

BALTIMORE COUNTY MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING AND CONSTRUCTION

FT HOWARD PARK  
4", 2", & 3/4" WATER SUPPLY CONNECTIONS  
CONTRACT NO. 23137 GXO

SHEET INDEX

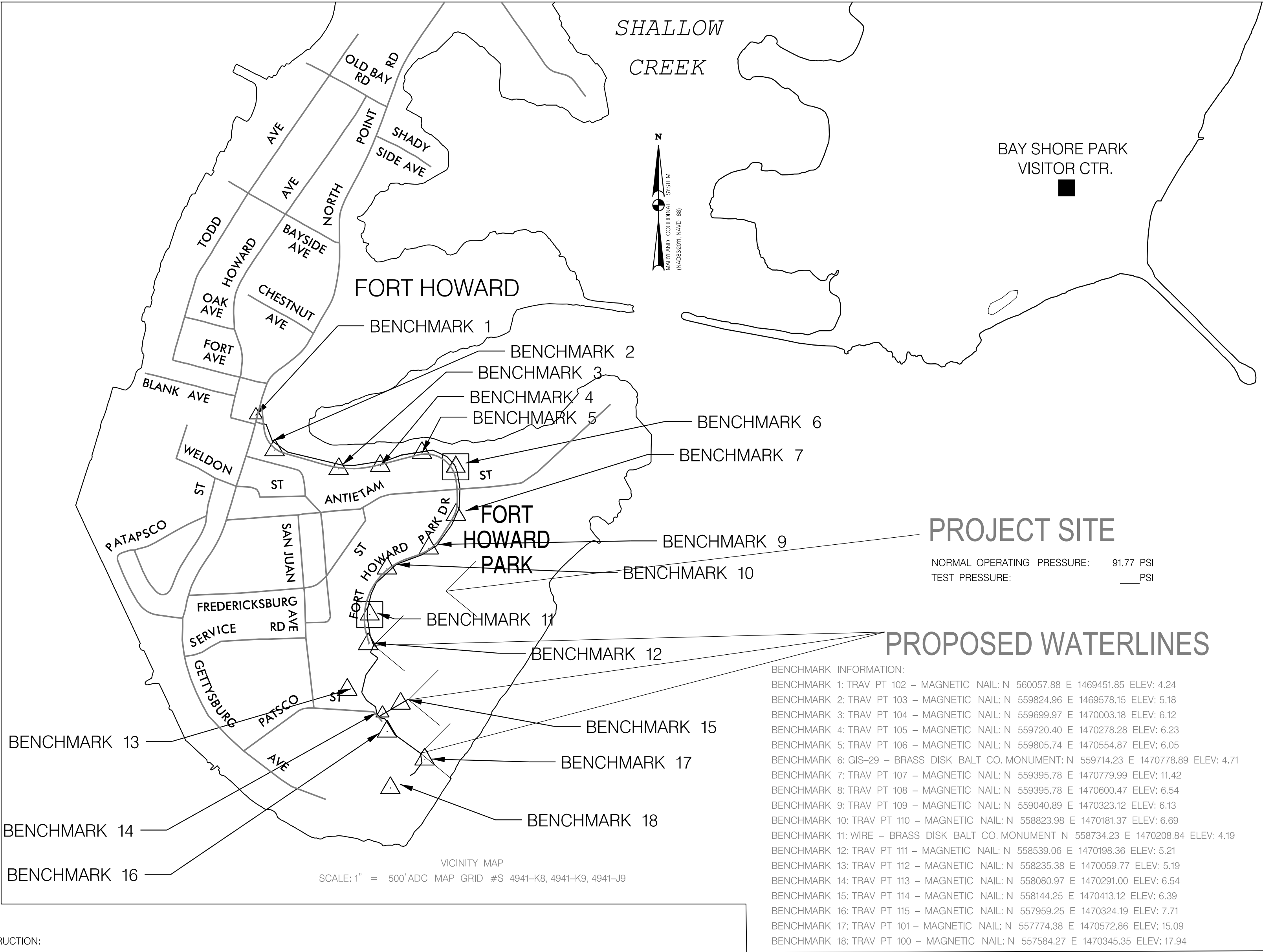
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BILL OF MATERIALS		
COUNT	ITEM	SIZE
1	WATER VAULT	2' 6"
3,500 LF	HDPE WATERLINE – C906DR9	4"
3	HDPE 18 BEND – C906DR9	4"
1	HDPE 116 BEND – C906DR9	4"
1	HDPE CROSS – C906DR9	4"
2	HDPE REDUCER – C906-20DR9	4" x 2"
2	HDPE REDUCER – C906-20DR11	2" x 3/4"
1	VALVE* & VAULT	4"
240 LF	HDPE WATERLINE – C901-20DR9	2"
2	HDPE 18 BEND – C901-20DR9	2"
2	VALVE & VAULT	2"
1	HDPE TEE – C901-20DR9	2"
1	HDPE TEE – C901-20DR9	2"
560 LF	HDPE WATERLINE – C901-20DR9	3/4"
1	HDPE 1/4 BEND – C901-20DR9	3/4"
1	HDPE 1/6 BEND – C901-20DR9	3/4"
1	HDPE 1/32 BEND – C901-20DR9	3/4"
2	VALVE* & VAULT	3/4"
1	HDPE CAP	4"

\*: ALL VALVES TO BE KEROTEST  
POLYBALL OR APPROVED EQUAL

GENERAL NOTES

1. ALL HDPE WATER LINE AND FITTINGS SHALL BE HIGH DENSITY POLYETHYLENE DR9 IN ACCORDANCE WITH AWWA C906/C901-20, PE 4710, CELL CLASS PER ASTM D3350. ALL PIPE DIAMETERS SHOWN ON PLANS ARE IPS. HDPE TRANSITION FITTINGS SHALL MEET ASSE 1061. CONSULT AWWA M55, AND PLASTICS PIPE INSTITUTE FOR REFERENCE. HDPE PIPE SHALL BE HANDLED WITH FABRIC SLINGS. DO NOT USE CHAINS OR WIRE ROPES FOR HDPE PIPE. ROLL OR DROP HDPE PIPE OFF OF TRUCK OR INTO TRENCH. DO NOT DRAG HDPE PIPE OVER SHARP ROCKS OR ABRASIVE OBJECTS.
2. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE DONE IN ACCORDANCE WITH THE SEPTEMBER 2023 EDITION "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS", THE SEPTEMBER 2023 EDITION OF THE "BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD DETAILS FOR CONSTRUCTION" INCLUDING ALL ADDENDA. RESTORATION OF ROAD GEOTEXTILE SHALL BE PER MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTION 919.02.
3. ALL ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE BALTIMORE COUNTY DATUM (NAVD 88). ALL COORDINATES SHOWN ON THE PLANS ARE BASED ON THE MARYLAND COORDINATE SYSTEM, NAD 83/11.
4. THE EXISTING UTILITIES AND OTHER EXISTING FEATURES THAT ARE SHOWN ON THE PLANS ARE APPROXIMATE. FROM THE BEST AVAILABLE RECORDS AND THE ACCURACY AND THE COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED. THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR TO THEIR SATISFACTION PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO AND DISTURBANCE OF EXISTING UTILITIES. CONTRACTOR TO COORDINATE WITH BALTIMORE COUNTY RECREATION AND PARKS TO LOCATE ANY PRIVATE UTILITIES ON SITE. TEST PITTING OF UTILITIES BY THE CONTRACTOR PRIOR TO EXCAVATION MAY BE NECESSARY TO ADEQUATELY VERIFY THE ACTUAL LOCATION AND DEPTH OF EXISTING UTILITIES. ALL TEST PITTING MUST BE APPROVED BY THE ENGINEER. TEST PITTING FOR ALL EXISTING WATER SERVICES SHALL NOT BE PAID SEPARATELY AND SHALL BE INCIDENTAL TO AND INCLUDED IN THE LINEAR PRICE BID FOR VARIOUS SIZED WATER MAINS. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT LEAST FOUR (4) DAYS IN ADVANCE OF ANY CONSTRUCTION (PHONE: 1-800-257-7777). ANY DAMAGE INCURRED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. CONTRACTOR SHALL TEST PIT TO DETERMINE THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES TO BE CROSSED OR CONNECTED, INCLUDING ANY APPLICABLE SIDELINE UTILITY, 60 FEET IN ADVANCE OF LAYING PIPE. THE COST FOR THIS TEST PITTING WILL BE CONSIDERED INCIDENTAL TO THE WATER LINE BID ITEMS. NO SEPARATE PAYMENT WILL BE MADE.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, TO ADJUST THE LOCATIONS OF FITTINGS AND THE ELEVATION OF THE PIPELINES AS NECESSARY DUE TO ACTUAL FIELD CONDITIONS. ALL SUCH ADJUSTMENTS SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND BALTIMORE COUNTY STANDARDS, WHICHEVER IS MORE CONSERVATIVE. UNLESS OTHERWISE INDICATED, ALL ELEVATIONS OF PROPOSED PIPING REFER TO BOTTOM OF PIPE.
7. THE CONTRACTOR SHALL MAINTAIN TRAFFIC MOVEMENT, TRAFFIC CONTROL AND EMERGENCY VEHICLE ACCESS ALONG ALL ROADS DURING ALL PHASES OF CONSTRUCTION IN CONFORMANCE WITH THE REQUIREMENTS OF BALTIMORE COUNTY.
8. THE CONTRACTOR SHALL OPEN ONLY THE SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED IN ONE DAY. THE END OF THE PIPE SHALL BE PLUGGED OR CAPPED OR PLATED OVER AT THE END OF EACH WORK DAY.
9. WHEN EXCAVATING FOR UTILITIES, ALL SPOIL MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
10. AS PER STANDARD SPECIFICATION 1011-ABANDONMENT OF WATER APPURTENANCES OR WATER MAINS LINES SHALL HAVE ALL OPENINGS CAPPED OR PLUGGED. ABANDONED WATER VALVES SHALL HAVE THE FRAME AND COVER REMOVED AND THE VAULT SHALL BE BACKFILLED WITH SAND OR APPROVED EQUAL. ALL COSTS ASSOCIATED WITH THE ABANDONMENT OF APPURTENANCES, VALVES, FIRE HYDRANTS, WATER MAINS, AND ASSOCIATED SERVICES SHALL BE CONSIDERED INCIDENTAL AND SHALL BE OF NO COST TO THE COUNTY. ALL PRICES ARE TO BE INCLUDED IN THE PRICE BID FOR THE WATER SERVICE LINES.
11. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO COMPLETE SUCH WORK.
12. ALL STORM DRAIN APPURTENANCES, DITCHES, ETC., SHALL REMAIN FUNCTIONAL DURING CONSTRUCTION AND SHALL BE PROTECTED BY THE CONTRACTOR FROM SEDIMENT RUNOFF. EXCAVATED MATERIAL SHALL NOT BE PLACED IN OR OBSTRUCT DRAINAGE DITCHES, DITCHES AND OTHER STORM DRAIN FACILITIES SHALL BE RETURNED TO ORIGINAL CONDITION FOLLOWING CONSTRUCTION. DURING TRENCH DEWATERING OPERATIONS NO WATER SHALL BE DISCHARGED DIRECTLY ACROSS THE GROUND OR INTO AN EXISTING BODY OF WATER OR STREAM WITHOUT FLOWING THROUGH AN APPROVED PORTABLE SEDIMENT TANK.
13. UNLESS OTHERWISE STATED ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH BALTIMORE COUNTY SOIL CONSERVATION DISTRICT SEDIMENT AND EROSION CONTROL STANDARD PLAN, PLAN NUMBER: 164-COUNTY-23.
14. ONLY BALTIMORE CITY PERSONNEL OR THEIR DESIGNEE, SHALL OPERATE EXISTING VALVES FOR WATER DISTRIBUTION SYSTEM OUTSIDE OF THE PARK. CONTRACTOR SHALL NOTIFY THE BALTIMORE COUNTY INSPECTOR TO ARRANGE A SHUTDOWN WITH THE CITY AT LEAST 10 WORKING DAYS PRIOR TO PROPOSED SHUTDOWN. IF THE INSPECTOR IN THE FIELD IS UNAVAILABLE, CALL THE BALTIMORE COUNTY AREA ENGINEER AT 410-887-3531.
15. ALL CONNECTIONS AND SHUTDOWNS SHALL BE COORDINATED WITH BALTIMORE COUNTY CODE ENFORCEMENT. INSTALLATION OF FIXTURES IN COMFORT STATION WILL REQUIRE APPROVAL OF BALTIMORE COUNTY PLUMBING INSPECTOR. NO WORK SHALL BEGIN UNLESS ALL TOOLS, EQUIPMENT, AND MATERIALS NECESSARY FOR THE WORK ARE ON-SITE AND APPROVED BY THE ENGINEER. NO ADDITIONAL COMPENSATION FOR NIGHT OR WEEKEND SHUTDOWNS WILL BE MADE.
16. THE COST FOR CONSTRUCTING UNDER AND OVER ANY EXISTING UTILITIES AND UTILITY HOUSE SERVICE CONNECTIONS INCLUDING GAS, ELECTRIC, CABLE, STORM DRAINS, WATER AND SEWER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE SIZED WATER MAIN. THE CONTRACTOR IS TO SUPPORT BRACE AND PROTECT SUCH UTILITIES. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS WHILE EXCAVATING NEAR POWER, TELEPHONE POLES AND UTILITY FACILITIES.
17. "FULL TRENCH COMPACTION" IS REQUIRED FOR ALL TRENCHES, MAINS AND SERVICE CONNECTIONS SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER EXCEPT WHERE SPECIFIED.
18. A CONSTRUCTION SCHEDULE SHALL BE SUBMITTED TO BALTIMORE COUNTY PROPERTY MANAGEMENT AND THE DESIGN ENGINEER AT THE TIME OF THE PRE-CONSTRUCTION CONFERENCE. SCHEDULE SHALL BE UPDATED AND SUBMITTED MONTHLY AND UPON REQUEST.
19. THE CONTRACTOR SHALL INSTALL DETECTABLE WARNING TAPE ON TOP OF ALL PROPOSED PIPE. TAPE SHALL BE BLUE DETECTABLE TAPE INSTALLED 12-INCHES BELOW GROUND SURFACE ABOVE PROPOSED PIPELINES. "CALL DPW \* 410-396-7870". CYCLE OF TEXT TO BE REPEATED EVERY 20 TO 24 INCHES. ALL PROPOSED PIPELINES SHALL BE INSTALLED WITH 30-MM INSULATED COPPER WIRE TAPED TO PIPE EXTERIOR.
20. THE CONTRACTOR SHALL DOCUMENT PRE-CONSTRUCTION CONDITIONS OF THE ENTIRE PROJECT THROUGH PHOTOGRAPHICAL/VIDEO MEANS. THE LEVEL OF DOCUMENTATION IS TO SATISFY CLAIMS AGAINST THE CONTRACTOR THAT THE PROPERTY OWNER (BALTIMORE COUNTY RECREATION AND PARKS DEPARTMENT) MAY CLAIM. AS THIS WORK IS ONLY TO PROTECT THE CONTRACTOR, THERE SHALL BE NO PAYMENT FOR THIS WORK.
21. NOTIFY BALTIMORE COUNTY FIRE MARSHAL AT (410)887-4880 (72) BEFORE TAKING ANY FIRE HYDRANT OUT OF SERVICE. AN ABANDONED 4-INCH FIRE HYDRANT IS PRESENT NEAR THE COMFORT STATION. THE HYDRANT IS NOT TO BE DISTURBED UNLESS OTHERWISE DIRECTED.
22. A MINIMUM SINGLE LANE OF TRAFFIC IS REQUIRED TO BE MAINTAINED AT ALL TIMES ALONG FT. HOWARD PARK ROAD. ROAD PLATES SHALL OVERLAP TRENCH EDGES BY A MINIMUM OF 1-FT ON BOTH SIDES AND BE ANCHORED PER MDOT STANDARD MD 104.01-86.
23. EXISTING PIPING SHALL BE CUT AND REMOVED AS NEEDED TO INSTALL PROPOSED PIPING. ALL SECTIONS TO BE LEFT IN PLACE WILL BE PLUGGED AT THE POINT OF ABANDONMENT. ALL PIPES ABANDONED IN SITU SHALL BE SEALED WITH MECHANICAL JOINT PLUGS.

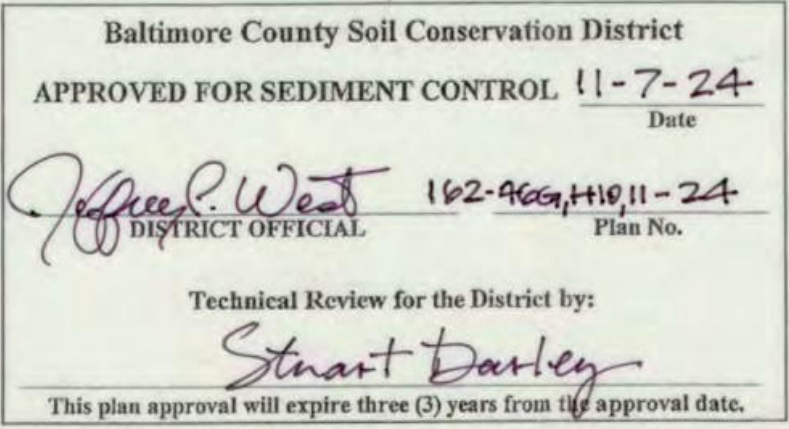
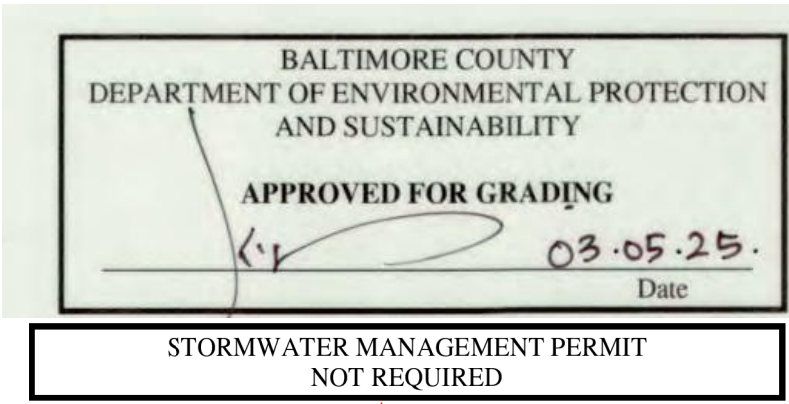


SEQUENCE OF CONSTRUCTION:

1. CONSTRUCT WATER VAULT AT STATION A 34+73.4 WITHIN PARK.
  2. INSTALL 4" WATERLINE FROM A POINT NEAR EXISTING WATER VALVE ON FT. HOWARD PARK ROAD TO PROPOSED WATER VAULT IN PARK. EXISTING LINE SHALL BE ABANDONED IN PLACE WHERE POSSIBLE AND REMOVED WHERE NECESSARY TO INSTALL PROPOSED WATER LINES.
  3. INSTALL 2" WATERLINE FROM WATER VAULT AT STATION A 34+73.4 TO CONNECTION POINT AT COMFORT STATION, STATION B 2+32.7.
  4. INSTALL 3/4" WATERLINE FOR YARD HYDRANT NEAR COMFORT STATION FROM TEE AT STATION B 1+43.9 TO EXISTING YARD HYDRANT.
  5. INSTALL 3/4" WATERLINE FROM PROPOSED WATER VAULT AT STATION A 34+73.4 TO YARD HYDRANT AT STATION C 5+47.6.
  6. CONDUCT BACTERIOLOGICAL AND PRESSURE TESTS OF INSTALLED LINE.
  7. CONNECT 4" HDPE WATER LINE TO EXISTING WATER METER.
- ADDITIONAL NOTES:
1. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL ELEVATION, STABILIZED, AND RE-SEEDED. ALL PAVEMENT MARKINGS WILL BE RESTORED TO INITIAL CONDITIONS.
  2. AN ALTERNATIVES ANALYSIS WAS APPROVED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY ON MAY 25, 2023. CONDITIONS WERE PLACED ON THIS APPROVAL TO REDUCE WATER QUALITY IMPACTS INCLUDING RESTORATION OF TEMPORARILY DISTURBED CRITICAL AREA BUFFER.
  3. PAVED AREAS IN THE PROJECT AREA HAVE A SUBGRADE FILTER CLOTH LAYER INSTALLED. DISTURBED PAVED AREAS SHALL HAVE NEW GEOTEXTILE SEWN INTO THE EXISTING FILTER CLOTH PER MDOT SPECIFICATION 919.02. GEOTEXTILE SHALL BE CLASS ST PER MDOT SPECIFICATION 919.01. WOVEN, GRAB STRENGTH 300-LB, PUNCTURE STRENGTH 600-LB, PERMITIVITY 0.05SEC, MINIMUM APPARENT OPENING SIZE 0.15-MM, TRAPEZOID TEAR STRENGTH 110-LB, REFER TO MDOT SPECIFICATION 919.02 FOR ADDITIONAL REQUIREMENTS.
  4. DESIGN IS BASED ON DEMAND FLOW OF 59 GPM, 91.77 PSI. A 4-IN LINE IS BEING PROVIDED TO PROVIDE FOR POTENTIAL FUTURE FACILITIES IN THE PARK.
  5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STAKEOUT, MATERIALS TESTING, AND HYDROSTATIC/BACTERIOLOGICAL TESTING. BACTERIOLOGICAL TESTS SHALL BE CONDUCTED PER AWWA C601-68 AND TEST RESULTS WILL BE PROVIDED TO THE COUNTY FOR APPROVAL.
  6. HDPE PRESSURE TESTING WILL BE CONDUCTED IN 2 SECTIONS FOR THE 4" LINE AT 1.5X THE OPERATING PRESSURE (137.7 PSI) IN 2 ROUGHLY-EQUIVALENT SECTIONS NOT TO EXCEED 3,000-LF. ALL OTHER PIPELINES WILL BE TESTED AS INDIVIDUAL SEGMENTS. PRESSURE READINGS WILL BE TAKEN FROM THE LOWEST PIPELINE ELEVATION IN THE SEGMENTS. TESTING WILL BE CONDUCTED IN ACCORDANCE WITH ASTM F2164 AS DESCRIBED IN PP11N-46. MAXIMUM EXPANSION IS 0.13 GAL/100-FT OF PIPE FOR 4", 0.08 GAL/100-FT FOR THE 2", AND 0.04 GAL/100-FT FOR THE 3/4". CONTRACTOR WILL BE REQUIRED TO DOCUMENT ALL TESTING AND PROVIDE RESULTS TO THE COUNTY.
  7. PRESSURE TEST ON EXISTING LINE TO BE PERFORMED BY CONTRACTOR.

