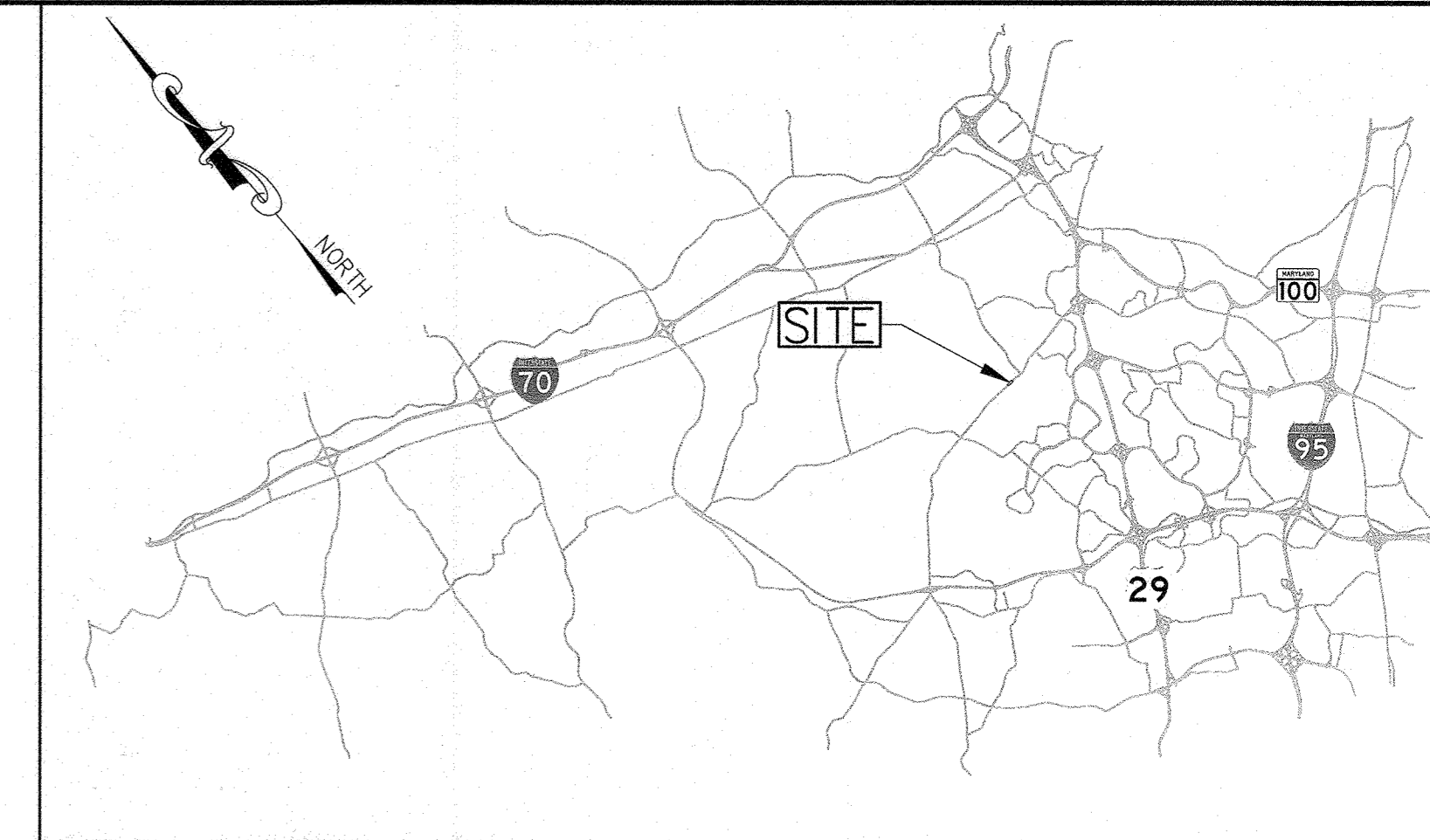


# MD-108 WATER AND SEWER EXTENSION

## HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CAPITAL PROJECT NO. W8602 CONTRACT NO. 44-5210

ITEM	ESTIMATED	AS-BUILT	MANUFACTURER
8" PVC DR 11 C900	293 LF	337 LF	ENDOT
1-1/2" HDPE	245 LF	252 LF	NAPCO
8" GATE VALVES	2	2	MUELLER
FIRE HYDRANT	1	1	MUELLER



