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 MARCH 2008 BY WHITMAN, REQUARDT & ASSOCIATES. ADDITIONAL UTILITY INFORMATION WAS PROVIDED BY HOWARD COUNTY RECORD AND MAY NOT REFLECT CURRENT CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION.
- THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 30HA AND NO. 36BC.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD '88 AS WELLAS THE HOWARD COUNTY GEODETIC CONTROL STATIONS NO.
- 4. 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.
- 6. 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 THE CONTRACTOR SHALL HAVE A COPY OF 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	<u>_410-313-4900</u>
COLONIAL PIPELINE CO	_410-795-1390
MISS UTILITY	_1-800-257-7777
STATE HIGHWAY ADMINISTRATION	
VERIZON .	1-800-743-0033

- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE TREE PROTECTION AREAS 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.
- 11. 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.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT SHALL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 308 OF THE DESIGN MANUAL VOLUME IV AND AS SHOWN ON CAPITAL PROJECT# N-3965 SEDIMENT CONTROL DRAWINGS.

ENGINEER'S CERTIFICATION

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER Anthony U.Olsen (PRINT NAME BELOW SIGNATURE)

10/27/23

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."



DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

CHIEF. BUREAU OF UTILITIES

10.31.23

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

alexander Brothie 11/16/23 HOWARD SOIL CONSERVATION DISTRICT DATE

SDP-23-016 DEPARTMENT OF PLANNING AND ZONING

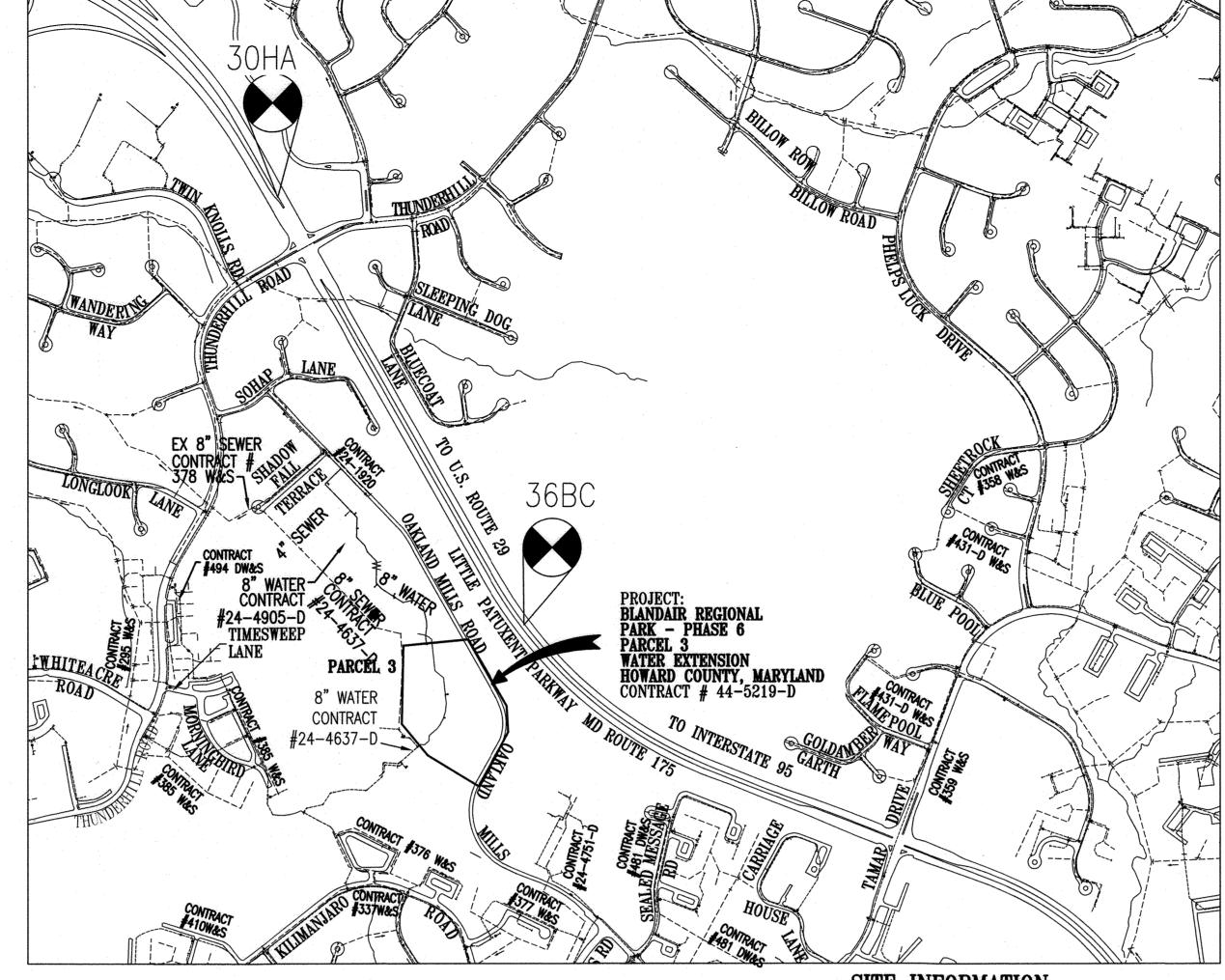
HOWARD COUNTY, MARYLAND 11.27.23

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

- ALL WATER MAINS SHALL BE PVC C-900 DR-18, 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 HARNESSES. 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.
- 10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE 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.
- 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
 VIRRATORY PLATE COMPACTOR OR OTHER APPROVED MEANS COMPACTOR OR OTHER APPROVED MEANS Y COMPACT THE #57 STONE ON BOTH SIDES DEFLECTION COUPLING OR 5-DEGREE SWEEP, NOT TO USE COMPACTION EQUIPMENT DIRECTLY

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 CERTAINTEED 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 (IPEX) BLUE BRUTE DR18 OR EQUAL.



2. WHEN PVC HIGH DEFLECTION COUPLINGS OF 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.

13. DESIGN MANUAL WAIVER DMV2-23-020 FOR ALTERNATIVE CONSTRUCTION TECHNIQUE (JACK AND BORE) WAS APPROVED AUGUST 31, 2023. THE REQUIREMENTS SET FORTH IN THE APPROVAL ARE LISTED ON SHEET WS0.2.

LOCATION MAP SCALE: 1" = 600'

SITE INFORMATION

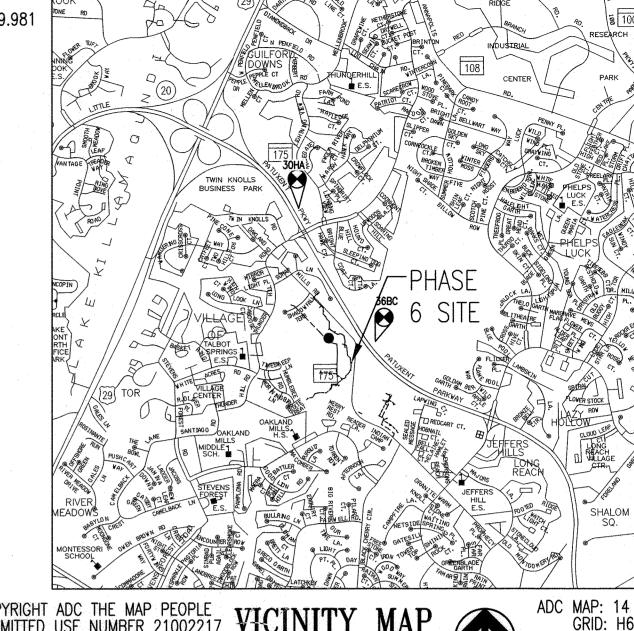
WATER TEST PRESSURE: 191 PSI

BUILDING TYPE(S): N/A NO. OF LOTS: 1 NO. OF WATER HOUSE CONNECTIONS: 1 NO. OF SEWER HOUSE CONNECTIONS: 0 DRAINAGE AREA: LITTLE PATUXENT TREATMENT PLANT: LITTLE PATUXENT WASTEWATER RECLAMATION PLANT SITE AREA: 7.65 AC WATER ZONE: 550 WATER TEST GRADIENT: 827

