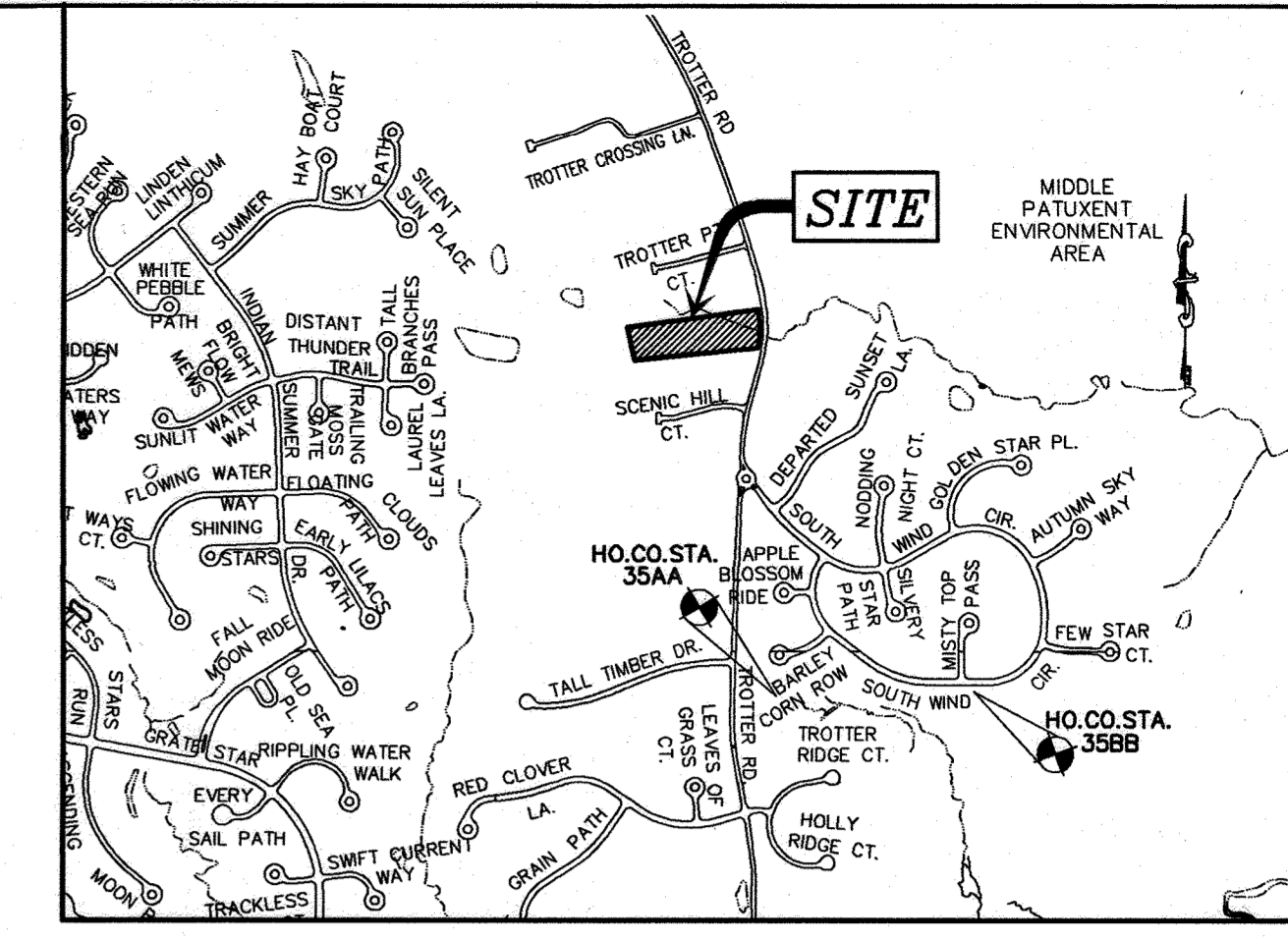


FINAL WATER AND SEWER CONSTRUCTION PLAN CONTRACT NO.: 34-5238-D TROTTER ESTATES LOTS 1-4 AND OPEN SPACE LOT 5 HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