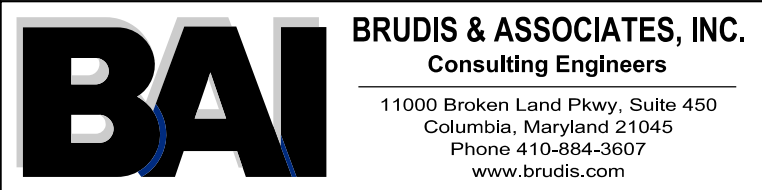
SANITARY NOTES

1. CHLORINATED WATER WILL BE DISCHARGED TO 16-INCH SEWER MANHOLE 31873. DISCHARGES WILL BE LIMITED TO A RATE NOT TO EXCEED 50 GALLONS PER MINUTE (GPM).
2. FEDERAL REGULATION REQUIRES DOCUMENTATION OF ANY DISCHARGE FROM THE SANITARY SEWER COLLECTION SYSTEM AND THE CAUSE OF THE DISCHARGE, TO MEET THESE REQUIREMENTS, THE DATE, RATE AND DURATION OF CHLORINATED WATER DISCHARGE SHALL BE DOCUMENTED BY THE CONTRACTOR AND/OR INSPECTOR. DOCUMENTATION WILL BE SUBMITTED TO THE SEWER DESIGN SECTION FOLLOWING THE COMPLETION OF ALL CHLORINATED WATER DISCHARGES.
3. ALL DISCHARGES WILL BE RESTRICTED TO DRY WEATHER AND NOT LESS THAN 24 HOURS AFTER ANY RAIN EVENT.
4. ONE (1) BUSINESS DAY PRIOR TO DISCHARGE OF ANY CHLORINATED WATER TO THE SANITARY SEWER, THE CONTRACTOR SHALL NOTIFY THE SEWER DESIGN SECTION AT 410-887-3781 AND THE BUREAU OF UTILITIES AT 410-887-7415 OF THE EXACT LOCATION OF THE PLANNED DISCHARGE. THIS WILL ALLOW THE REMOVAL AT THEIR DISCRETION, OF ANY FLOW MONITORING EQUIPMENT LOCATED WITHIN THE SANITARY SYSTEM AND GIVE NOTICE IN THE EVENT OF ANY SEWER BACKUPS OR OVERFLOWS.



NOTE: SEE SHEET ES001 (ESC 2 OF 10), 22 OF 30 (2023-3259) FOR EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION.

TOTAL DISTURBED AREA: 14,375 SF@0.33 AC



PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION	SHT	DRAWING SCALE	PROPERTY MANAGEMENT
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.					N/A				PLAN SCALE: 1" = 500'	APPROVED BY: DIRECTOR
LICENSE NO. 58244 EXPIRATION DATE: 09/27/2025					R.O.W. NO.	A-SE	35 SE 33	36 SE 34	PROFILE SCALE:	DATE: 8/7/2025
ENGINEER: CHRIS COLLINS		CONTRACT COMPLETION BOX			N/A		36 SE 33	37 SE 33		
DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	CHIEF
AS-BUILT PER RECORD PRINT		REVIEWED BY:								
BY: DATE:		DATE REVIEWED:								
CHKD BY: AP										

DEPT. OF PUBLIC WORKS & TRANSPORTATION
APPROVED BY: DIRECTOR
DATE: _____

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT

TITLE SHEET

4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

ESC 1 OF 10

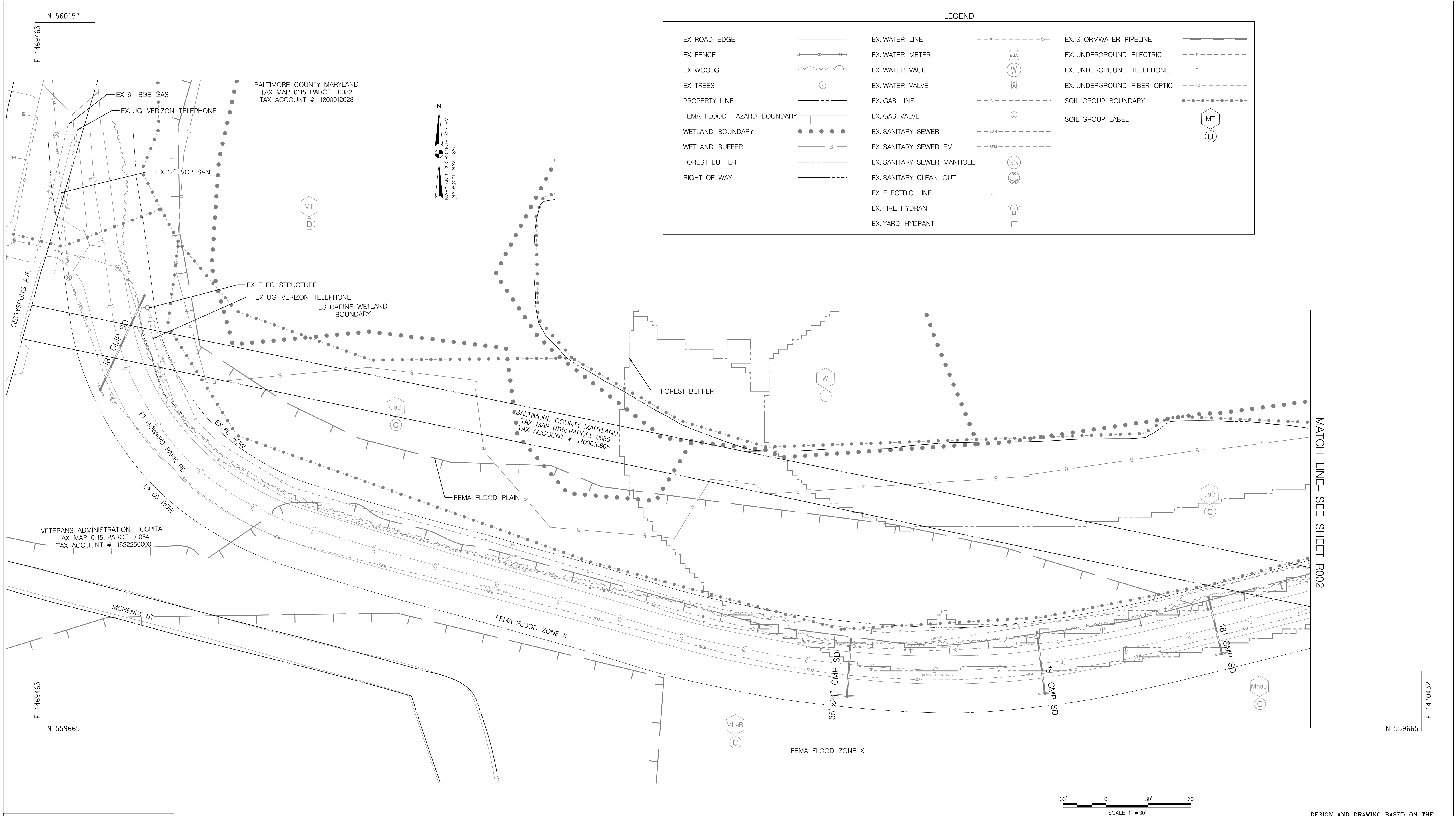
DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
G001	23137 GXO
JOB ORDER NUMBER	CC# 100362239
SHEET 1 OF 30	
DRAWING NUMBER	2023-3238
FILE NO.:	3/9

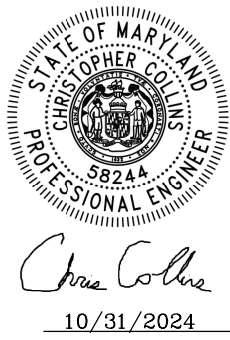
7/3/2025

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**BAI** BRUDIS & ASSOCIATES, INC.  
Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-854-3607  
www.brudis.com



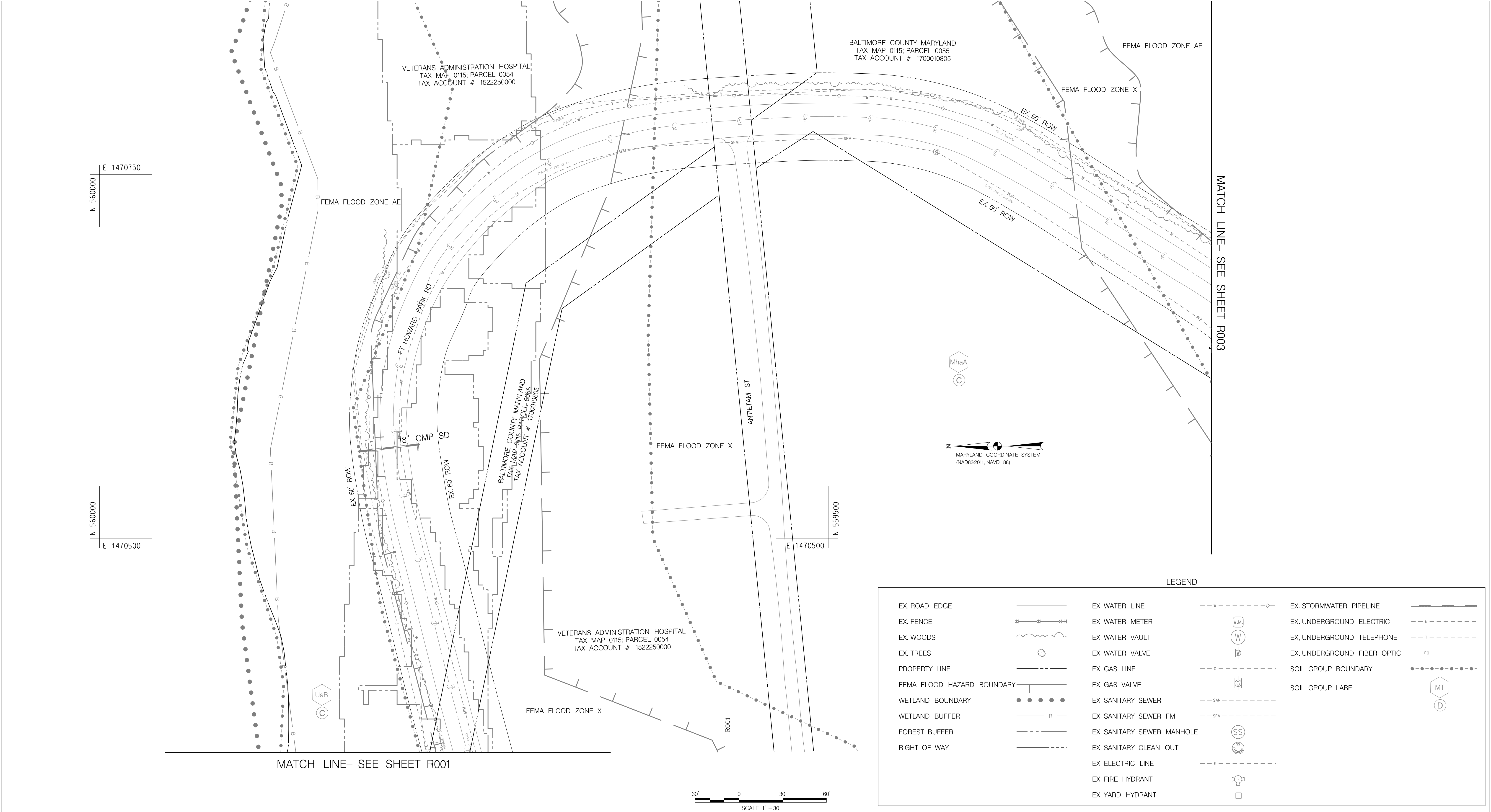
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								R.O.W. NO.		36 SE 34		DIRECTOR	
								N/A		37 SE 33		DATE: _____	
				CONTRACT COMPLETION BOX							PROFILE SCALE: N/A	APPROVED BY: _____	
ENGINEER: CHRIS COLLINS				DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC		HIGHWAYS		STRUCTURES	
AS-BUILT PER RECORD PRINT				DWN BY: CC		REVIEWED BY:						APPROVED BY: _____	
BY: _____				CHKD BY: AP		DATE REVIEWED:						CHIEF	
DATE: _____												DATE: _____	

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT  
**FT. HOWARD WATERLINE REPLACEMENT  
EXISTING CONDITIONS - 1  
4", 2", & 3/4" WATERLINE REPLACEMENT**  
**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7


DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88	
SHEET DESIGNATION	CONTRACT NUMBER
R001	23137 GXO
JOB ORDER NUMBER	
CC# 100362239	
SHEET 2 OF 30	
DRAWING NUMBER	
2023-3239	
FILE NO.:	3/9







**BRUDIS & ASSOCIATES, INC.**  
Consulting Engineers  
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Columbia, Maryland 21045  
Phone 410-854-3607  
www.brudis.com

  <i>Chris Collins</i> 10/31/2024	PROFESSIONAL CERTIFICATION			AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION	SHT	DRAWING SCALE		PROPERTY MANAGEMENT		
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								R.O.W. NO.		N/A						
								N/A		N/A						
	ENGINEER: CHRIS COLLINS			DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	DATE: _____	
	AS-BUILT PER RECORD PRINT			DWN BY: CC		REVIEWED BY:									APPROVED BY: _____	
BY: _____ DATE: 10/31/2024			CHKD BY: AP		DATE REVIEWED:									DATE: _____ CHIEF		

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
EXISTING CONDITIONS – 2  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

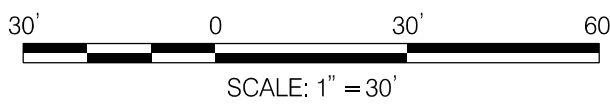
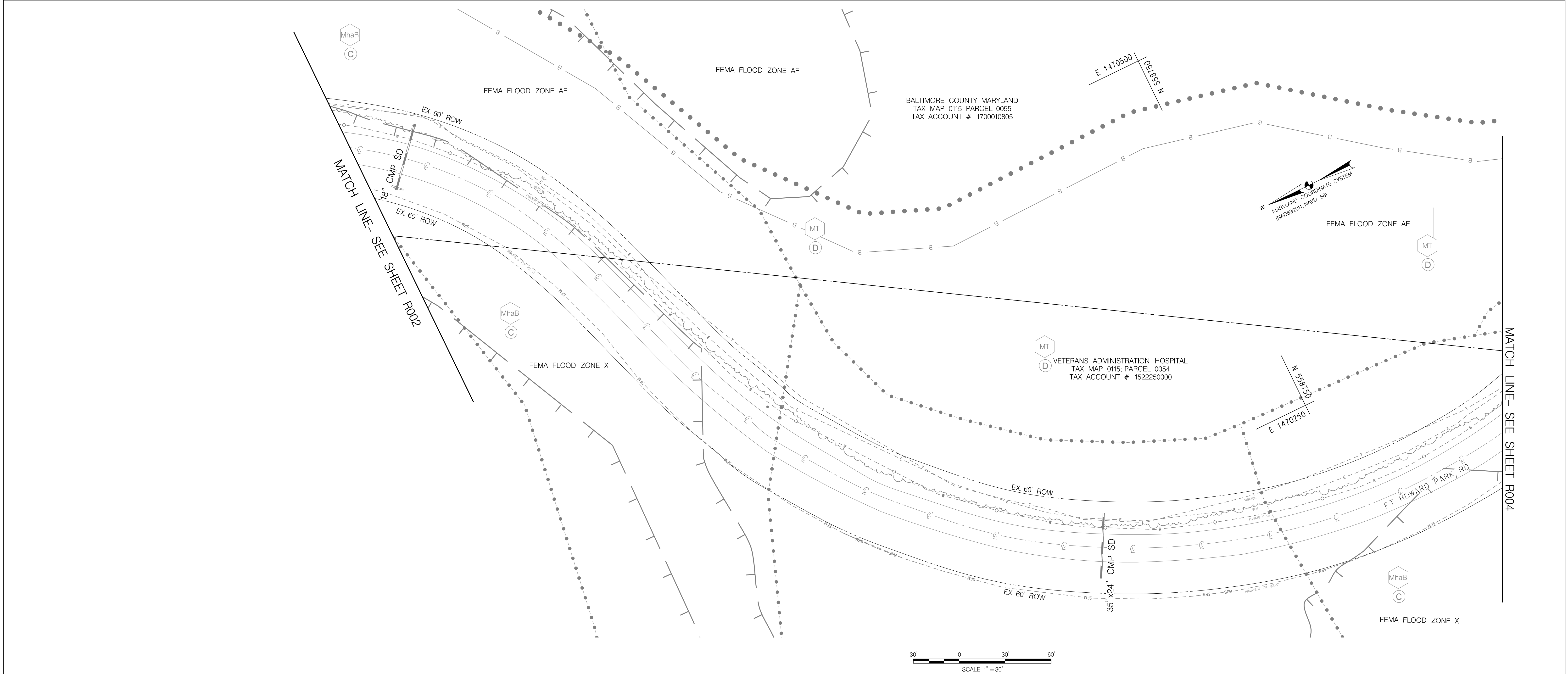
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JOB ORDER NUMBER	CC# 100362239
SHEET 3 OF 30	
DRAWING NUMBER	2023-3240
FILE NO.:	3/9

5/23/2025


5/23/2025  
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LEGEND

EX. ROAD EDGE		EX. WATER LINE		EX. STORMWATER PIPELINE	
EX. FENCE		EX. WATER METER		EX. UNDERGROUND ELECTRIC	
EX. WOODS		EX. WATER VAULT		EX. UNDERGROUND TELEPHONE	
EX. TREES		EX. WATER VALVE		EX. UNDERGROUND FIBER OPTIC	
PROPERTY LINE		EX. GAS LINE		SOIL GROUP BOUNDARY	
FEMA FLOOD HAZARD BOUNDARY		EX. GAS VALVE		SOIL GROUP LABEL	
WETLAND BOUNDARY		EX. SANITARY SEWER			
WETLAND BUFFER		EX. SANITARY SEWER FM			
FOREST BUFFER		EX. SANITARY SEWER MANHOLE			
RIGHT OF WAY		EX. SANITARY CLEAN OUT			
		EX. ELECTRIC LINE			
		EX. FIRE HYDRANT			
		EX. YARD HYDRANT			



BRUDIS & ASSOCIATES, INC.  
Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone: 410-884-3607  
www.brudis.com

PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION	SHT	DRAWING SCALE	PROPERTY MANAGEMENT	
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. 58244 EXPIRATION DATE 09/27/2025				CONTRACT COMPLETION BOX				N/A	A-SE	35 SE 33		PLAN SCALE: 1" = 30'	APPROVED BY: _____	
								R.O.W. NO.		36 SE 34		PROFILE SCALE: N/A	DATE: _____	
								N/A		37 SE 33				
ENGINEER: CHRIS COLLINS				DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
AS-BUILT PER RECORD PRINT				DWN BY: CC	REVIEWED BY:								APPROVED BY: _____	CHIEF
BY: _____				CHKD BY: AP	DATE REVIEWED:								DATE: _____	
DATE: _____														


BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT**  
**EXISTING CONDITIONS - 3**  
**4", 2", & 3/4" WATERLINE REPLACEMENT**  
**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT

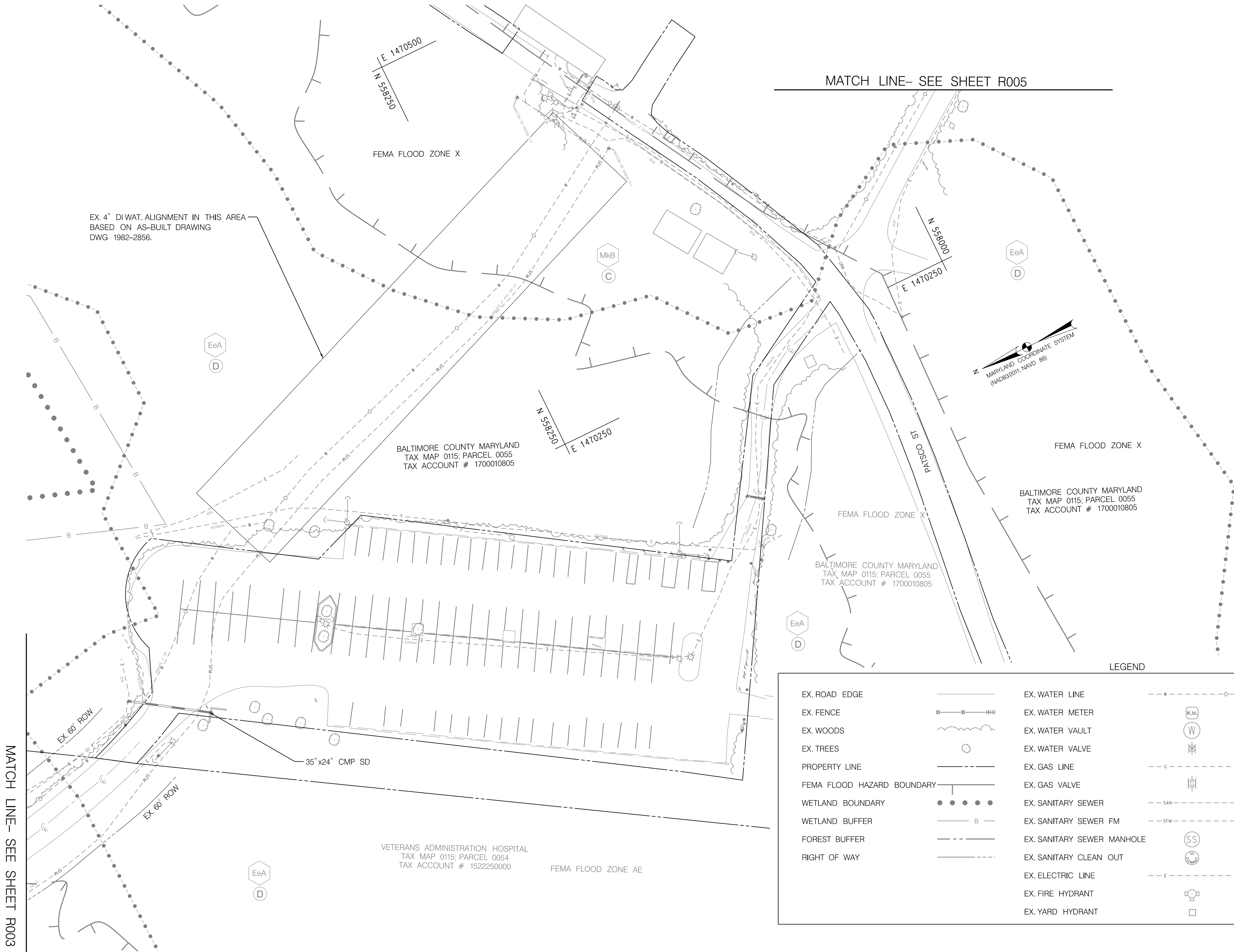
**21052**  
ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
R003	23137 GXO
JOB ORDER NUMBER	
CC# 100362239	
SHEET 4 OF 30	
DRAWING NUMBER	
2023-3241	
FILE NO.: 3/9	REV 02/22








EX. ROAD EDGE	EX. FENCE	EX. WOODS	EX. TREES	PROPERTY LINE	FEMA FLOOD HAZARD BOUNDARY	WETLAND BOUNDARY	FOREST BUFFER	RIGHT OF WAY	EX. WATER LINE	EX. WATER METER	EX. WATER VAULT	EX. WATER VALVE	EX. GAS LINE	EX. GAS VALVE	EX. SANITARY SEWER	EX. SANITARY SEWER FM	EX. SANITARY SEWER MANHOLE	EX. SANITARY CLEAN OUT	EX. ELECTRIC LINE	EX. FIRE HYDRANT	EX. YARD HYDRANT	EX. STORMWATER PIPELINE	EX. UNDERGROUND ELECTRIC	EX. UNDERGROUND TELEPHONE	EX. UNDERGROUND FIBER OPTIC	SOIL GROUP BOUNDARY	SOIL GROUP LABEL