BENCHMARK DATA 30HA: N 566030.6258, E 1357989.5444, ELEV. 386.983 36BC: N 563264.1261, E 1359585.7197, ELEV. 409.981

LIST OF DRAWINGS

- WSO.1 VICINITY MAP, TITLE, BILL OF MATERIALS, SHEET INDEX
- WSO.2 WATER PLAN WS0.3 WATER PROFILES



COPYRIGHT ADC THE MAP PEOPLE PERMITTED USE NUMBER 21002217 4000' 1" = 2000'

SCALE: 1" = 2000'

BILL OF MATERIALS AS-BUILT **ESTIMATED** ITEM MANUFACTURER MATERIALS QUANTITY 10 LF ." PVC C900 WATER 725 LF " PVC C900 DR-14 WATER 40 LF B" DIP CLASS 54 WATER 15 LF 6" PVC C900 DR-14C WATER ' 1/8 HORIZONTAL BEND 5 EA " 1/16 HORIZONTAL BEND 1 EA " 1/16 VERTICAL BEND 1 EA 6 EA 3" 1/32 HORIZONTAL BEND 3" 1/32 VERTICAL BEND 1 EA 1 EA 8" X 6" TEE 1 EA 2" X 8" SADDLE FOR WATER HOUSE CONN 6" VALVE 1 EA 8" VALVE 1 EA 2" METER VAULT 1 EA FIRE HYDRANT 1 EA NAME OF UTILITY CONTRACTOR:

CONTRACT NO. 44-5219-D HOWARD COUNTY, MARYLAND

'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. 19376, EXPIRATION DATE: 9/22/2025.'



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DES: BWJ					
DRN: LEM					VICINITY MAP, TITLE,
					BILL OF MATERIALS, SHEET INDEX
CHK: AUO				1	
DATE: 10/2023	BY	NO.	REVISION	DATE	TAX MAP 36, GRID 5, PARCEL 3