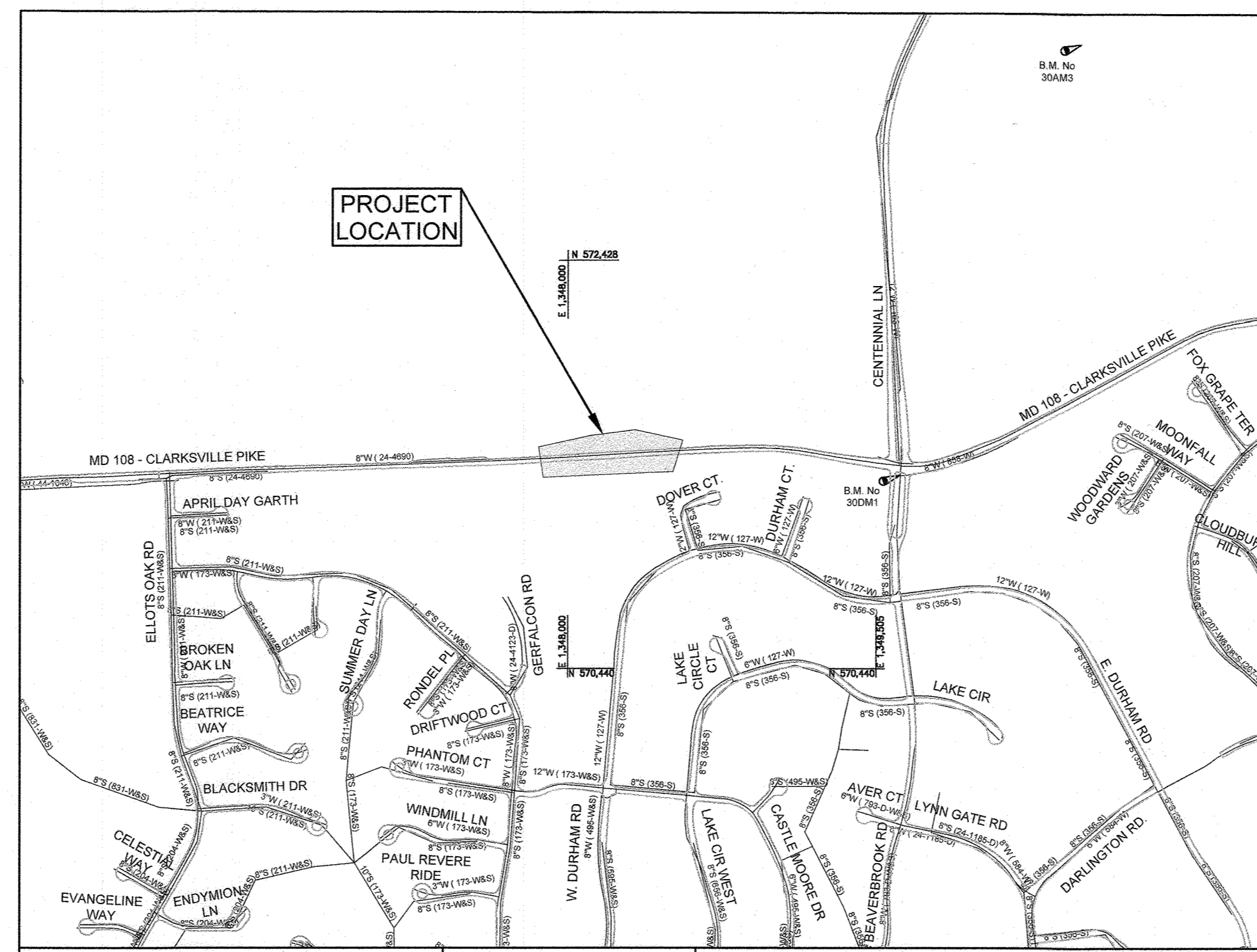
LOCATION MAP  
NOT TO SCALE

### GENERAL NOTES:

- APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN FROM BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES 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 IN JULY 2017 BY RUMMEL, KLEPPER & KAHL, LLP (RK&K).
- HORIZONTAL AND VERTICAL SURVEY CONTROLS:  
THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83 (ADJUSTED 2011) AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATION NO. 47EM3, NO. 47GM3 AND NO. 47GM4. ALL VERTICAL CONTROLS ARE BASED ON NAVD '88.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL UTILITY POLES BY 5'-0" MINIMUM 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 UTILITY 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 OR OTHERWISE DESCRIBED IN THE CONTRACT DOCUMENTS, 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.
- ALL EXISTING UTILITIES SHALL BE TEST PITTED/LOCATED AS NECESSARY BY THE CONTRACTOR AND IN ADVANCE OF THE PROPOSED CONSTRUCTION, IN ORDER TO PROPERLY MAKE ALL REQUIRED UTILITY CROSSINGS AND/OR CONNECTIONS. ANY DISCREPANCIES OR UTILITY CONFLICTS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T.....	1-800-252-1133
BGE (CONSTRUCTION SERVICES).....	410-637-8713
BGE (EMERGENCY).....	1-800-685-0123
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 WITHOUT AUTHORIZATION.
- 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 BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE (5) 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.



TYPE OF BUILDINGS:	RESIDENTIAL
NUMBER OF PARCELS:	N/A