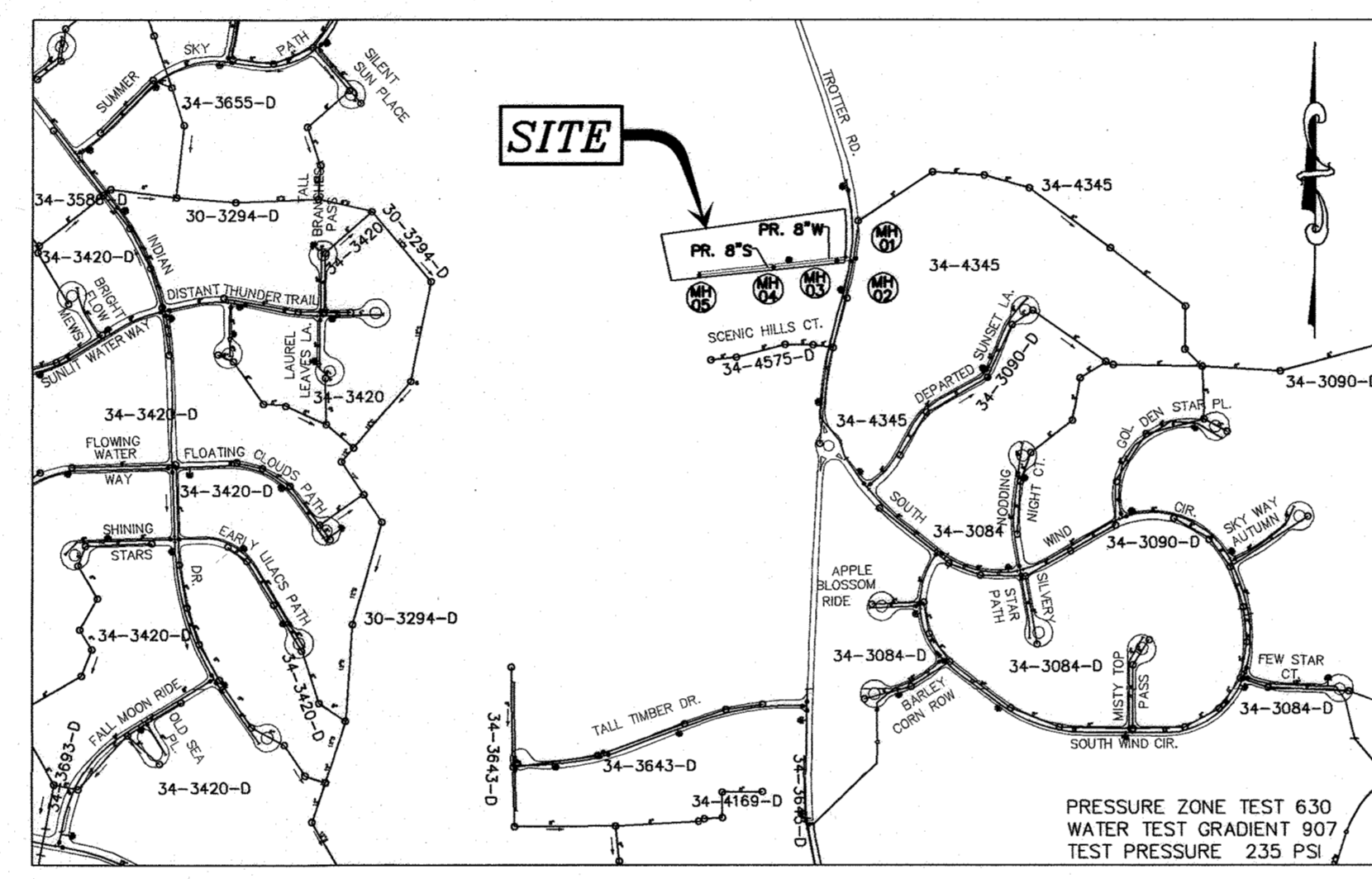


VICINITY MAP
SCALE: 1" = 1,000'
ADC MAP: 14, GRID H-6
STA. NO. 35AA N: 560767.681 E: 1335483.897 EL: 430.957
STA. NO. 35BB N: 560790.404 E: 1336537.287 EL: 394.271