BLANDAIR PHASE 6 WATER EXTENSION CONTRACT NO. 44-5219-D

SHOWN

HOWARD COUNTY, MARYLAND

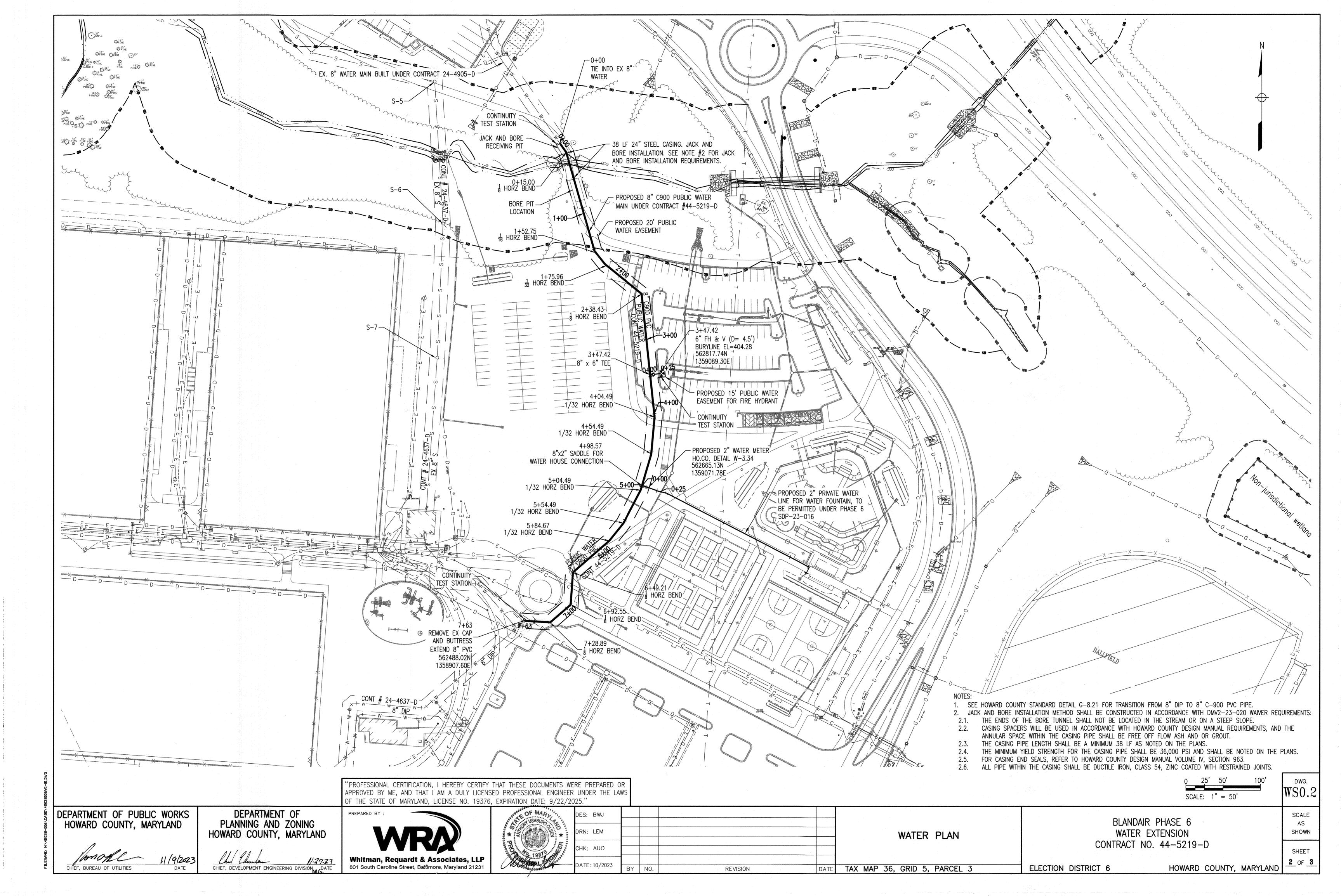
ELECTION DISTRICT 6

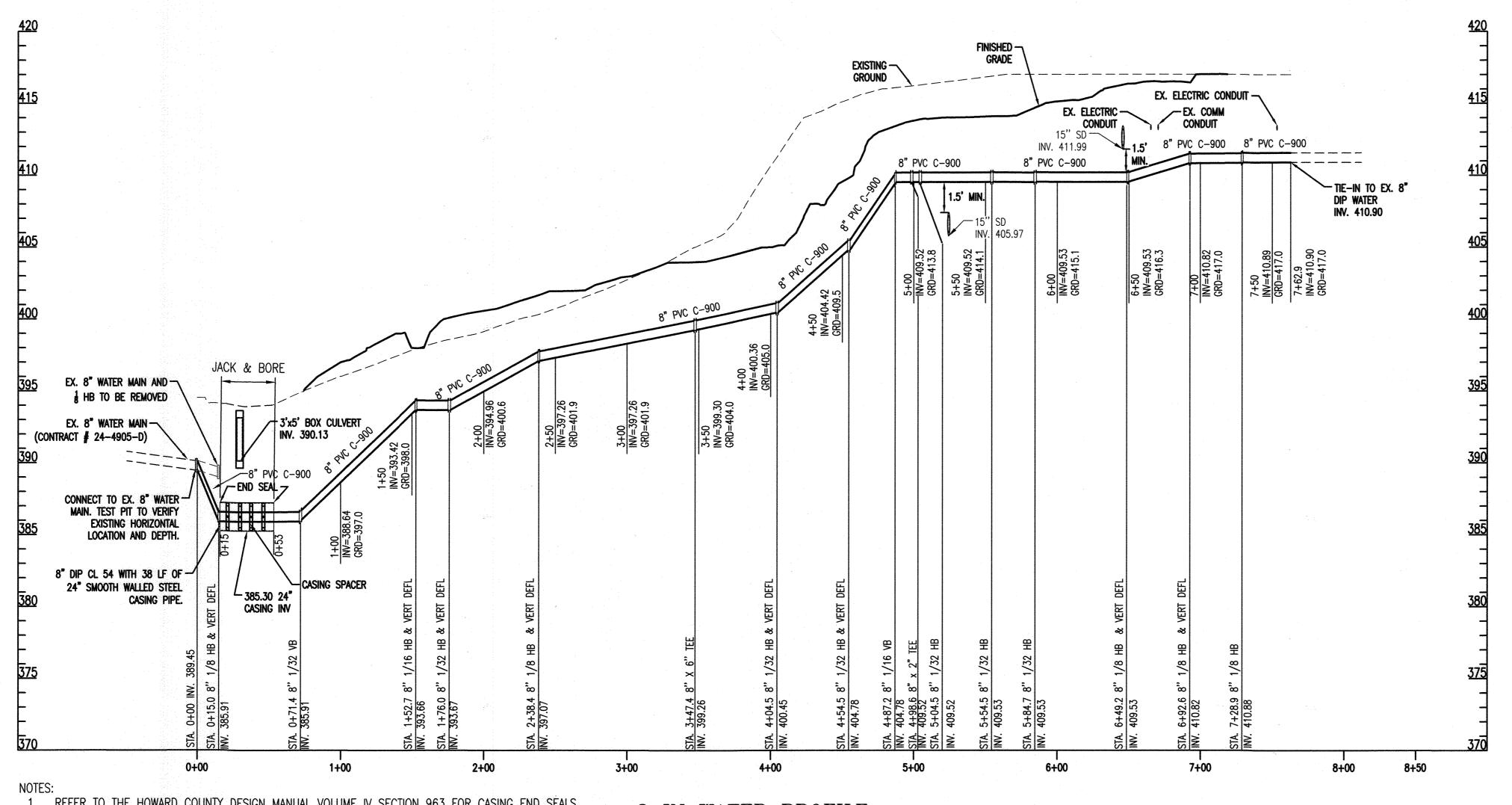
SHEET 1 OF 3

DWG.

