 FILTER MEDIA: 2' -SAND: 3" PEA GRAVEL: 3 **GRAVEL ABOVE UD: 3" GRAVEL BELOW UD: 3"** TOTAL GRAVEL DEPTH: 12"

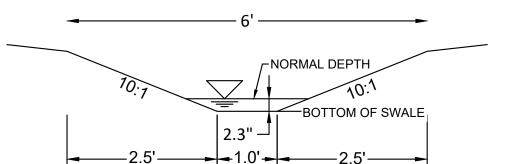
### MBR-2 SECTION BB



### MBR-3 SECTION CC



### **SWALE TYP. SECTION**



### **NOTES:** AN IMPERVIOUS LINER NEEDS TO BE PRESENT ON

- THE FILL SECTION OF MICRO-BIORETENTION SIDES TO PREVENT EXFILTRATION THRU THE
- EMBANKMENT

EIVIDAINNIVIEIVI.	
SWALE:	

DA = 0.19 AC
C = 0.37
I = 8.5 IN
Q <sub>10</sub> = CIA = 0.19 * 0.37 * 8.5 = 0.60 CFS
$V_{10} = 3.06 \text{ ft/s}$
NORMAL DEPTH = 2.3 IN

REQUIR	REMENT	EXISTING DISCHARGE (CFS)	PROPOSED DISCHARGE (CFS)					
POI-1	Q1	1.68	1.52					
	Q10	4.12	3.92					
	Q100	8.05	7.86					
POI-2	Q1	0.06	0.06					
	Q10	0.12	0.12					
	Q100	0.21	0.21					

#### DRY WELL RCN $\mathsf{ESD}_\mathsf{v}$ Wf $\mathsf{ESD}_\mathsf{v}$ $\mathsf{ESD}_\mathsf{v}$ ESD / SWM Soil Wells Type Practice Impervious Open Total Impervious Open Target Target 0.00 | 0.02 | 100% | 128 1.70 0.02 D 0.95 77 1.65 125 203 Drywell (M-5) 8.0 8.0 5.00 | 0.40 0.02 0.00 0.02 5.00 0 711 100% D 0.95 77 1.65 93 152 Drywell (M-5) 8.0 8.0 64 0.40

(Note: Per MDE Manual 75% Temporary Storage Required for treatment)

										Storm	water N	lanager	nent - E	nvironme	ntal Site [	Design - 1	reatme	ent Summa	ary											
SWM/DA ID	Address	Study Point	ESD Type	Total Drainag DA	ge Area,	' Oper	n Area	Imp	Area	%I	ESDv Req'd	Rv	Target WQv	l VOI	A <sub>f</sub> Bottom (Prov'd)	A <sub>f</sub> Top (Prov'd)	A <sub>f</sub> (min)	Ponding Depth	Surface Storage		iPorosity.	Filter Bed Storage		ESDv Treatment Obtained	ESDv (Max)	ESDv Prov'd	Gravel Storage	Rev Prov'd	Pe Prov'd	HOW
				(sf)	(ac)	(sf)	(ac)	(sf)	(ac)	(%)	(cf)		(cf)	(cf)	(sf)	(sf)	(sf)	(ft)	(cf)	(ft)		(cf)	(cf)	(cf)	(cf)	(cf)	(in)	(cf)	(in)	
MBR-1	6205 Waterloo Rd	POI-1	M-6	5,173	0.12	3,064	0.07	2,109	0.05	41%	180	0.42	180	135	294	573	104	0.75	221	2.0	0.4	235	221	294	485	294	6.0	147	1.64	
MBR-2	6211 Waterloo Rd	POI-1	M-6	3,470	0.08	2,429	0.06	1,041	0.02	30%	93	0.32	93	69	193	586	70	0.75	145	2.0	0.4	154	145	193	250	193	6.0	97	2.09	l n
MBR-3	6207 Waterloo Rd	POI-1	M-6	15,621	0.36	6,730	0.15	8,891	0.20	57%	732	0.56	732	549	732	1,300	313	0.75	549	2.0	0.4	586	549	732	1,976	732	6.0	366	1.00	$\mid N$
				24,264	0.56	Total II	mp Area	Prov'd	0.28																Prov'd	1,371	-	152	1.5	
						Total I	mp Ared	a Req'd	0.15																Req'd	1,549	-	54	1.6	
										_															Remaining	178				

SWM and

Outfall

%I = Imp Area / Total DA Rv = 0.05 + 0.009\*(%I)

Surface Storage  $= A_f (Prov'd)*Ponding Depth (average end area)$ 

 $A_f(Prov'd) = Area$ 

ESDv Storage = Surface Storage + Filter Bed Storage

ESDv Obtained = ESDv Storage / 75%

ESDv  $(max)^{(3)} = (2.7" * Rv * DA) / 12$ <sup>3</sup>(Note: Maximum Storage for 1-yr storm event, P = 2.7") ESDv Prov'd = Minimum of ESD Obtained and ESD (max)

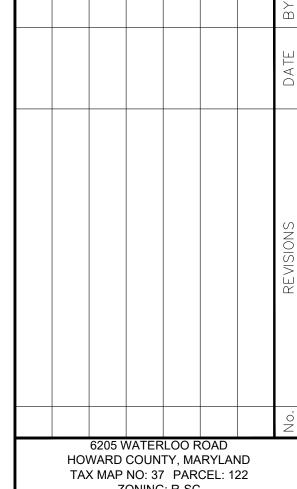
 $A_f$  (min) = 0.02\*Drainage Area Filter Bed Storage = Af (Prov'd) \*(Filter+Sand+Gravel) \* Porosity Pe Prov'd = (ESDv Prov'd \* 12) / (Rv \* DA)

Rev Prov'd = Assumes a 6-inch stone base beneath all underdrains

1The surface storage for each facility is based on the MDE design manual Surface Storage Volume Tables for Micro-Bioretention, Bioswales, Rain Gardens and Landscape Infiltration

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



ZONING: R-SC FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT

(HA PROJECT NO.: 114033000 CALE: DATE: 03/08/2024 DESIGNED BY MZM

MZM

CHECKED BY:

DRAWN BY:

PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/2029

FINAL PLAN

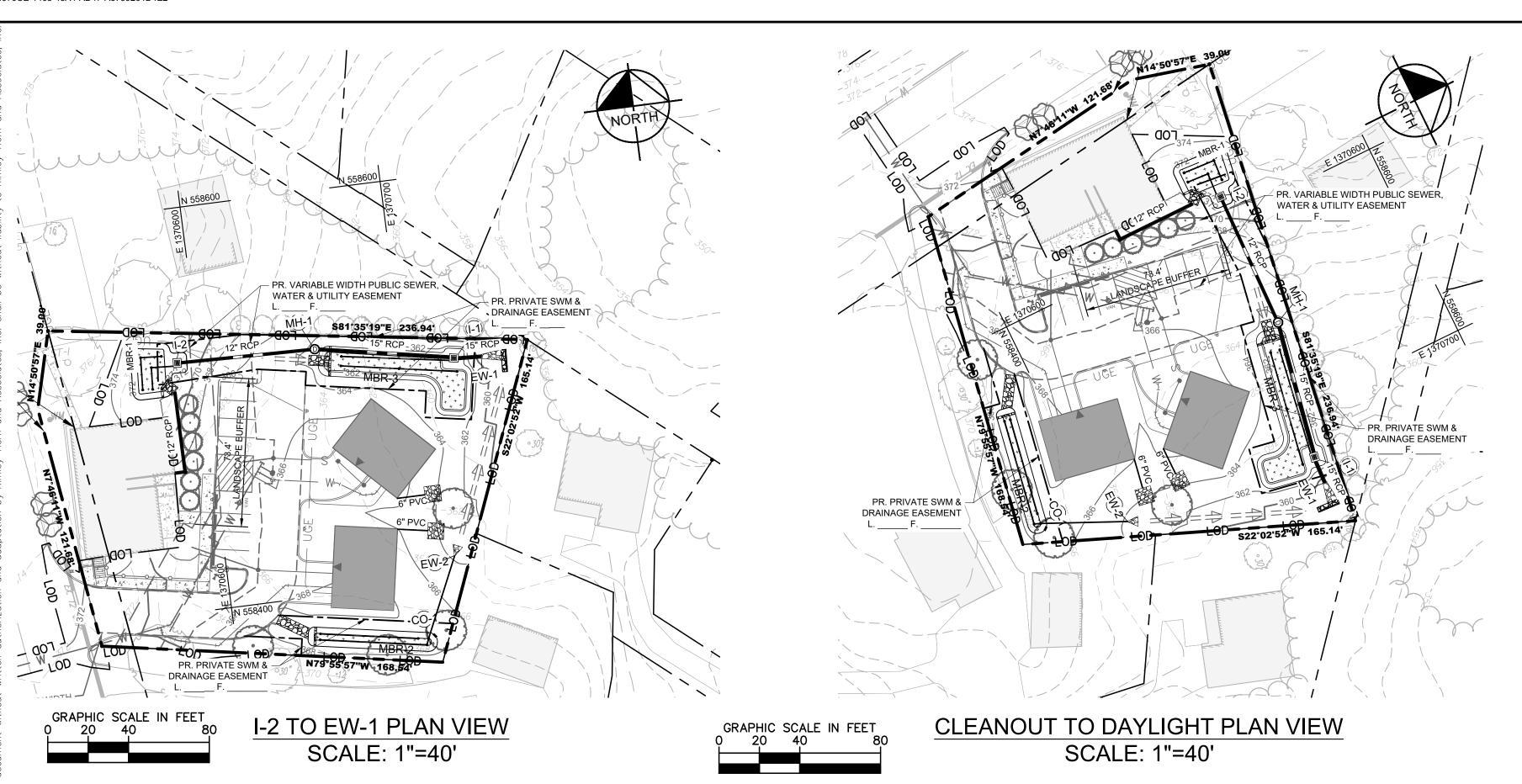
BADART SUBDIVISION ZONING - R-SC

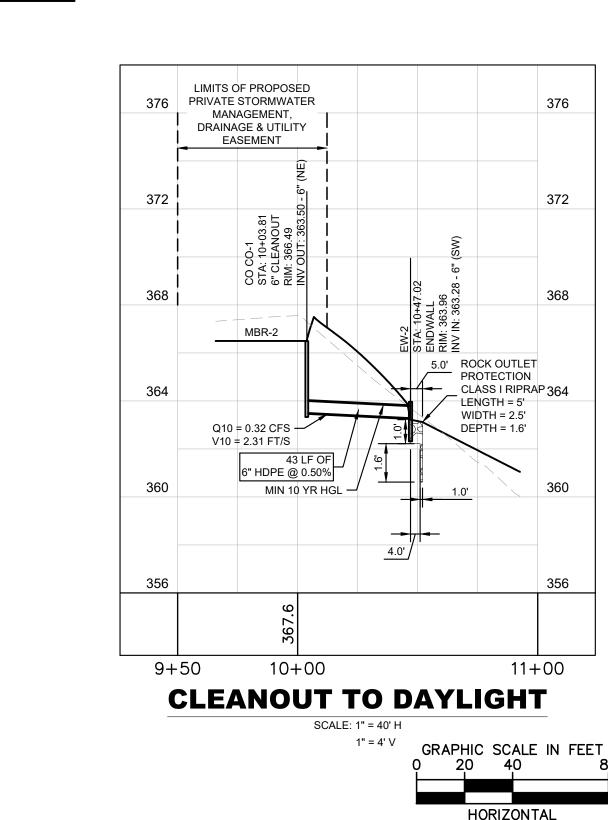
6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

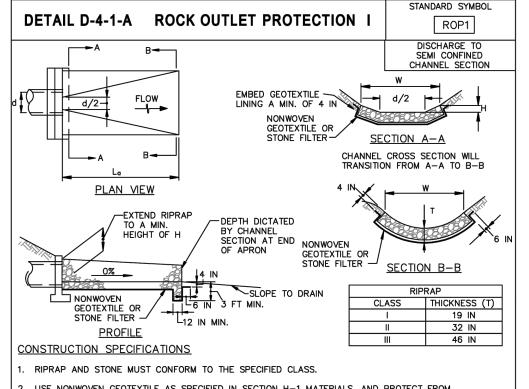
OWARD COUNTY MARYLAND

**STORMWATER MANAGEMENT** NOTES & **DETAILS** 

SHEET NUMBER







- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (¾ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- . EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.