WATER HOUSE CONNECTIONS:	1
SEWER HOUSE CONNECTIONS:	1
DRAINAGE AREA:	LITTLE PATUXENT

VICINITY MAP			
SCALE: 1" = 600'			
STATION#	EAST	NORTH	ELEVATION
30AM3	1,350,504	573,493	361.753
30DM1	1,349,621	571,383	417.945

TEST GRADIENT -	908 FT
TEST PRESSURE -	208 PSI

### SEWER NOTES:

- 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.

### WATER NOTES:

- ALL WATER MAINS SHALL BE D.I.P. CLASS 54 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 HOME 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 (1/2-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 CERTAINTIED 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 (PEX) 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.

### INDEX OF DRAWINGS

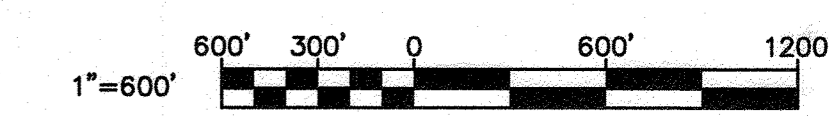
SHEET NO.	DRAWING NO.	DESCRIPTION
1	G-01	TITLE SHEET, GENERAL NOTES AND INDEX OF DRAWINGS
2	C-01	PLAN, PROFILES AND DETAIL

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

Owner's/Developer's Signature: *[Signature]* Date: 3/24/23

E&S CONTROL INCLUDED IN APPROVED APPROVED E&S PLANS FOR SHA CONTRACT No. H01495187.

PURPOSE STATEMENT: CONTRACT 44-5210 EXTENDS 8"W AND 1-1/2" LOW PRESSURE SEWER (LPS) IN MD 108 TO THE PROPERTY AT 10245 ROUTE 108.



G-01

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* DATE: 4/13/23  
Chief, Bureau of Engineering: *[Signature]* DATE: 03-30-23  
Chief, Bureau of Utilities: *[Signature]* DATE: 4-4-23  
Chief, Utility Design Division: *[Signature]* DATE: 3/28/23

**Howard County**  
MARYLAND

Bureau of Engineering  
7125 Riverwood Drive, Suite B  
Columbia, Maryland 21046  
(410) 313-2040