INDEX OF DRAWING	
NO.	DESCRIPTION
1	COVER SHEET
2	FINAL WATER/SEWER PLAN AND PROFILE

QUANTITY TABLE				
ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURED/SUPPLIER
8" PVC SEWER MAIN	581 LF			
8" PVC-900 (DR-14) WATER MAIN	578 LF			
4" SHC	80 LF			
# 4" SHC	4			
1.5" WHC	50 LF			
# 1.5" WHC	4			
FIRE HYDRANT	1			
MANHOLE	5			
8"x8" T.&V.	1			
8" C.&B.	1			
8"x6" F.H.T.	1			
2" V.C.	1			
1/2" H.B.	1			

NAME OF THE UTILITY CONTRACTOR:
SURVEY AND DRAFTING DIVISION AS-BUILT DATE



TYPE OF BUILDING	RESIDENTIAL
No. OF UNITS	4
No. OF WATER HOUSE CONNECTION	4
No. OF SEWER HOUSE CONNECTIONS	4
DRAINAGE AREA	MIDDLE PATUXENT TREATMENT PLANT

- LEGEND**
- EXISTING SEWER MAIN AND MANHOLE
 - EXISTING WATER MAIN AND VALVE
 - EXISTING FIRE HYDRANT
 - 8" W PROPOSED WATER MAIN
 - PROPOSED WATER HOUSE CONNECTION
 - PROPOSED FIRE HYDRANT
 - PROPOSED TEE
 - PROPOSED BEND
 - PROPOSED VALVE
 - 8" S PROPOSED SEWER MAIN
 - PROPOSED SEWER HOUSE CONNECTION
 - PROPOSED SEWER MANHOLE
 - PROPERTY LINE

GENERAL NOTES

- APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON OR ABOUT JUNE 2021 BY MILDENBERG, BOENDER & ASSOC., INC.
- HORIZONTAL AND VERTICAL SURVEY CONTROLS: THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL POINTS. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88. MILDENBERG, BOENDER & ASSOCIATES, INC. SHALL PROVIDE DESCRIPTIONS OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES, ETC.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - AT&T.....1-800-252-1133
 - BGE (CONSTRUCTION SERVICES).....410-637-8713
 - BGE (EMERGENCY).....410-685-0123
 - BUREAU OF UTILITIES.....410-313-4900
 - COLONIAL PIPELINE CO.....410-795-1390
 - MISS UTILITY.....1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION.....410-531-5533
 - VERIZON.....1-800-743-0033
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)-313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(A) OF THE HOWARD COUNTY CODE.

PART II WATER

- ALL WATER MAINS SHALL BE PVC C900 (DR-14) UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
- FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF THE PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
- UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS, SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, SEVENTEEN (17) POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. TWELVE (12) POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL "TEES" USED WITH PVC MAINS SHALL BE DUCTILE IRON.
- PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER FORCE THE SPIGOT INTO THE BELL OF PVC PIPE.
- ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5-DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5-DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20-FOOT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OR 5-DEGREE SWEEP. TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING. PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1 1/2-DEGREE ON EITHER END OF THE COUPLING). SHALL BE RATED FOR A MINIMUM 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9-INCHES AND SHALL HAVE CENTER STOPS. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL. FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPX) BLUE BRUTE DR18 OR EQUAL.
- WHEN PVC HIGH DEFLECTION COUPLINGS OR PVC 5-DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C-900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER-INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFLECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
- FOR A MINIMUM 1.5" WHC FOR SINGLE FAMILY DWELLINGS OUTSIDE METER SETTINGS FOR 1" METERS SHALL BE USED.

PART III SEWER

- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.

EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER : F-23-027

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

Alexander Bratich 03/06/24
HOWARD SOIL CONSERVATION DISTRICT DATE

DEVELOPER
TROTTER ESTATES, LLC
BY AD&C MANAGEMENT CO.
PO BOX 883
GREENBELT, MD 20768

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, LICENCE NO. 26859, EXP. DATE 08/08/25

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8310 Forrest Street, Suite 300, Ellicott City, Maryland 21043
(410) 997-0298 Tel. (410) 997-0298 Fax

SAMER A. ALMURAY
PROFESSIONAL ENGINEER
DATE: 20/24

engineering	MMM				
illustration	MMM, PS				
approval	SA				
project	21-018				
date	FEB 2024	BY	NO.	REVISION	DATE

COVER SHEET

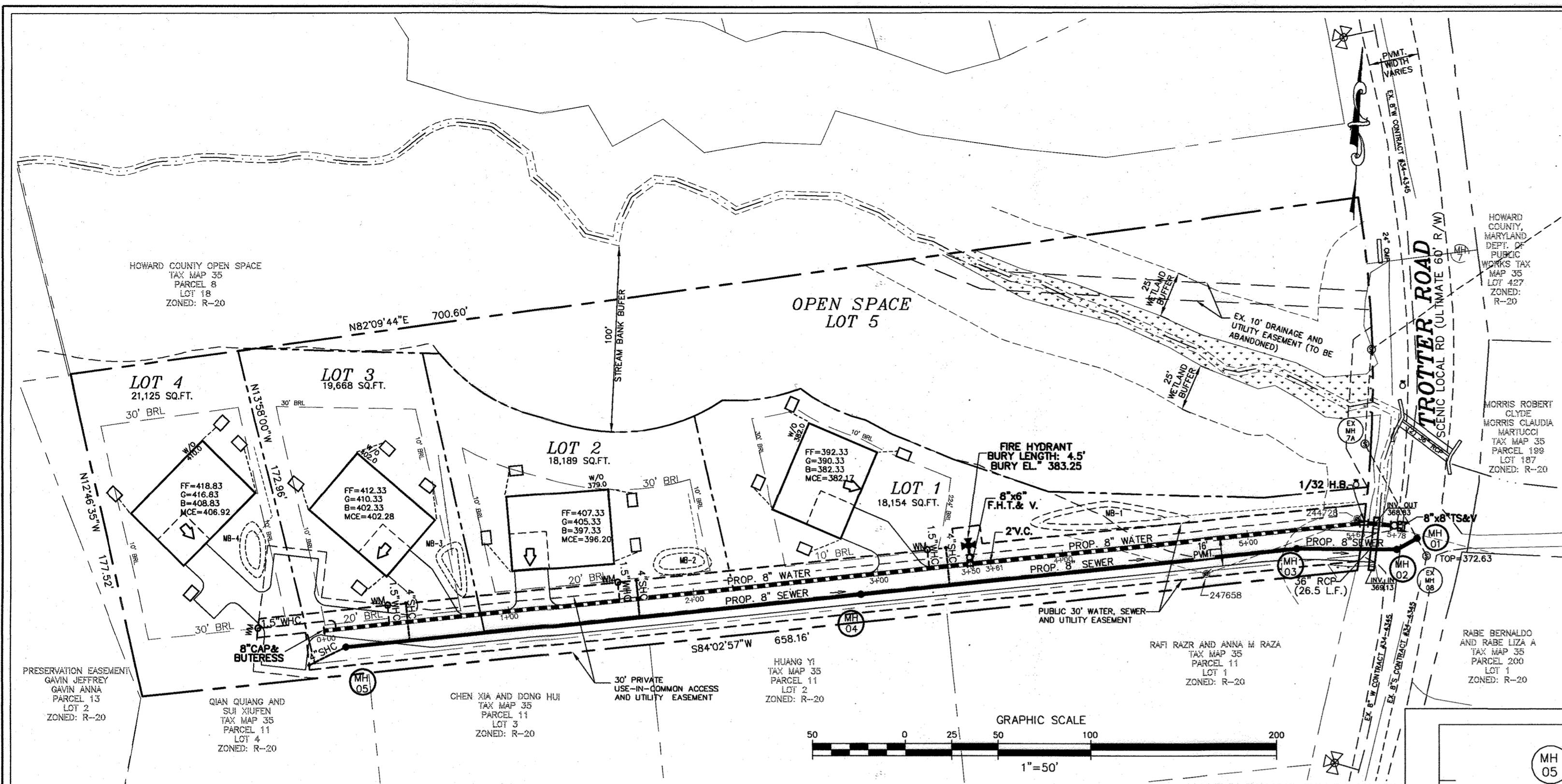
TROTTER ESTATES
LOTS 1-4 AND OPEN SPACE LOT 5
CONTRACT NO.: 34-5238-D
FIFTH ELECTION DISTRICT
HOWARD COUNTY

scale
AS SHOWN
1 OF 2

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
[Signature] 2/29/2024
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 3/06/24
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