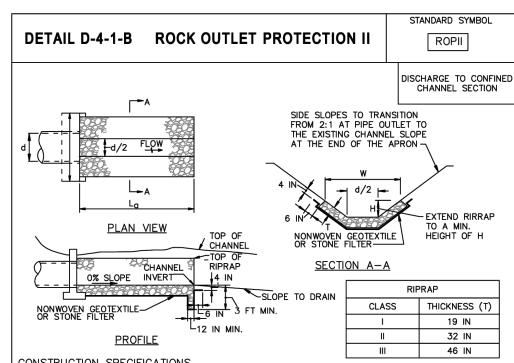
8.	MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.
	MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

D.20

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

DETAIL D-3-1 RIPRAP I	NFLOW PROTEC	TION	STANDARD SYMBOL
COMPACTE EMBANKME SIDE SLOPE OF TRAP/BASIN 2:1 OR FLATTER  TRAP/BASIN BOTTOM			FT MIN.
ISOMETRIC VIEW			
10 FT MIN. EXIT SECTION 0% SLOPE	NONWOVEN COTEXTILE		TFT MIN. DEPTH  1 2 1 19 IN MIN. DEPTH IIN. OF CLASS I RIPRAF
PROFILE ALONG CENTERI	<u>LINE</u>	<u>CROS</u>	SS SECTION
CONSTRUCTION SPECIFICATIONS  1. PROVIDE NONWOVEN GEOTEXTILE, AS SALONG SIDES OF ALL RIPRAP.  2. CONSTRUCT INFLOW CHANNEL WITH CLIMINIMUM DEPTH OF 19 INCHES (2 x DEPOSITE OF AND A 4 FOOT MINIMUM BOTT)	ASS I RIPRAP OR EQUIV. 50) AND A 1 FOOT DEEP TRAPEZOIDAL CROSS SEC	ALENT RECYCLED FLOW CHANNEL.	CONCRETE LINING TO A INFLOW RIPRAP
3. INSTALL ENTRANCE AND EXIT SECTION		OFILE.	
4. BLEND RIPRAP INTO EXISTING GROUND			
5. MAINTAIN LINE, GRADE, AND CROSS SI POINTS OF INFLOW AND OUTFLOW FRE		ULATED SEDIMENT	AND DEBRIS. KEEP
MARYLAND STANDARDS AND SPEC	CIFICATIONS FOR SOIL ER	OSION AND SEDIM	ENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011		RTMENT OF ENVIRONMENT EMENT ADMINISTRATION



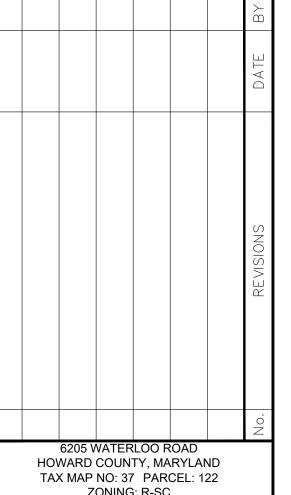
CONSTRUCTION SPECIFICATIONS RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.

- 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- . PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (% TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
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- . WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND. . MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION D.21

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

> GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



ZONING: R-SC FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT

114033000

1" = ##' SCALE: DATE: 03/08/2024 MZM **DESIGNED BY:** DRAWN BY: MZM CHECKED BY:

KHA PROJECT NO.:



PROFESSIONAL CERTIFICATION. I HEREE CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/2029

FINAL PLAN

**BADART SUBDIVISION ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND

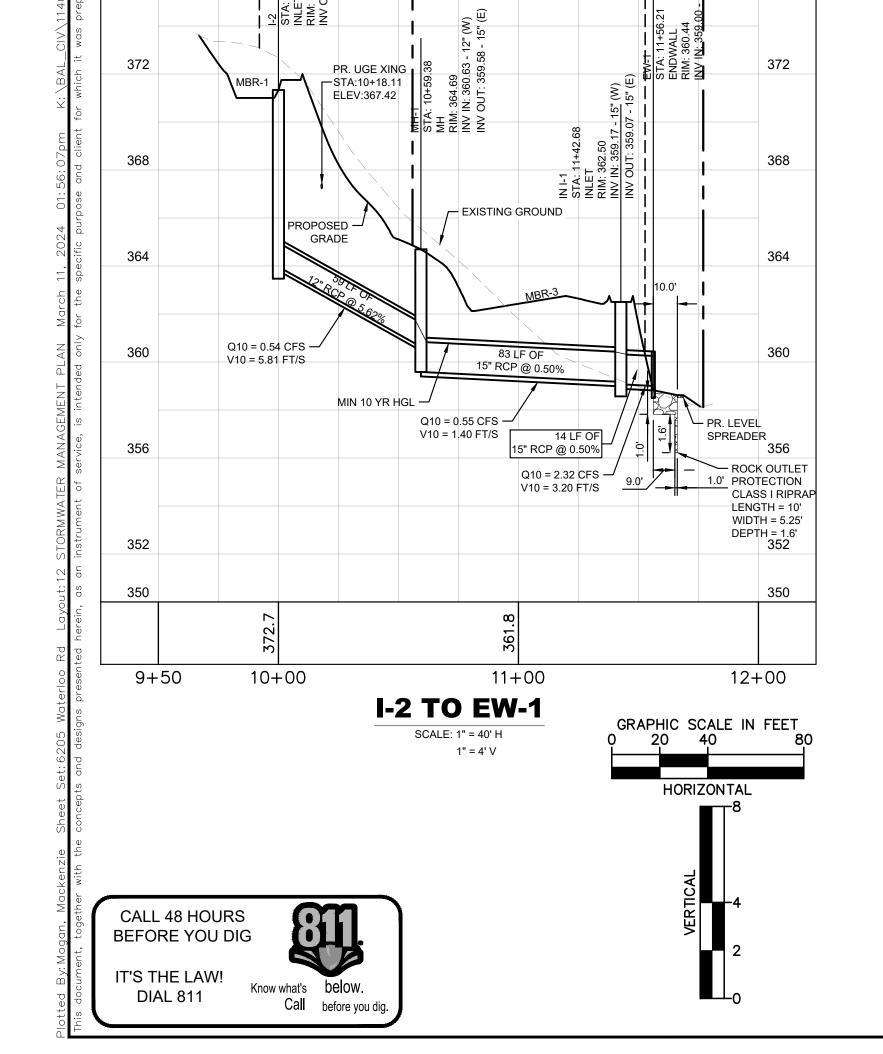
APPROVED: DEPARTMENT OF PLANNING AND ZONING

5/9/2024 CHAD Edmondson Date 5/8/2024 Chief, Division of Landi De velopmen 5/9/2024 lynda Eisenberg