DES:	BY:	NO.:	REVISION:	DATE:
SRK				
DRN:	KMT			
CHK:	SRK			
SIGN DATE:	SRK	1	AS-BUILT	12/22

DECEMBER, 2022

TITLE SHEET, GENERAL NOTES,  
AND INDEX OF DRAWINGS

600' SCALE MAP NO. 29

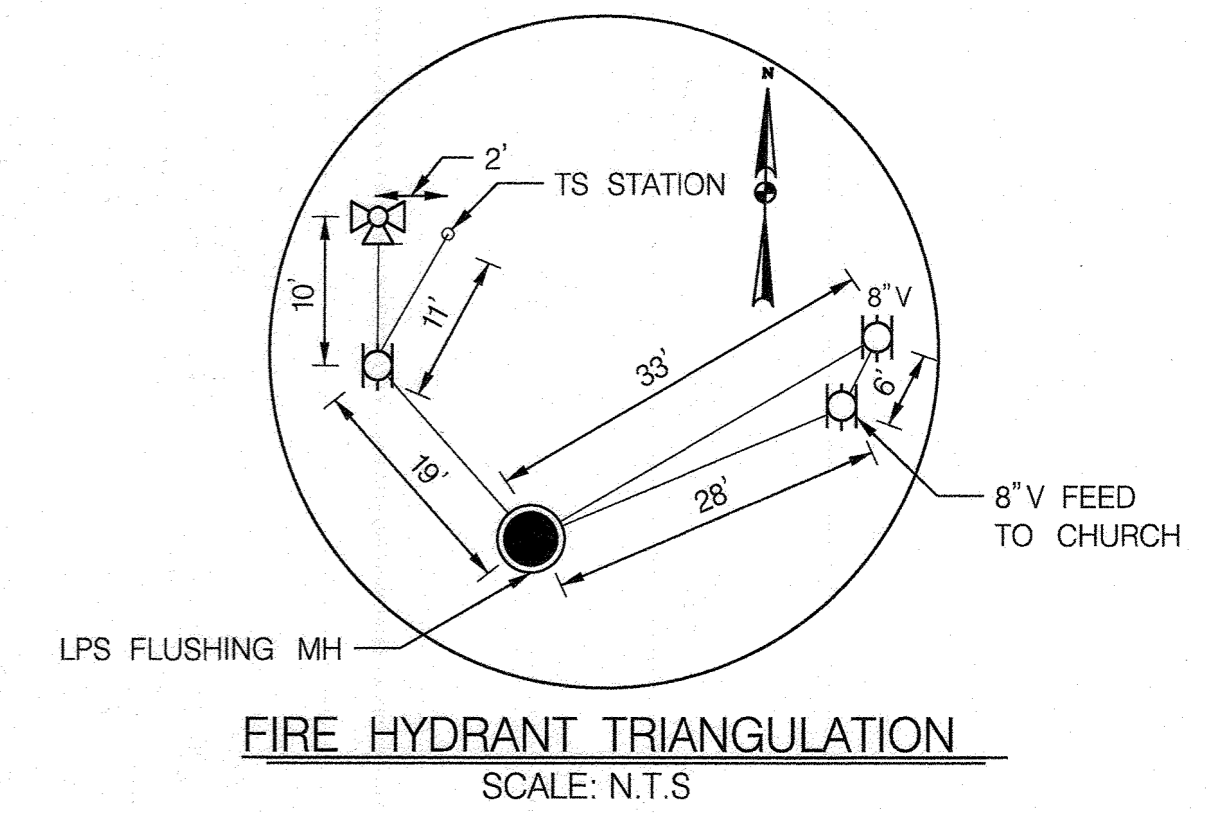
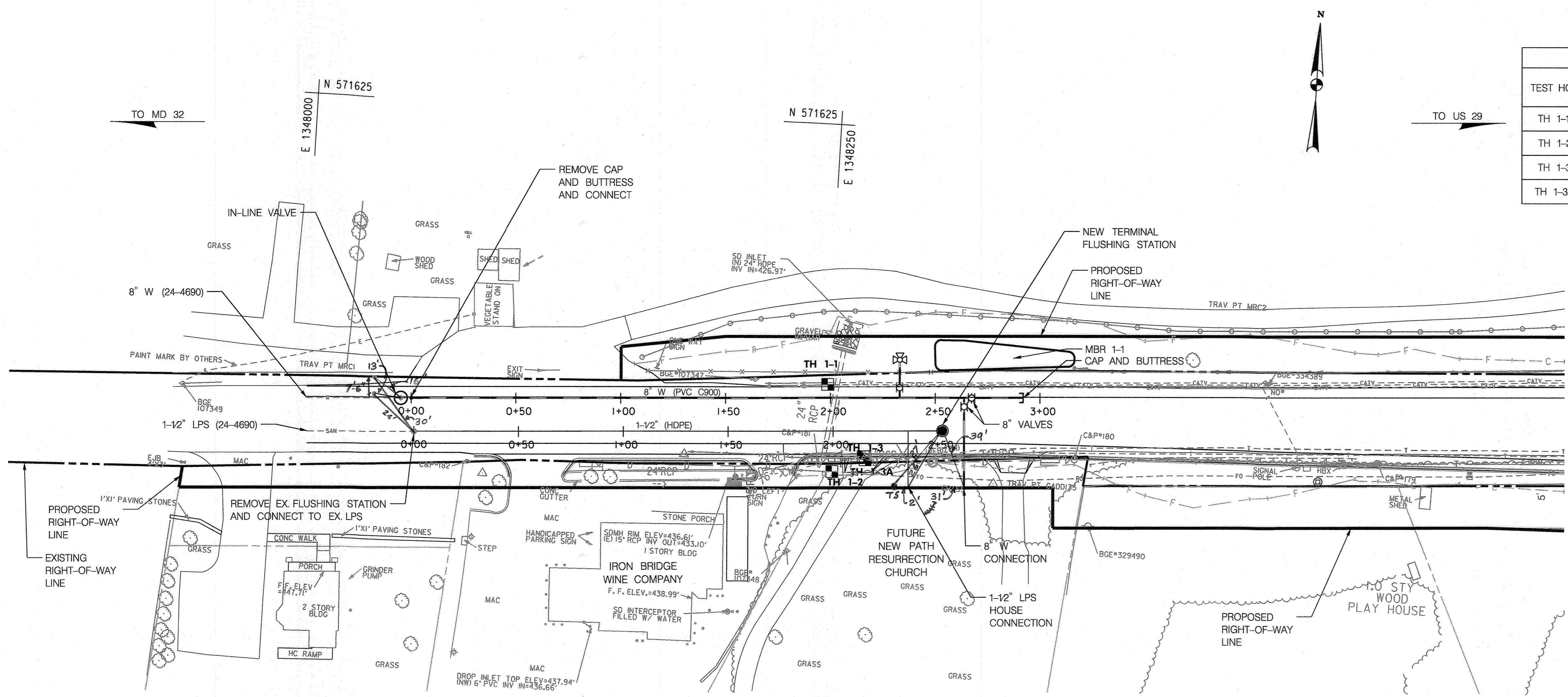
PROJECT NO. W8602  
CONTRACT NO. 44-5210

