


SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT

CAPITAL PROJECT NO. S6600 CONTRACT NO. 44-5172 HOWARD COUNTY, MARYLAND

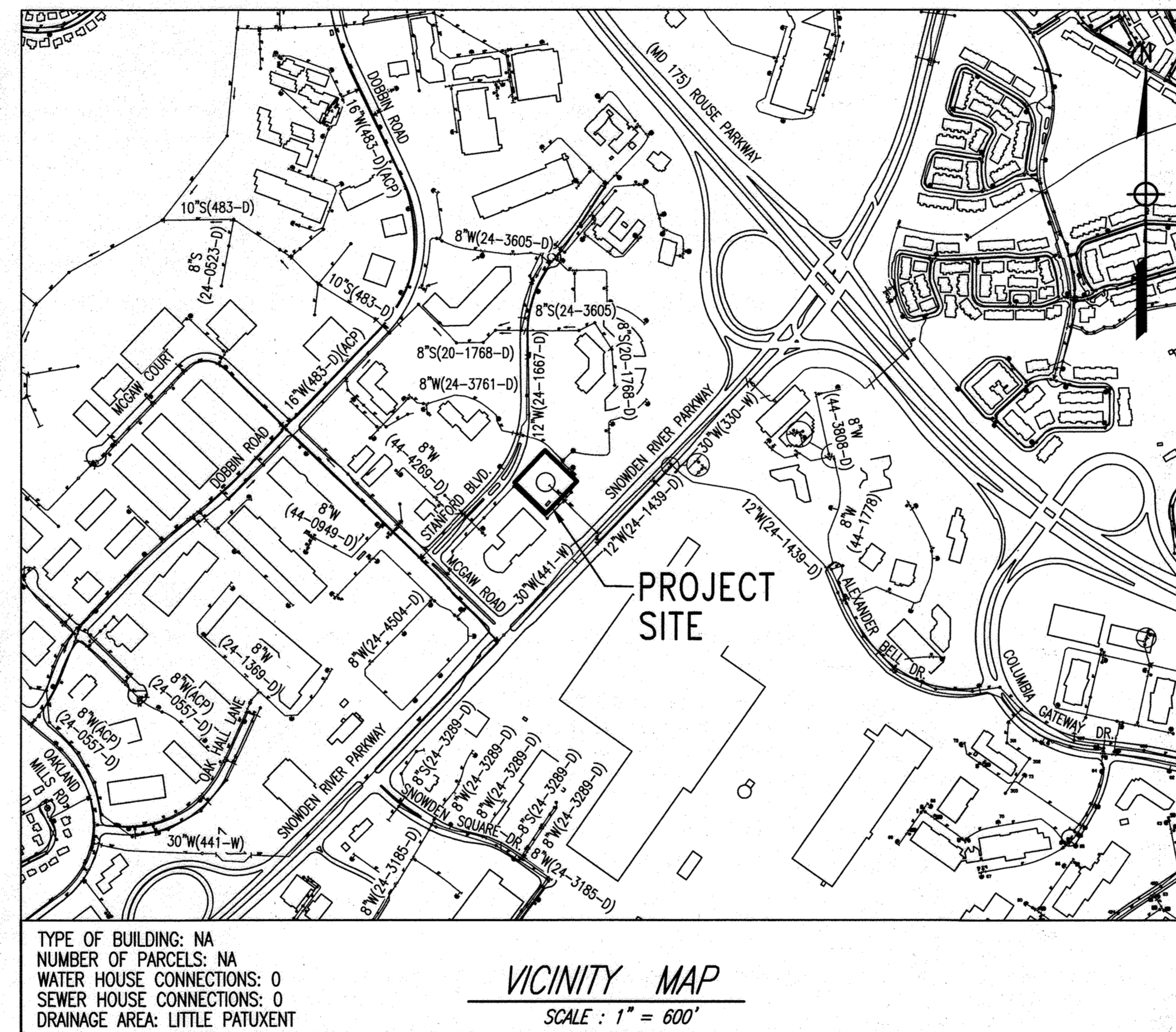
GENERAL NOTES:

- 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 NOT PERFORMED.
- 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. DG01, NO. DG08 AND NO.43EC.
- ALL VERTICAL CONTROLS ARE BASED ON NAVD'88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE AS INDICATED ON THE DRAWINGS.
- 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 BY 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 IN 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).....	410-850-4620
BGE (EMERGENCY).....	410-685-1400
BUREAU OF UTILITIES.....	410-313-4900
COLONIAL PIPELINE COMPANY.....	410-795-1390
MISS UTILITY.....	1-800-257-7777
STATE HIGHWAY ADMINISTRATION.....	410-531-5533
VERIZON.....	1-800-743-0033/410-224-9210
- 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.