M:\2021\21-018-5808 Trotter Roads\DWG\Submittal\FINAL WS-Original sub 2024.dwg, 2/19/2024 10:45:23 AM, NAWT

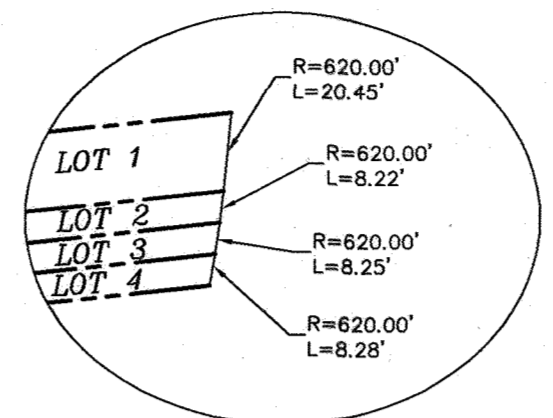


- NOTE:
- PER DMV2 SECTION 4.3A&B, WYE CONNECTION USED AT SHC INTO THE COLLECTOR SEWER.
 - CONTINUITY TEST STATIONS ARE PLACED BASED ON THE HOWARD COUNTY DETAIL W-1.15.

SHC CHART					
LOT #	SHC INV. @ MAIN	SHC INV. @ R/W (OR EASMT)	MCE	SLOPE	BASEMENT ELEV.
LOT 1, SHC	378.27	378.67	382.17	1%	382.33
LOT 2, SHC	389.30	389.70	396.20	5%	397.33
LOT 3, SHC	397.68	398.08	402.28	2%	402.33
LOT 4, SHC	400.02	400.42	406.92	5%	408.83

WATER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	5808 TROTTER RD		
2	5812 TROTTER RD		
3	5816 TROTTER RD		
4	5820 TROTTER RD		