**MD 108**  
**WATER AND LOW PRESSURE SEWER EXTENSION**

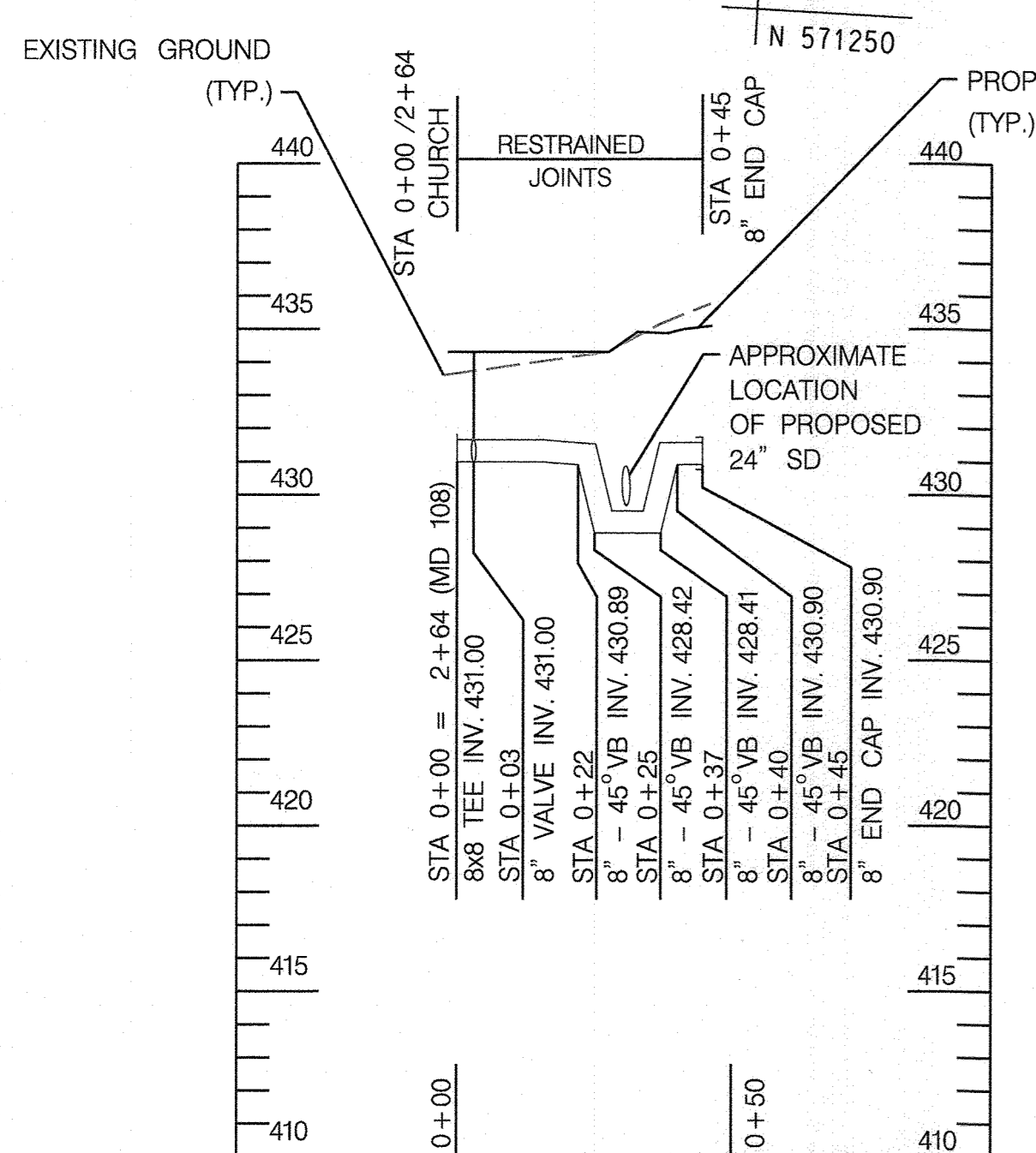
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET NO. 01 OF 02