STORM DRAIN **PROFILES** 

SHEET NUMBER

14 OF 23

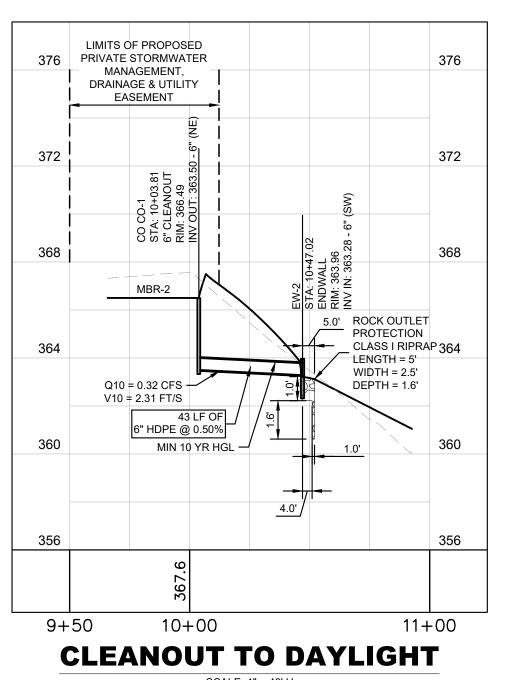


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LIMITS OF PROPOSED PRIVATE

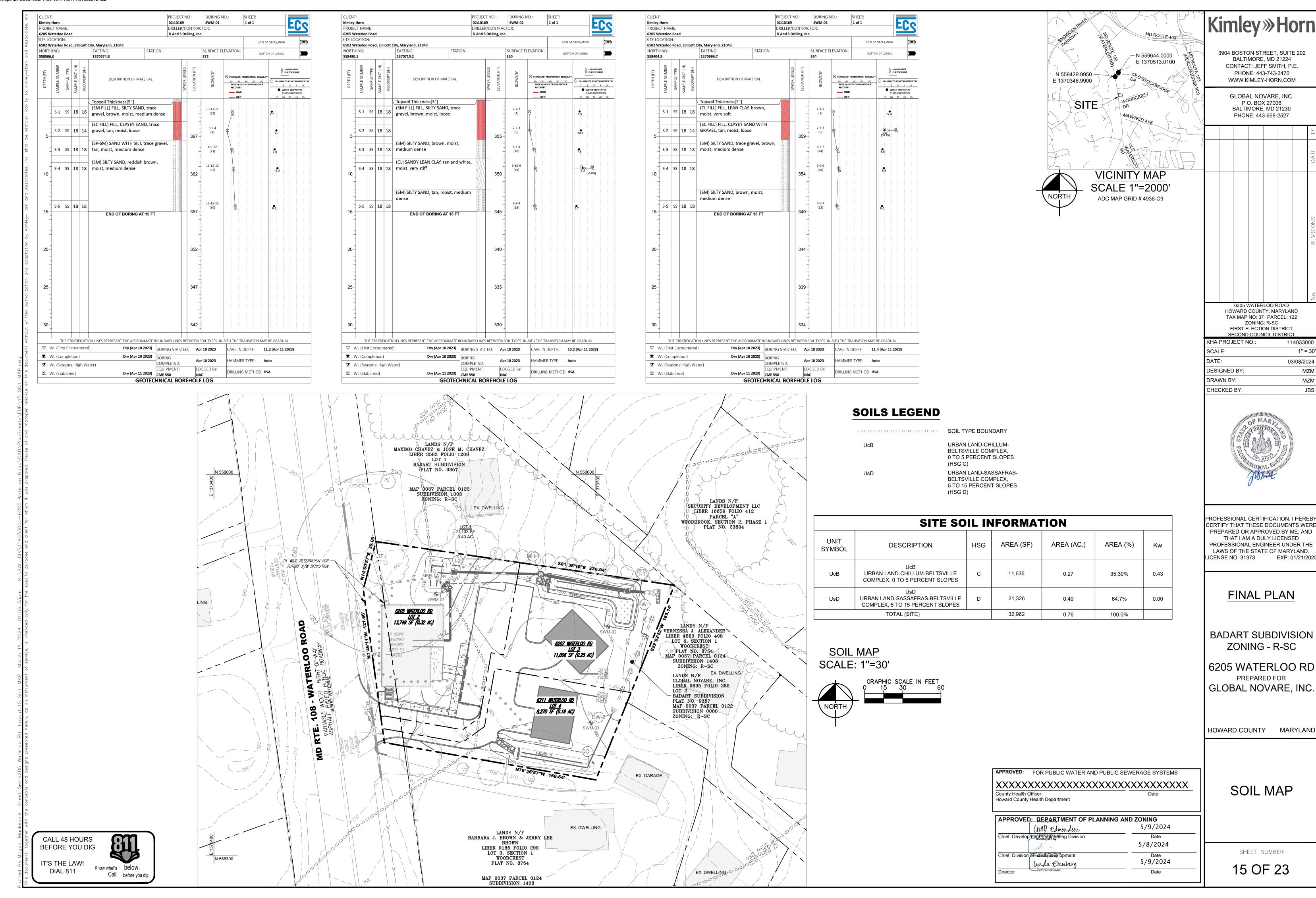
STORMWATER MANAGEMENT,

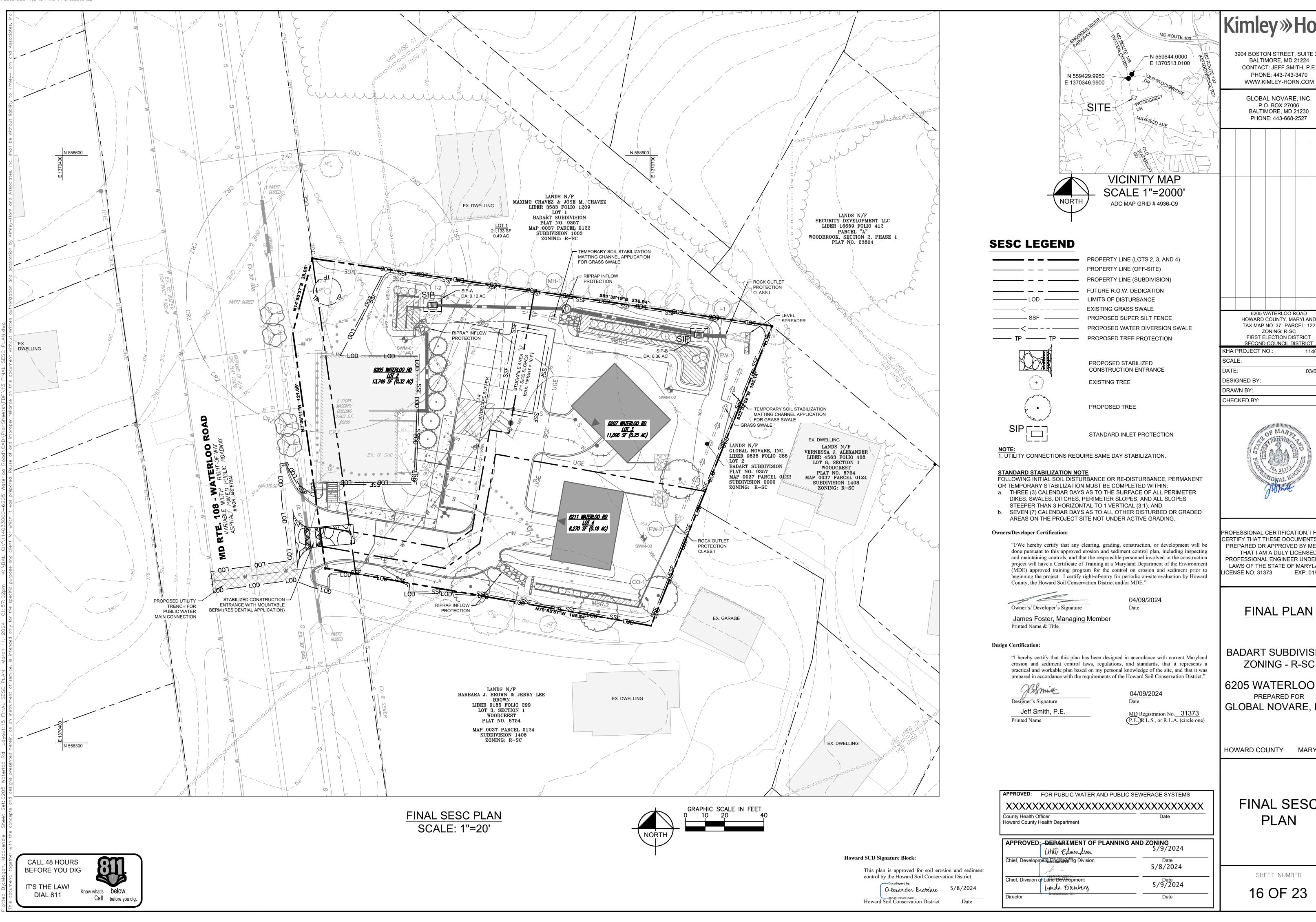
DRAINAGE & UTILITY EASEMENT



GRAPHIC SCALE IN FEET 0 20 40 80 HORIZONTAL

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer Howard County Health Department





3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470

> GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527

HOWARD COUNTY, MARYLAND TAX MAP NO: 37 PARCEL: 122 ZONING: R-SC

FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT

1" = 20' 03/08/2024 MZM MZM



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. ICENSE NO: 31373 EXP: 01/21/2025

FINAL PLAN

BADART SUBDIVISION ZONING - R-SC

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC.

HOWARD COUNTY MARYLAND

FINAL SESC PLAN

SHEET NUMBER

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

#### DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

#### CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

#### SEEDING

### SPECIFICATIONS

- ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
- MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
- INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE
- SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

### APPLICATION

- DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OF BROADCAST SPREADERS
- INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES
- APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN **EACH** DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
- DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT
- LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER)
- IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE
- LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
- MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL
- MULCHING

### MULCH MATERIALS (IN ORDER OF PREFERENCE)

- STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
- WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIFICALLY PREPARED WOOD CELLULOSE INTO A UNIFORM FIBROUS PHYSICAL STATE. **PROCESSED**
- WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN
- APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY WCFM, INCLUDING DYE. MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
- WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
- WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
- WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. APPLICATION
- APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
- WHEN STRAW MULCH IS USED. SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
- WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER PLACED ON THE PLAN. ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER

### ANCHORING

- PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD
- A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR
- WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
- LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

### **B-4-4 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.

### CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

- 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON

TE	MPORA	RY SEEDIN	NG SUM	IMARY			
. SE	ARDINESS Z EED MIXTUR	ONE (FROM FIGUE) E (FROM TABLE	JRE 1): <u>6</u> B.1): <u>9</u>	SEE BELOW	<u></u>		
NO.	SPECIES	APPLICATION RATE (LB/AC.)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (10-10-20)	LIME RATE	
1	BARLEY	96	3/1-5/15 8/1-10/15	1"	436 lb/ac (10	36 lb/ac (10 2 tons/ac (90 lb/	
2	FOXTAIL MILLET	30	5/16-7/31	0.5"	lb/ 1000 sf)	1000 sf)	

### **B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION**

### DEFINITION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

### CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE

### **CRITERIA**

#### A. SEED MIXTURES GENERAL USE

- a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
- b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
- c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0)
- AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY 2. TURFGRASS MIXTURES
- a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS. PARKS. PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF
- SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE
- KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
- KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT
- iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
- iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET.

### **Howard SCD Signature Block:**

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District. Olexander Bratchie

Howard Soil Conservation District

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR **RECOMMENDATIONS FOR MARYLAND"** 

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND **ASSURES A PURE GENETIC LINE** 

- c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1. AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
- CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS
- SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
- d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 11/2 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE)
- UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON. IN ABNORMALLY DRY OR HOT SEASONS. OR ON ADVERSE SITES.

		PERM	ANENT	SEEDI	NG SUM	MARY		
		S ZONE (FROM FIGURE B.3) 6B FURE (FROM TABLE B.3) SEE BELOW		FERTILIZER RATE (10-20-20)			LIME	
NO.	SPECIES	APPLICATION RATE (LB/AC.)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	RATE
	TALL FESCUE	60	3/1-5/15, 8/15-10/15	1/4"-1/2"	45 L DC/AC	00   BS/AC	00   BS/AC	
9	KENTUCKY BLUE GRASS	40	3/1-5/15, 8/15-10/15	1/4"-1/2"	45 LBS/AC (1.0 LB/1000 SF)	90 LBS/AC (2.0 LB/1000 SF)	90 LBS/AC (2.0 LB/1000 SF)	2 tons/ac (90 lb/ 1000 sf)
	PERENNIAL RYEGRASS	20	3/1-5/15, 8/15-10/15	1/4"-1/2"	31)	31)		
		MES OUTSIDE O ANENT STABILIZ		UDED "SEE	DING DATE	S" SOD MAY	BE USED TO	)

- B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
- GENERAL SPECIFICATIONS
- a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR
- SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE **ACCEPTABLE**
- c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
- d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL
- e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- 2. SOD INSTALLATION
- a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
- b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
- c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
- 3. SOD MAINTENANCE
- a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING. b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO
- c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ½ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

### **Owners/Developer Certification:** "I/We hereby certify that any clearing, grading, construction, or development will be

MAINTAIN ADEQUATE MOISTURE CONTENT.

done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."



### **Design Certification:**

Printed Name & Title

"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."

Alsmit Designer's Signature Jeff Smith, P.E.

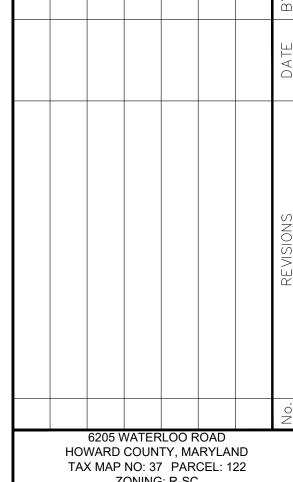
04/09/2024

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer Howard County Health Department

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024 (Hd) Edmondson Chief, Development Lagrand Division 5/8/2024 Chief, Division of Land 1989 everyopment 5/9/2024 lynda Eisenberg

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



ZONING: R-SC FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT

KHA PROJECT NO .: 114033000 SCALE: DATE: 03/08/2024 DESIGNED BY MZM DRAWN BY: MZM

CHECKED BY:



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/202

### FINAL PLAN

**BADART SUBDIVISION ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND

**SESC NOTES & DETAILS** 

SHEET NUMBER

17 OF 23

CALL 48 HOURS **BEFORE YOU DIG** IT'S THE LAW! Know what's **below**. **DIAL 811** Call before you dig.

Printed Name

MD Registration No. 31373 (P.E.,)R.L.S., or R.L.A. (circle one)

### HOWARD SOIL CONSERVATION DISTRICT (HSCD STANDARD SEDIMENT CONTROL NOTES

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
- a. PRIOR TO THE START OF EARTH DISTURBANCE,
- b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
- c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT, d. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
- OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.
- 6. SITE ANALYSIS:
- TOTAL AREA OF SITE: 0.757 ACRES
- AREA DISTURBED: 0.65 ACRES
- AREA TO BE ROOFED OR PAVED: <u>0.27</u> ACRES
- AREA TO BE VEGETATIVELY STABILIZED: 0.09 ACRES
- TOTAL CUT: 300 CU. YDS.
- TOTAL FILL: 1300 CU. YDS.
- OFFSITE WASTE/BORROW AREA LOCATION: SITE WITH AN ACTIVE GRADING PERMIT
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS
- SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
- INSPECTION DATE
- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE

BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

- 10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
- DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- 12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- 14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
  - USE I AND IP MARCH 1 JUNE 15
  - USE III AND IIIP OCTOBER 1 APRIL 30
  - USE IV MARCH 1 MAY 31
- 16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE

## **SEQUENCE OF CONSTRUCTION**

### **INITIAL STAGE**

- 1. NOTIFY CID INSPECTOR 7 DAYS BEFORE CONSTRUCTION TO REQUEST CID PRE-CONSTRUCTION MEETING. (1 DAY)
- 2. STAKE OUT LIMITS OF DISTURBANCE (LOD). (1 DAY)
- 3. AFTER PRE-CONSTRUCTION MEETING, UPON SEDIMENT CONTROL INSPECTOR'S WRITTEN APPROVAL, CLEAR AND GRUB AS NECESSARY WITHIN THE LIMITS OF DISTURBANCE TO INSTALL THE PERIMETER CONTROLS. (3 DAYS)
- 4. INSTALL PERIMETER CONTROLS (STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE); ONLY CLEAR AND GRUB AREAS NEEDED TO INSTALL PERIMETER CONTROLS. (3 DAYS)
- 5. INSTALLATION OF OUTLET STRUCTURES MUST BE COMPLETELY INSTALLED BEFORE DISTURBING AREAS DRAINING TO A STORMWATER MANAGEMENT FACILITY. (2 DAYS)
- 6. ESTABLISH PROPOSED STOCKPILE AREAS AND, AS NECESSARY, CLEAR/GRUB REMAINING SITE AREAS. (1 DAY)
- a. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
- b. THREE (3) CALENDAR DAYS FOR ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND
- c. SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS IN THE PROJECT SITE.
- CONTINUE TO FINAL STAGE