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Consulting Engineers

11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-854-3607  
www.brudis.com

  <i>Chris Collins</i> 10/31/2024	PROFESSIONAL CERTIFICATION			AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE		PROPERTY MANAGEMENT		
	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. 58244      EXPIRATION DATE 09/27/2025			CONTRACT COMPLETION BOX		N/A		N/A		A-SE 35 SE 33 36 SE 34 37 SE 33		PLAN SCALE:	1" = 30'	APPROVED BY:	DIRECTOR
												N/A		DATE:	
												N/A			
	ENGINEER: CHRIS COLLINS			DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	APPROVED BY: _____  CHIEF
	AS-BUILT PER RECORD PRINT			DWN BY: CC		REVIEWED BY:									
	BY: _____ DATE: 10/31/2024			CHKD BY: AP		DATE REVIEWED:									

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT

EXISTING CONDITIONS – 4

4", 2", & 3/4" WATERLINE REPLACEMENT

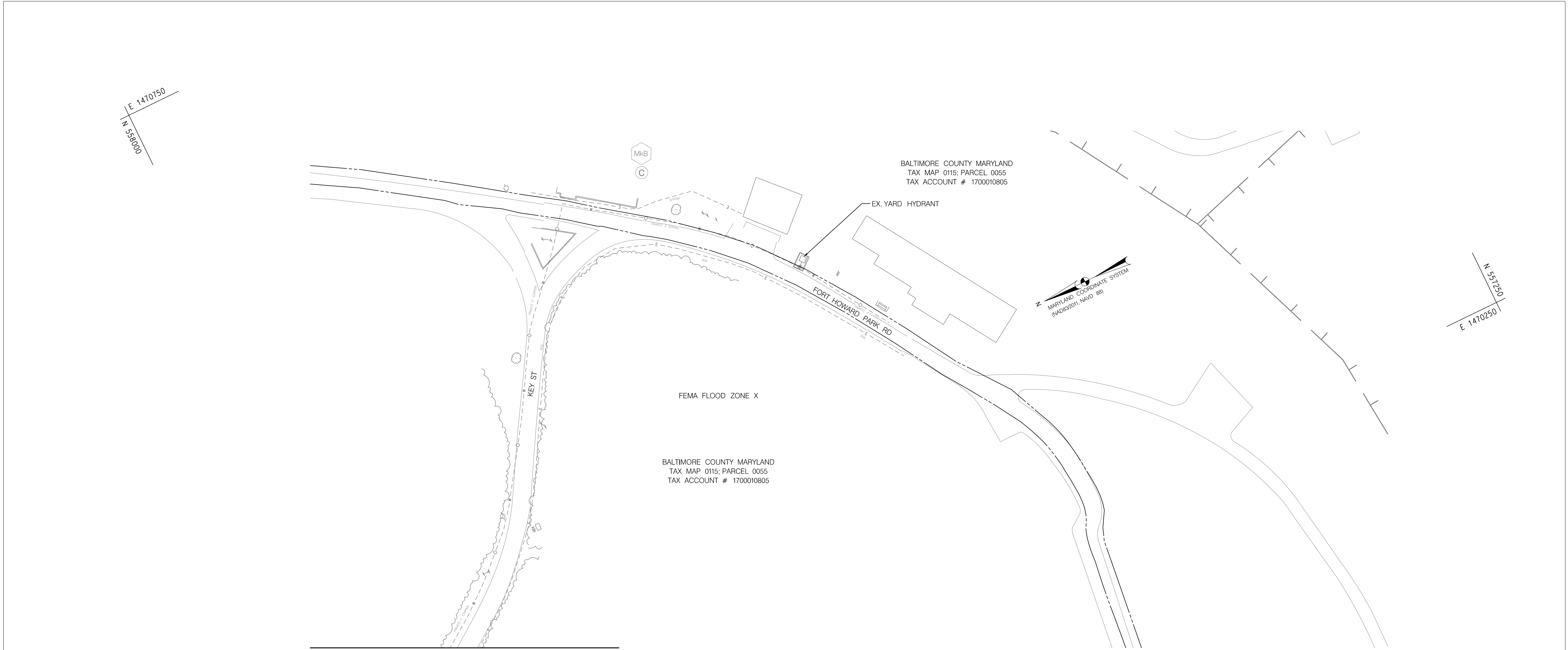
FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

SUBDIVISION: SPARROWS POINT

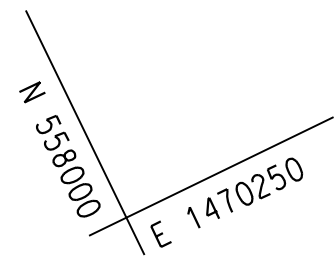
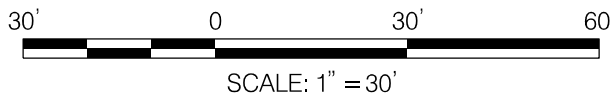
ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)	
HORIZ: NAD 83/2011	
VERT: NAVD 88	
SHEET DESIGNATION	CONTRACT NUMBER
R004	23137 GX0
JOB ORDER NUMBER	
CC# 100362239	
SHEET 5 OF 30	
DRAWING NUMBER	
2023-3242	
FILE NO.:	3/9






MATCH LINE- SEE SHEET R004



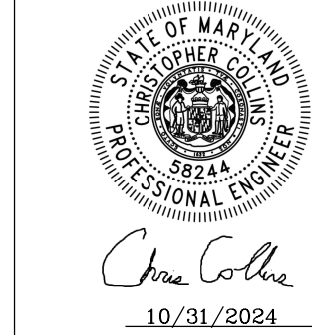
LEGEND

EX. ROAD EDGE		EX. WATER LINE		EX. STORMWATER PIPELINE	
EX. FENCE		EX. WATER METER		EX. UNDERGROUND ELECTRIC	
EX. WOODS		EX. WATER VAULT		EX. UNDERGROUND TELEPHONE	
EX. TREES		EX. WATER VALVE		EX. UNDERGROUND FIBER OPTIC	
PROPERTY LINE		EX. GAS LINE		SOIL GROUP BOUNDARY	
FEMA FLOOD HAZARD BOUNDARY		EX. GAS VALVE		SOIL GROUP LABEL	
WETLAND BOUNDARY		EX. SANITARY SEWER			
WETLAND BUFFER		EX. SANITARY SEWER FM			
FOREST BUFFER		EX. SANITARY SEWER MANHOLE			
RIGHT OF WAY		EX. SANITARY CLEAN OUT			
		EX. ELECTRIC LINE			
		EX. FIRE HYDRANT			
		EX. YARD HYDRANT			



**BRUDIS & ASSOCIATES, INC.**  
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Phone 410-854-3607  
www.brudis.com

PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT	
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. <u>58244</u> EXPIRATION DATE <u>09/27/2025</u>								N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY: _____	
								R.O.W. NO.		36 SE 34		DIRECTOR	
								N/A		37 SE 33		DATE: _____	
				CONTRACT COMPLETION BOX							PROFILE SCALE: N/A		
ENGINEER: <u>CHRIS COLLINS</u>				DGN BY: <u>SA/CC</u>		BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT				DWN BY: <u>CC</u>		REVIEWED BY:						APPROVED BY: _____	CHIEF
BY: _____				CHKD BY: <u>AP</u>		DATE REVIEWED:						DATE: _____	
DATE: _____													




BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

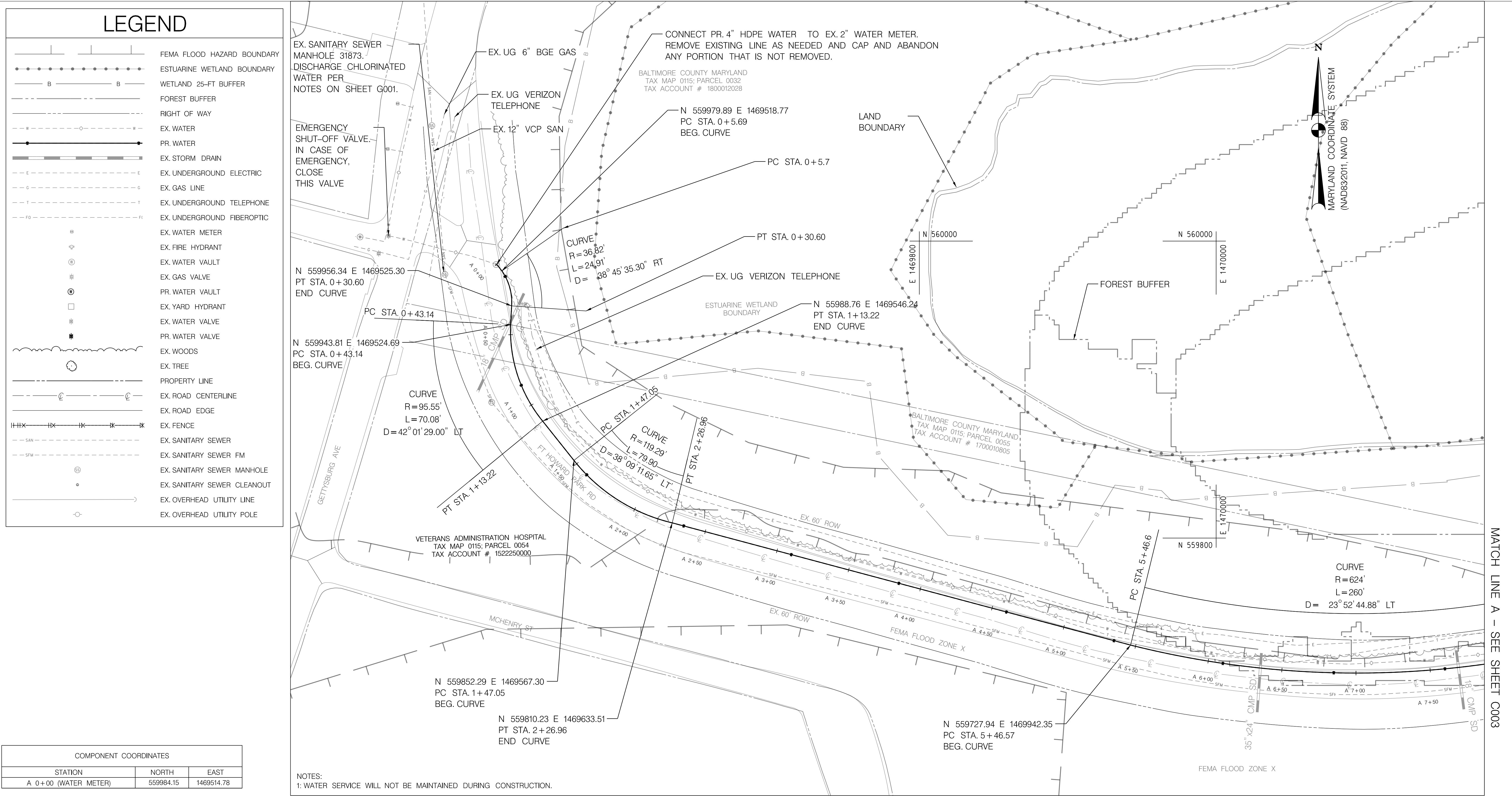
**FT. HOWARD WATERLINE REPLACEMENT**  
**EXISTING CONDITIONS - 5**  
**4", 2", & 3/4" WATERLINE REPLACEMENT**  
**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

ELECTION DIST. NO.: 15C7

SHEET DESIGNATION		CONTRACT NUMBER	
R005		23137 GX0	
		JOB ORDER NUMBER	
		CC# 100362239	
		SHEET 6 OF 30	
		DRAWING NUMBER	
		2023-3243	
		FILE NO.: 3/9	





COMPONENT COORDINATES		
STATION	NORTH	EAST
A 0+00 (WATER METER)	559984.15	1469514.78

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Columbia, Maryland 21045  
Phone 410-854-3607  
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PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE	PROPERTY MANAGEMENT
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. 58244 EXPIRATION DATE: 09/27/2025		CONTRACT COMPLETION BOX			N/A	A-SE	35 SE 33 36 SE 34 36 SE 33 37 SE 33	PLAN SCALE: 1" = 30' PROFILE SCALE: N/A	APPROVED BY: DIRECTOR DATE:
ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DWN BY: CC	REVIEWED BY:							APPROVED BY: CHIEF DATE:
BY: DATE:	CHKD BY: AP	DATE REVIEWED:							

DEPT. OF PUBLIC WORKS & TRANSPORTATION  
APPROVED BY: DIRECTOR  
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE AND PROFILE - 1  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

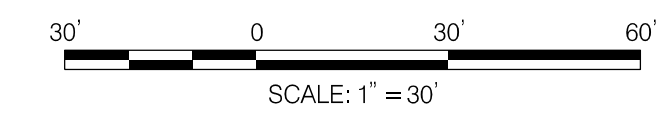
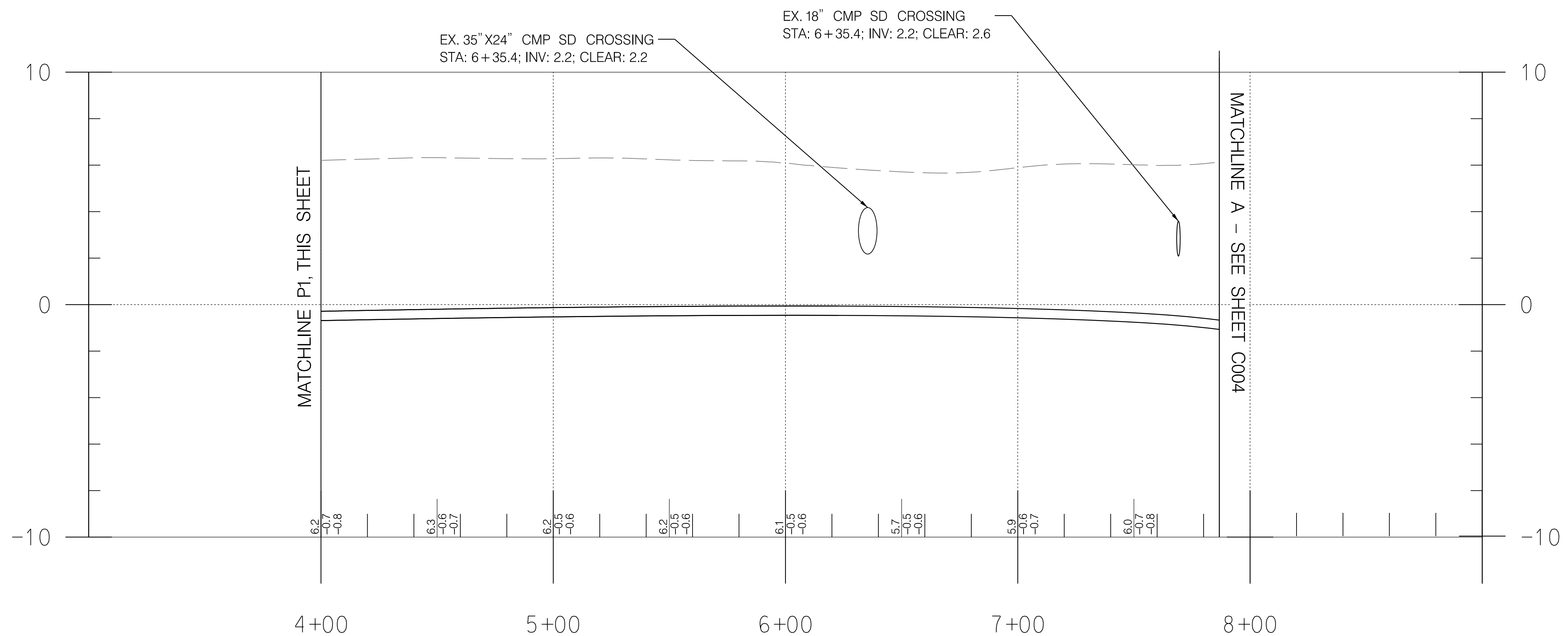
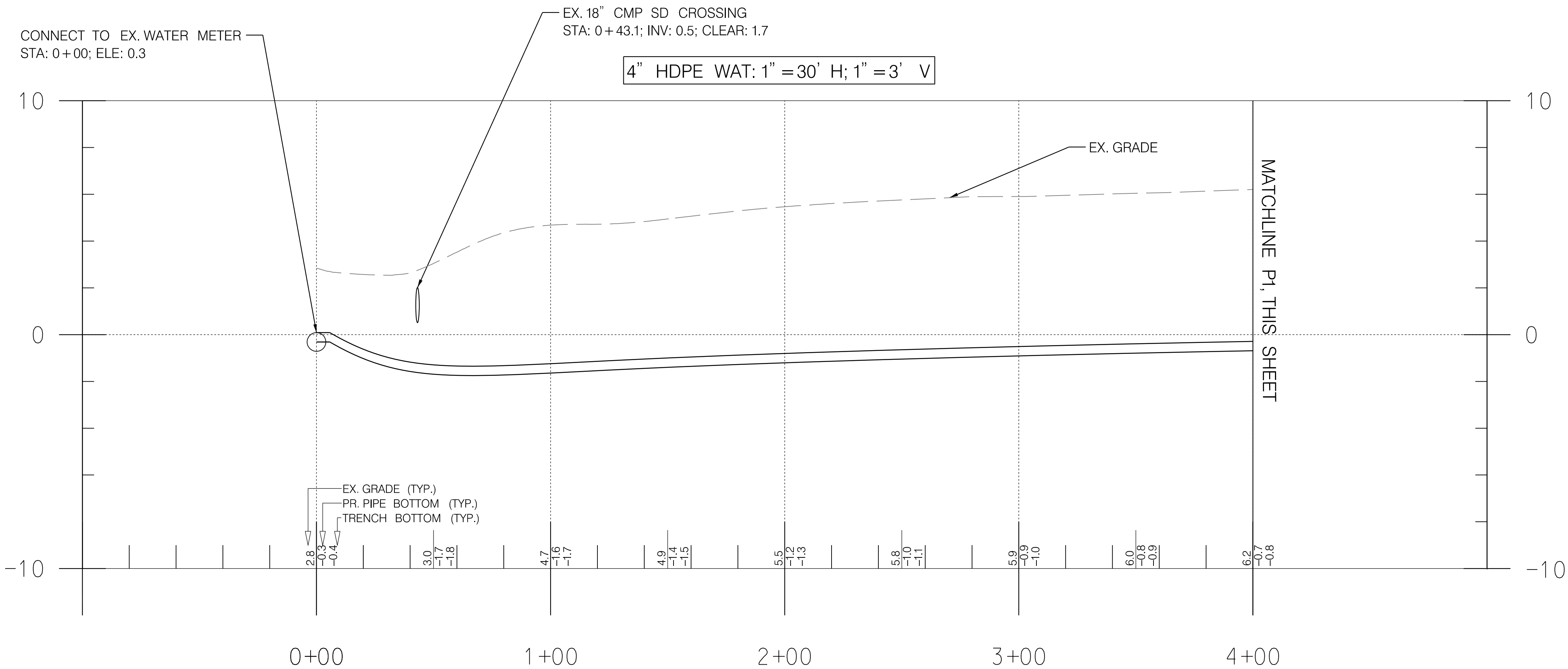
DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
C001	23137 GX0
JOB ORDER NUMBER	CC# 100362239
SHEET 7 OF 30	
DRAWING NUMBER	2023-3244
FILE NO.:	3/9

BALTIMORE COUNTY MARYLAND

5/23/2025  
PLOTTED: P:\15-c01 Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterline\Red Drawings\CADD\Works\JUL-F001-FTHOWARD.dgn





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PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHI	DRAWING SCALE	PROPERTY MANAGEMENT	
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. 58244 EXPIRATION DATE 09/27/2025								N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY: _____	
								R.O.W. NO.		36 SE 34		DIRECTOR	
								N/A		37 SE 33		DATE: _____	
				CONTRACT COMPLETION BOX							PROFILE SCALE: H: 1" = 30' V: 1" = 3'	APPROVED BY: _____	
ENGINEER: CHRIS COLLINS				DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	CHIEF
AS-BUILT PER RECORD PRINT				DWN BY: CC	REVIEWED BY:								
BY: _____				CHKD BY: AP	DATE REVIEWED:								
DATE: _____													DATE: _____

DEPT. OF PUBLIC WORKS & TRANSPORTATION

APPROVED BY: \_\_\_\_\_ DIRECTOR

DATE: \_\_\_\_\_

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT


**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE - 2  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
C002	23137 GX0
	
JOB ORDER NUMBER	
CC# 100362239	
SHEET 8 OF 30	
DRAWING NUMBER	
2023-3245	
FILE NO.: 3/9	REV 02/22

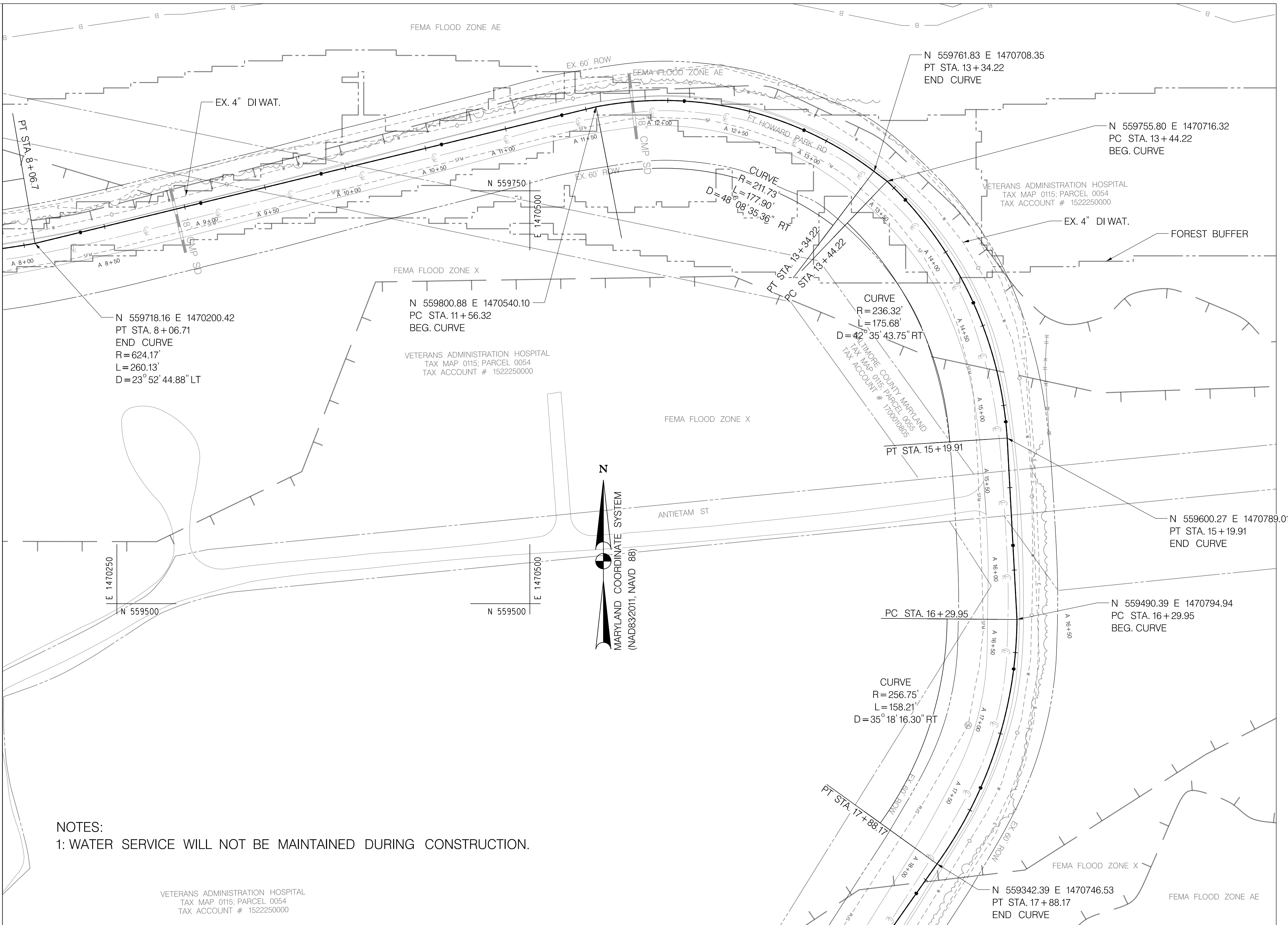
5/2/2025  
PLOTTER: P11e-010 Baltimore Co. On-Call CADD Site Design\Task07-FtHowardWaterline\Red\Drawings\CADD\Works\cadd-Ft002\_FtHoward.dgn