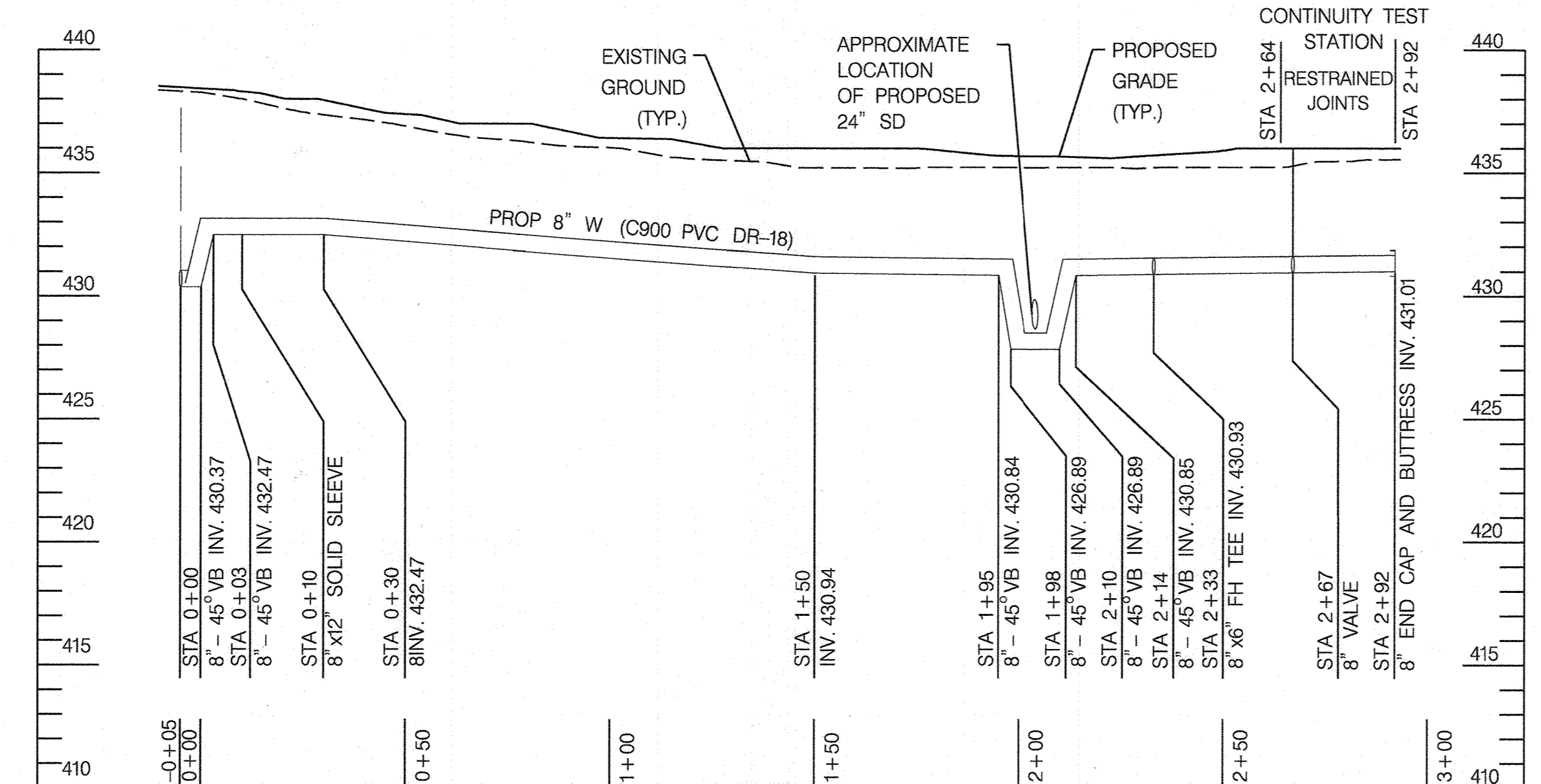
TEST HOLE DATA						
TEST HOLE	NORTHING	EASTING	EXISTING GROUND ELEVATION (ft)	UTILITY	TOP ELEV. (ft)	OWNER
TH 1-1	571,501.3405	1,348,250.7742	435.43	(2) 2" PL. CONDUITS-CATV	432.93'	COMCAST
TH 1-2	571,460.1911	1,348,255.2225	436.39	NO UTILITY FOUND	NA	NA
TH 1-3	571,468.0954	1,348,269.7659	435.44	3" D.B. CABLE-TELEPHONE	432.82'	VERIZON
TH 1-3A	571,466.6992	1,348,270.7557	435.39	NO UTILITY FOUND	NA	NA