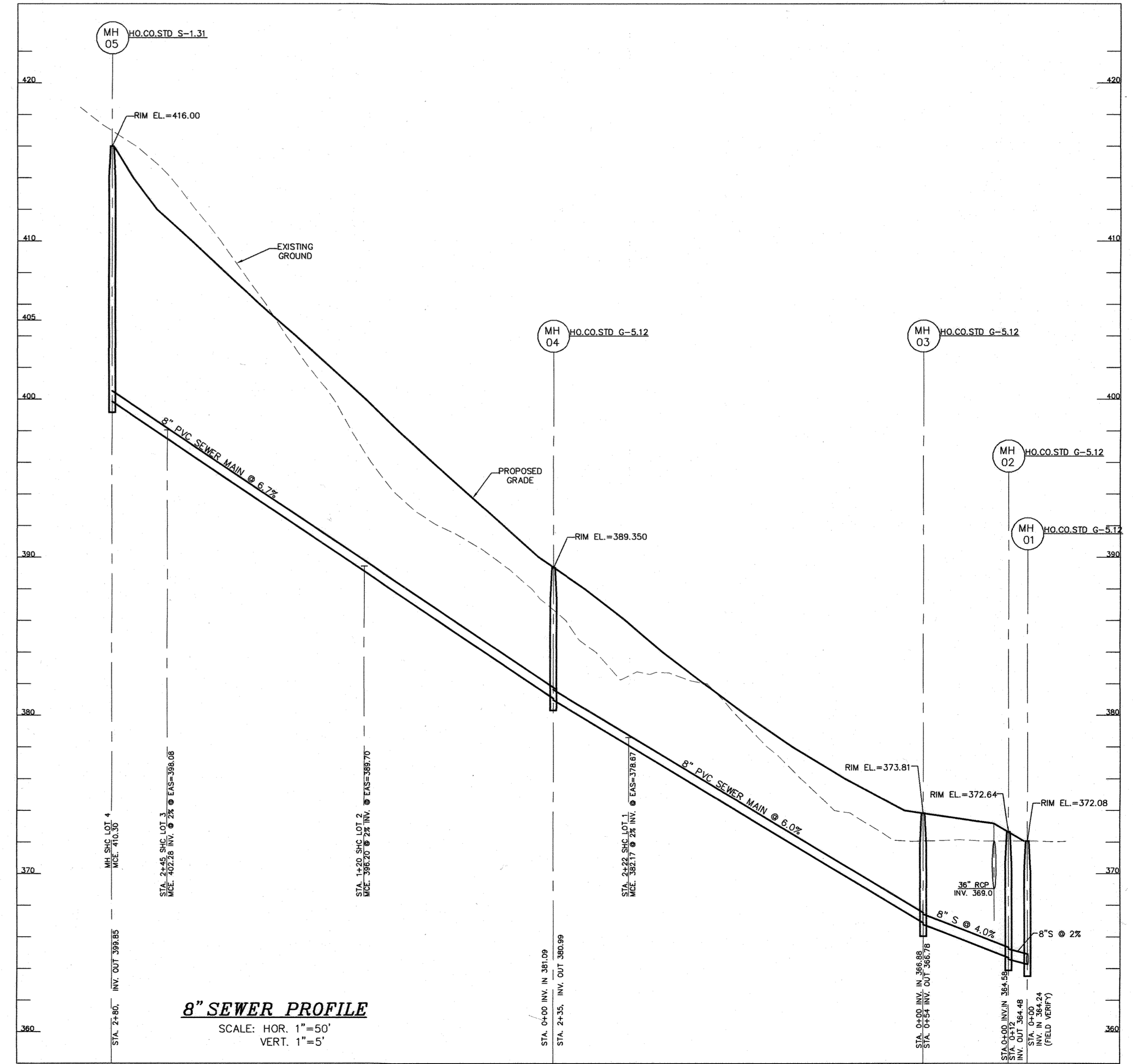
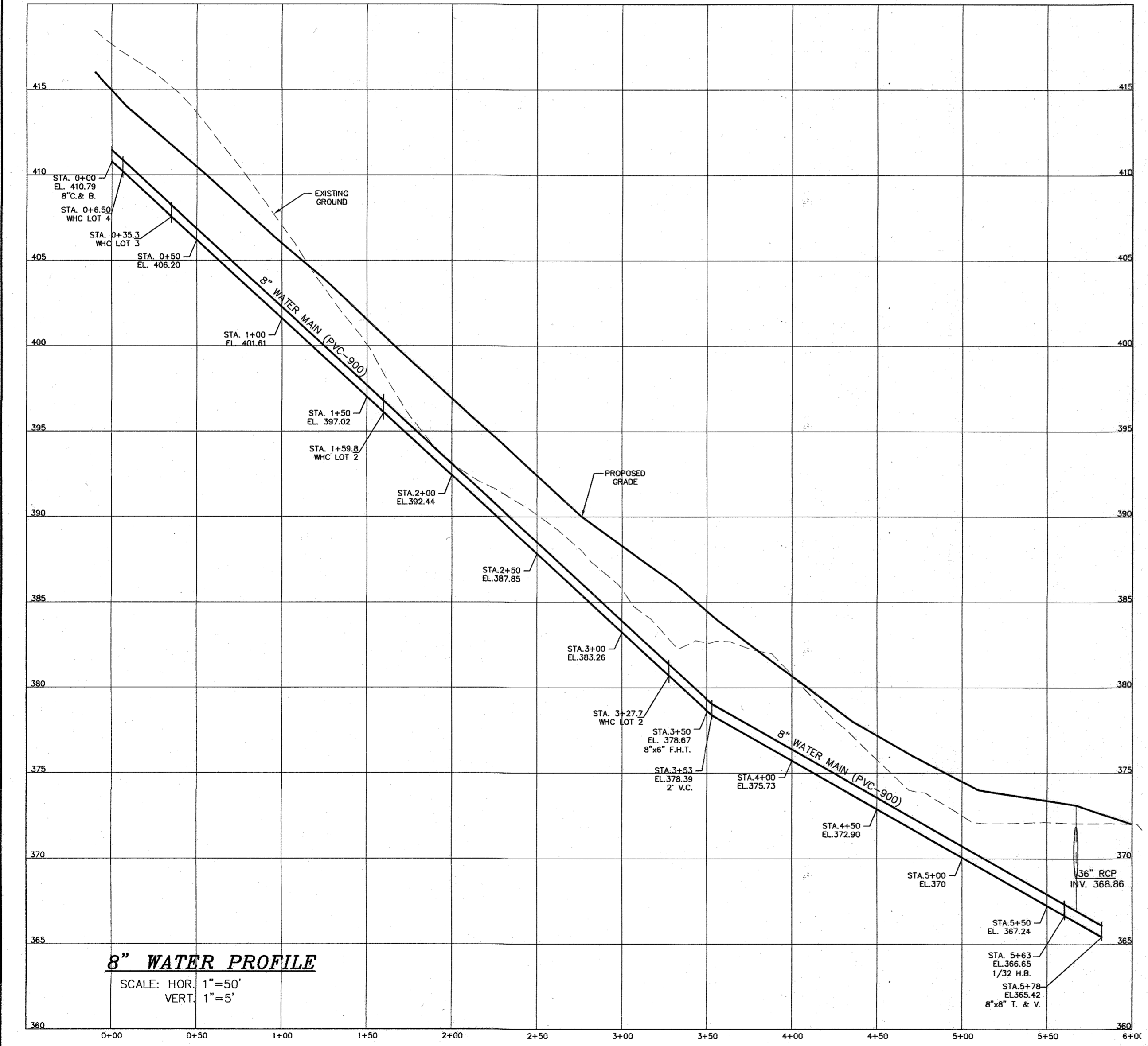
SEWER HOUSE CONNECTION AS-BUILT LOCATION TABLE			
LOT #	ADDRESS	LOCATION DIMENSION 1	LOCATION DIMENSION 2
1	5808 TROTTER RD		
2	5812 TROTTER RD		
3	5816 TROTTER RD		
4	5820 TROTTER RD		