### **FINAL STAGE**

- 10. REPAIR, CLEAN OUT, AND/OR MAINTAIN PERIMETER SEDIMENT CONTROL PRACTICES AND INSTALL SWALE IN BACK OF HOUSES. (ONGOING)
- 11. BEGIN ROUGH/MASS GRADING. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT ALL TIMES, MAINTAINING DRAINAGE DIVIDES SHOWN ON PLANS. (2 WEEKS)
- 11.1. CONTRACTOR TO ADJUST THE SWALE AS NECESSARY IN ORDER TO ROUGH GRADE THE PERIMETER OF THE SITE.
- 11.2. CONTRACTOR TO ADJUST SCE'S AS NECESSARY IN ORDER TO ROUGH GRADE THE ENTRANCE LOCATION.
- 11.3. ESTABLISH GRADES AND ROUGH TOP ELEVATIONS FOR STORMWATER MANAGEMENT FACILITIES. FILTER MEDIA AND UNDERDRAINS SHALL NOT BE INSTALLED AT THIS TIME.
- 12. BEGIN CONSTRUCTION OF UTILITIES. (1 MONTH)
- 13. BEGIN CONSTRUCTION OF PROPOSED ENTRANCES, CURB AND GUTTER, AND SIDEWALK. (1 MONTH)
- 14. COMPLETE CONSTRUCTION OF PROPOSED UTILITIES. COMPLETE FINE GRADING. STABILIZE ALL SLOPES 3:1 AND STEEPER WITH PERMANENT SEED, AND SOIL STABILIZATION MATTING IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINAL GRADES. (2 MONTHS)
- 15. COMPLETE CONSTRUCTION OF PROPOSED PAVEMENT (OMITTING FINAL WEAR COURSE), CURB AND GUTTER, ENTRANCES, AND SIDEWALKS. PERMANENTLY STABILIZE ALL DISTURBED AREAS. (2 WEEKS)
- 16. UPON STABILIZATION OF ALL CONTRIBUTING AREAS TO STORMWATER FACILITIES, COMPLETE PROPOSED STORMWATER MANAGEMENT FACILITIES. INSTALL FILTER MEDIA AND UNDERDRAINS PER THE APPROVED STORMWATER MANAGEMENT PLAN. WHEN FACILITIES ARE FINISHED, CONTRACTOR TO ENSURE THAT NO SEDIMENT LADEN WATER ENTERS THE FACILITIES.
- 16.1. PRIOR TO EXCAVATION CONTRACTOR TO:
- 16.1.1. VERIFY SEDIMENT AND EROSION CONTROL FEATURES ARE IN PLACE TO PREVENT SEDIMENT INFLOW.
- 16.1.2. VERIFY ALL FLAGGING REQUIRED IN THE AREA OF SENSITIVE AREA PROTECTION. 16.1.3. VERIFY GRADING IS ACCURATELY STAKED-OUT AND RE-STAKED AS NEEDED. FACILITY
- DIMENSIONS SHALL BE VERIFIED AND SOILS CHECKED FOR INFILTRATION.
- 16.1.4. VERIFY SCARIFICATION OF INVERT AS NEEDED. VERIFY CONTRIBUTING AREA IS PERMANENTLY STABILIZED. VERIFY THAT WATER IS NOT
- 16.1.6. VERIFY THAT COMPACTION OF FACILITY BASE IS MINIMIZED.
- VERIFY THAT THE CONTRIBUTING DRAINAGE AREA IS PAVED, ALL BUILDINGS BUILT, AND ALL DISTURBED AREAS SUPPORTING A 2" STAND OF DENSE GRASS
- 16.2. CONTRACTOR TO CONTACT INSPECTING ENGINEER 72 HOURS BEFORE INSTALLATION OF STORMWATER MANAGEMENT FACILITIES TO COMPLETE CONSTRUCTION OBSERVATION /VERIFICATION AS NOTED IN SEQUENCE ITEMS 3 THROUGH 6 BELOW
- 16.3. CONTRACTOR TO VERIFY SIZE, MATERIAL, LOCATION, AND ELEVATIONS OF OUTFALL STRUCTURE AND PIPES. VERIFY PIPE JOINTS ARE SEALED. VERIFY THAT ALL STORM DRAINS ARE CONSTRUCTED AND ALL SEDIMENTS ARE REMOVED INCLUDING ACCUMULATED SEDIMENTS IN THE SWM FACILITIES.
- 16.4. LOCATION, SIZE AND MATERIAL OF UNDERDRAIN AND OBSERVATION WELLS SHALL BE VERIFIED PRIOR TO STONE PLACEMENT. VERIFY PIPE ENDS CAPPED. VERIFY 3" M-6 STONE
- 16.5. VERIFY INSTALLATION OF FILTER FABRIC ON THE SIDES. VERIFY BOTTOM LAYER MATERIAL AND THICKNESS. VERIFY PEA GRAVEL AND SAND LAYER MATERIAL AND THICKNESS. VERIFY TOP FILTER MEDIA LAYER. VERIFY MULCH LAYER.
- 16.6. VERIFY INSTALLATION OF RIPRAP PAD IS FLUSH WITH TOP OF FILTER MEDIA. 16.7. VERIFY SITE TOP SOILED, SEEDED AND MULCHED. VERIFY LOCATION, SIZE, TYPE, AND
- NUMBER OF PLANTED LANDSCAPE MATERIAL. VERIFY NO MORE THAN 1/8 INCH ROOT BALL EXPOSED. VERIFY PLANTING STOCK KEPT MOIST DURING ON-SITE STORAGE 16.8. VERIFY A MINIMUM OF 2" DENSE GRASS ESTABLISHED ON ALL SIDE SLOPES.
- 17. COMPLETE PERMANENT STABILIZATION, LANDSCAPING, HARDSCAPING, FINAL WEAR COURSE AND STRIPING OF PAVEMENT AREAS. (2 WEEKS)
- 18. SUBMIT NOTICE OF TERMINATION AND PROCESS PERMITS CLOSURES AND BOND RELEASES. (1 WEEK)
- 19. UPON COMPLETION, AND STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS. ENSURE PROPOSED GRADES ARE MAINTAINED ONCE EARTH DIKES ARE REMOVED. (1 WEEK)

## 1. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- a) THREE CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- b) SEVEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
- 2. THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION INSPECTION DIVISION AT THE FOLLOWING STAGES OF THE PROJECT:
  - a) PRIOR TO THE START OF EARTH DISTURBANCE
  - b) UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH
  - ANY OTHER EARTH DISTURBANCE OR GRADING
  - c) PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT; AND
- d) PRIOR TO THE REMOVAL OF SEDIMENT CONTROL PRACTICES 3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN CONTINUOUS COMPLIANCE WITH THE LATEST
- VERSION OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. 4. ALL UTILITIES, SUCH AS STORM DRAIN, PUBLIC WATER, SANITARY SEWER, ELECTRIC POWER, TELEPHONE, CABLE AND GAS LINES THAT ARE NOT IN PAVED AREAS AND ARE NOT UNDERGOING ACTIVE GRADING SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 3 DAYS
- 5. THE OWNER/DEVELOPER OR THEIR DESIGNATEE IS RESPONSIBLE FOR CONDUCTING ROUTINE INSPECTIONS AND REQUIRED MAINTENANCE. THE SITE AND CONTROLS SHOULD BE INSPECTED WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT. ANY ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN A SUITABLE AREA AND SHALL BE TEMPORARILY OR PERMANENTLY STABILIZED.
- 6. ALL DISTURBANCES FROM SECONDARY UTILITIES SUCH AS PHONE, CABLE, ELECTRIC CABLE, TV CABLE, ETC. WILL BE THE SUBCONTRACTOR'S RESPONSIBILITY TO BRING WORK AREA BACK TO GRADE LEVEL THAT WAS EXISTING AND SEED AND MULCH ANY
- DISTURBANCE FROM INSTALLATION OF LINES OR CONDUIT. 7. SUBCONTRACTORS WILL BE RESPONSIBLE FOR RE-INSTALLING OR REPAIRING ANY SILT FENCE OR SEDIMENT CONTROLS THAT WERE
- EXISTING TO MAINTAIN PROPER SEDIMENT CONTROL THAT MIGHT HAVE BEEN DAMAGED ALL DISTURBED AREAS TO BE SEEDED WITHIN 14 DAYS OF INITIAL GRADING. FOR TEMPORARY SEEDING SPECIFICATIONS, SEE SECTION B-4-4, 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL, PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, NATURAL RESOURCES CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE.
- 9. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AT THE INITIATION OF GRADING. 10. ALL STORM DRAIN AND SANITARY SEWER LINES NOT IN PAVED AREAS ARE TO BE MULCHED AND SEEDED WITHIN 14 DAYS OF INITIAL
- 11. ELECTRIC POWER, TELEPHONE AND GAS LINES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 14 DAYS AFTER INITIAL BACKFILL.
- 12. ALL EARTH BERMS AND SEDIMENT DAMS ARE TO BE MULCHED AND SEEDED (SEE SECTION C-1 OF ABOVE REFERENCE) WITHIN 7 DAYS AFTER GRADING, ALL SOIL STOCKPILES ARE TO BE MULCHED AND SEEDED WITHIN 14 DAYS.
- 13. DURING CONSTRUCTION, ALL SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED AFTER EACH RAINFALL AND REPAIRED IF NECESSARY. SEDIMENT TO BE REMOVED TO A SUITABLE DISPOSAL AREA AND STABILIZED WITH PERMANENT VEGETATIVE COVER. (SEE SECTION B-4-5 OF 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL PUBLISHED JOINTLY BY WATER RESOURCES ADMINISTRATION, NATURAL RESOURCES CONSERVATION SERVICE, AND THE STATE SOIL CONSERVATION COMMITTEE).
- 14. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL SEDIMENT AND EROSION CONTROL MEASURES UNTIL DISTURBED AREAS ARE STABILIZED.
- 15. AFTER FINE GRADING, ALL DISTURBED AREAS ARE TO BE PERMANENTLY MULCHED AND SEEDED (SEE SECTION B-4-5).
- 16. NO SLOPE SHALL BE GREATER THAN 2:1.

OF INITIAL DISTURBANCE.

- 17. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THIS DOES NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING USED FOR MATERIAL STORAGE OR FOR THOSE AREAS ON WHICH ACTUAL CONSTRUCTION ACTIVITIES ARE CURRENTLY BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO INSURE THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."
- 18. ALL DEBRIS THAT WILL BE HAULED OFF-SITE SHALL BE TAKEN TO AN APPROVED SITE.

### **UTILITY NOTES**

- NO STOCKPILING ALLOWED ON ASPHALT.
- ALL STOCKPILES LEFT AT THE END OF THE DAY NEED TO BE STABILIZED UNTIL THE NEXT
- DISTURBANCE OUTSIDE OF LOD CANNOT EXCEED 5.000 SQUARE FEET.
- PLACE ALL EXCAVATED MATERIAL ON HIGH SIDE OF TRENCH. ONLY DO AS MUCH WORK AS CAN BE DONE IN ONE DAY SO BACKFILLING, FINAL GRADING
- SEEDING, AND MULCHING CAN OCCUR. 6. ANY SEDIMENT CONTROL MEASURES DISTURBED BY CONSTRUCTION WILL BE REPAIRED THE SAME DAY.

### SECONDARY UTILITY NOTES

- ANY DISTURBANCE FROM SECONDARY UTILITIES SUCH AS PHONE CABLE, ELECTRIC CABLE, TV CABLE, ETC. WILL BE THE SUBCONTRACTOR'S RESPONSIBILITY TO BRING WORK AREA BACK TO GRADE LEVEL THAT WAS EXISTING AND SEED AND MULCH ANY DISTURBANCE FROM INSTALLATION OF LINES OR CONDUIT.
- SUBCONTRACTORS WILL BE RESPONSIBLE FOR RE-INSTALLING OR REPAIRING ANY SILT FENCE OR SEDIMENT CONTROLS THAT WERE EXISTING TO MAINTAIN PROPER SEDIMENT CONTROL THAT MIGHT HAVE BEEN DAMAGED.

### STOCKPILE NOTES

- NO STOCKPILING ALLOWED ON ASPHALT.
- ALL STOCKPILES LEFT AT THE END OF THE DAY NEED TO BE STABILIZED UNTIL THE NEXT RE-DISTURBANCE.