# LEGEND

	FEMA FLOOD HAZARD BOUNDARY
	ESTUARINE WETLAND BOUNDARY
	WETLAND 25-FT BUFFER
	FOREST BUFFER
	RIGHT OF WAY
	EX. WATER
	PR. WATER
	EX. STORM DRAIN
	EX. UNDERGROUND ELECTRIC
	EX. GAS LINE
	EX. UNDERGROUND TELEPHONE
	EX. UNDERGROUND FIBEROPTIC
	EX. WATER METER
	EX. FIRE HYDRANT
	EX. WATER VAULT
	EX. GAS VALVE
	PR. WATER VAULT
	EX. YARD HYDRANT
	EX. WATER VALVE
	PR. WATER VALVE
	EX. WOODS
	EX. TREE
	PROPERTY LINE
	EX. ROAD CENTERLINE
	EX. ROAD EDGE
	EX. FENCE
	EX. SANITARY SEWER
	EX. SANITARY SEWER FM
	EX. SANITARY SEWER MANHOLE
	EX. SANITARY SEWER CLEANOUT
	EX. OVERHEAD UTILITY LINE
	EX. OVERHEAD UTILITY POLE

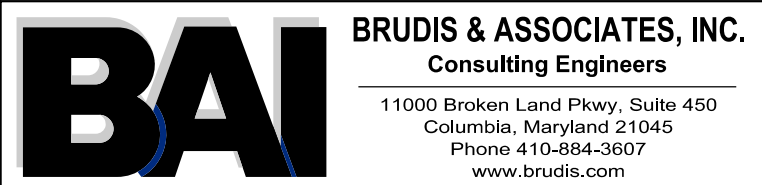
MATCH LINE A - SEE SHEET C001



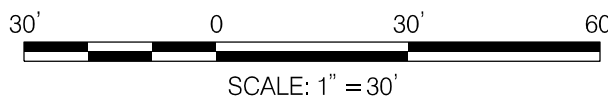
NOTES:  
1: WATER SERVICE WILL NOT BE MAINTAINED DURING CONSTRUCTION.

VETERANS ADMINISTRATION HOSPITAL  
TAX MAP 0115; PARCEL 0054  
TAX ACCOUNT # 1522250000

MATCH LINE B - SEE SHEET C005



	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE	PROPERTY MANAGEMENT	
	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.						N/A	A-SE	35 SE 33 36 SE 34 36 SE 33 37 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY: _____ DIRECTOR	
	LICENSE NO. 58244 EXPIRATION DATE: 09/27/2025		CONTRACT COMPLETION BOX				N/A			PROFILE SCALE: N/A	DATE: _____	
	ENGINEER: CHRIS COLLINS	DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	APPROVED BY: _____ CHIEF	
AS-BUILT PER RECORD PRINT		DWN BY: CC	REVIEWED BY:								DATE: _____	
BY: _____		CHKD BY: AP	DATE REVIEWED:									
DATE: 09/06/2024												



BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

## FT. HOWARD WATERLINE REPLACEMENT WATER LINE PLAN AND PROFILE - 3 4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

SUBDIVISION: SPARROWS POINT

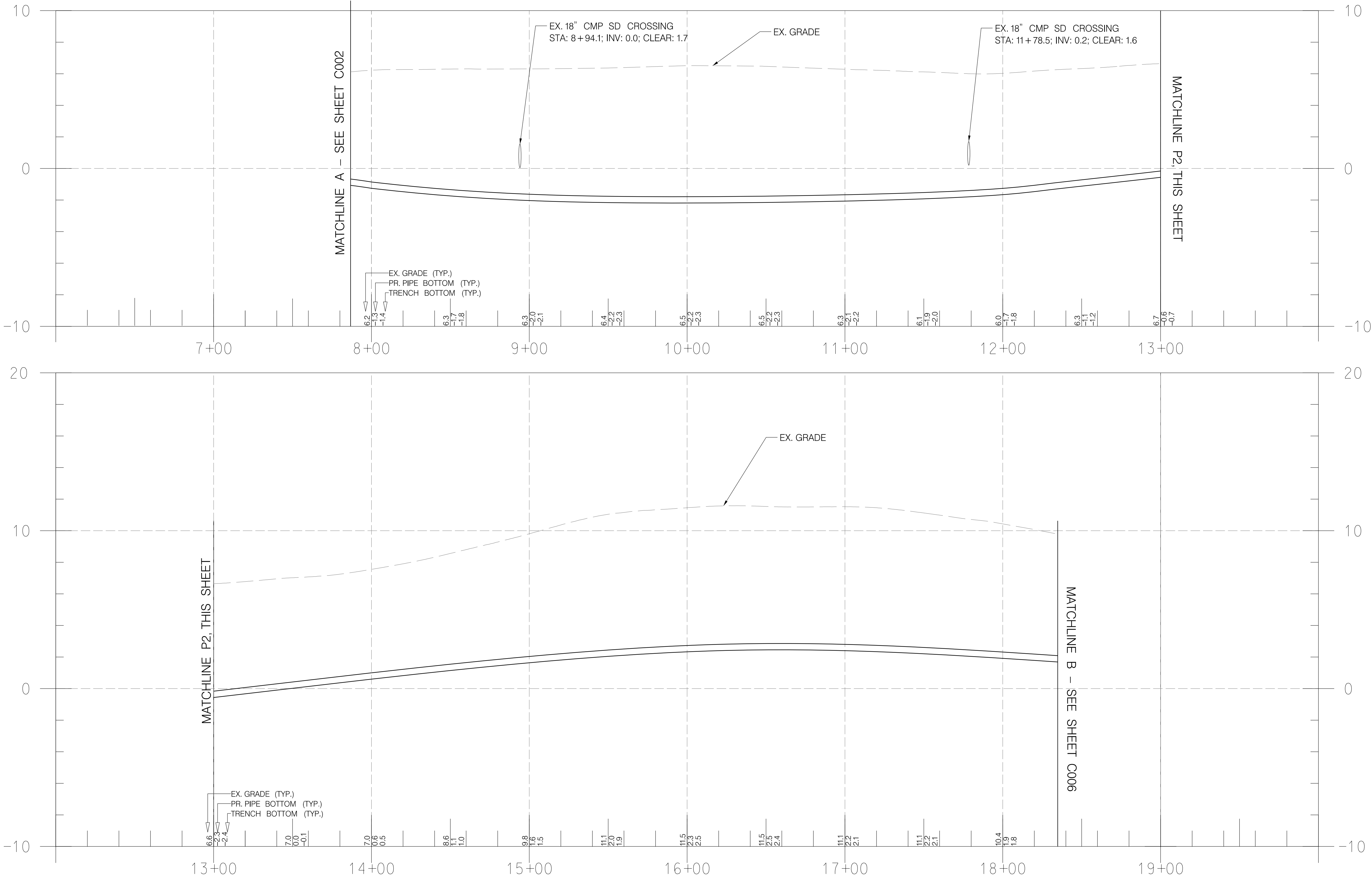
ELECTION DIST. NO.: 15C7


DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
C003	23137 GXO
JOB ORDER NUMBER	CC# 100362239
SHEET 9 OF 30	
DRAWING NUMBER	2023-3246
FILE NO.:	3/9





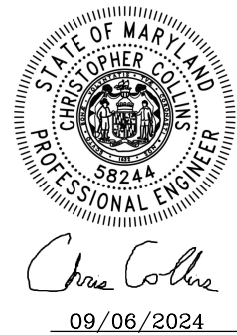




BRUDIS & ASSOCIATES, INC.

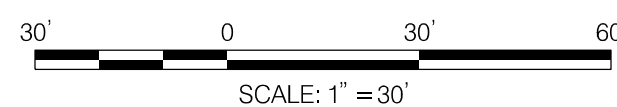
Consulting Engineers

11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-854-3607  
www.brudis.com



PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION	SHT	DRAWING SCALE	PROPERTY MANAGEMENT	
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. 58244 EXPIRATION DATE 09/27/2025								N/A	A-SE	35 SE 33		PLAN SCALE: 1" = 30'	APPROVED BY: _____	
								R.O.W. NO.		36 SE 34		H: 1" = 30'	DIRECTOR	
								N/A		37 SE 33		V: 1" = 3'	DATE: _____	
ENGINEER: CHRIS COLLINS				DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT				DWN BY: CC		REVIEWED BY:							APPROVED BY: _____	
BY: _____				CHKD BY: AP		DATE REVIEWED:							CHIEF	
DATE: _____													DATE: _____	

4" HDPE WAT: 1" = 30' H; 1" = 3' V



DEPT. OF PUBLIC WORKS & TRANSPORTATION

APPROVED BY: \_\_\_\_\_

DIRECTOR

DATE: \_\_\_\_\_

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT**

**WATER LINE PLAN AND PROFILE – 4**

**4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

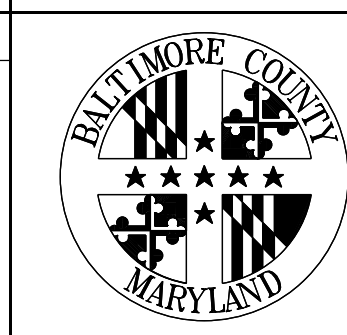
SUBDIVISION: SPARROWS POINT

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)

HORIZ: NAD 83/2011

VERT: NAVD 88

SHEET DESIGNATION	C004	CONTRACT NUMBER	23137 GX0
JOB ORDER NUMBER	CC# 100362239		
SHEET 10 OF 30	DRAWING NUMBER		
2023-3247	FILE NO.: 3/9		



DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)

HORIZ: NAD 83/2011

VERT: NAVD 88



# LEGEND

	FEMA FLOOD HAZARD BOUNDARY
	ESTUARINE WETLAND BOUNDARY
	WETLAND 25-FT BUFFER
	FOREST BUFFER
	RIGHT OF WAY
	EX. WATER
	PR. WATER
	EX. STORM DRAIN
	EX. UNDERGROUND ELECTRIC
	EX. GAS LINE
	EX. UNDERGROUND TELEPHONE
	EX. UNDERGROUND FIBEROPTIC
	EX. WATER METER
	EX. FIRE HYDRANT
	EX. WATER VAULT
	EX. GAS VALVE
	PR. WATER VAULT
	EX. YARD HYDRANT
	EX. WATER VALVE
	PR. WATER VALVE
	EX. WOODS
	EX. TREE
	PROPERTY LINE
	EX. ROAD CENTERLINE
	EX. ROAD EDGE
	EX. FENCE
	EX. SANITARY SEWER
	EX. SANITARY SEWER FM
	EX. SANITARY SEWER MANHOLE
	EX. SANITARY SEWER CLEANOUT
	EX. OVERHEAD UTILITY LINE
	EX. OVERHEAD UTILITY POLE

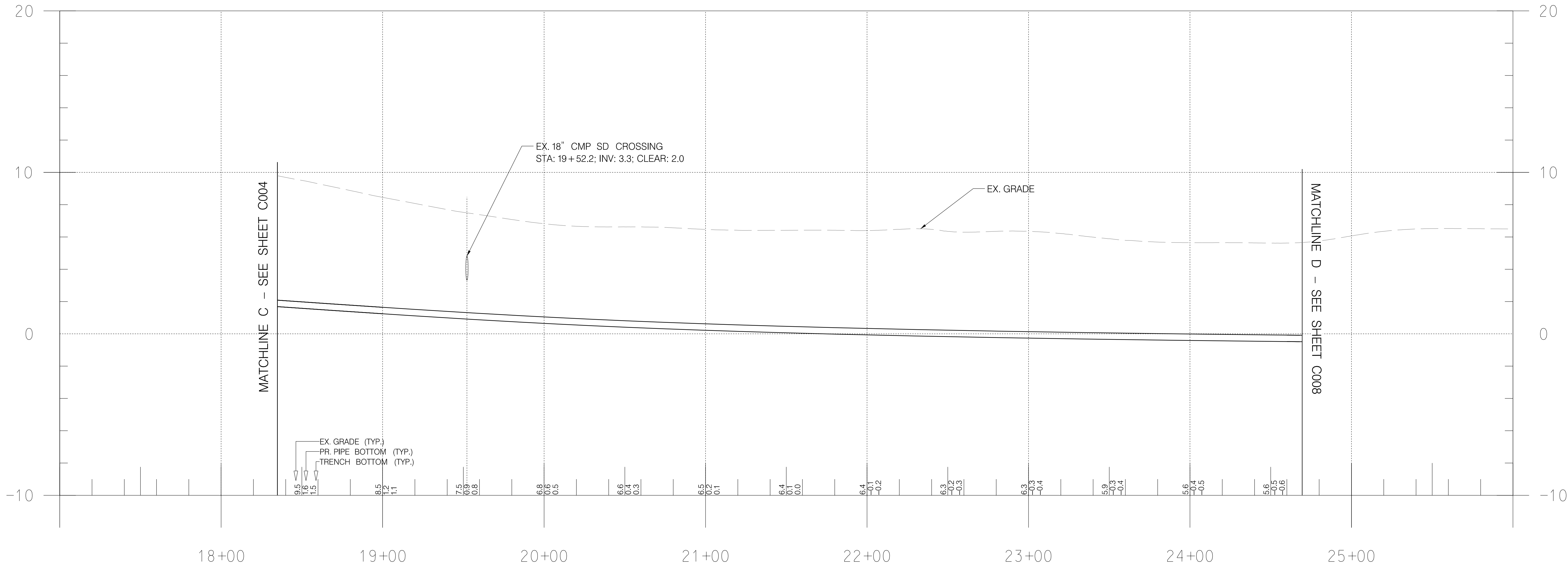


30' 0 30' 60'

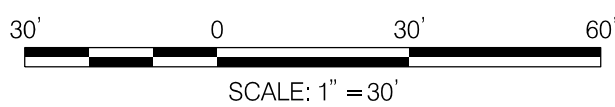
SCALE: 1" = 30'


5/23/2025



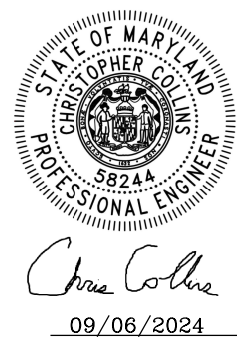


4" HDPE WAT: 1" = 30' H; 1" = 3' V





**BRUDIS & ASSOCIATES, INC.**  
Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-854-3607  
www.brudis.com

  <i>Chris Collins</i>  09/06/2024	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION	SHT	DRAWING SCALE		PROPERTY MANAGEMENT	
	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. 58244 EXPIRATION DATE 09/27/2025						N/A	A-SE	35 SE	33	PLAN SCALE: 1" = 30' PROFILE SCALE: H: 1" = 30' V: 1" = 3'	APPROVED BY: _____		
							R.O.W. NO.		36 SE	34		DIRECTOR		
							N/A		36 SE	33		DATE: _____		
	ENGINEER: CHRIS COLLINS		DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
	AS-BUILT PER RECORD PRINT		DWN BY: CC		REVIEWED BY:									APPROVED BY: _____
	BY: _____		CHKD BY: AP		DATE REVIEWED:									CHIEF
	DATE: _____													DATE: _____

DEPT. OF PUBLIC WORKS & TRANSPORTATION

APPROVED BY: \_\_\_\_\_

DIRECTOR


DATE: \_\_\_\_\_

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT**  
**WATER LINE PLAN AND PROFILE – 6**  
**4", 2", & 3/4" WATERLINE REPLACEMENT**  
**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	C006	CONTRACT NUMBER	23137 GXO
JOB ORDER NUMBER	CC# 100362239		
SHEET 12 OF 30			
DRAWING NUMBER	2023-3249		
FILE NO.: 3/9	REV 02/24		

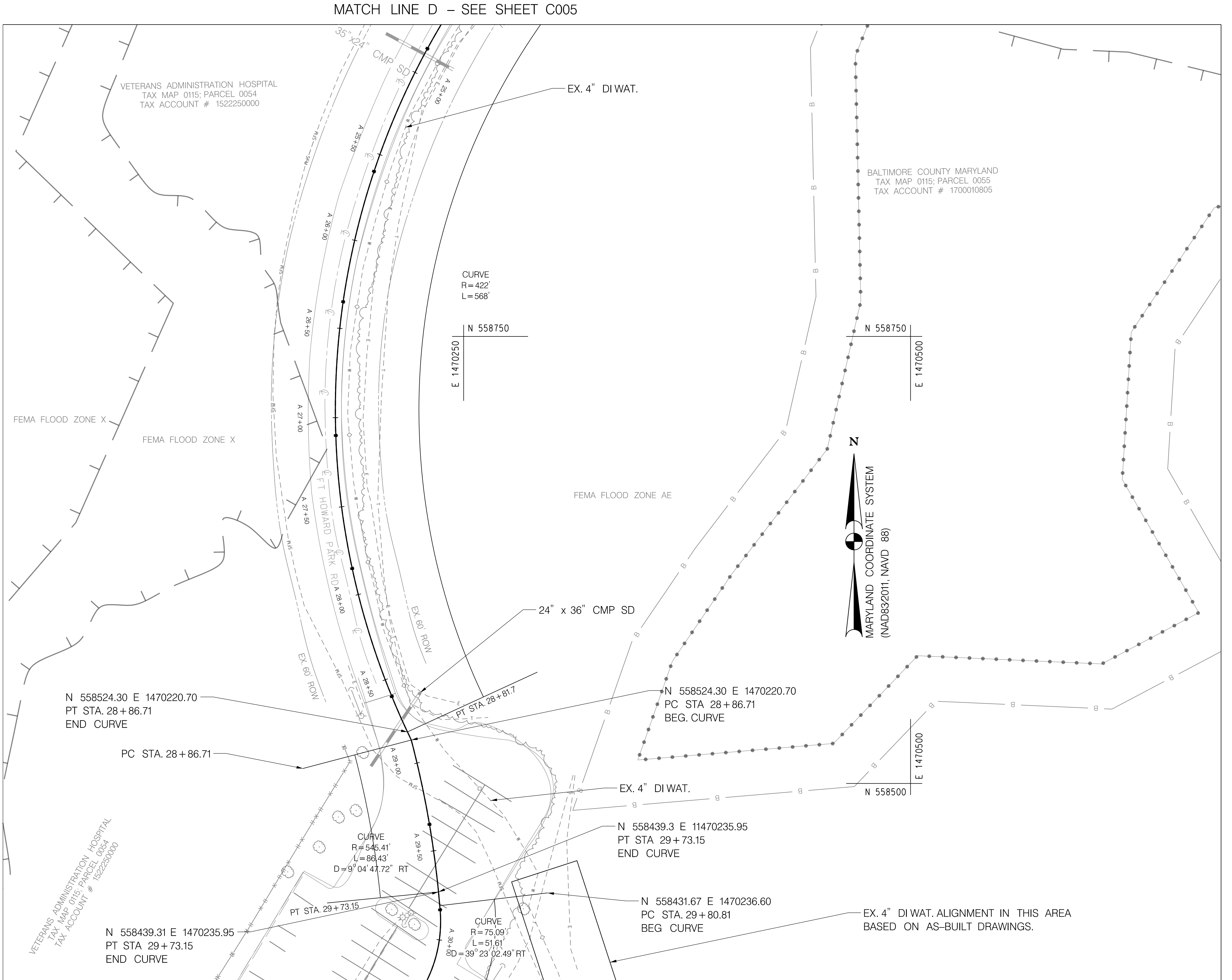


DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

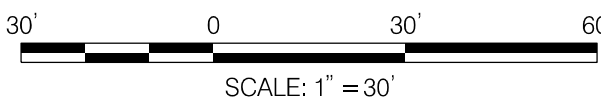


LEGEND

	FEMA FLOOD HAZARD BOUNDARY
	ESTUARINE WETLAND BOUNDARY
	WETLAND 25-FT BUFFER
	FOREST BUFFER
	RIGHT OF WAY
	EX. WATER
	PR. WATER
	EX. STORM DRAIN
	EX. UNDERGROUND ELECTRIC
	EX. GAS LINE
	EX. UNDERGROUND TELEPHONE
	EX. UNDERGROUND FIBEROPTIC
	EX. WATER METER
	EX. FIRE HYDRANT
	EX. WATER VAULT
	EX. GAS VALVE
	PR. WATER VAULT
	EX. YARD HYDRANT
	EX. WATER VALVE
	PR. WATER VALVE
	EX. WOODS
	EX. TREE
	PROPERTY LINE
	EX. ROAD CENTERLINE
	EX. ROAD EDGE
	EX. FENCE
	EX. SANITARY SEWER
	EX. SANITARY SEWER FM
	EX. SANITARY SEWER MANHOLE
	EX. SANITARY SEWER CLEANOUT
	EX. OVERHEAD UTILITY LINE
	EX. OVERHEAD UTILITY POLE




MATCH LINE E – SEE SHEET C009

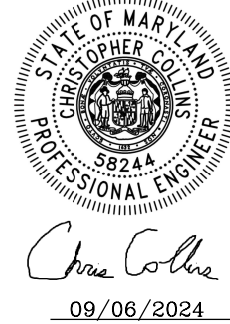


NOTES:

1: WATER SERVICE WILL NOT BE MAINTAINED DURING CONSTRUCTION.