GENERAL 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 WIRE 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 PIPES 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. 17 POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSSES. 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 THE PVC PIPE.



GENERAL WATER NOTES (CONT.):

- 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 CERTAINTEEED PVC HIGH DEFLECTION (HD) STOP COUPLINGS OR EQUAL.

FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR 18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) 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 INCORPORATES 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.

SHEET NO.	DRAWING	DESCRIPTION
1	G-1	TITLE SHEET
2	C-1	SITE PLAN
3	SC-1	EROSION AND SEDIMENT CONTROL NOTES, PLAN AND DETAILS
4	M-1	MECHANICAL NOTES, ABBREVIATIONS AND LEGEND
5	ME-1	ALTITUDE VALVE VAULT REMOVAL PLANS AND SECTION
6	ME-2	ALTITUDE VALVE VAULT PLANS AND SECTION
7	ME-3	ALTITUDE VALVE VAULT DETAILS AND INSTRUMENTATION & CONTROLS

PURPOSE STATEMENT


THE PURPOSE OF THIS PROJECT IS TO REPLACE THE EXISTING ALTITUDE VALVE AND APPURTENANCES INSIDE THE EXISTING BELOW GRADE ALTITUDE VALVE VAULT WITH NEW EQUIPMENT.

SEE CONTRACT NO. 403 - W FOR ADDITIONAL EXISTING INFORMATION.

AS-BUILT


DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."


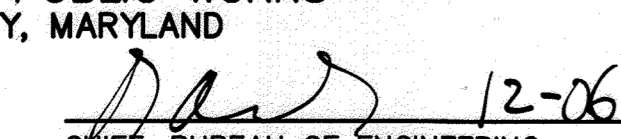


 DESIGNER'S SIGNATURE
 DATE: 11/18/2021
 PRINTED NAME & TITLE: PHILIP ANDREW COOPER
 MDE REGISTRATION NO. P.E., RLS, OR R.L.A.: 19947

OWNERS/DEVELOPER CERTIFICATION:

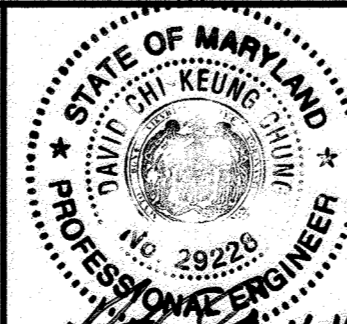
"I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT ACCORDING TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS AND THAT THE RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF TRAINING AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL 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
 DATE: 12/3/2021
 PRINTED NAME & TITLE: Sajay Kulkarni, Project manager

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. 29228, EXPIRATION DATE: 06/17/2023.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