## **Owners/Developer Certification:**

"I/We 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 the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."



### **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."

Alsmit Designer's Signature Jeff Smith, P.E.

Printed Name & Title

MD Registration No. 31373

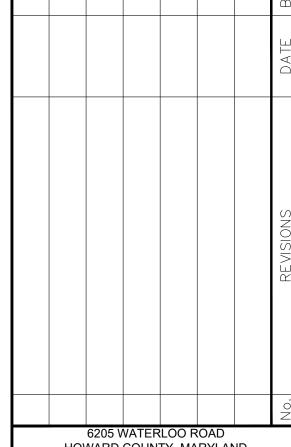
County Health Officer Howard County Health Department

**APPROVED:** FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024 (Hd) Edmondson Chief, Development Linding Division 5/8/2024 Chief, Division of Pensila De Welopmen 5/9/2024 Lynda Eisenberg Director

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



HOWARD COUNTY, MARYLAND TAX MAP NO: 37 PARCEL: 122 ZONING: R-SC FIRST ELECTION DISTRICT SECOND COUNCIL DISTRICT

KHA PROJECT NO.: 114033000 SCALE: DATE: 03/08/2024 **DESIGNED BY** MZM

MZM

DRAWN BY:



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. ICENSE NO: 31373 EXP: 01/21/2029

## FINAL PLAN

BADART SUBDIVISION **ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND

SESC NOTES & **DETAILS** 

SHEET NUMBER

18 OF 23

CALL 48 HOURS **BEFORE YOU DIG** IT'S THE LAW! Know what's **below**. **DIAL 811** Call before you dig. **Howard SCD Signature Block:** 

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District. Olevander Bratchie

Howard Soil Conservation District

Printed Name

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

04/09/2024

### CONSTRUCTION SPECIFICATIONS

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMENT

1 OF 2

WATER MANAGEMENT ADMINISTRATION NATURAL RESOURCES CONSERVATION SERVICE

U.S. DEPARTMENT OF AGRICULTURE

MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

# **ROADWAY** 10 FT MIN ROADWAY EARTH DIKE

ISOMETRIC VIEW

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL

MB

MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

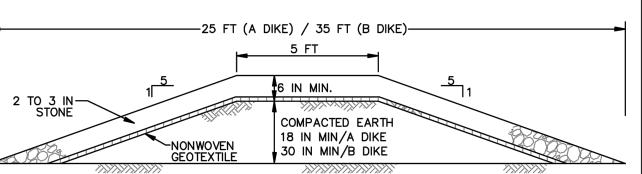
STANDARD SYMBOL

SIP

2 OF 2

MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION



### CONSTRUCTION SPECIFICATIONS

LENGTH AND WIDTH OF THE MOUNTABLE BERM.

- USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
- 2. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.

SECTION A-A

- 3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE
- MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.
- MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

C.24

## 10 FT MAX. MIN. GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE 2% IN DIAMETE GALVANIZE ALUMINUM POSTS **ELEVATION** CHAIN LINK FENCING -WOVEN SLIT FILM GEOTEXTILE-FLOW — EMBED GEOTEXTILE AND CHAIN LINK FENCE 8 IN MIN. INTO GROUND **CROSS SECTION**

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL

⊢—SSF——I

STANDARD SYMBOL

### CONSTRUCTION SPECIFICATIONS

DETAIL B-4-6-A

- INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (23/8 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES,
- FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS
- OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

E.7

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

TEMPORARY SOIL

### B.2 STANDARD SYMBOL DETAIL E-9-1 STANDARD INLET PROTECTION DETAIL E-9-1 STANDARD INLET PROTECTION TYPE A MAXIMUM DRAINAGE AREA = $\frac{1}{4}$ ACRE TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE — CHAIN LINK FENCE POSTS -TOP ELEVATION ∠2 IN x 4 IN FRAMING HARDWARE **←CLOTH** TOP ELEVATION 16 IN MIN. NOTCH ELEVATION ELEVATION SLIT FILM **GEOTEXTILE** 9 GAUGE CHAIN -LINK FENCE (TYP.) -WOVEN SLIT FILM **GEOTEXTILE** 18 IN INTO GROUND -TYPE A TYPE B ISOMETRIC VIEW EDGE OF ROADWAY OR TOP-OF EARTH DIKE 6 IN MIN. FLOW -EXCAVATE, BACKFILL AND COMPACT EARTH (TYP.) POST DRIVEN -INTO GROUND

SECTION FOR TYPE A AND B

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

E.24

### CONSTRUCTION SPECIFICATIONS

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

- . USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- 2. Excavate completely around the inlet to a depth of 18 inches below the notch elevation.
- . FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- FOR TYPE B, USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
- BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

E.25

### STABILIZATION MATTING TSSMC - 0.46 lb/ft<sup>2</sup> CHANNEL APPLICATION (\* INCLUDE SHEAR STRESS) OVERLAP OR ABUT ROLL EDGE (TYP.)-KEY TRENCHFOR ROLL END (TYP.) IN MIN. OVERLAP T ROLL END -6 IN MIN. DEPTH KEY TRENCH FOR UPPER END OF DOWNSLOPE ROLL (TYP.) PREPARED SURFACE WITH SEED IN PLACE ISOMETRIC VIEW CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 11/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
- OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

NATURAL RESOURCES CONSERVATION SERVICE

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT 2011

CALL 48 HOURS **BEFORE YOU DIG** IT'S THE LAW! Know what's **below**. **DIAL 811** Call before you dig.

U.S. DEPARTMENT OF AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

B.38

WATER MANAGEMENT ADMINISTRATION

### **B-4-8 STANDARDS AND SPECIFICATIONS**

### <u>FOR</u>

### STOCKPILE AREA

**Definition** 

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

#### <u>Purpose</u>

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

### **Conditions Where Practice Applies**

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

### <u>Criteria</u>

- 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
- 3. Runoff from the stockpile area must drain to a suitable sediment control practice.
- 4. Access the stockpile area from the upgrade side.
- 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
- 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

#### <u>Maintenance</u>

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

B.43

### **Howard SCD Signature Block:**

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

5/8/2024 Olexander Bratchie Howard Son Conservation District

### **Owners/Developer Certification:**

Printed Name & Title

"I/We 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 the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."



### 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."

Designer's Signature Jeff Smith, P.E. Printed Name

04/09/2024

MD Registration No. 31373

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

LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/202

PROFESSIONAL CERTIFICATION. I HEREB

CERTIFY THAT THESE DOCUMENTS WERI

PREPARED OR APPROVED BY ME, AND

THAT I AM A DULY LICENSED

PROFESSIONAL ENGINEER UNDER THE

3904 BOSTON STREET, SUITE 202

BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E.

PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230

PHONE: 443-668-2527

6205 WATERLOO ROAD

HOWARD COUNTY, MARYLAND

TAX MAP NO: 37 PARCEL: 122

ZONING: R-SC

FIRST ELECTION DISTRICT

114033000

03/08/2024

MZM

MZM

JBS

SECOND COUNCIL DISTRICT

KHA PROJECT NO.:

SCALE:

**DESIGNED BY** 

DRAWN BY:

CHECKED BY:

DATE:

FINAL PLAN

BADART SUBDIVISION **ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

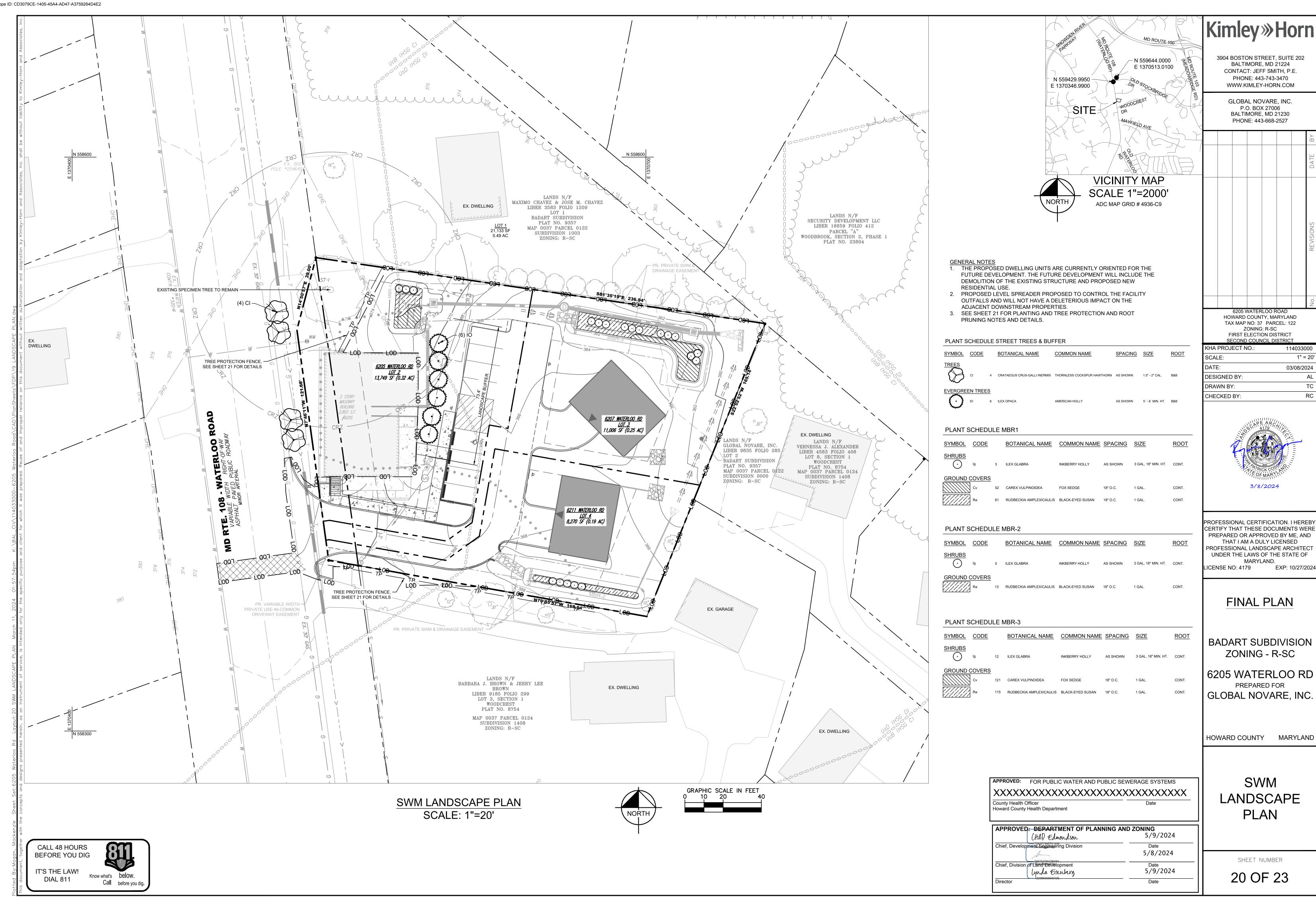
HOWARD COUNTY MARYLAND

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer Howard County Health Department

APPROVED: DEPARTMENT OF PLANNING AND ZONING 5/9/2024 (Hd) Edmondson Chief, Developmen ដីក្នុងក្រុំដូច្នេះរ៉ាំ Divisior 5/8/2024 Chief, Division of Lands Development 5/9/2024 lynda Eisenberg Director

## SESC NOTES & **DETAILS**

SHEET NUMBER



### **GENERAL NOTES**

- 1. Plants shall be healthy, vigorous material, free of pests and diseases and are subject to approval/rejection of the Landscape Architect prior to, during and after installation.
- 2. Contractor shall identify all materials at growing location prior to purchase and submit digital photographs, and source list to the Landscape Architect for approval at a minimum of six (6) calendar weeks prior to installation. Plants not approved shall be resourced and resubmitted.
- 3. Planting beds and individual tree plantings shall be mulched continuously as specified.
- 4. Prior to construction the contractor shall be responsible for locating underground utilities and execute work in a manner that avoids damage to utilities during the course of work. Contractor shall be responsible or remedy of any damage to utilities, structures, site appurtenances that occur as a result of landscape related
- 5. Contractor is responsible for verifying quantities shown on documents. Field adjustments shall be approved by Landscape Architect prior to installation. Quantities indicated on drawings are for reference-it is the Contractor's responsibility to ensure full coverage of plants at the indicated spacing.
- 6. Contractor is responsible for maintenance of all plantings including, but not limited to watering, mowing, edging, spraying, mulching, fertilizing, of plantings and turf areas for one (1) calendar year from date of certificate of occupancy. Contractor is responsible for warranty of all plant material for a period of one (1) calendar year from date of certificate of occupancy. Warranty replacement planting shall meet or exceed the original specification identified on drawings. Replacement planting shall extend the same warranty as originally installed materials. Plantings and grass areas shall be flourishing and fully thriving at end of warranty period.
- 7. Plants identified for replacement by Owner, Landscape Architect shall be replaced immediately by the Contractor unless otherwise agreed upon. Plantings (trees, shrubs, groundcover) subject to replacement by warranty shall exhibit characteristics of 30% dead-per individual plant, non-contributing or disease compromised. Grass areas suitable for acceptance shall demonstrate 85% sustained/consistent and continuous, densely established coverage.
- Contractor shall perform a site review at end of warranty period and provide the Owner with written documentation of the site, including plant health, warranty replacement items, and conditions that may be influencing plant health. Contractor shall remove from plants and site, all staking and guying material at end of warranty period.
- 8. Contractor shall comply with all local, state and federal requirements, codes and regulations related to the work undertaken.
- 9. All material including planting operation appurtenances shall be of domestic origin manufacture and sourced within 100 miles of the project site.
- 10. Contractor is responsible for coordination among trades operating on site. Coordination and if necessary resulting modifications to schedules are responsibility of the Contractor.