**BRUDIS & ASSOCIATES, INC.**  
Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone: 410-884-3607  
www.brudis.com

	PROFESSIONAL CERTIFICATION			AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE		PROPERTY MANAGEMENT	
	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. 58244 EXPIRATION DATE 09/27/2025			CONTRACT COMPLETION BOX				N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY: _____	DIRECTOR	
								R.O.W. NO.		36 SE 34				
								N/A		37 SE 33				
	ENGINEER: CHRIS COLLINS			DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT			DWN BY: CC		REVIEWED BY:									
BY: DATE: 09/06/2024			CHKD BY: AP		DATE REVIEWED:								APPROVED BY: _____	CHIEF

DEPT. OF PUBLIC WORKS & TRANSPORTATION

APPROVED BY: \_\_\_\_\_  
DIRECTOR

DATE: \_\_\_\_\_

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE – 7  
4", 2", & 3/4" WATERLINE REPLACEMENT**


**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

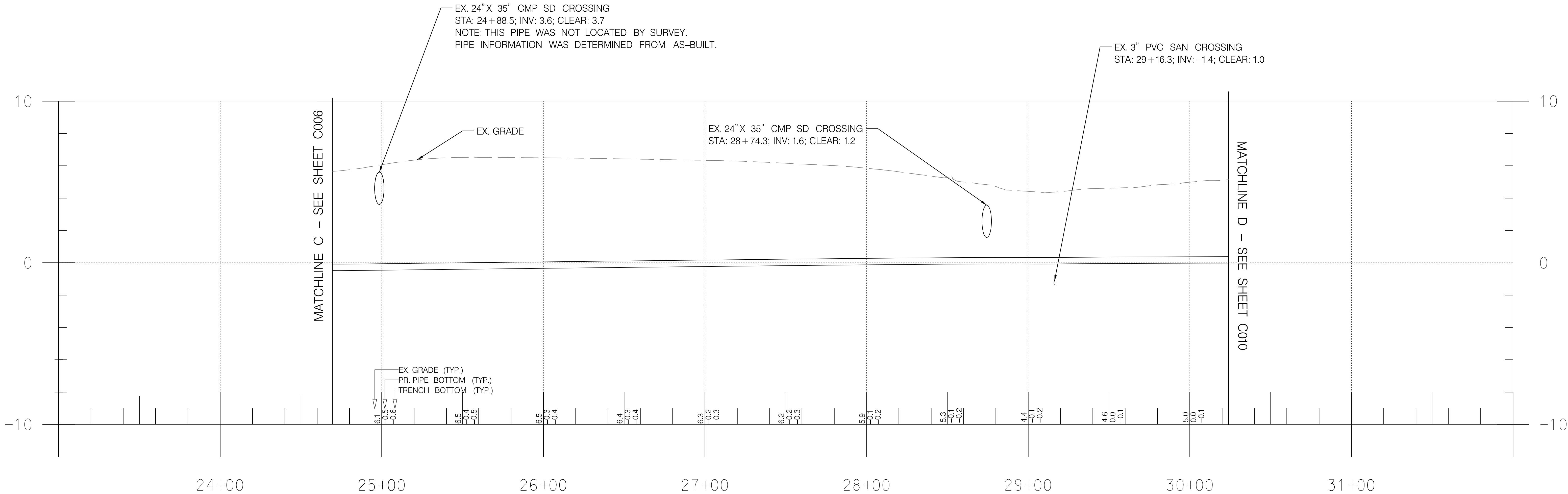
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
C007	23137 GX0
JOB ORDER NUMBER	
CC# 100362239	
SHEET 13 OF 30	
DRAWING NUMBER	
2023-3250	
FILE NO.:	3/9

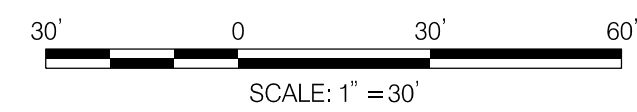


5/23/2025  
PLOTTER: P:\p-010 Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterline\Red Drawings\CADD\Working\duf-F007\_FTHOWARD.dgn

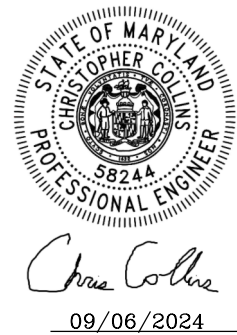




4" HDPE WAT: 1" = 30' H; 1" = 3' V



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11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-854-3607  
www.brudis.com



PROFESSIONAL CERTIFICATION	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.	
LICENSE NO. 58244	EXPIRATION DATE 09/27/2025
ENGINEER: CHRIS COLLINS	DGN BY: SA/CC
AS-BUILT PER RECORD PRINT	DWN BY: CC
BY: [Signature]	CHKD BY: AP
DATE:	DATE REVIEWED:

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE
			N/A		35 SE 33	PLAN SCALE: 1" = 30'
			R.O.W. NO.	A-SE	36 SE 34	PROFILE SCALE: H: 1" = 30'
			N/A		37 SE 33	V: 1" = 3'
CONTRACT COMPLETION BOX						
BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER
REVIEWED BY:						FIELD ENGINEER
DATE REVIEWED:						

DEPT. OF PUBLIC WORKS & TRANSPORTATION
APPROVED BY: DIRECTOR
DATE:
PROPERTY MANAGEMENT
APPROVED BY: DIRECTOR
DATE:
APPROVED BY: CHIEF
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE - 8  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

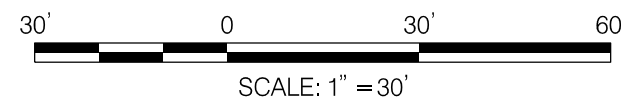
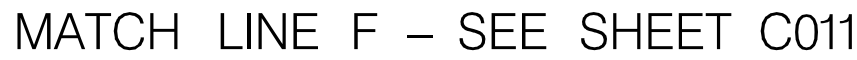
SHEET DESIGNATION	CONTRACT NUMBER
C008	23137 GXO
JOB ORDER NUMBER	
CC# 100362239	
SHEET 14 OF 30	
DRAWING NUMBER	
2023-3251	
FILE NO.: 3/9	REV 02/22

**BALTIMORE COUNTY**  
MARYLAND



# LEGEND

	FEMA FLOOD HAZARD BOUNDARY
	ESTUARINE WETLAND BOUNDARY
	WETLAND 25-Ft BUFFER
	FOREST BUFFER
	RIGHT OF WAY
	EX. WATER
	PR. WATER
	EX. STORM DRAIN
	EX. UNDERGROUND ELECTRIC
	EX. GAS LINE
	EX. UNDERGROUND TELEPHONE
	EX. UNDERGROUND FIBEROPTIC
	EX. WATER METER
	EX. FIRE HYDRANT
	EX. WATER VAULT
	EX. GAS VALVE
	PR. WATER VAULT
	EX. YARD HYDRANT
	EX. WATER VALVE
	PR. WATER VALVE
	EX. WOODS
	EX. TREE
	PROPERTY LINE
	EX. ROAD CENTERLINE
	EX. ROAD EDGE
	EX. FENCE
	EX. SANITARY SEWER
	EX. SANITARY SEWER FM
	EX. SANITARY SEWER MANHOLE
	EX. SANITARY SEWER CLEANOUT
	EX. OVERHEAD UTILITY LINE
	EX. OVERHEAD UTILITY POLE

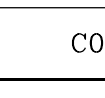


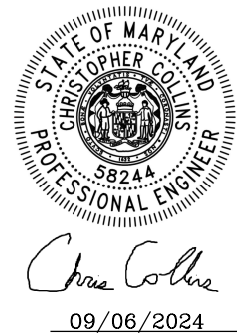
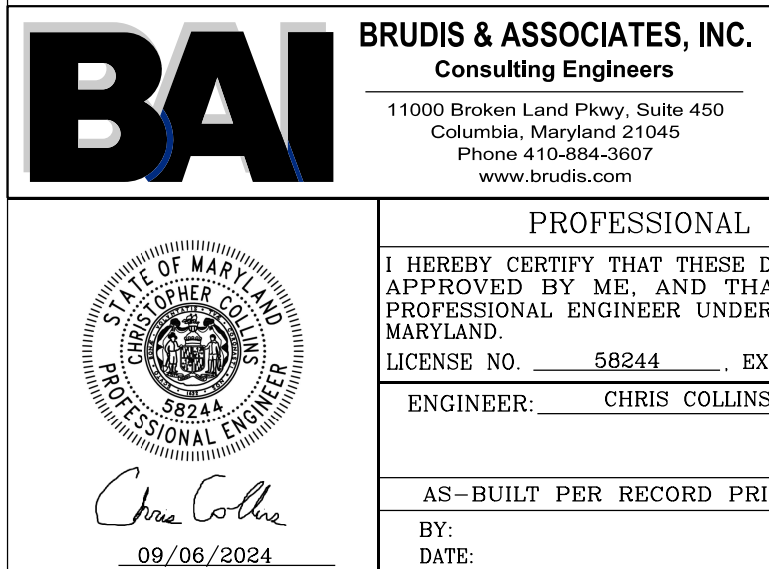
1: WATER SERVICE WILL NOT BE MAINTAINED DURING CONSTRUCTION.

DEPT. OF PUBLIC WORKS & TRANSPORTATION	
APPROVED BY: _____	DIRECTOR
DATE: _____	
PROPERTY MANAGEMENT	
APPROVED BY: _____	DIRECTOR
DATE: _____	
3	
APPROVED BY: _____	CHIEF
DATE: _____	

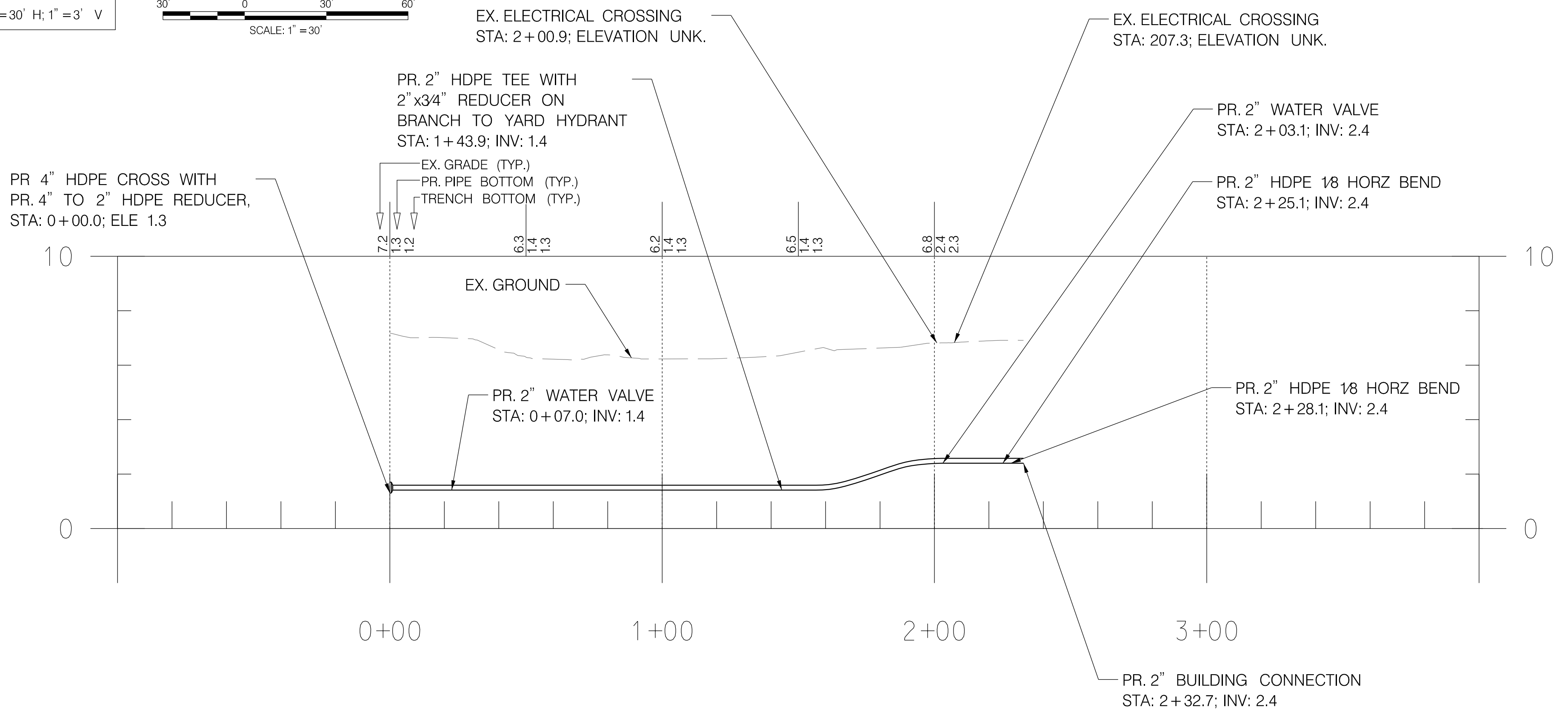
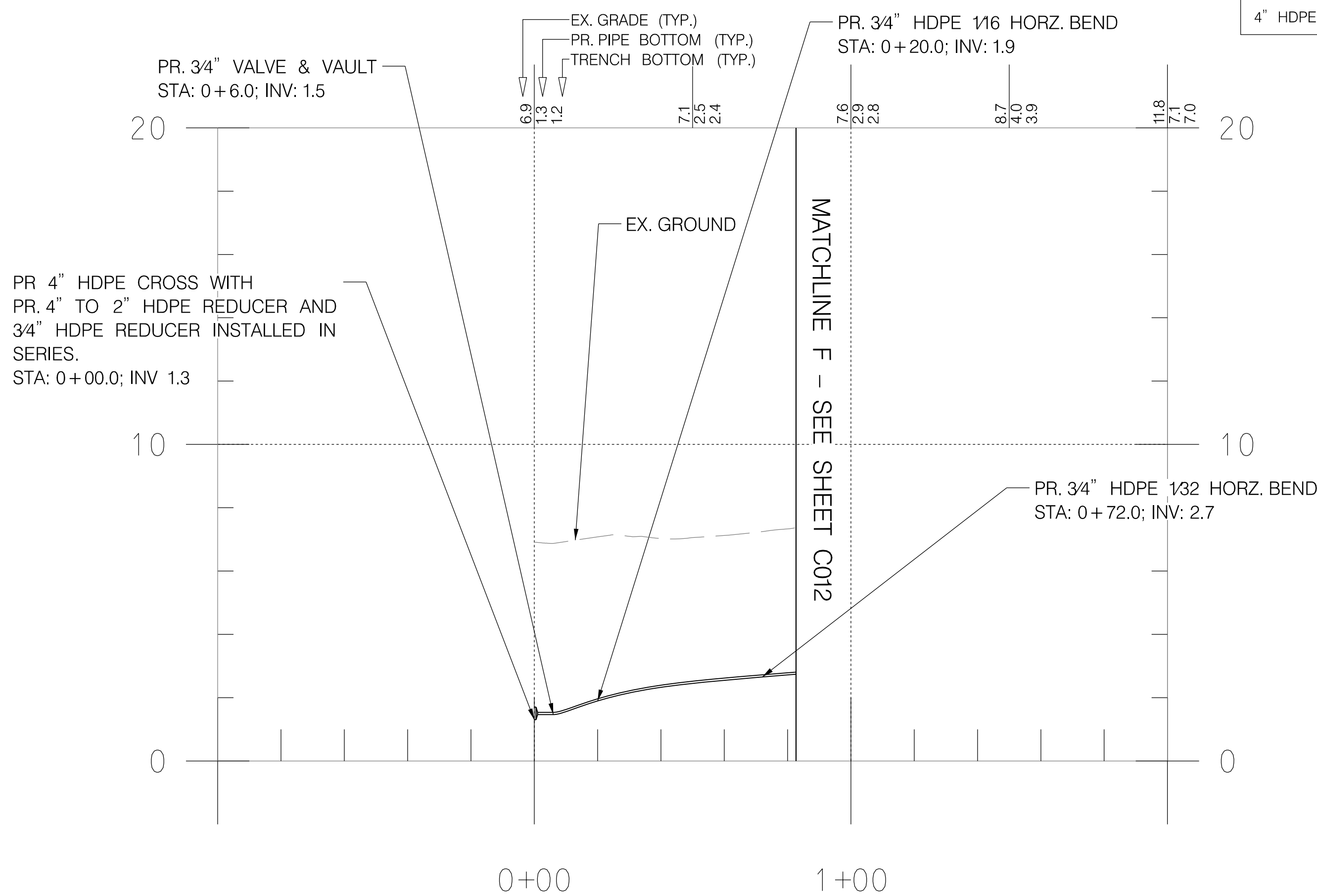
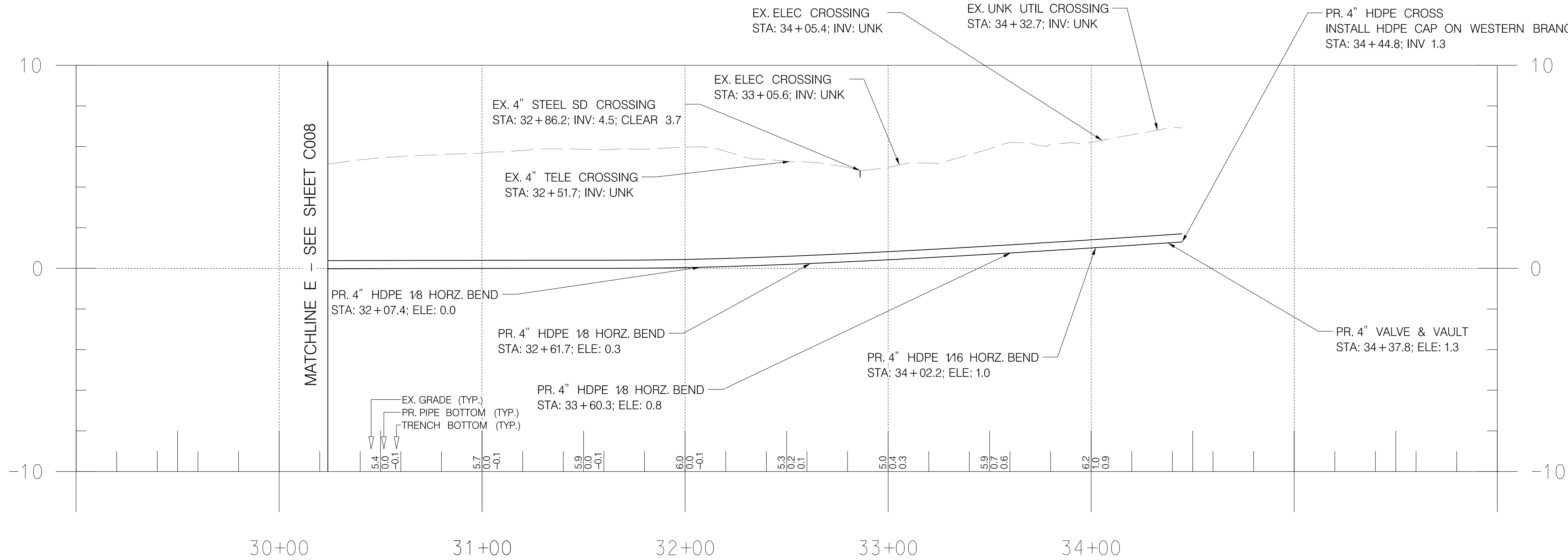
**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE – 9  
4", 2", & 3/4" WATERLINE REPLACEMENT  
FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

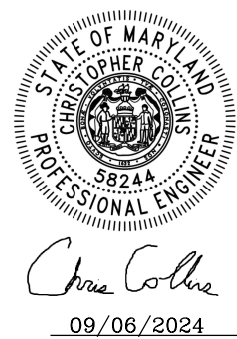
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88	
SHEET DESIGNATION	CONTRACT NUMBER
C009	23137 GXO
	JOB ORDER NUMBER
	CC# 100362239
	SHEET 15 OF 30
	DRAWING NUMBER
	2023-3252
	FILE NO.: 3/9 <small>ENCLOSURE</small>







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Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-854-3607  
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PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE	PROPERTY MANAGEMENT	
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. 58244 EXPIRATION DATE: 09/27/2025								N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY: _____	
								R.O.W. NO.		36 SE 34		DIRECTOR	
								N/A		37 SE 33		DATE: _____	
				CONTRACT COMPLETION BOX							PROFILE SCALE: H: 1" = 30' V: 1" = 3'	APPROVED BY: _____	
ENGINEER: CHRIS COLLINS				DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	CHIEF
AS-BUILT PER RECORD PRINT				DWN BY: CC	REVIEWED BY:								
BY: _____				CHKD BY: AP	DATE REVIEWED:								
DATE: _____													DATE: _____

DEPT. OF PUBLIC WORKS & TRANSPORTATION  
APPROVED BY: \_\_\_\_\_ DIRECTOR  
DATE: \_\_\_\_\_

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE - 10  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
C010	23137 GX0
JOB ORDER NUMBER	CC# 100362239
SHEET 16 OF 30	
DRAWING NUMBER	2023-3253
FILE NO.:	3/9





LEGEND

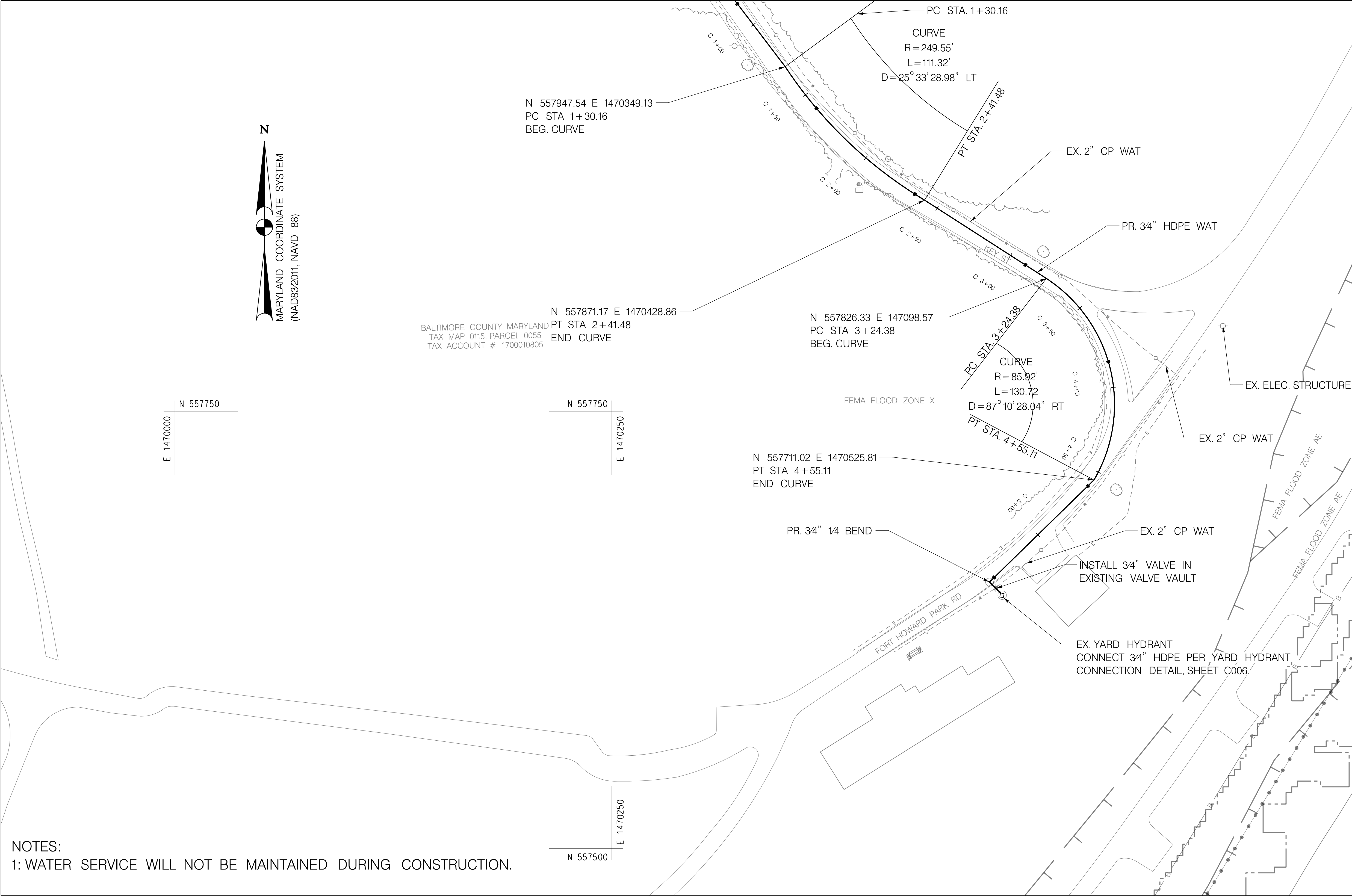
	FEMA FLOOD HAZARD BOUNDARY
	ESTUARINE WETLAND BOUNDARY
	WETLAND 25-FT BUFFER
	FOREST BUFFER
	RIGHT OF WAY
	EX. WATER
	PR. WATER
	EX. STORM DRAIN
	EX. UNDERGROUND ELECTRIC
	EX. GAS LINE
	EX. UNDERGROUND TELEPHONE
	EX. UNDERGROUND FIBEROPTIC
	EX. WATER METER
	EX. FIRE HYDRANT
	EX. WATER VAULT
	EX. GAS VALVE
	PR. WATER VAULT
	EX. YARD HYDRANT
	EX. WATER VALVE
	PR. WATER VALVE
	EX. WOODS
	EX. TREE
	PROPERTY LINE
	EX. ROAD CENTERLINE
	EX. ROAD EDGE
	EX. FENCE
	EX. SANITARY SEWER
	EX. SANITARY SEWER FM
	EX. SANITARY SEWER MANHOLE
	EX. SANITARY SEWER CLEANOUT
	EX. OVERHEAD UTILITY LINE
	EX. OVERHEAD UTILITY POLE


COMPONENT COORDINATES

STATION	NORTH	EAST
C 5+38.7 (3/4" 1/4 BEND)	557652.58	1470466.01
C 5+43.8 (3/4" VALVE)	557649.13	1470469.62
C 5+47.6 (EX. YARD HYDRANT)	557645.10	1470473.24


NOTES:  
1: WATER SERVICE WILL NOT BE MAINTAINED DURING CONSTRUCTION.