 DIRECTOR OF PUBLIC WORKS

 CHIEF, BUREAU OF ENGINEERING

 CHIEF, UTILITY DESIGN DIVISION


Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, MD 21231

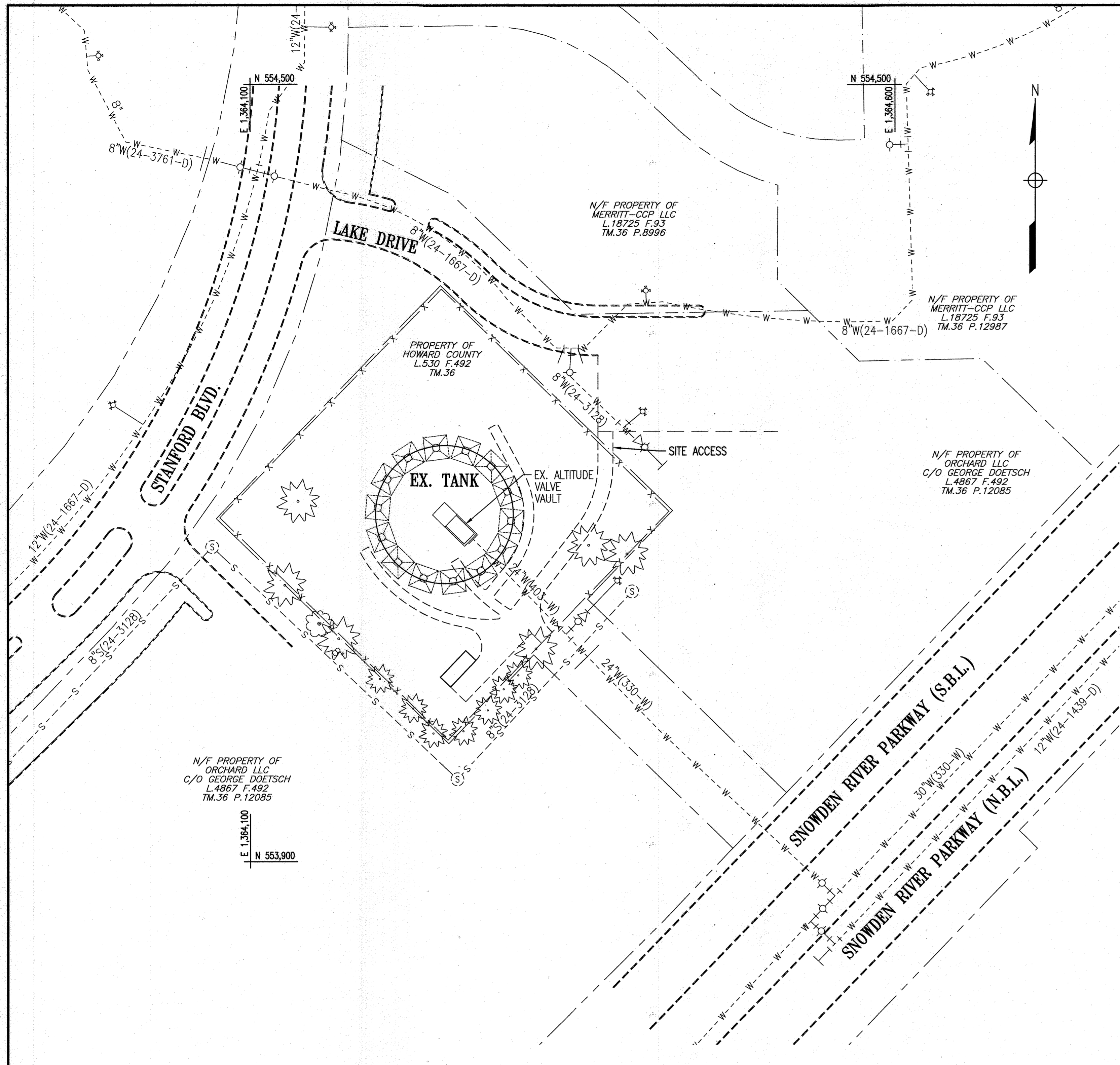

 PROFESSIONAL ENGINEER
 DATE: 11-11-2021

DES:	BKM				
DRN:	BKM				
CHK:	DCC				
BY:	WRA	AS BUILT	6/23		
NO.:					
REVISION:					
DATE:					

TITLE SHEET
 600' SCALE MAP NO. 46
 BLOCK NO. XX

SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT
 CAPITAL PROJECT NO. S6600
 CONTRACT NO. 44-5172
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE
 AS SHOWN
 SHEET
 1 OF 7



PLAN
SCALE: 1" = 50'

UTILITIES EXISTING WORK		MISCELLANEOUS	
SANITARY SEWER MAIN	---	ABANDONED UTILITY	---
SANITARY SEWER FORCE MAIN	---	FENCE	---
SANITARY SEWER MANHOLE	⊙	FENCE, HEDGE	---
SANITARY SEWER TERMINAL MANHOLE	⊙	STONE, BRICK, CONCRETE WALLS	---
SANITARY SEWER VALVE	⊙	POLES IDENTIFY - B.G.&E. NO. OR VERIZON NO.	---
STORM DRAIN & CULVERTS	---	STREET LIGHT	---
STORM DRAIN MANHOLE	⊙	RAILROAD TRACKS	---
STORM DRAIN JUNCTION CHAMBER	⊙	EXCAVATION OR CUT	---
INLET, CURB TYPE	---	EMBANKMENT OR FILL	---
INLET, GRATING TYPE	---	POT HOLE, PIT, DEPRESSION, SINK HOLE	---
INLET, CURB & GRATING TYPE	---	CELLAR ELEVATION	---
WATER MAIN	---	CONTOUR LINES (INTERMEDIATE) (INDEX)	---
WATER MAIN VALVE VAULT	⊙	BORING	---
WATER METER BOX	⊙	TEST PIT	---
WATER VALVE, TEE, & CROSS	---		
WATER REDUCER, Y-BRANCH, & BEND	---		
WATER BLOW-OFF & AIR RELEASE	---		
WATER FIRE HYDRANT	---		
WATER STAND PIPE	---		
ELEVATED WATER TANK	---		
ELECTRIC (UNDERGROUND)	---		
TELEPHONE (UNDERGROUND)	---		
CABLE (UNDERGROUND)	---		
GAS MAINS	---		
GAS METER	---		
GAS DRIP, STOP OR PLUG	---		
PROPOSED WORK			
WATER MAIN	---		
SANITARY SEWER OR STORM DRAIN	---		
SANITARY SEWER OR STORM DRAIN MANHOLE	⊙		
SANITARY SEWER TERMINAL MANHOLE	⊙		
SANITARY SEWER HOUSE CONNECTION	---		
STORM DRAIN JUNCTION CHAMBER	⊙		
WATER HOUSE SERVICE & METER BOX	---		
WATER VALVE, TEE, & CROSS	---		
WATER REDUCER, Y-BRANCH, & BEND	---		
WATER BLOW-OFF, AIR RELEASE, & FIRE HYDRANT	---		
STORM DRAIN INLET & CATCH BASIN	---		
STORM DRAIN END SECTION	---		