### PERFORMANCE SPECIFICATION

### I. PLANTS

- 1. Live healthy plants free of dead branches and parts 2. Free of disease, insect, injury and damage
- 3. Unbroken, intact, dense and solid rootballs and containers, without cracks, flat sides or previously repaired
- 4. Free of girdling roots or rootbound/circling container conditions
- 5. Plants of consistent in growth habit and healthy character 6. Free of compromising growth conditions such as weak crotch connections, crossed branches, snags and

- 7. Point of origin growing location within 100 miles of project site
- 8. Graded, standards, caliper, sizes and stock consistent with ANSI Z60.1, American Standard for Nursery
- Stock most current edition
- 9. Species identified consistent with <u>Hortus Third: Concise Dictionary of Plants Cultivated in the United</u>
- <u>States and Canada</u>, most current edition and <u>Manual of Woody Plants: Their Identification, Ornamental</u> Characteristics, Culture, Propagation and Uses, most current edition
- 10. All disturbed areas shall be grass seed unless otherwise identified on landscape plans

1. Deciduous Single Trunk

- a. Full, straight and upright with consistent symmetrical natural branching pattern throughout b. Branching Height-seven (7) feet to lowest branch in two years unless otherwise required by local jurisdiction
- 2. Deciduous Multi-Trunk
- a. Full and upright with straight consistent symmetrical natural branching pattern throughout b. Canes evenly spaced and of similar growth habit
- c. Free of suckers and extraneous branching

### 3. Evergreen Single-Trunk

- a. Full and upright with continuous symmetrical dense natural habit b. Clear branching height twelve (12) inches above top of rootball c. Free of suckers and extraneous branching
- d. Do not shear or otherwise prune to shape plantings

### C.Evergreen and Deciduous Shrubs

- 1. Full, dense and naturally symmetrical. 2. Consistent with container and/or balled and burlapped size
- 3. Free of suckers and extraneous branching 4. Do not shear or otherwise prune or shape plantings
- D. Evergreen and Deciduous Groundcover

### E. Perennials and Seasonal Color

1. Full and dense in pots or flats

1. Full and dense in pots or flats

## F. Turf Grass

### 1. Subgrade

a. Soil Mix-10% Compost, 90% topsoil by volume

- b. Preparation-loosen subgrade to a minimum depth of four (4) inches. Remove all non-natural materials including litter, stones, sticks and all items greater than 3/4 inch in any dimension c. Preparation-spread soil mix at a depth of four (4) inches continuously to meet grade elevations shown
- on drawings. Allow for thickness of sod when applicable

### 2. Grass Sod

- a. Install not longer than twenty-four (24) hours from harvest b. Grass bed not less than two (2) inches in continuous thickness
- c. 100% continuous live sod coverage after first growing season and at end of warranty period.
- d. Of uniform non-varying density and continuous texture quality capable of growth and development immediately upon installation. Weed and noxious plant free
- e. Stagger installation rows and place aligned parallel to contours f. Fill joints solidly with planting bed preparation soil

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g. Provide anchor pins at twenty-four (24) inches on center for slopes greater than 4:1

### 3. Grass Seed

- a. Mix approved by the Landscape Architect
- b. Provide first and new of year seed crops in mix free of weed seeds and deleterious matter
- c. Provide seed mix not greater than 15% annual or perennial rye
- d. Coverage 85% continuous coverage live stand after first growing season and at end of warranty e. Replacement or overseeding mixes consistent with original application/installation
- f. Provide erosion blankets or other slope retention methods as noted on drawings

#### II. Materials and Appurtenances A.Testing

1. Materials testing information/certificates/dated labels shall be current to the project and performed/certified not greater than 120 calendar previous days from current date of submittal for review

### B. Top Soil

CALL 48 HOURS **BEFORE YOU DIG** 

IT'S THE LAW!

**DIAL 811** 

1. Neutral Ph balance 5.5 -7.5. Friable and containing 2.0-5.0% organic matter by dry weight. Continuously free of non-soil items such as stones, debris, sticks, trash, and deleterious matter greater than 3/4 inch in any direction. Clay content shall not exceed 25%. Gravel content shall not exceed 10%. Silt shall not exceed 25%

### **C.Use of Existing Topsoil**

1. Existing topsoil on-site may be repurposed with prior Owner approval. Contractor shall provide soil testing and additive program that demonstrates consistent performance and characteristics and composition as identified herein. Owner shall approve soil testing and soil amendment/additive methods and procedures

### D. Shredded Hardwood Mulch

Neutral Ph balance 5.5-7.5

1. 100% organic shredded first year hardwood free of deleterious matter, rock, gravel and weed seed.

### E. Compost Ph

1. Balanced 5.0-8.5 mature, stable and weed free produced by natural aerobic decomposition. Free of visible contaminants and toxic substances. Not greater than 5% sand, silt, clay or rock by dry weight. Consistent with US-EPA CFR Title 40 Part 503 Standards for Class A biosolids

### **G.Compost Testing**

- 1. Prior to delivery on-site, the following items are required for approval by Owner: Feedstock percentage in final compost product; statement that the products meets federal, state and local health safety
- 2. Provide copy of lab analysis less than 120 calendar days old verifying that the product meets described physical requirements; chemical contaminants; Ph; physical contaminants; biological contaminants (including a statement that fecal coliform and salmonella testing and results comply with requirements of the US Composting Council Seal of Testing approval programs

### **H.Planting Mix**

1. 85% topsoil and 15% Compost

#### I. Fertilizer

1. Granular 10% nitrogen, 6% Phosphorous, 4% Potassium granular form with 50% Nitrogen in organic form. Product and Material Safety Data as approved by Owner

1. Product and Material Safety Data as approved by Owner

#### K. Water 1. Potable only unless otherwise approved by Owner

L. Hardwood Stakes

### 1. 2 x 2 x 48 inch square of sound hardwood, painted flat black on all sides M.Tree Ties

1. Villa Non-Abrasive Rubber Tree Ties or approved equal

## N. Filter Fabric

1. Mirafi 140-N or approved equal

### O.Steel Edging

1. 1/8-inch x 4-inch in full sections. Ryerson, Timec or approved equal with integral stakes. No open corners. Corners shall be formed and trued to compliant angle or welded closed

#### P. River Stone

- 1. Locally sourced, river rounded, unfaceted river stone/cobbles.
- 2. Size shall not exceed 3 total inches in any dimension.
- Color and texture approved by Owner
- 4. When placed in concrete or mortar setting bed, tamp to secure and brush clear joints.
- Concrete or mortar as approved by owner.

### III. Execution

### A.Site Conditions

- 1. Inspect site and notify Owner in writing of acceptance with indication that project conditions are acceptable are suitable to proceed with work. Notify Owner of any existing damage and/or other conflicting conditions. 2. Do not proceed with work until unsatisfactory conditions have been satisfactorily remedied. Notify Owner of acceptance prior to commencement of work.
- 3. Notify Owner in writing of any conditions that may preclude successful completion of work including items such as coordination with other trades, incomplete work, drainage, soil temperature and/or composition, access to storage/work areas, damage to conditions, etc.
- 4. Notify Owner in writing immediately of any items that may influence work schedule, timing of tasks, materials delivery and/or installation and warranty responsibilities.
- 5. Coordinate and cooperate with other trades working in and adjacent to work areas. Examine drawings of other trades which show development of the entire project and become familiar with the scope of required work by others.

### **B.Planting Seasons**

Recommended seasons are a general guide based on historical climatic data and typical performance of plantings, and which vary dependent on project-specific environmental conditions. Due to construction schedules, recommended planting seasons may/may not coincide with request(s) for certificate of occupancy for projects. Coordination of planting installation and seasons shall be reviewed with Owner on an individual project basis.

### **Deciduous and Evergreen Trees**

- Do not install/plant the following trees between September 15 and March 15 1. Oaks (Quercus Sp., Such as Q. rubra, Q. alba, Q. phellos, Q. coccinnea)
- 2. Dogwood (Cornus Sp.)
- 3. Sweetgum (Liquidambar Sp.)
- 4. All Conifers and Evergreens except White Pine (Pinus strobus Sp.)

### 2. Deciduous and Evergreen Shrubs

a. Install/plant between March 15 and June 15 and/or September 15 and November 30

#### 3. Perennials a. Install/plant between March 15 and June 15 and/or September 15 and November 30

4. Spring Flowering Bulbs

a. Install/plant between September 15 and December 15

### 5. Seasonal Annuals

a. Install/plant in season per approved schedule

### 6. Turf Grass

- a. Install/plant between March 15 and May 15 and/or September 15 and November 30
- b. Do not install/plant seed or sod turf grass areas when ambient air temperature is below forty (40) degrees Fahrenheit, or forecast for a twelve (12) hour period after completion of work

### 7. No Plant Installation

a. Do not install plantings or turf grass between June 15 and September 15, without approval by Owner

### **C.Positioning & Location of Plantings**

1. Position plants to show the most-prominent and well-formed face to most-public view 2. Field locate plants and location/spacing/dimension of planting beds on project site prior to beginning

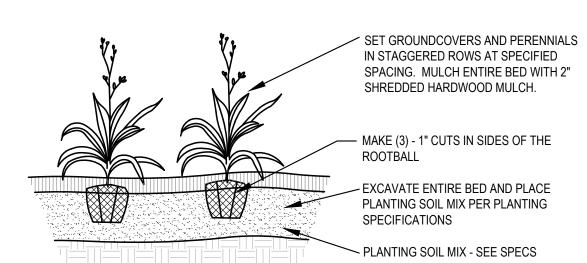
3. Verify location of individual plants and plant beds prior to beginning installation. Do not proceed without Owner approval

### **D.Implementation**

- 1. Pursue work continuously without delay or interruption until completion unless notified otherwise by Owner 2. Provide project submittals ahead of commencement of work. Landscape Architect requires a minimum of ten (10) working days from date of receipt for review of submittals and response to Owner and Contractor. Plan accordingly for procurement of materials
- 3. Continuously update implementation schedule and notify Owner of progress. Delays related to material availability are not cause for non-completion of scheduled delivery of work 4. Report delays due to weather or site conditions immediately upon finding. Provide recommendation for remedy of schedule delays. Do not work, place or modify frozen soil