MATCH LINE F – SEE SHEET C009





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Consulting Engineers  
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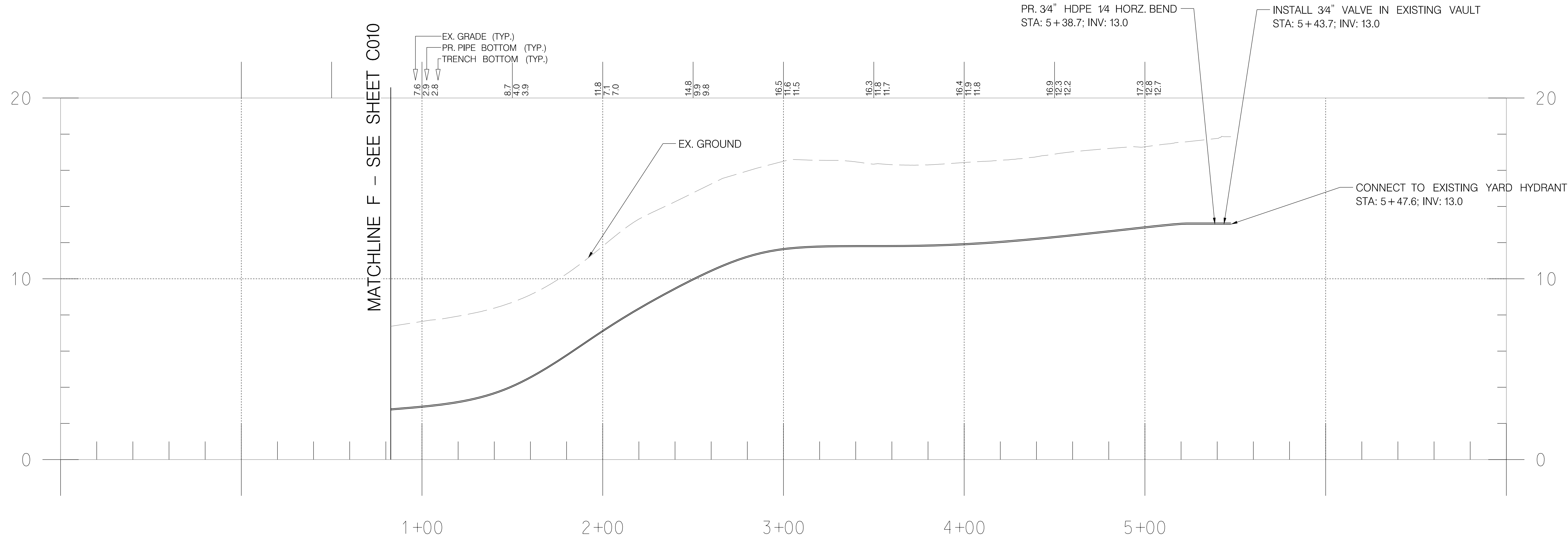
  <i>Chris Collins</i> 09/06/2024	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE		PROPERTY MANAGEMENT	
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY MR. AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 58244 EXPIRATION DATE 09/27/2025		CONTRACT COMPLETION BOX				N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY:	DIRECTOR	
							R.O.W. NO.		36 SE 34				
							N/A		37 SE 33				
	ENGINEER: CHRIS COLLINS		DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT		DWN BY: CC		REVIEWED BY:									APPROVED BY:
BY: _____		CHKD BY: AP		DATE REVIEWED:									CHIEF
DATE: 09/06/2024													DATE:

DEPT. OF PUBLIC WORKS & TRANSPORTATION  
APPROVED BY: \_\_\_\_\_ DIRECTOR  
DATE: \_\_\_\_\_

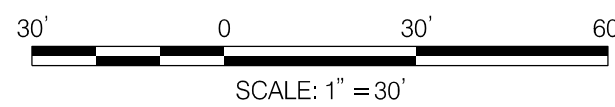
BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT  
**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE – 11  
4", 2", & 3/4" WATERLINE REPLACEMENT**  
**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT  
ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88  
SHEET DESIGNATION C011 CONTRACT NUMBER 23137 GX0  
JOB ORDER NUMBER  
CC# 100362239  
SHEET 17 OF 30  
DRAWING NUMBER  
2023-3254  
FILE NO.: 3/9

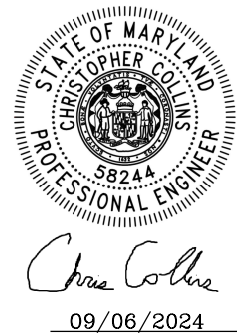




3/4" HDPE WAT: 1" = 30' H; 1" = 3' V



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Consulting Engineers  
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Phone 410-854-3607  
www.brudis.com



PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 58244 EXPIRATION DATE 09/27/2025

ENGINEER: CHRIS COLLINS  
DGN BY: SA/CC  
AS-BUILT PER RECORD PRINT  
BY: CC  
DATE: AP

AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE
				N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'
				R.O.W. NO.		36 SE 34	H: 1" = 30'
				N/A		37 SE 33	V: 1" = 3'
CONTRACT COMPLETION BOX							
BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER
REVIEWED BY:							
DATE REVIEWED:							

DEPT. OF PUBLIC WORKS & TRANSPORTATION
APPROVED BY: DIRECTOR
DATE:
PROPERTY MANAGEMENT
APPROVED BY: DIRECTOR
DATE:
APPROVED BY: CHIEF
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
WATER LINE PLAN AND PROFILE - 12  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

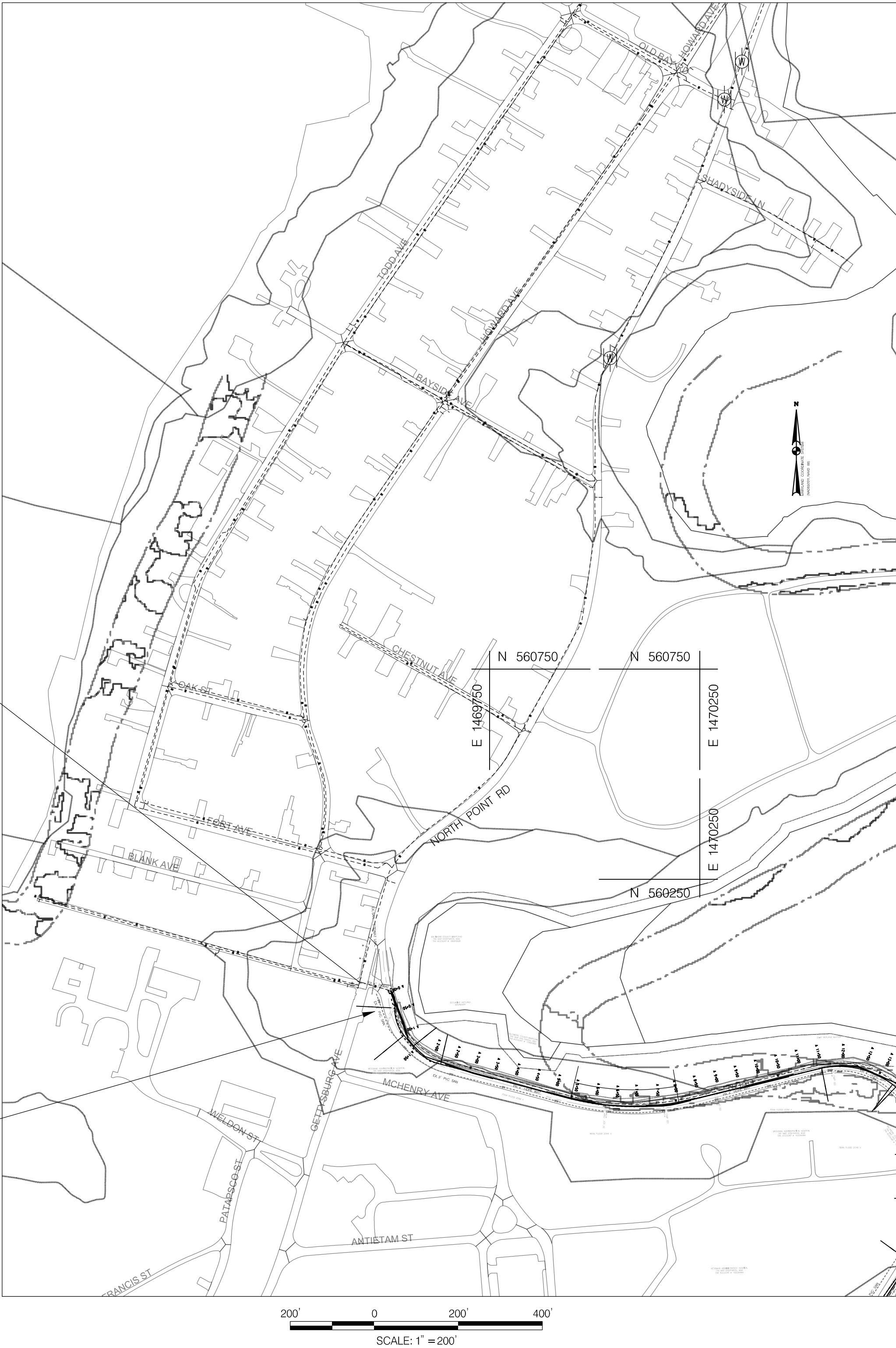
SHEET DESIGNATION	CONTRACT NUMBER
C012	23137 GX0
	JOB ORDER NUMBER
	CC# 100362239
	SHEET 18 OF 30
	DRAWING NUMBER
	2023-3255
	FILE NO.: 3/9


REV 02/22



EMERGENCY SHUT-OFF VALVE.  
IN CASE OF EMERGENCY,  
CLOSE THIS VALVE.

PROJECT SITE

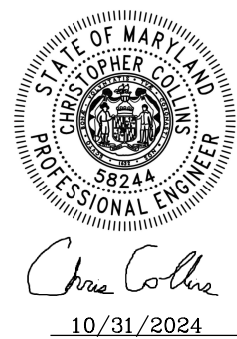




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Consulting Engineers

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Columbia, Maryland 21045  
Phone 410-884-3607  
www.brudis.com

  <i>Chris Collins</i> 10/31/2024	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE		PROPERTY MANAGEMENT			
	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. 58244 EXPIRATION DATE 09/27/2025		CONTRACT COMPLETION BOX				N/A	A-SE	35 SE 33 36 SE 34 37 SE 33	PLAN SCALE:	1" = 200'	APPROVED BY: _____	DIRECTOR		
										R.O.W. NO.	N/A			PROFILE SCALE:	N/A
															N/A
	ENGINEER: CHRIS COLLINS		DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		APPROVED BY: _____	CHIEF
	AS-BUILT PER RECORD PRINT		DWN BY: CC	REVIEWED BY:											
	BY: _____ DATE: _____		CHKD BY: AP	DATE REVIEWED:											

DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION

C013

CONTRACT NUMBER

23137 GX0

JOB ORDER NUMBER

CC# 100362239

SHEET 19 OF 30

DRAWING NUMBER

2023-3256

FILE NO.: 3/9

REV 02/22

BALTIMORE COUNTY

MARYLAND

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT  
SHUT-OFF DIAGRAM  
4", 2", & 3/4" WATERLINE REPLACEMENT  
FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052  
SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

5/2/2025  
PLOTTER: P:\e-cm Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterline\Red Drawings\CADD\Working\JUL-F000\_FTHOWARD - ShutOff Diagram.dgn

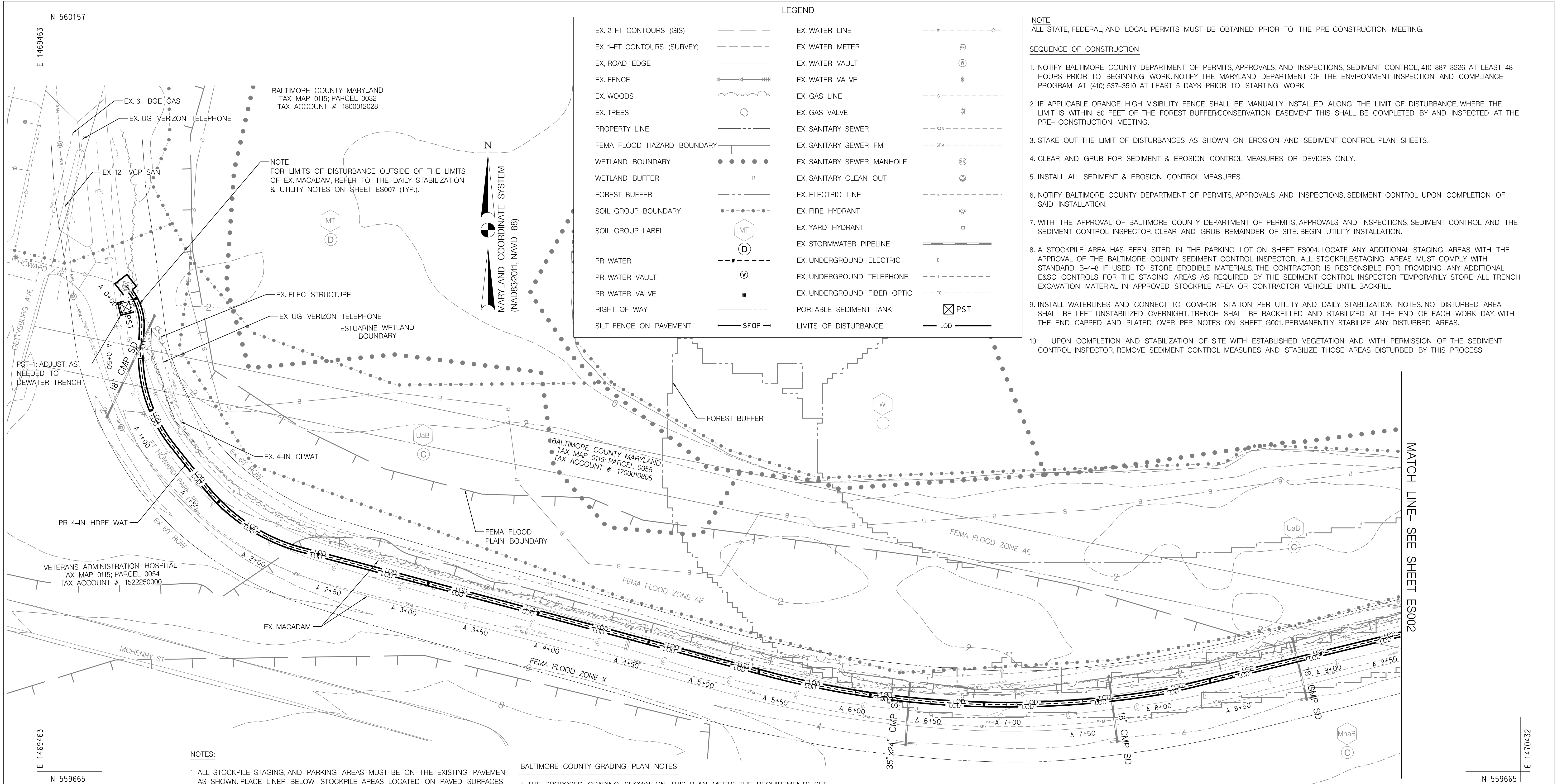













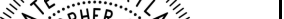
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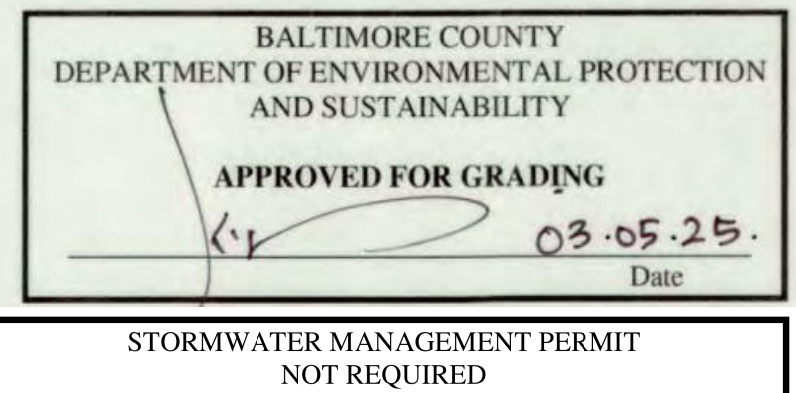
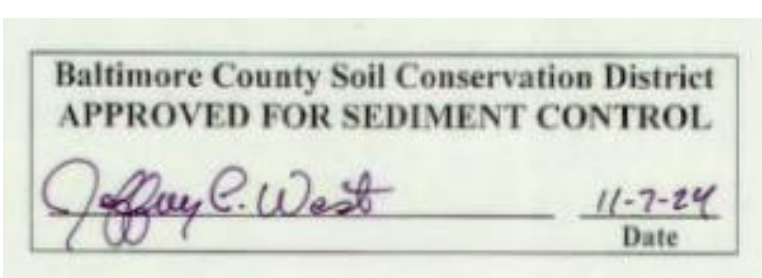
1. ALL STOCKPILE, STAGING, AND PARKING AREAS MUST BE ON THE EXISTING PAVEMENT AS SHOWN. PLACE LINER BELOW STOCKPILE AREAS LOCATED ON PAVED SURFACES. COMPLIANCE WITH B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA ON SHEET ES009.
2. ENTIRE WORK AREA IS WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
3. TOTAL DISTURBED AREA: 14,375 SF/0.33 AC.
4. ADJUST ESC MEASURES AS NEEDED FOR SITE ACCESS. RESET ESC DEVICES AS INDICATED ON THESE PLANS AT END OF EACH WORK DAY.
5. SHEETS ES001 THROUGH ES009 SHALL BE USED FOR EROSION AND SEDIMENT CONTROL ONLY.

BALTIMORE COUNTY GRADING PLAN NOTES:

1. THE PROPOSED GRADING SHOWN ON THIS PLAN MEETS THE REQUIREMENTS SET FORTH BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY AND COMPLIES WITH ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE. HOWEVER, DUE TO BUILDING TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH THE ABOVE MENTIONED REQUIREMENTS.
2. ALL SWALES HAVE BEEN DESIGNED BY THE ENGINEER TO CONVEY RUNOFF ACCORDING TO BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS DESIGN STANDARDS.
3. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR OTHER FOREST RETENTION AREAS, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
4. STORMWATER MANAGEMENT WILL BE ADDRESSED THROUGH A STORMWATER MANAGEMENT VARIANCE.