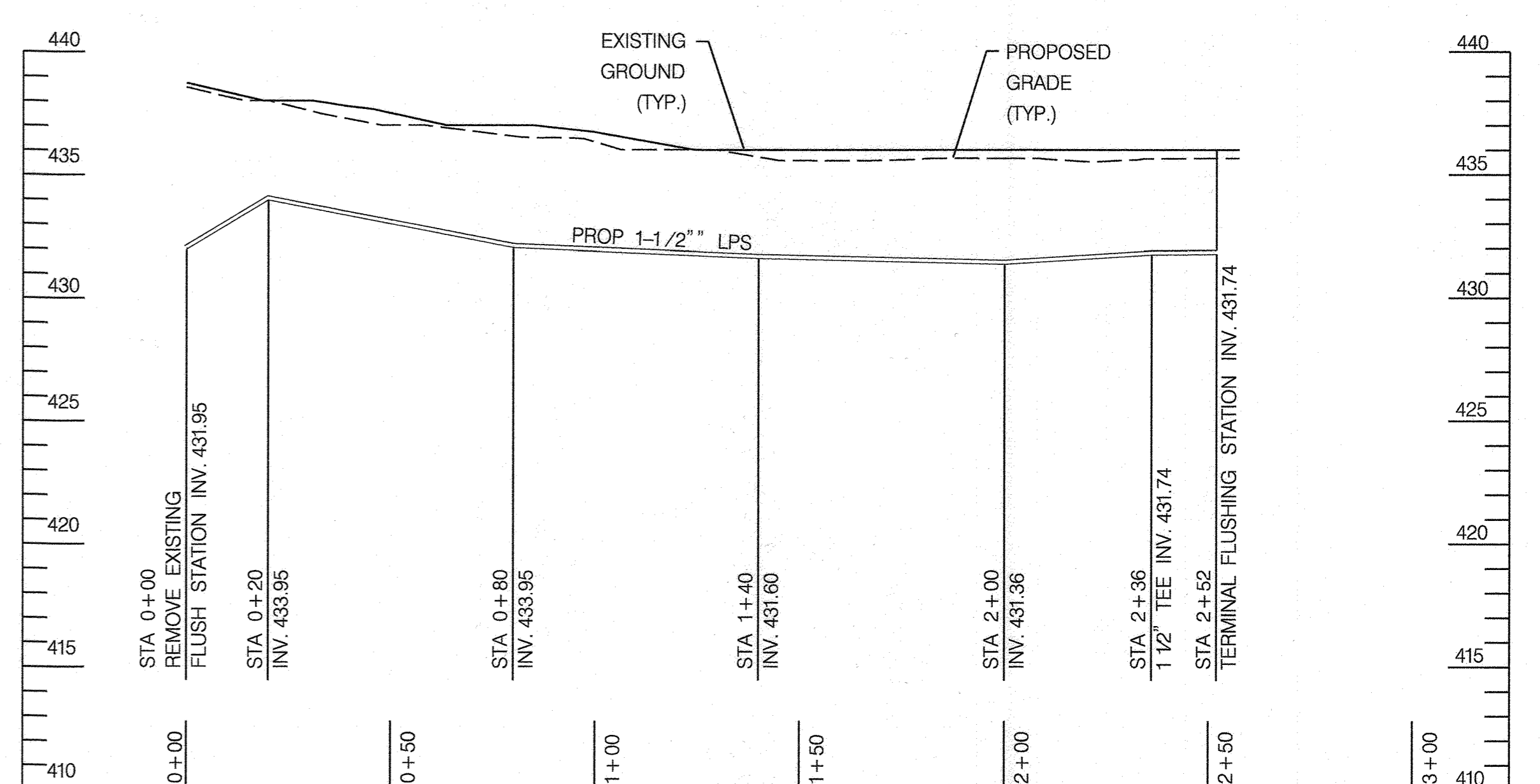
PLAN - MD 108  
SCALE: 1" = 30'



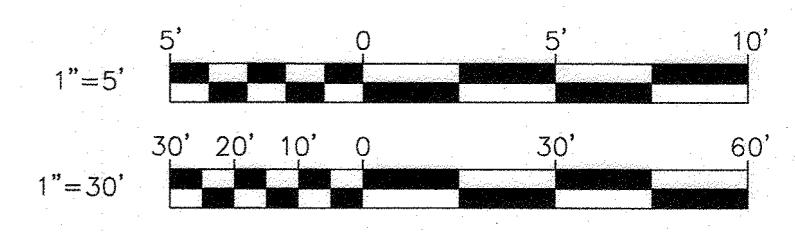
PROFILE - 8" WATER FEED TO CHURCH  
H: 1" = 30'  
V: 1" = 5'



PROFILE - 8" WATER EXTENSION  
H: 1" = 30'  
V: 1" = 5'



PROFILE - 1-1/2" LOW PRESSURE SEWER  
H: 1" = 30'  
V: 1" = 5'



AS-BUILT

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
4/13/23  
DIRECTOR OF PUBLIC WORKS  
CHIEF, BUREAU OF UTILITIES

Howard County  
Bureau of Engineering  
7123 Riverwood Drive, Suite B  
Columbia, Maryland 21046  
(410) 313-2040

DES:	BY:	NO.:	REVISION:	DATE:
SRK				
DRN:	KMT			
CHK:				
SIGN DATE:	SRK	1	AS-BUILT	12/22

DECEMBER, 2022  
PLAN AND PROFILE  
600' SCALE MAP NO. 29  
BLOCK NO. 12

PROJECT NO. W8602  
CONTRACT NO. 44-5210  
MD 108  
WATER AND LOW PRESSURE SEWER EXTENSION  
ELECTION DISTRICT NO. 6  
HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN  
SHEET NO. 02 OF 02

\\ad.rk.com\6\Cloud\Projects\2017\12\20\_12\20\WFFEDS\Task 027 - MD 108 Water and LPS Extension As-Built\AS-BUILT\Plan\Profile\MD108\_AS-BUILT.dwg 3/14/2023