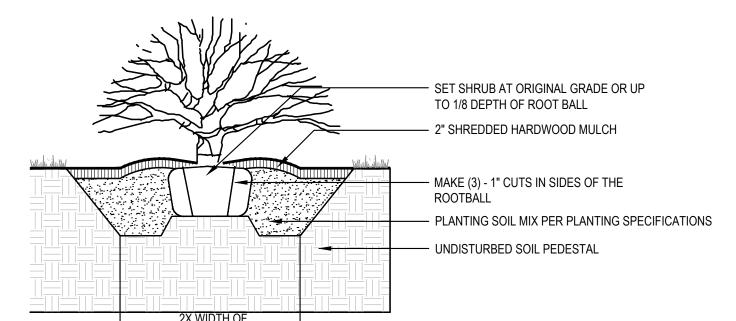
### 5. Report delays due to extraordinary natural or other conditions beyond control of Contractor

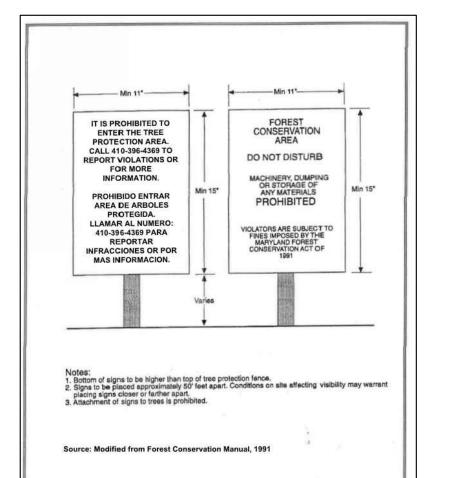
- 1. Remove trash, debris and work materials from site prior to request for substantial completion. Thoroughly clean surfaces impacted by work including building, parking areas, roadways, sidewalks, signs, lights, site
- 2. Repair any damage to existing conditions that occurred during execution of work. 3. All clean-up and demobilization procedures shall be performed to satisfaction of the Owner and Landscape



# **GROUNDCOVER PLANTING**

SHRUB PLANTING

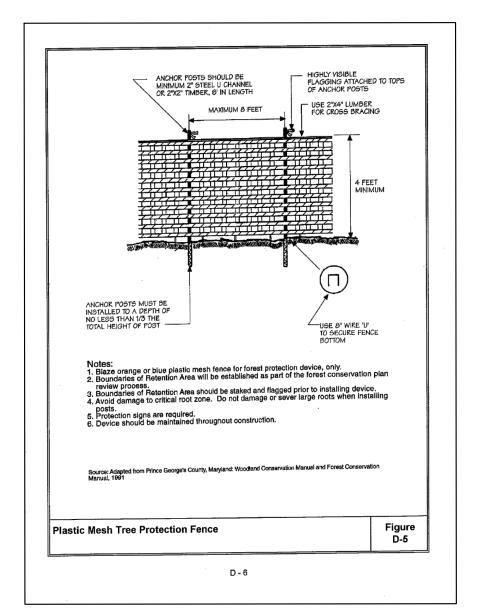




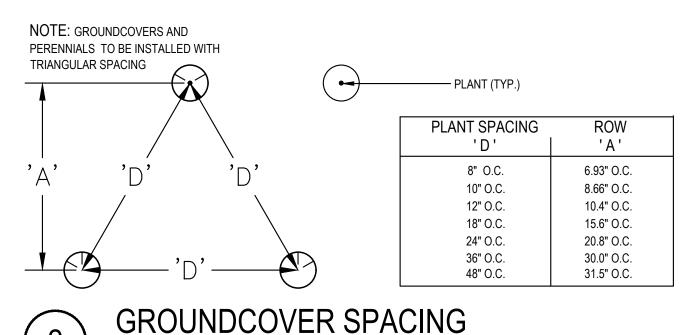
# BILINGUAL TREE PROTECTION SIGN

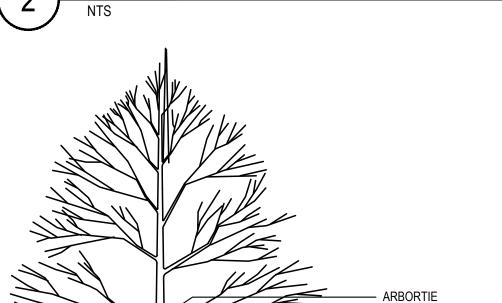
Construction Signs

Figure D-4



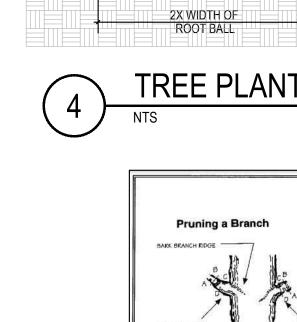
TREE PROTECTION FENCE

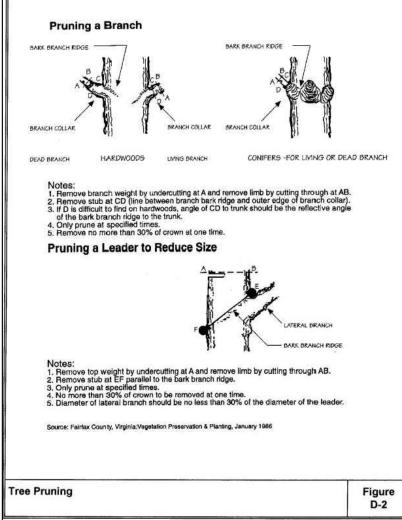




GUY WIRES (3), WHITE FLAG ON EACH 2 STRANDS OF TWISTED GALVANIZED WIRE EACH (IF REQUIRED) TURNBUCKLE (3), GALVANIZED (IF REQUIRED) SET TREE AT ORIGINAL GRADE OR UP TO 1/8 DEPTH OF ROOT BALL - 2" SHREDDED HARDWOOD MULCH —— SOIL SAUCER: USE PREPARED SOIL, 6" MIN. HARDWOOD STAKES (IF REQUIRED) ROPES AT TOP OF BALL SHALL BE CUT. REMOVE TOP 1/2 OF BURLAP. NON-BIODEGRADABLE MATERIAL SHALL BE TOTALLY REMOVED PLANTING SOIL MIX PER PLANTING SPECIFICATIONS

UNDISTURBED SOIL PEDESTAL





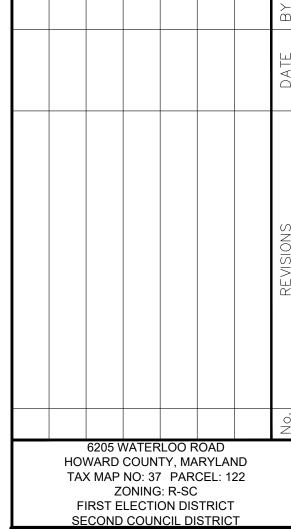
TREE PRUNING

## APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS County Health Officer **Howard County Health Department**

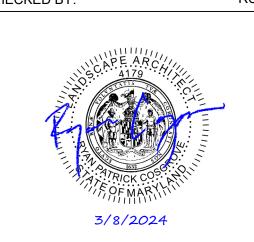
(HD) Edmondson	5/9/2024
Chief, Development Linguisering Division	Date 5/8/2024
Chief, Division of Landing Wellopment  Lynda Eisenburg	 5/9/2024
1220B635863942E Director	Date

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



KHA PROJECT NO.: 114033000 DATE: 03/08/2024 DESIGNED BY: DRAWN BY: CHECKED BY:



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT

UNDER THE LAWS OF THE STATE OF

MARYLAND.

LICENSE NO: 4179 EXP: 10/27/2024

FINAL PLAN

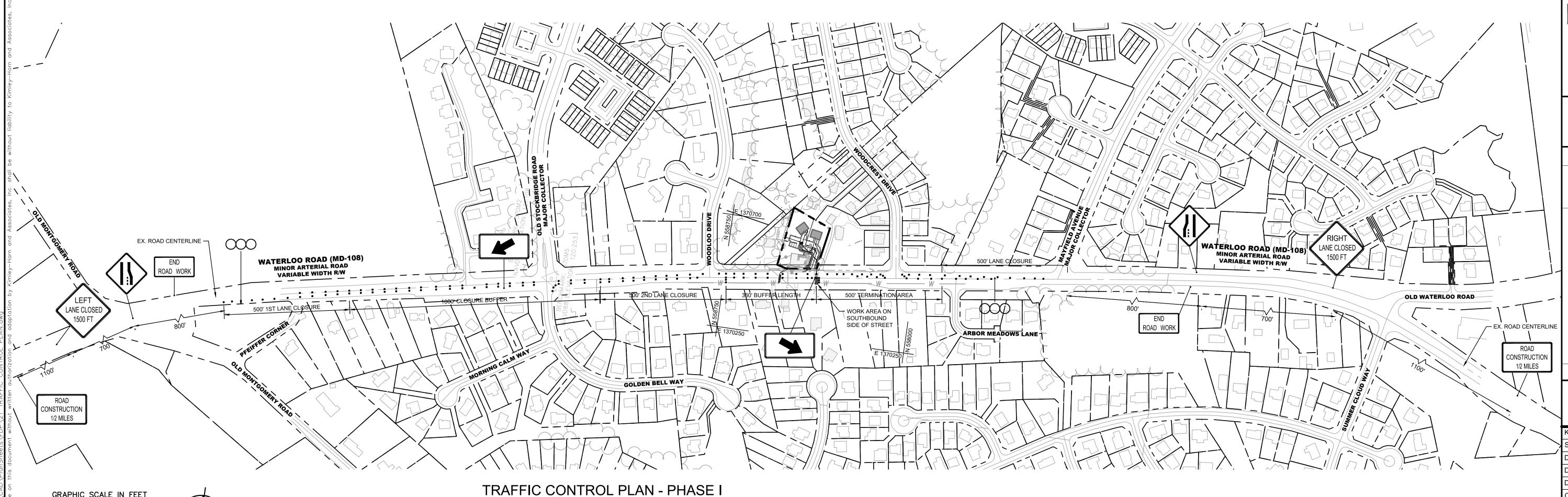
BADART SUBDIVISION ZONING - R-SC

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC.

HOWARD COUNTY MARYLAND

SWM **LANDSCAPE NOTES AND DETAILS** 

SHEET NUMBER



## **SEQUENCE OF CONSTRUCTION - PHASE 1**

- 1. THIS PLAN COMMENCES DURING THE DEMOLITION AND INSTALLATION OF THE WATER UTILITY CONNECTION.
- 2. PLACE TRAFFIC CONTROL DRUMS/BARRELS AND SIGNAGE ALONG MD-108 AS SHOWN ON THIS PLAN PER DETAIL MD 104.03-07.
- 3. BEGIN INSTALLATION OF WATER LINE STARTING WITH TAPPING SLEEVE AND VALVE FROM EXISTING 12" MAIN ON SOUTHBOUND SIDE MD-108.
- 4. STUB WATER LINE AT CENTERLINE OF ROAD. REPLACE FULL DEPTH PAVEMENT WHERE DISTURBED PER SHA SPECIFICATIONS.
- 5. REMOVE TRAFFIC CONTROL DRUMS/BARRELS AND SIGNAGE ONCE WORK IS COMPLETED.6. NO MAINTENANCE OF TRAFFIC PHASE IS EXPECTED TO EXCEED 3 WEEKS.
- 7. RESTORE TEMPORARILY CLOSED LANES FOR PEAK HOURS.