SCALE

AS



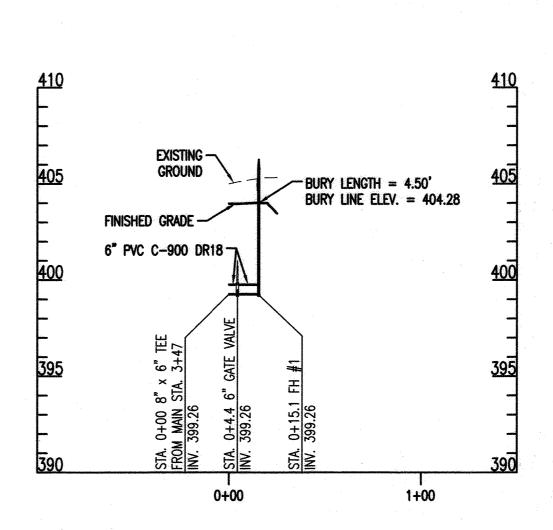


8 IN WATER STRUCTURE TABLE STATION | NORTHING | EASTING DESCRIPTION 0+15.00 | 563114.15 | 1358961.41 | 8 IN 1/8 HORIZONTAL BEND 0+71.42 | 563059.97 | 1358977.15 | 8 IN 1/32 VERTICAL BEND 1+52.75 | 562981.85 | 1358999.61 | 8 IN 1/16 HORIZONTAL BEND 1+75.96 | 562963.71 | 1359014.10 | 8 IN 1/32 HORIZONTAL BEND 2+38.43 | 562924.53 | 1359062.75 | 8 IN 1/8 HORIZONTAL BEND 3+47.42 | 562816.14 | 1359074.24 | 8 IN x 6 IN TEE 4+04.49 | 562759.40 | 1359080.26 | 8 IN 1/32 HORIZONTAL BEND 4+54.49 | 562709.60 | 1359075.75 | 8 IN 1/32 HORIZONTAL BEND 4+87.19 | 562678.23 | 1359066.51 | 8 IN 1/16 VERTICAL BEND 4+98.57 562667.32 1359063.29 8 IN x 2 IN TEE 5+04.49 | 562661.64 | 1359061.62 | 8 IN 1/32 HORIZONTAL BEND 5+54.49 | 562617.35 | 1359038.41 | 8 IN 1/32 HORIZONTAL BEND 5+84.67 | 562593.86 | 1359019.46 | 8 IN 1/32 HORIZONTAL BEND 6+49.21 | 562551.57 | 1358970.70 | 8 IN 1/8 HORIZONTAL BEND 6+92.55 | 562508.34 | 1358967.62 | 8 IN 1/8 HORIZONTAL BEND 7+28.89 | 562484.53 | 1358940.17 | 8 IN 1/8 HORIZONTAL BEND

- REFER TO THE HOWARD COUNTY DESIGN MANUAL VOLUME IV SECTION 963 FOR CASING END SEALS. SEE HOWARD STANDARD DETAIL G-8.21.
- 3. SEE HOWARD COUNTY STANDARD DETAIL G-8.31 FOR TRANSITION CONNECTIONS BETWEEN DIP AND C900 AT EITHER END OF BORE AND JACK STEEL CASING.
- 4. 24" STEEL CASING PIPE TO BE SMOOTH WALLED WITH A $\frac{1}{2}$ " WALL THICKNESS AND 3600 PSI YIELD STRENGTH (ASTM A-570 GRADE 36).
- 5. ALL PIPE WITHIN CASING PIPE TO BE ZINC COATED 8" DIP CL 54 PIPE WITH RESTRAINED JOINTS.

8 IN WATER PROFILE

SCALE: 1"= 50' HORIZ. 5' VERT.



FH #1 WATER PROFILE SCALE: 1"= 50' HORIZ.

	6 IN STRUC	CTURE TABLE	
STATION	DESCRIPTION	NORTHING	EASTING
0+04.43	6 IN. GATE VALVE	562816.6077	1359078.6506
0+15.14	FIRE HYDRANT	562817.7371	1359089.2975

5' VERT.

410 - - - 405 - - - 400 - - - - 395		STA. 0+00 2" x 8" SADDLE FOR WATER AND HOUSE CONN. FROM MAIN STA. 4+98.6	2" WATER METE	PRIVATE 2" WATER LINE CONTINUATION TO BE PERMITTED UNDER PHASE 6 SDP-23-016 2" PVC	410 - - 405 - 400 - - 395
420 - -	2" WATER METER			CONTINUATION TO BE PERMITTED UNDER PHASE 6 SDP-23-016	420 - - 415 - 410 -

2 IN. WATER METER PROFILE

SCALE: 1"= 50' HORIZ. 5' VERT.

2 IN STRUCTURE TABLE					
STATION	DESCRIPTION	NORTHING	EASTING		
0+00	2"x8" SADDLE FOR WATER HOUSE CONN	562667.86	1359064.21		
0+13	2" WATER METER	562663.42	1359076.53		

SCALE

SHOWN

SHEET

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

NOTES:

SHOWN ON WSO.2

1/9/2023 DATE

DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND

Whitman, Requardt & Associates, LLP 801 South Caroline Street, Baltimore, Maryland 21231



DES: BWJ DATE: 10/2023 REVISION

WATER PROFILE

BLANDAIR PHASE 6 WATER EXTENSION CONTRACT NO. 44-5219-D

1. ALL STATIONING IS BASED ON WATERLINE STATIONING. AS

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

"PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR

OF THE STATE OF MARYLAND, LICENSE NO. 19376, EXPIRATION DATE: 9/22/2025."

ELECTION DISTRICT 6 TAX MAP 36, GRID 5, PARCEL 3

HOWARD COUNTY, MARYLAND 3 OF 3