Howard County, Maryland Department of Public Works Approved: <i>[Signature]</i> Chief, Bureau of Engineering	Detail Standard Symbols G-1.01
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NATURAL FEATURES		ROADS AND STREETS	
WOODS, UNDERGROWTH AND BRUSH	---	ESTABLISHED TOP GRADE CURB (CIRCLES DESIGNATE VERTICAL CURVE POINTS, P.I.'S OF CURB LINES AND P.I.'S OF INTERSECTING STREETS AND ALLEYS)	---
MARSH	---	CENTERLINE OF EXISTING ROAD	---
TREES - DECIDUOUS	---	PROPERTY LINES (LABEL EACH SIDE)	---
EVERGREEN	---	VERTICAL CURVES -	
STREAMS (NOTE DIRECTION OF FLOW)	---	-POINT OF VERTICAL CURVATURE	P.V.C.
DITCHES (NOTE DIRECTION OF FLOW)	---	-POINT OF VERTICAL TANGENT	P.V.T.
GULLIES AND WET WEATHER WATER-COURSES	---	-POINT OF VERTICAL INTERSECTION	P.V.I.
ROCK (DESCRIBE BY NOTE AND INDICATE OUTCROP OR LOOSE ROCK)	---	-POINT ON CURVE	P.O.C.
		-POINT OF VERTICAL REVERSE CURVE	P.V.R.C.
		-POINT OF VERTICAL COMPOUND CURVE	P.V.C.C.
ROADS AND STREETS		SURVEYORS SYMBOLS	
EXISTING CURB	---	BENCH MARK	⊙ B.M. NO.
PROPOSED CURB	---	TRAVERSE STATION	⊙
WALKS (NOTE WIDTH AND TYPE)	---	STAKE (HUB) WITH TACK CENTER	⊙
CONCRETE VALLEY CUTTER	---	STAKE WITHOUT TACK	*
EDGE MACADAM OR CONCRETE ROAD	---	IRON PROPERTY PIPE	⊙
EDGE DIRT OR GRAVEL ROAD	---	NAIL OR SPIKE	⊙
EXISTING RIGHT-OF-WAY LINE (R/W)	---	PROPERTY & BOUNDARY STONES	⊙
EXISTING PROPERTY LINE	---	CITY BOUNDARY	---
CENTERLINE OF EXISTING R/W OR ROAD	---	DISTRICT BOUNDARY	---
CENTERLINE OF PROPOSED R/W OR ROAD	---	AREA BOUNDARY	---
TRANSIT OR TRAVERSE LINE	---		
(SHOW IN RED) (SHADE IN FOR HUB OR NAIL AND CAP)	---	LAND ACQUISITION	
P.I. TRANSIT LINE OR CENTER LINE	---	TEMPORARY CONSTRUCTION AREA	---
P.I. FACE CURB LINE (NOTE CORNER)	---	SLOPE EASEMENT	---
		AREA TO BE RELEASED	---
HORIZONTAL CURVES -		EXISTING UTILITY R/W	---
-POINT OF CURVATURE	P.C.	PROPOSED DRAINAGE & UTILITY R/W	---
-POINT OF TANGENT	P.T.	STREAM RELOCATION AND BRIDGE-EASEMENT	---
-POINT OF INTERSECTION	P.I.	EXISTING ROADS & STREETS R/W	---
-POINT OF REVERSE CURVATURE	P.R.C.	PROPOSED ROADS & STREETS R/W	---
-POINT OF COMPOUND CURVATURE	P.C.C.	EXISTING R/W'S (AGENCIES OTHER THAN-HOWARD COUNTY)	---
ARCHITECTURAL & STRUCTURAL SYMBOLS			
CONCRETE	---		
METAL	---		
WOOD	---		
GRAVEL	---		
SAND	---		
RIPRAP	---		
EARTH	---		