# MAINTENANCE OF TRAFFIC LEGEND

PROPERTY LINE (LOTS 2, 3, AND 4)
PROPERTY LINE (OFF-SITE)
ROADWAY CENTERLINE
PR TRAFFIC CHANNELIZATION DEVICE
PR ARROW PANEL
PR WORK AREA

SCALE: 1"=200'

County Health Officer Howard County Health Department

APPROVED: DEPAR MENT OF PLANNING AND ZONING 5/9/2024

Chief, Development Experiment 5/8/2024

Chief, Division of Land Development 5/9/2024

Director 5/9/2024

Date 5/9/2024

## |Kimley»Hor

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527

6205 WATERLOO ROAD
HOWARD COUNTY, MARYLAND
TAX MAP NO: 37 PARCEL: 122
ZONING: R-SC
FIRST ELECTION DISTRICT

TAX MAP NO: 37 PARCEL: 122
ZONING: R-SC
FIRST ELECTION DISTRICT
SECOND COUNCIL DISTRICT
HA PROJECT NO.: 114033000

 SCALE:
 1" = ##'

 DATE:
 03/08/2024

 DESIGNED BY:
 MZM

 DRAWN BY:
 MZM

 CHECKED BY:
 JBS



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: 31373
EXP: 01/21/2025

FINAL PLAN

BADART SUBDIVISION ZONING - R-SC

6205 WATERLOO RD
PREPARED FOR
GLOBAL NOVARE, INC.

HOWARD COUNTY MARYLAND

TRAFFIC CONTROL PLAN - PHASE I

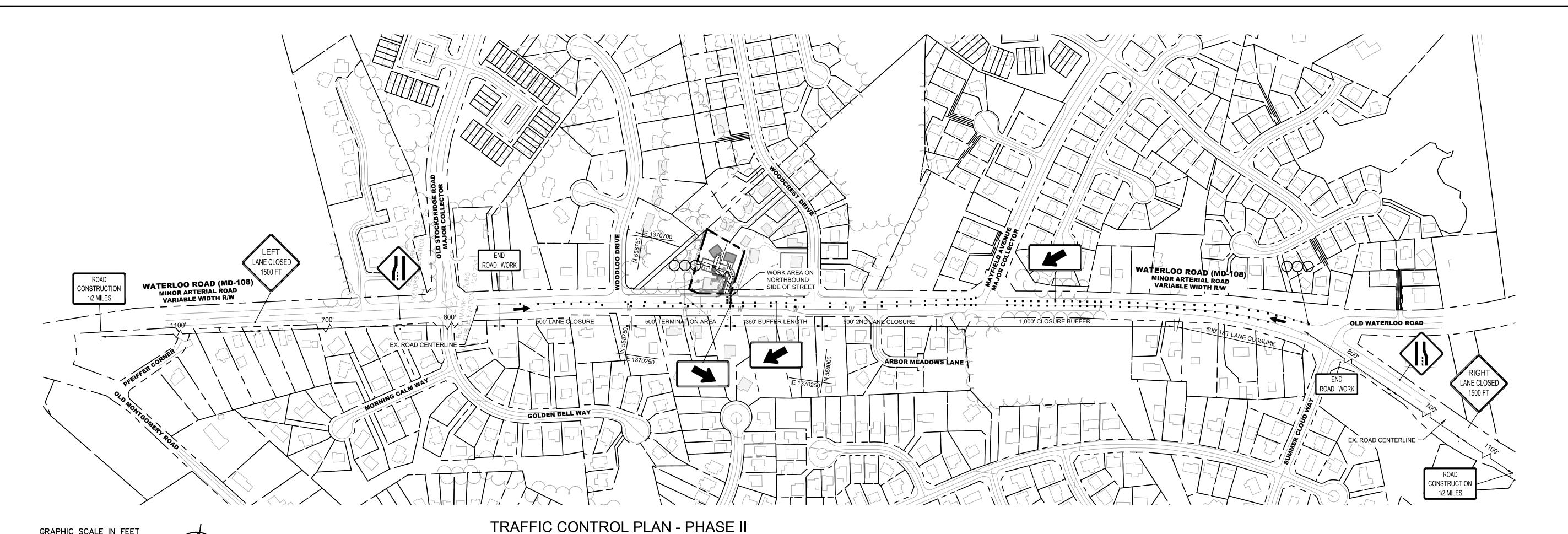
SHEET NUMBER

22 OF 23

CALL 48 HOURS
BEFORE YOU DIG

IT'S THE LAW!
DIAL 811

Know what's below.
Call before you dig.



SCALE: 1"=200'

# **MAINTENANCE OF**

**TRAFFIC LEGEND** 

PROPERTY LINE (LOTS 2, 3, AND 4) PROPERTY LINE (OFF-SITE) ROADWAY CENTERLINE PR TRAFFIC CHANNELIZATION DEVICE PR ARROW PANEL PR WORK AREA

### **SEQUENCE OF CONSTRUCTION - PHASE 2**

- 1. THIS PLAN COMMENCES AFTER THE INSTALLATION OF HALF OF THE WATER UTILITY CONNECTION UNDER THE
- 2. PLACE TRAFFIC CONTROL DRUMS/BARRELS AND SIGNAGE ALONG MD-108 AS SHOWN ON THIS PLAN PER DETAIL MD
- 3. REMOVE STUB AND RESUME INSTALLATION OF WATER UTILITY CONNECTION LINE UNDER THE NORTHBOUND SIDE
- 4. CONNECT WATER UTILITY LINE TO PROPOSED PUBLIC WATER LINE ON-SITE. REPLACE FULL DEPTH PAVEMENT WHERE DISTURBED PER SHA SPECIFICATIONS.
- 5. REMOVE TRAFFIC CONTROL DRUMS/BARRELS AND SIGNAGE ONCE WORK IS COMPLETED.
- 6. NO MAINTENANCE OF TRAFFIC PHASE IS EXPECTED TO EXCEED 3 WEEKS.
- 7. RESTORE TEMPORARILY CLOSED LANES FOR PEAK HOURS.

Know what's **below**.

Call

CALL 48 HOURS

**BEFORE YOU DIG** 

IT'S THE LAW!

**DIAL 811** 

### 7.0 CHANNELIZING DEVICES

- 7.1 Taper Formulas:
- L = WS for speeds greater than (>) 40 mph
  - $L = WS^{2}/60$  for speeds equal to or less than (<) 40 mph
    - Where: L = minimum length of taper (ft)
      S = numerical value of prevailing travel speed or speed

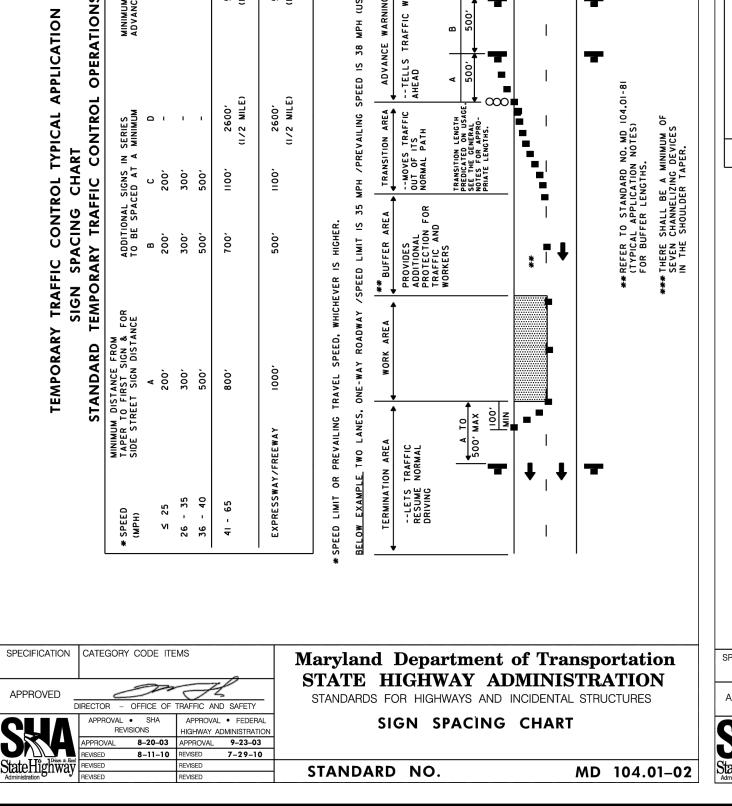
MD 104.00-09

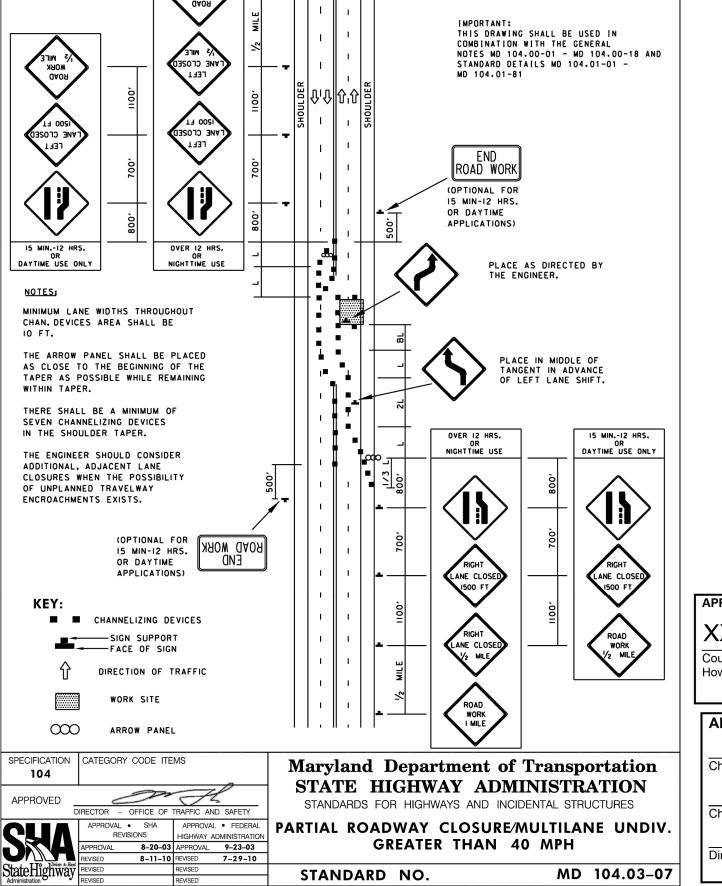
- limit (MPH), whichever is higher, prior to work starting, W = width of offset (ft)
- 7.2 Maximum spacing between channelizing devices:

Taper Channelization - Shall be equal in feet to the posted speed limit for posted speeds eql/less than 40 mph and 40 feet for posted speeds greater than 40 mph.

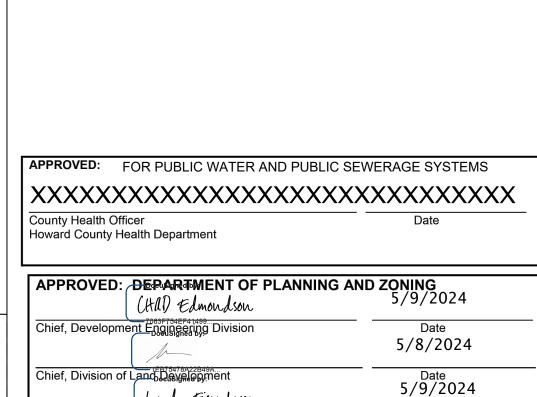
Tangent Channelization - Shall be equal in feet to twice the posted speed limit in the buffer and equal in feet to the posted speed adjacent to the work area for posted speeds eqMess than 40 MPH. Spacing shall be 80 feet in the buffer and 40 feet adjacent to the work area for posted speeds greater than 40 MPH.

SPECIFICATION CATEGORY CODE ITEMS Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES GENERAL NOTES STANDARD NO.





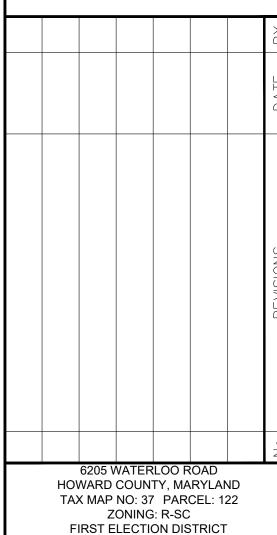
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



Lynda Eisenberg

3904 BOSTON STREET, SUITE 202 BALTIMORE, MD 21224 CONTACT: JEFF SMITH, P.E. PHONE: 443-743-3470 WWW.KIMLEY-HORN.COM

GLOBAL NOVARE, INC. P.O. BOX 27006 BALTIMORE, MD 21230 PHONE: 443-668-2527



SECOND COUNCIL DISTRICT KHA PROJECT NO.: 114033000 1" = ##' DATE: 03/08/2024

**DESIGNED BY:** MZM DRAWN BY: MZM CHECKED BY:



PROFESSIONAL CERTIFICATION. I HEREB CERTIFY THAT THESE DOCUMENTS WER PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO: 31373 EXP: 01/21/2029

FINAL PLAN

**BADART SUBDIVISION ZONING - R-SC** 

6205 WATERLOO RD PREPARED FOR GLOBAL NOVARE, INC

HOWARD COUNTY MARYLAND

TRAFFIC CONTROL PLAN - PHASE II

SHEET NUMBER