**BAI** BRUDIS & ASSOCIATES, INC.  
Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone: 410-856-3607  
www.brudis.com

   10/31/2024	PROFESSIONAL CERTIFICATION			AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION	SHT	DRAWING SCALE		PROPERTY MANAGEMENT	
	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. 58244 EXPIRATION DATE 09/27/2025			CONTRACT COMPLETION BOX		REVIEWED BY:		DATE REVIEWED:		N/A		PLAN SCALE: 1" = 30'		APPROVED BY: _____	
												DIRECTOR			
												DATE: _____			
												APPROVED BY: _____			
	CHIEF														
DATE: _____															
ENGINEER: CHRIS COLLINS			DGN BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
AS-BUILT PER RECORD PRINT			DWN BY: CC												
BY: DATE:			CHKD BY: AP												
10/31/2024															



BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
GRADING, EROSION, & SEDIMENT CONTROL PLAN - 1  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

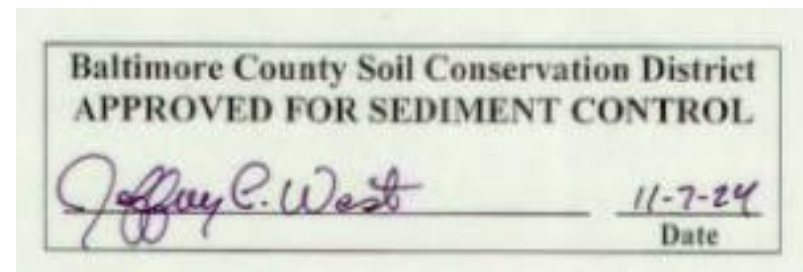
SUBDIVISION: SPARROWS POINT


ELECTION DIST. NO.: 15C7

30' 0 30' 60'		SCALE: 1"=30'	
ESC 2 OF 10		DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88	
SHEET DESIGNATION	CONTRACT NUMBER	JOB ORDER NUMBER	
ES001	23137 GXO	CC# 100362239	
SHEET 22 OF 30		DRAWING NUMBER	
2023-3259		FILE NO.: 3/9	

5/20/2025  
PLOTTER: P:\15-cm Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterline\Reg Drawings\CADD Working\JES-0000\_FTHOWARD.dgn

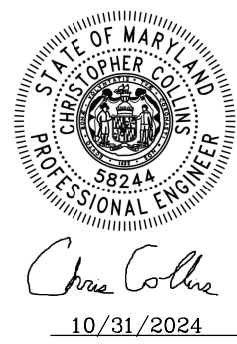




ESC 3 OF 10	
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88	
SHEET DESIGNATION	CONTRACT NUMBER
ES002	23137 GX0
	JOB ORDER NUMBER
	CC# 100362239
	SHEET 23 OF 30
	DRAWING NUMBER
	2023-3260
	FILE NO.: 3/9 <small>05/25</small>

PLOTTED:   
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 5/23/2025

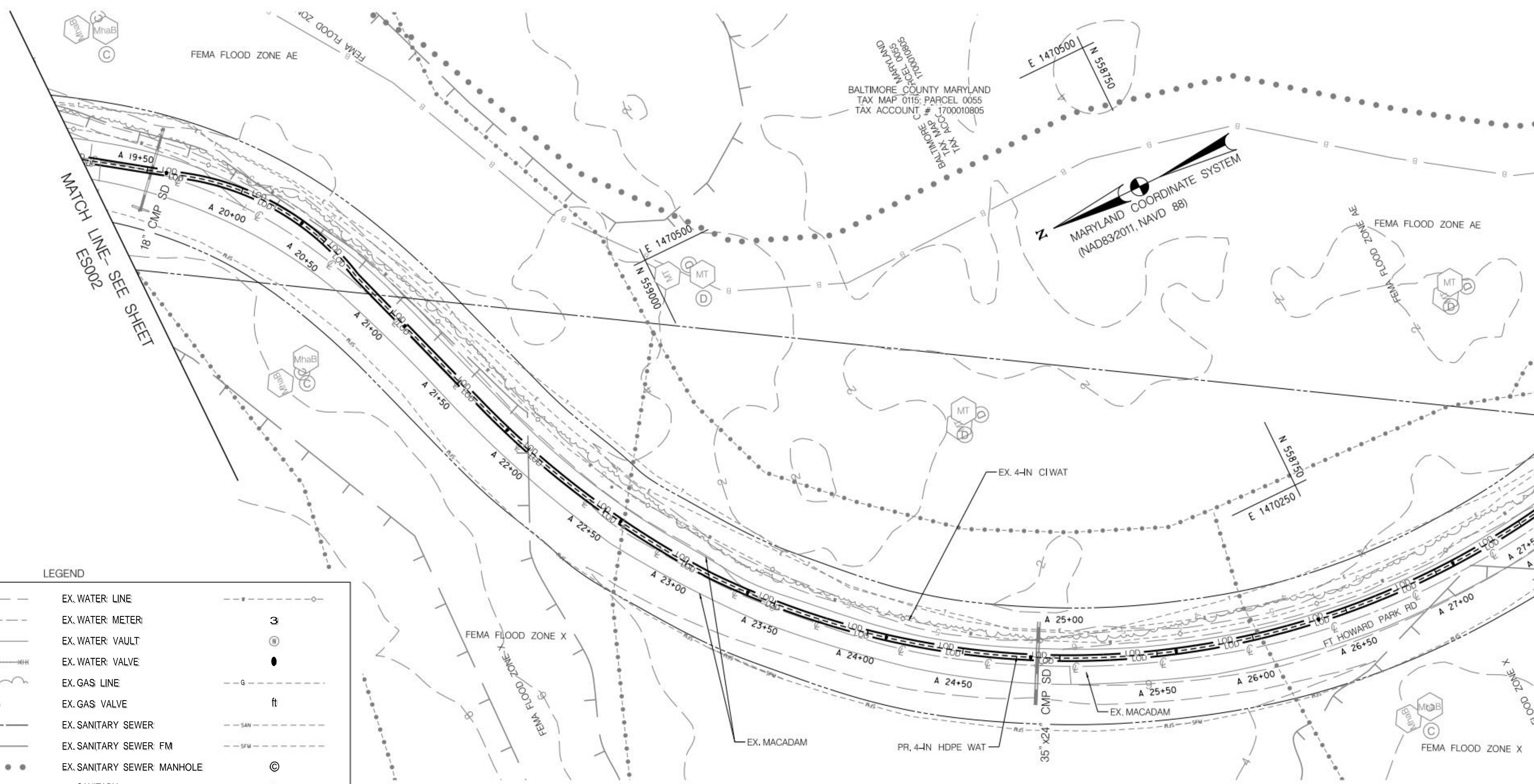
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PROFESSIONAL CERTIFICATION						AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT								
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									R.O.W. NO.													
									CONTRACT COMPLETION BOX						N/A					DATE: _____		
									ENGINEER: CHRIS COLLINS						BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
									AS-BUILT PER RECORD PRINT						REVIEWED BY:							
									BY: _____ DATE: _____						CHKD BY: AP	DATE REVIEWED:						

**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7





LEGEND		
EX. 2-FT CONTOURS (GIS)	---	EX. WATER LINE
EX. 1-FT CONTOURS (SURVEY)	---	EX. WATER METER
EX. ROAD EDGE	---	EX. WATER VAULT
EX. FENCE	---	EX. WATER VALVE
EX. WOODS	---	EX. GAS LINE
EX. TREES	---	EX. GAS VALVE
PROPERTY LINE	---	EX. SANITARY SEWER
FEMA FLOOD HAZARD BOUNDARY	---	EX. SANITARY SEWER FM
WETLAND BOUNDARY	---	EX. SANITARY SEWER MANHOLE
WETLAND BUFFER	---	EX. SANITARY CLEAN OUT
FOREST BUFFER	---	EX. ELECTRIC LINE
SOIL GROUP BOUNDARY	---	EX. FIRE HYDRANT
SOIL GROUP LABEL	---	EX. YARD HYDRANT
PR. WATER	---	EX. STORMWATER PIPELINE
PR. WATER VAULT	---	EX. UNDERGROUND ELECTRIC
PR. WATER VALVE	---	EX. UNDERGROUND TELEPHONE
RIGHT OF WAY	---	EX. UNDERGROUND FIBER OPTIC
SILT FENCE ON PAVEMENT	---	PORTABLE SEDIMENT TANK
	---	LIMITS OF DISTURBANCE

BALTIMORE COUNTY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AND SUSTAINABILITY  
**APPROVED FOR GRADING**  
*[Signature]* 03-05-25  
Date  
STORMWATER MANAGEMENT PERMIT  
NOT REQUIRED

Baltimore County Soil Conservation District  
**APPROVED FOR SEDIMENT CONTROL**  
*[Signature]* 11-7-24  
Date

**BAI** BRUDIS & ASSOCIATES, INC.  
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11050 Broken Land Pkwy, Suite 450  
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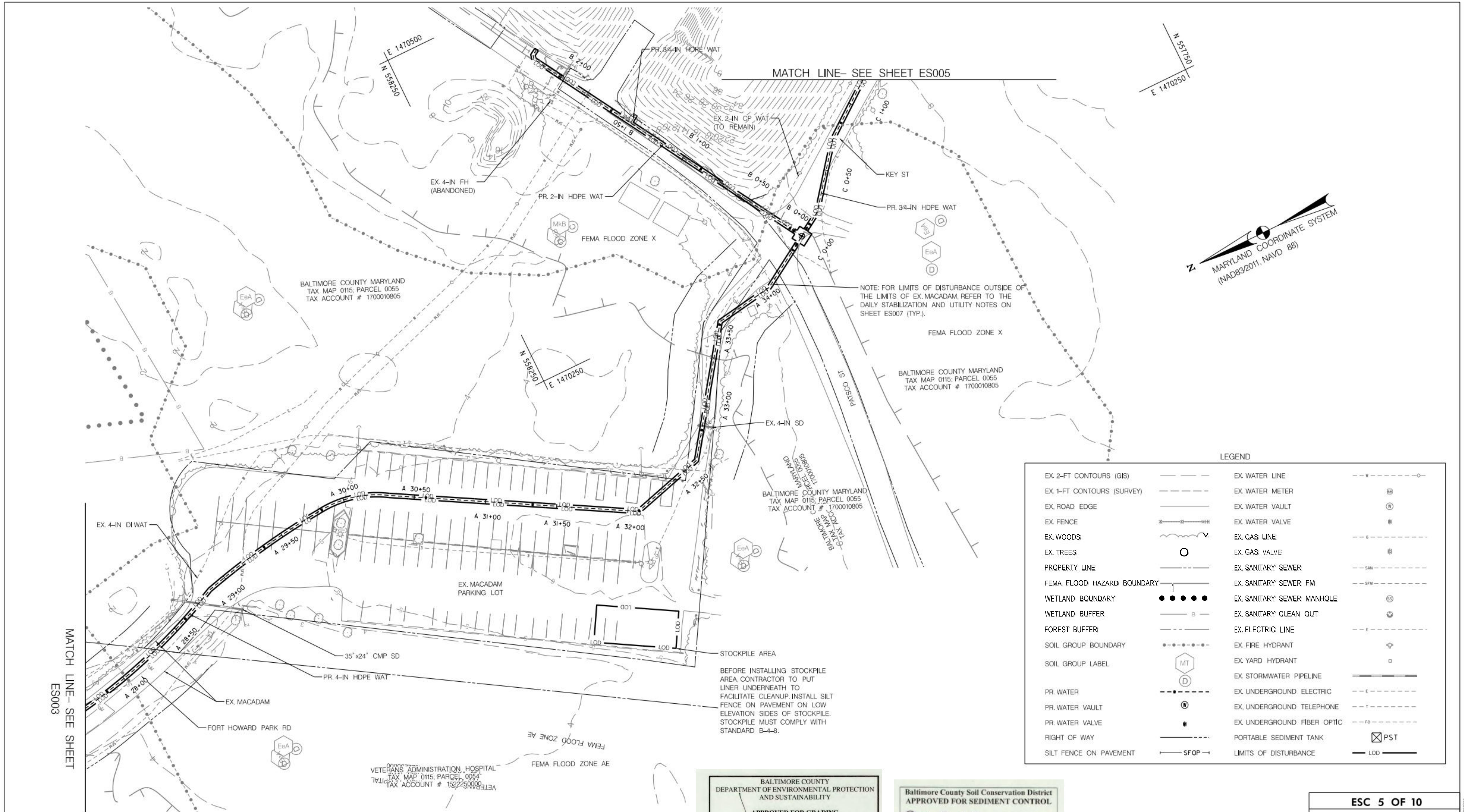
PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.I.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE	PROPERTY MANAGEMENT	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 58244 EXPIRATION DATE: 09/27/2025				CONTRACT COMPLETION BOX				R.O.W. NO. N/A		A-SB		APPROVED BY: DIRECTOR	
												DATE: _____	
ENGINEER: CHRIS COLLINS				CHECK BY: SA/CC		BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC		HIGHWAYS		STRUCTURES	
AS-BUILT PER RECORD PRINT				DO BY: CC		REVIEWED BY:						APPROVED BY: CHIEF	
BY: _____				CHECK BY: AP		DATE REVIEWED:						DATE: _____	

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT  
**FT. HOWARD WATERLINE REPLACEMENT  
GRADING, EROSION, & SEDIMENT CONTROL PLAN - 3  
4", 2", & 3/4" WATERLINE REPLACEMENT**  
**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

ESC 4 OF 10	
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88	
SHEET DESIGNATION ES003	CONTRACT NUMBER 23137 GX0
JOB ORDER NUMBER CCJ 100362239	
SHEET 24 OF 30	
DRAWING NUMBER 2023-3261	
FILE NO.: 3/9	

5/20/2025  
PLOTTER: PLOT000 Baltimore Co. On-Campus Design/Task/FTHoward/Stormwater/Grading/ES003\_FTHOWARD.dwg





LEGEND			
EX. 2-FT CONTOURS (GIS)	---	EX. WATER LINE	---
EX. 1-FT CONTOURS (SURVEY)	---	EX. WATER METER	⊙
EX. ROAD EDGE	---	EX. WATER VAULT	⊙
EX. FENCE	---	EX. WATER VALVE	⊙
EX. WOODS	---	EX. GAS LINE	---
EX. TREES	⊙	EX. GAS VALVE	⊙
PROPERTY LINE	---	EX. SANITARY SEWER	---
FEMA FLOOD HAZARD BOUNDARY	---	EX. SANITARY SEWER FM	---
WETLAND BOUNDARY	---	EX. SANITARY SEWER MANHOLE	⊙
WETLAND BUFFER	---	EX. SANITARY CLEAN OUT	⊙
FOREST BUFFER	---	EX. ELECTRIC LINE	---
SOIL GROUP BOUNDARY	---	EX. FIRE HYDRANT	⊙
SOIL GROUP LABEL	MT	EX. YARD HYDRANT	⊙
PR. WATER	---	EX. STORMWATER PIPELINE	---
PR. WATER VAULT	⊙	EX. UNDERGROUND ELECTRIC	---
PR. WATER VALVE	⊙	EX. UNDERGROUND TELEPHONE	---
RIGHT OF WAY	---	EX. UNDERGROUND FIBER OPTIC	---
SILT FENCE ON PAVEMENT	SFOP	PORTABLE SEDIMENT TANK	⊗ PST
		LIMITS OF DISTURBANCE	---

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BRUDIS & ASSOCIATES, INC.  
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www.brudis.com

PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.I.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT	
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. 58244 EXPIRATION DATE: 09/27/2025				CONTRACT COMPLETION BOX				N/A	A-SB	35 SE 33 35 SE 34 30 SE 33 37 SE 33	PUN SCALE: 1" = 30' H2' M/A	APPROVED BY:	DIRECTOR
				BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	HUD ENGINEER	
				REVIEWED BY:								AIWU BY:	CHIEF
				DATE REVIEWED:								DATE	
ENGINEER: CHRIS COLLINS				OCC BY: SAJCC									
AS-BUILT PER: RECORD PRINT				D-X BY: CG									
BY: DATE:				CHKD BY: AP									

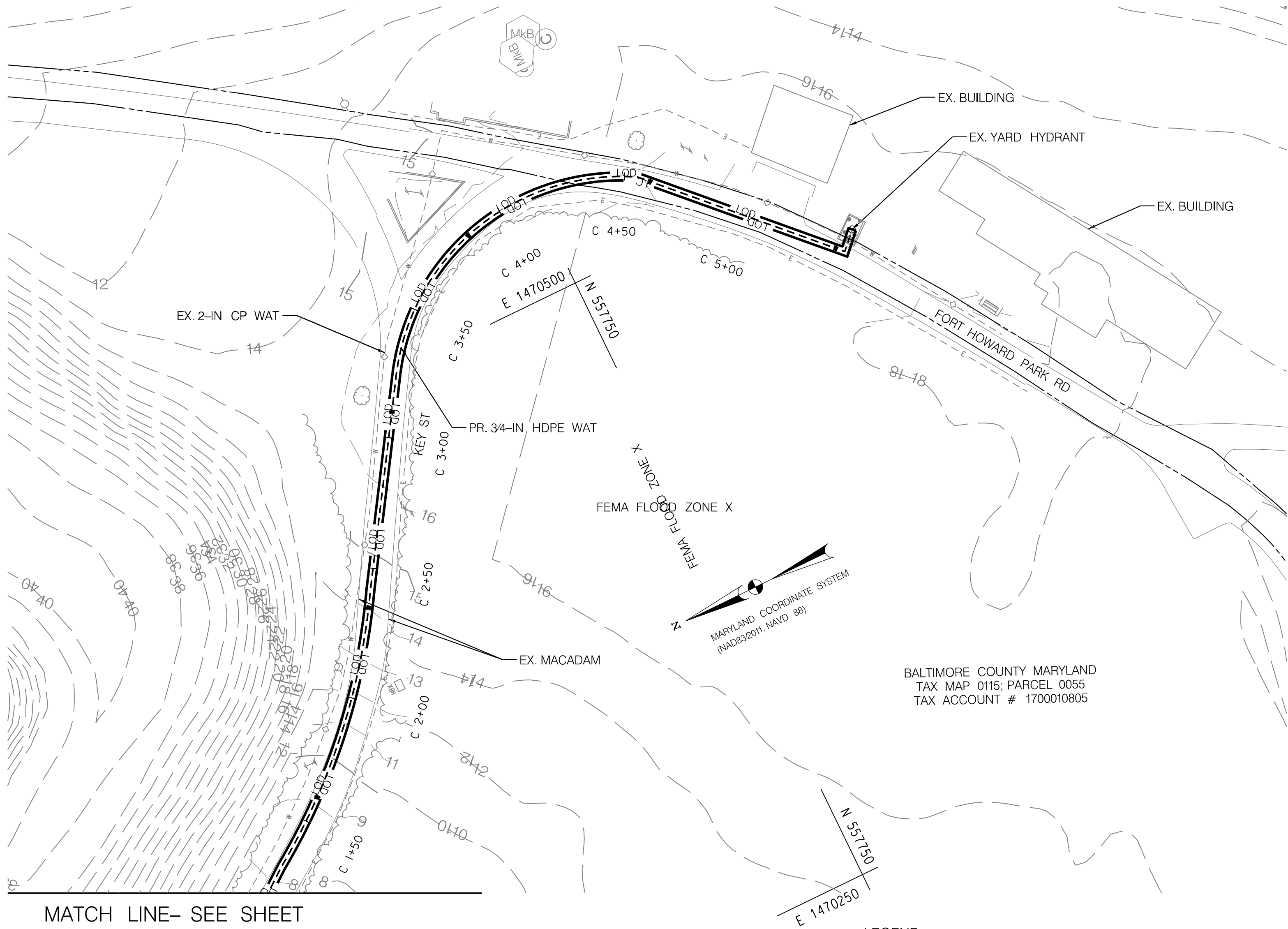
BALTIMORE COUNTY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
AND SUSTAINABILITY  
APPROVED FOR GRADING  
03.05.25  
Date  
STORMWATER MANAGEMENT PERMIT  
NOT REQUIRED

Baltimore County Soil Conservation District  
APPROVED FOR SEDIMENT CONTROL  
Jeffrey C. West  
11-7-24  
Date

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT  
**FT. HOWARD WATERLINE REPLACEMENT  
GRADING, EROSION, & SEDIMENT CONTROL PLAN - 4  
4", 2", & 3/4" WATERLINE REPLACEMENT**  
FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

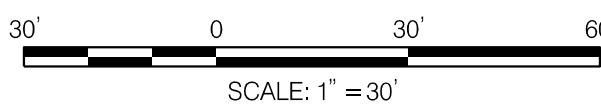
ESC 5 OF 10	
SHEET DESIGNATION: ES004	CONTRACT NUMBER: 23137 GX0
JOB ORDER NUMBER: CCQ 100362239	
SHEET 25 OF 30	
DRAWING NUMBER: 2023-3262	
FILE NO.: 3/9	



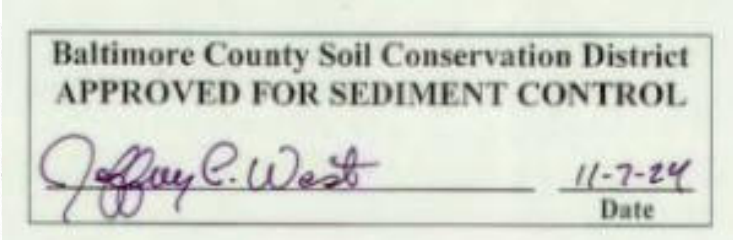


E 1470500  
N 558250

MATCH LINE- SEE SHEET  
ES004




LEGEND	
EX. 2-FT CONTOURS (GIS)	---
EX. 1-FT CONTOURS (SURVEY)	---
EX. ROAD EDGE	---
EX. FENCE	---X---
EX. WOODS	~~~~~
EX. TREES	⊙
PROPERTY LINE	---
FEMA FLOOD HAZARD BOUNDARY	---
WETLAND BOUNDARY	●●●●●
WETLAND BUFFER	---B---
FOREST BUFFER	---
SOIL GROUP BOUNDARY	●-●-●-●-●
SOIL GROUP LABEL	MT D
PR. WATER	---
PR. WATER VAULT	⊙
PR. WATER VALVE	⊛
RIGHT OF WAY	---
SILT FENCE ON PAVEMENT	---SFOP---
EX. WATER LINE	---
EX. WATER METER	⊙
EX. WATER VAULT	⊙
EX. WATER VALVE	⊛
EX. GAS LINE	---
EX. GAS VALVE	⊛
EX. SANITARY SEWER	---SAN---
EX. SANITARY SEWER FM	---SFM---
EX. SANITARY SEWER MANHOLE	⊙
EX. SANITARY CLEAN OUT	⊙
EX. ELECTRIC LINE	---
EX. FIRE HYDRANT	⊙
EX. YARD HYDRANT	⊙
EX. STORMWATER PIPELINE	---
EX. UNDERGROUND ELECTRIC	---
EX. UNDERGROUND TELEPHONE	---
EX. UNDERGROUND FIBER OPTIC	---
PORTABLE SEDIMENT TANK	⊙
LIMITS OF DISTURBANCE	---



STORMWATER MANAGEMENT PERMIT  
NOT REQUIRED

**ESC 6 OF 10**  
DESIGN AND DRAWING BASED ON THE  
MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
ES005	23137 GXO
JOB ORDER NUMBER	CC# 100362239
SHEET 26 OF 30	
DRAWING NUMBER	2023-3263
FILE NO.:	3/9



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11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-884-3607  
www.brudis.com

PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE	PROPERTY MANAGEMENT	
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. 58244 EXPIRATION DATE 09/27/2025		CONTRACT COMPLETION BOX				N/A	A-SE	35 SE 33	PLAN SCALE: 1" = 30'	APPROVED BY: _____	DIRECTOR
						R.O.W. NO.		36 SE 34			
						N/A		37 SE 33			
ENGINEER: CHRIS COLLINS		DGN BY: SA/CC	BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT		DWN BY: CC	REVIEWED BY:							APPROVED BY: _____	
BY: _____		CHKD BY: AP	DATE REVIEWED:							DATE: _____	
DATE: _____										CHIEF	

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

**FT. HOWARD WATERLINE REPLACEMENT  
GRADING, EROSION, & SEDIMENT CONTROL PLAN - 5  
4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK - 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

ESC 6 OF 10

5/2/2025

FILE: P:\15-c-010 Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterlineRed\Drawings\CADD\Works\JES-0004\_FTHOWARD.dgn







B-4.5 STANDARDS AND SPECIFICATIONS

FOR  
PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

1. General Use

- a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
- b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office 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 maintenance.
- b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
- i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 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: 1½ to 3 pounds per 1000 square feet.