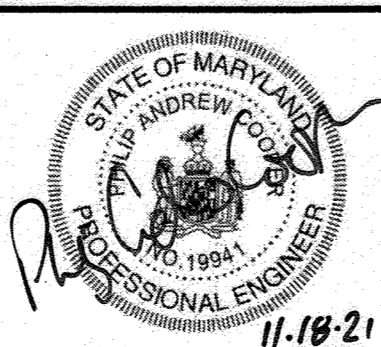
Howard County, Maryland Department of Public Works Approved: <i>[Signature]</i> Chief, Bureau of Engineering	Detail Standard Symbols G-1.02
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AS-BUILT
 0 25' 50' 100'
 SCALE: 1" = 50'

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. 19941, EXPIRATION DATE: 02/07/2023.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> 12/7/2021 DIRECTOR OF PUBLIC WORKS DATE	<i>[Signature]</i> 12-06-21 CHIEF, BUREAU OF ENGINEERING DATE
<i>[Signature]</i> 12-7-21 CHIEF, BUREAU OF UTILITIES DATE	<i>[Signature]</i> 12/1/2021 CHIEF, UTILITY DESIGN DIVISION DATE

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



DES:	PAC		
DRN:	GWG		
CHK:	DCC		
BY:	WRA	AS BUILT	6/23
NO.		REVISION	DATE

CIVIL SITE PLAN
 600' SCALE MAP NO. 46 BLOCK NO. XX

SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT
 CAPITAL PROJECT NO. S6600
 CONTRACT NO. 44-5172
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 7

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

- A. PRIOR TO THE START OF EARTH DISTURBANCE.
- B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
- C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
- D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).

5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID.

6. SITE ANALYSIS:
TOTAL AREA OF SITE: 1.43 ACRES
AREA DISTURBED: 0.01 ACRES
AREA TO BE ROOFED OR PAVED: 0.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED: 0.01 ACRES
TOTAL CUT: 2 CU. YDS.
TOTAL FILL: 2 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION: N/A

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

- INSPECTION DATE
- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):

- USE I AND IP MARCH 1 - JUNE 15
- USE III AND IIIP OCTOBER 1 - APRIL 30
- USE IV MARCH 1 - MAY 31

16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

17. SECTION I - TEMPORARY SEEDING

VEGETATION - ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

A. SEED MIXTURES - TEMPORARY SEEDING

- I. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW IN THE TEMPORARY SEEDING SUMMARY TABLE.
- II. FOR SITES HAVING SOIL TESTS PERFORMED, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE TESTING AGENCY SHALL BE WRITTEN IN. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- III. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SEEDING AND MULCHING AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (FOR HARDNESS ZONE 6B)				SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES			
1	ANNUAL RYEGRASS	40	3/1 - 5/15 8/1 - 10/15	0.5"	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)

SECTION II - PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOD OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

A. SEED MIXTURES - PERMANENT SEEDING

- I. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW IN THE TEMPORARY SEEDING SUMMARY TABLE. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAMBANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-SCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING. FOR SPECIAL LAWN MAINTENANCE AREAS, SEE SECTION IV SOD AND V TURFGRASS IN THE 1994 MARYLAND STANDARDS AS SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- II. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, THE RATES SHOWN ON THIS TABLE SHALL BE DELETED AND THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY SHALL BE WRITTEN.
- III. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3 1/2 LBS./1000 SQ.FT. (150 LBS/AC), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

B. TURFGRASS MIXTURES

- I. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
- II. IDEAL TIMES OF SEEDING FOR TURFGRASS MIXTURES:
WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDNESS ZONES: 5B, 6A)
CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)
SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONES: 7A, 7B)
- III. 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 ZONES AND DEBRIS OVER 1.5 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE OWING OF GRASSES WILL POSE NO DIFFICULTY.
- IV. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (5 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING SUMMARY

SEED MIXTURE (FOR HARDNESS ZONE 6B)				FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE LB/AC	SEEDING DATES	N	P ₂ O ₅	K ₂ O	
9	TALL FESCUE KENTUCKY BLUEGRASS	60 40	3/1 - 5/15 8/15 - 10/15	1/4-1/2"	45 LB/AC (1.0 LB/1000 SF)	90 LB/AC (2 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)

SECTION IV - SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

A. GENERAL SPECIFICATIONS

- I. CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
- II. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4", PLUS OR MINUS 1/8", AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIERS WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
- III. STANDARD SIZE SECTIONS OF SOD SHALL 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.
- IV. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- V. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPORTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