FRONTAGE DETAIL
SCALE: 1"=50'

WATER MAIN TABULATION CHART		
ITEMS	NORTHING	EASTING
8"x8" T.S.&V.	562,628.16	1,335,407.37
1/2" H.B.	562,629.66	1,335,391.04
2" V.C.	562,608.59	1,335,189.69
8"x6" F.H.T.&V.	562,607.45	1,335,178.83
P.R. FIRE HYDRANT	562,618.25	1,335,177.57
8" C.&B.	562,571.16	1,334,830.71

SEWER MAIN TABULATION CHART		
ITEMS	NORTHING	EASTING
MH 01	562,621.25	1,335,418.41
MH 02	562,615.27	1,335,407.60
MH 03	562,615.72	1,335,353.62
MH 04	562,591.26	1,335,118.91
MH 05	562,562.36	1,334,842.52



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. 28859, EXP. DATE 08/08/25.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 2/29/2024

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
DATE: 3/15/24

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8318 Forrest Street, Suite 300, Ellicott City, Maryland 21043
(410) 997-0286 Tel. (410) 997-0288 Fax.

SAVER A. ALOWER P.E. DATE: FEB. 2024

engineering	MMM
illustration	MM, PS
approval	SA
project	21-018
date	FEB. 2024
BY	NO.
REVISION	
DATE	

FINAL WATER/SEWER PLAN AND PROFILE
600' SCALE MAP NO. 0035 BLOCK NO. 0002

TROTTER ESTATES
LOTS 1-4 AND OPEN SPACE LOT 5
CONTRACT NO.: 34-5238-D
FIFTH ELECTION DISTRICT
HOWARD COUNTY

scale AS SHOWN
2 OF 2

DEVELOPER
TROTTER ESTATES, LLC
BY AD&C MANAGEMENT CO.
PO BOX 883
GREENBELT, MD 20768

M:\2021\01-18-26\08 Trotter Road\DWG\Subdivision\FINAL WS-Original sub 2024.dwg, 2/19/2024, 10:44:57 AM, MWNT