Notes:

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

- d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ 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 seedlings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

SOD SPECIFICATION

Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications

- a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
- b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
- c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation

- a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
- d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

3. Sod Maintenance

- a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
- b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
- c. Do not mow until the sod is firmly rooted. No more than ⅓ 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.

GENERAL NOTES

1. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT.
3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
4. 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 CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
5. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO BALTIMORE COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
6. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PG. H.22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
7. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
8. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, REVISED NOVEMBER 2000, FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
10. PUMPING SEDIMENT-LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
11. UPON INSTALLATION OF THE BASE PAVEMENT AND AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR, RELOCATE THE STABILIZED CONSTRUCTION ENTRANCES(S) AND INSTALL ADDITIONAL CONTROL MEASURES (STABILIZED CONSTRUCTION ENTRANCES, SILT FENCES, SUPER SILT FENCES,) AS NEEDED TO CONTROL SEDIMENT RUNOFF FROM DISTURBED AREAS. THE ADDITIONAL CONTROLS MUST NOT ALTER DRAINAGE PATTERNS.

TRAFFIC CONTROL NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS (BCDPW) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED SEPTEMBER 2023 WITH ADDENDA 1 TO 3, MARYLAND DEPARTMENT OF TRANSPORTATION /STATE HIGHWAY ADMINISTRATION (MDOT/SHA) BOOK OF STANDARDS AND INCIDENTAL STRUCTURES, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE 2011 MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD).
2. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN TRAFFIC CONTROL SIGN AND DEVICES. THE CONTRACTOR SHALL MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTION IN ACCORDANCE WITH THE METHODS OF THE TRAFFIC CONTROL REFERENCED ON THIS SHEET, THE MDMUTCD AND REVISIONS THERETO.
3. ANY WORK WITHIN THE TRAVELED PORTION OF ROADWAYS SHALL BE RESTRICTED TO THE HOURS OF 9:00 AM TO 3:00 PM, MONDAY THROUGH FRIDAY. WORK DURING NIGHTTIME, WEEKENDS AND HOLIDAYS SHALL NOT OCCUR UNLESS AN EXCEPTION IS GRANTED IN WRITING BY THE BCDPW.
4. CONSTRUCTION ACTIVITY, INCLUDING LOADING OR UNLOADING OF EQUIPMENT, SHALL NOT BLOCK ANY TRAFFIC LANE OTHER THAN THOSE DELINEATED WITHIN THE WORK ZONE.
5. ACCESS TO ALL DRIVEWAYS IN THE WORK AREA SHALL BE MAINTAINED UNLESS PERMISSION FOR CLOSURE IS GRANTED BY THE PROPERTY OWNER/MANAGER. HOWEVER, ACCESSIBILITY FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.
6. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT EDITION OF THE MUTCD/MDMUTCD. ALL SIGNS, TRAFFIC DRUMS AND CONES SHALL BE REFLECTORIZED WITH HIGH INTENSITY, REFLECTIVE SHEETING PER APPLICABLE BCDPW OR MDOT SHA STANDARDS.
7. PROVISION SHALL BE MADE FOR SAFE MAINTENANCE OF PEDESTRIAN AND BICYCLE TRAFFIC, INCLUDING APPROPRIATE AMERICANS WITH DISABILITIES ACT (ADA) ACCOMMODATIONS THROUGHOUT CONSTRUCTION DURATION.
8. SIGNS, DRUMS, TRAFFIC CONES, AND FLAGGING OPERATIONS SHALL BE PLACED IN ACCORDANCE WITH MDOT/SHA STANDARD MD 104.02-10 FLAGGING OPERATION / 2-LANE, 2-WAY LESS THAN OR EQUAL TO 40 MPH.
9. CONSTRUCTION VEHICLES SHALL HAVE APPROPRIATE AMBER FLASHING WARNING LIGHTS THAT PROVIDE 360-DEGREE VISIBILITY.
10. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED 30' FROM THE TRAVEL LANES AT ALL TIMES.
11. WHERE NO STABILIZED CONSTRUCTION ENTRANCE (SCE) IS APPROVED, THE CONTRACTOR SHALL DESIGNATE PIECES OF CONSTRUCTION EQUIPMENT THAT SHALL BE ALLOWED WITHIN THE LOD. THIS EQUIPMENT SHALL BE KEPT WITHIN THE LOD UNTIL THE PROPOSED WORK IS COMPLETE, AND SHALL HAVE TREADS/TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL OR DELIVERY SHALL BE LIFTED EITHER FROM OR INTO THE LOD, AND ANY SEDIMENT TRACKED OR DROPPED OUTSIDE OF THE LOD SHALL BE CLEANED IMMEDIATELY BY VACUUMING, SCRAPING, AND/OR SWEEPING. FLUSHING WILL NOT BE PERMITTED.

MAINTENANCE NOTE:

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

DAILY STABILIZATION NOTE

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

- 1) FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE.
- 2) FOR AREAS TO BE VEGETATIVELY STABILIZED:
- a) PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES.
- b) PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

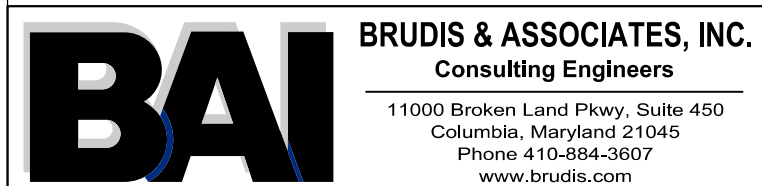
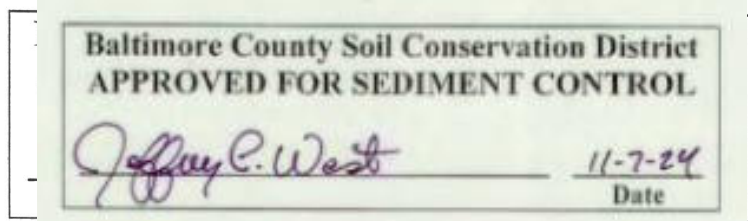
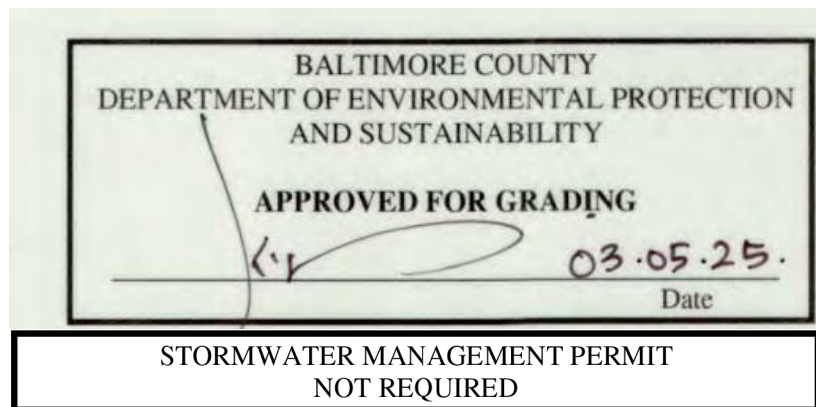
ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

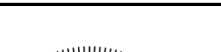

UTILITY NOTE:

- 1) CONTRACTOR SHOULD OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) THE TRENCH.
- 2) PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- 3) ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

SEDIMENT CONTROL TRAFFIC NOTE:

ANY TRAVEL LANE CLOSED BEFORE 9:00 A.M. OR AFTER 3:30 P.M. MUST BE APPROVED BY BALTIMORE COUNTY BUREAU OF TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING AT (410) 887-3554



<div></div> <div> 10/31/2024</div>	PROFESSIONAL CERTIFICATION				AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHIT	DRAWING SCALE		PROPERTY MANAGEMENT		
	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. 58244    EXPIRATION DATE: 09/27/2025				CONTRACT COMPLETION BOX				N/A		A-SE	35 SE 33	PLAN SCALE: N/A	APPROVED BY: DIRECTOR		
												36 SE 34				
												36 SE 33				
												37 SE 33				
					BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	APPROVED BY: CHIEF		
	ENGINEER: CHRIS COLLINS				DGN BY: SA/CC		REVIEWED BY:									
	AS-BUILT PER RECORD PRINT				DWN BY: CC		DATE REVIEWED:									
	BY:    DATE:				CHKD BY: AP											

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

FT. HOWARD WATERLINE REPLACEMENT  
EROSION AND SEDIMENT CONTROL NOTES & DETAILS – 2  
4", 2", & 3/4" WATERLINE REPLACEMENT

FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052

SUBDIVISION: SPARROWS POINT

ELECTION DIST. NO.: 15C7

ESC 8 OF 10	
DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS) HORIZ: NAD 83/2011 VERT: NAVD 88	
SHEET DESIGNATION	CONTRACT NUMBER
ES007	23137 GXO
JOB ORDER NUMBER	
CC# 100362239	
SHEET 28 OF 30	
DRAWING NUMBER	
2023-3265	
FILE NO.: 3/9	

7/28/2025

PLOTTED: P:\15-c70 Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterline\Detail Drawings\CADD Working\JES-A002\_FT\_HOWARD.dgn



STANDARD EROSION AND SEDIMENT CONTROL NOTES

A. Erosion and Sediment Control General Notes

MDE requires that these notes, in their entirety, be included on the erosion and sediment control plan. It is recognized that not every note may apply to all projects. The requirement of any individual note not applicable to the subject project is not binding upon the applicant or the applicant's contractor.

EROSION AND SEDIMENT CONTROL GENERAL NOTES

- The contractor shall notify MDE at (410) 537-3510 seven (7) days before commencing any land disturbing activity and, unless waived by MDE, shall be required to hold a pre-construction meeting between project representatives and a representative of MDE.
- The contractor shall notify MDE in writing and by telephone at the following points:
  - The required pre-construction meeting.
  - Following installation of sediment control measures.
  - During the installation of sediment basins (to be converted into permanent stormwater management structures) at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction of each step is mandatory.
  - Prior to removal or modification of any sediment control structure(s).
  - Prior to removal of all sediment control devices.
  - Prior to final acceptance.
- The plan approval letter, approved erosion and sediment control plans, daily log books, and test reports shall be available at the site for inspection by duly authorized officials of MDE and the agency responsible for the project.
- The contractor shall construct all erosion and sediment control measures per the approved plan and construction sequence and shall have them inspected and approved by the MDE inspector prior to beginning any other land disturbances. Minor sediment control device location adjustments may be made in the field with the approval of the MDE inspector. The contractor shall ensure that all runoff from disturbed areas is directed to the sediment control devices and shall not remove any erosion or sediment control measure without prior permission from MDE inspector. The contractor shall obtain prior agency and MDE approval for modifications to the erosion and sediment control plan and/or sequence of construction.
- The MDE inspector has the option of requiring additional safety or sediment control measures, if deemed necessary.
- The contractor shall protect all points of construction ingress and egress to prevent the deposition of materials onto public roads. All materials deposited onto public roads shall be removed immediately.
- The contractor shall inspect daily and maintain continuously in an effective operating condition all erosion and sediment control measures until such time as they are removed with prior permission from the MDE inspector.
- Erosion and sediment control for utility construction shall be provided in accordance with approved plans. Utility construction shall only be for areas within the delineated limit of disturbance. Call "Miss Utility" at 1-800-257-7777 48 hours prior to the start of work. When same day stabilization is approved:
  - Excavated trench material shall be placed on the high side of the trench.
  - Trenches for utility installation shall be backfilled, compacted, and stabilized at the end of each working day. No more trench shall be opened than can be completed the same day.
- All water removed from excavated areas shall be passed through an MDE approved dewatering practice or pumped to a sediment trap or basin prior to discharge to a functional storm drain system or to stable ground surface.
- Concrete washout structures shall be used when concrete trucks, drums, pumps, chutes, or other equipment is rinsed or cleaned on-site.
- Construction activities producing dust shall implement control measures to avoid the suspension of dust particles and/or prevent dust from blowing off-site or to areas without treatment.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed 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 or graded areas on the project site not under active grading.
- Vegetative stabilization shall be performed in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. Refer to appropriate specifications for temporary seeding, permanent seeding, mulching, sodding, and ground covers.
- When seeding, all disturbed areas with slopes flatter than 2:1 shall be stabilized with 4 inches of topsoil, seed, and mulch. All disturbed areas with slopes 2:1 or steeper shall be stabilized with matting over 2 inches of topsoil and seed.

- All sediment basins, trap embankments and slopes, perimeter dikes, swales and all disturbed slopes steeper or equal to 3:1 shall be stabilized with seed and anchored straw mulch, sod, or other approved stabilization measures, as soon as possible but no later than three (3) calendar days after establishment. All areas disturbed outside of the perimeter sediment control system shall be minimized. Maintenance shall be performed as necessary to ensure continued stabilization.
- Permanent swales or other points of concentrated water flow shall be stabilized with seed and an approved erosion control matting, sod, rip-rap, or other approved stabilization measures.
- For stockpile slopes steeper than 3 horizontal to 1 vertical (3:1), the contractor shall apply seed and anchored straw mulch, sod, or other approved stabilization measures to the face of the stockpile within three (3) calendar days of activity having ceased on the respective face. For slopes 3:1 or flatter, the contractor shall apply stabilization measures to the face of the stockpile within seven (7) calendar days of activity having ceased on the respective face. Maintenance shall be performed as necessary to ensure continued stabilization.
- For finished grading, the contractor shall provide adequate gradients to prevent water from ponding for more than twenty-four (24) hours after the end of a rainfall event. Drainage courses and swale flow areas may take as long as forty-eight (48) hours after the end of a rainfall event to drain. Areas designed to have standing water shall not be required to meet this requirement.
- Where deemed appropriate by the engineer or inspector, sediment basins and traps may need to be surrounded with an approved safety fence. The fence must conform to local ordinances and regulations. The developer or owner shall check with local building officials on applicable safety requirements. Where safety fence is deemed appropriate and local ordinances do not specify fencing sizes and types, the following shall be used as a minimum standard: The safety fence shall be made of welded wire and at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater than 2 inches in width and 4 inches in height with a minimum of 14 gauge wire. Safety fence shall be maintained and in good condition at all times.
- All sediment trap depth dimensions are relative to the outlet elevation. All traps shall have a stable outfall. All traps and basins shall have stable inflow points.
- Sediment shall be removed and the trap or basin restored to its original dimensions when the sediment has accumulated to one quarter of the total depth of the trap or basin. Total depth shall be measured from the trap or basin bottom to the crest of the outlet.
- Sediment removed from traps (and basins) shall be placed and stabilized in approved areas, but not within a floodplain, wetland or tree-save area. When pumping sediment laden water, the discharge shall be directed to an MDE approved sediment trapping device prior to release from the site. A sump pit may be used if sediment traps themselves are being pumped out.
- Prior to removal of sediment control measures, the contractor shall stabilize and have established permanent stabilization for all contributory disturbed areas using sod or an approved permanent seed mixture with required soil amendments and an approved anchored mulch. Wood fiber mulch may only be used in seeding season where the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized as soon as possible, but not later than three (3) calendar days after establishment for slopes steeper than 3 horizontal to 1 vertical (3:1) and seven (7) calendar days for flatter slopes. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, temporary seed and anchored straw mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be applied by March 15 or earlier if ground and weather conditions allow.
- Temporary sediment control devices shall be removed with permission of the MDE inspector within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Upon removal of sediment control devices, the area disturbed by removal shall be stabilized with topsoil, seed, and mulch, or as specified, within 24 hours of said removal. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.
- Off-site spoil or borrow areas on State or federal property shall have prior approval by MDE and other applicable State, federal, and local agencies; otherwise approval shall be granted by the local authorities. All waste and borrow areas off-site shall be protected by sediment control measures and stabilized.
- Site Information:

A. Area Disturbed	0.33	Acres
B. Total Cut	720	Cubic Yards
C. Total Fill	720	Cubic Yards
D. Off-Site Waste / Borrow Area Location		

B. Standard Stabilization Note

STANDARD STABILIZATION NOTE

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed 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) days as to all other disturbed or graded areas on the project site not under active grading.

5.1 Engineer's Certification

I/We, CHRIS COLLINS, do hereby certify that the sediment control provisions shown on this plan are designed in accordance with the guidelines, standards and specifications for soil erosion and sediment control issued by the Maryland Department of the Environment, latest edition.

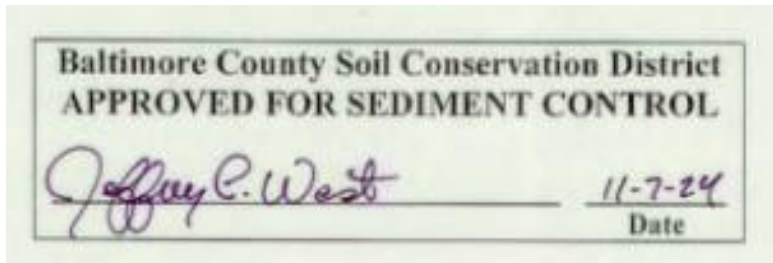
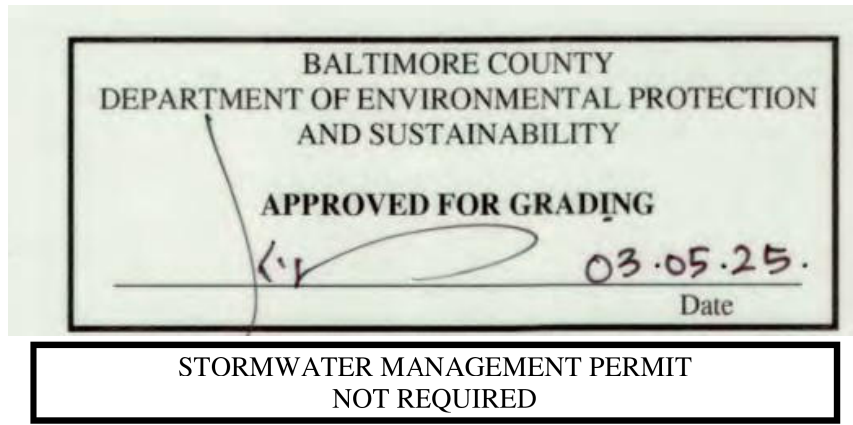
Signature: Chris Collins Title: DESIGN ENGINEER Date: 09/06/2024

Printed Name: CHRIS COLLINS MD Registration No.: 58244

P.E./R.L.S./R.L.A. (Circle One)

NOTE:

NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL, 410-887-3226 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT INSPECTION AND COMPLIANCE PROGRAM AT (410) 537-3510 AT LEAST 5 DAYS PRIOR TO STARTING WORK.



**BRUDIS & ASSOCIATES, INC.**  
Consulting Engineers  
11000 Broken Land Pkwy, Suite 450  
Columbia, Maryland 21045  
Phone 410-886-3607  
www.brudis.com

PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION		BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHI	DRAWING SCALE		PROPERTY MANAGEMENT	
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. <u>58244</u> EXPIRATION DATE: <u>09/27/2025</u>						N/A	A-SE	35 SE 33	PLAN SCALE: <u>N/A</u>	PROFILE SCALE: <u>N/A</u>	APPROVED BY: _____	
						R.O.W. NO.		36 SE 34			DIRECTOR	
						N/A		36 SE 33			DATE: _____	
								37 SE 33			CHIEF	
ENGINEER: <u>CHRIS COLLINS</u>		DGN BY: <u>SA/CC</u>	BUREAU OF ENGINEERING AND CONSTRUCTION		TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
AS-BUILT PER RECORD PRINT		DWN BY: <u>CC</u>	REVIEWED BY:									
CHKD BY: <u>AP</u>			DATE REVIEWED:									
BY: _____												
DATE: _____												

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT

ESC 9 OF 10

FT. HOWARD WATERLINE REPLACEMENT  
EROSION AND SEDIMENT CONTROL NOTES & DETAILS – 3  
4", 2", & 3/4" WATERLINE REPLACEMENT  
FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052  
SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7

ESC 9 OF 10

DESIGN AND DRAWING BASED ON THE MARYLAND COORDINATE SYSTEM (MCS)  
HORIZ: NAD 83/2011  
VERT: NAVD 88

SHEET DESIGNATION	CONTRACT NUMBER
ES008	23137 GXO
JOB ORDER NUMBER	CC# 100362239
SHEET 29 OF 30	DRAWING NUMBER
2023-3266	FILE NO.: 3/9

5/23/2025

PLOTTED: P:\15-c70 Baltimore Co. On-Call Civil Site Design\Task07-FtHowardWaterline\Red\Drawings\CADD\Working\JES-A003\_FT\_HOWARD.dgn



FOR  
STOCKPILE AREA

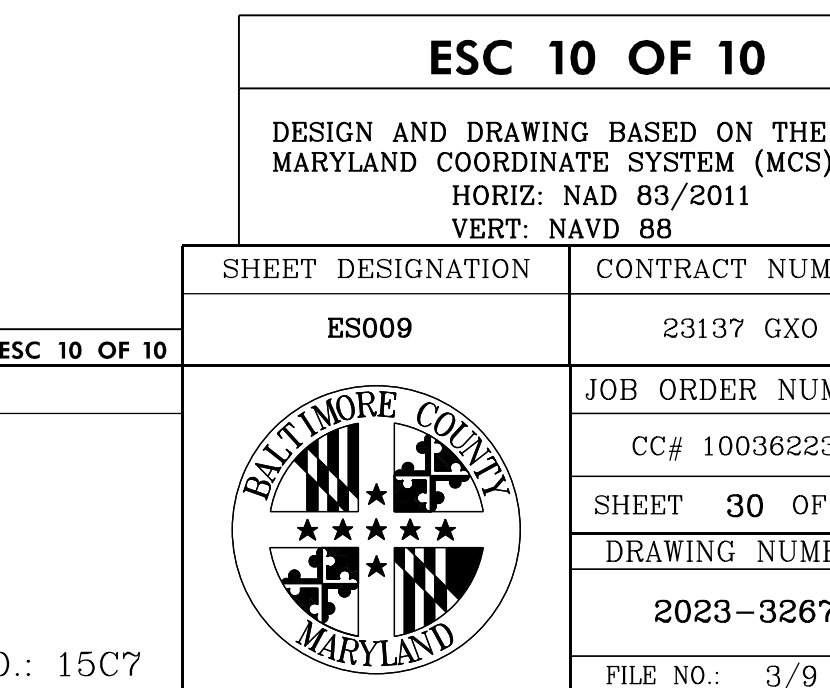
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

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

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

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper 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.

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.

[illegible]

**BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE – PROPERTY MANAGEMENT**

**FT. HOWARD WATERLINE REPLACEMENT**

**GRADING, EROSION, AND SEDIMENT CONTROL NOTES & DETAILS – 4**

**4", 2", & 3/4" WATERLINE REPLACEMENT**

**FT. HOWARD PARK – 9500 NORTH POINT ROAD, FT. HOWARD, MD 21052**

SUBDIVISION: SPARROWS POINT ELECTION DIST. NO.: 15C7