B. SOD INSTALLATION

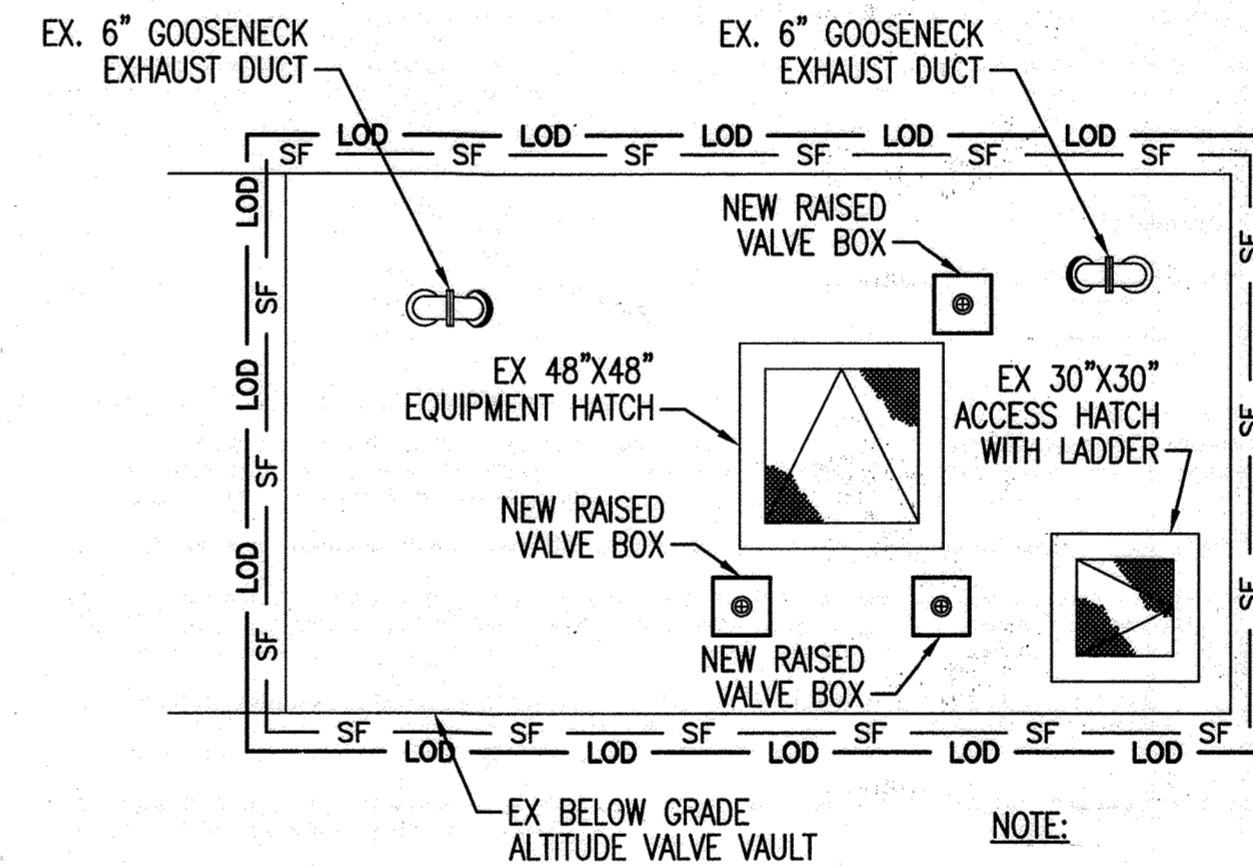
- I. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.
- II. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED 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.
- III. WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- IV. SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

C. SOD MAINTENANCE

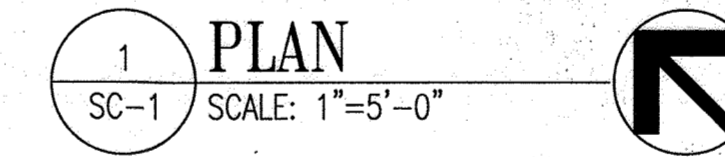
- I. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.
- II. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- III. THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2"-3" UNLESS OTHERWISE SPECIFIED.

REQUIRED SEQUENCE OF CONSTRUCTION

STEP	DURATION
1. CONTACT THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) AT 410-313-1855 PER THE HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES.	1
2. INSTALL ANY EROSION AND SEDIMENT CONTROL MEASURES, PRIMARILY SILT FENCE AS PER THE PLAN.	2
3. PERFORM INSTALLATION OF THE ALTITUDE VALVE VAULT APPURTENANCES.	45
4. RESTORE AND STABILIZE ALL VEGETATED AREAS DISTURBED TO EQUAL OR BETTER THAN ORIGINAL CONDITION.	2
5. REMOVE TEMPORARY SEDIMENT CONTROL MEASURES. REMOVAL OF SEDIMENT CONTROL PRACTICES SHALL ONLY OCCUR UPON RECEIVING PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.	1
6. STABILIZE THE REMOVED SEDIMENT CONTROL MEASURE AREAS.	1
7. THE TOTAL CONTRACT DURATION SHALL NOT EXCEED 150 CALENDAR DAYS. THIS INCLUDES THE WORK TO BE PERFORMED AS LISTED IN THE REQUIRED SEQUENCE OF CONSTRUCTION, AS WELL AS MOBILIZATION, SHOP DRAWINGS, O&M MANUALS, TRAINING AND DEMOBILIZATION.	N/A



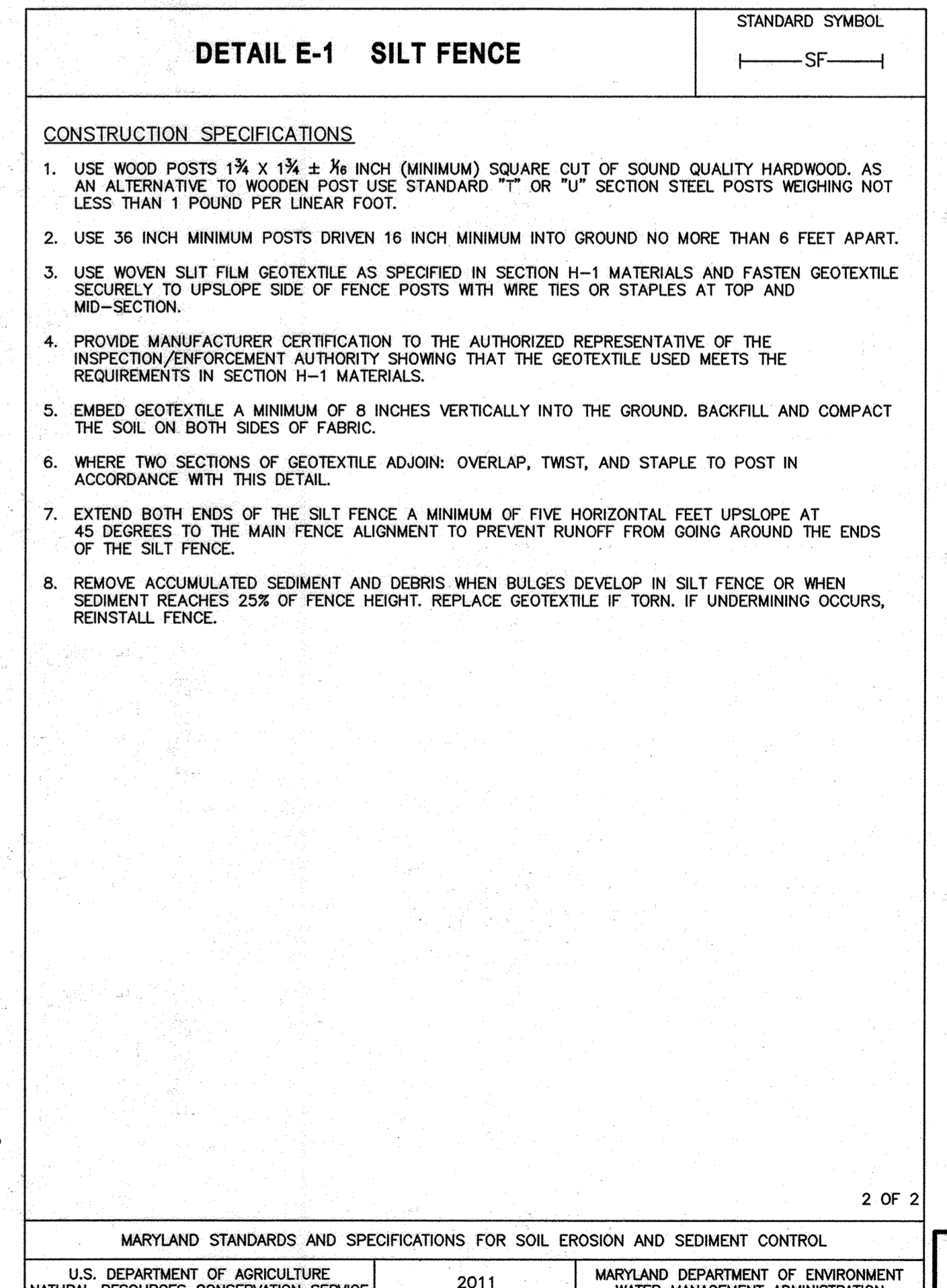
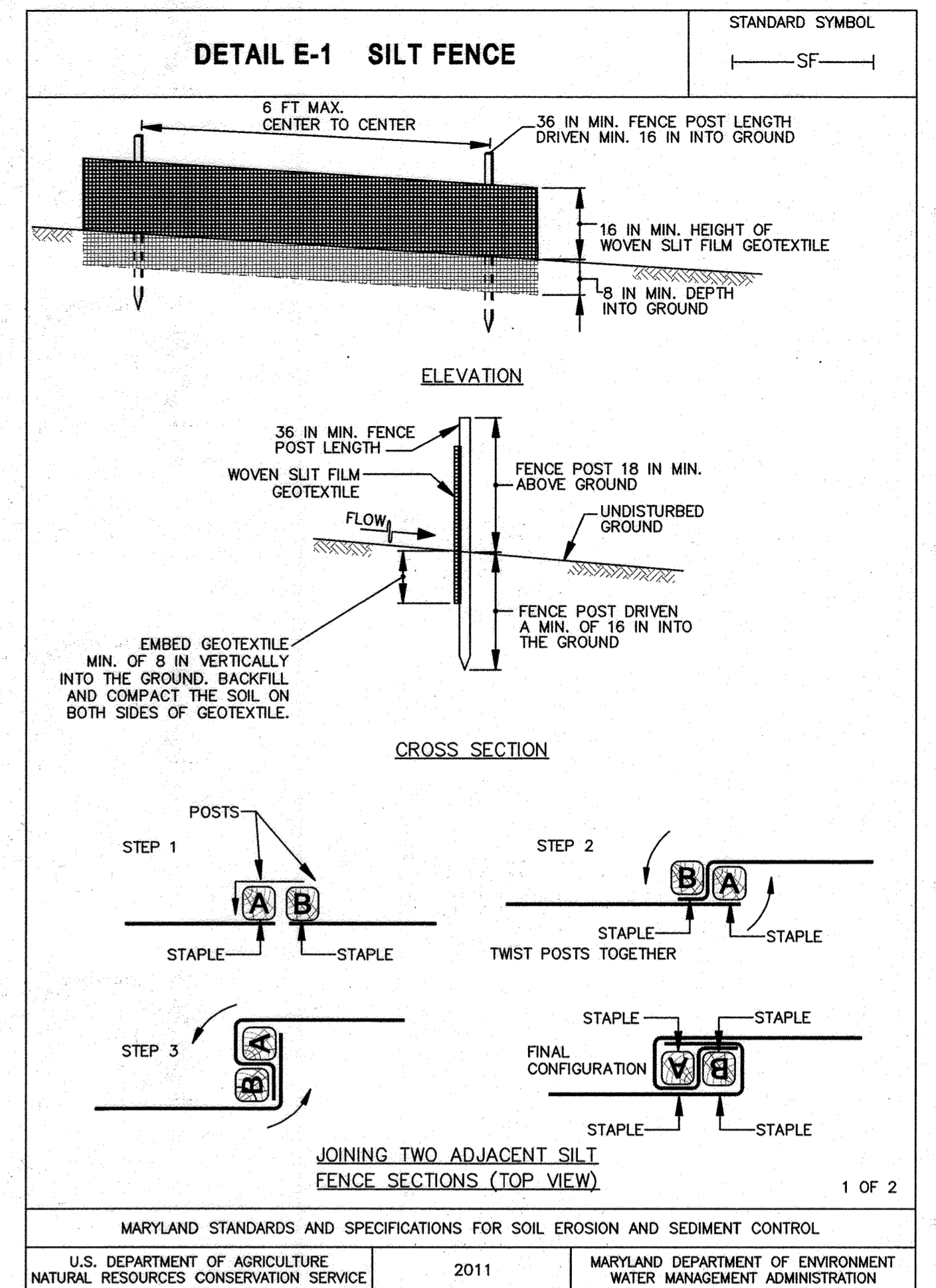
LOD AREA = 427 SQ. FT.



- NOTE:
1. PROVIDE SILT FENCE AS NEEDED TO PREVENT RUNOFF.

AS-BUILT

SCALE: 1" = 5'



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. 19941, EXPIRATION DATE: 02/07/2023.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 12/2/2021
Date: 12-06-21

Chief, Bureau of Engineering: *[Signature]*
Date: 12/07/2021

Chief, Bureau of Utilities: *[Signature]* 12-2-21
Date: 12/07/2021

Chief, Utility Design Division: *[Signature]* SRK
Date: 11-18-21

WRA
Whitman, Reardon & Associates, LLP
801 South Caroline Street, Baltimore, MD 21231

STATE OF MARYLAND
Professional Engineer
11-18-21

DES:	PAC			
DRN:	GWG			
CHK:	DCC			
BY:	WRA	AS BUILT	6/23	
NO.:				
REVISION:				
DATE:				

EROSION AND SEDIMENT CONTROL
NOTES, PLAN AND DETAILS

600' SCALE MAP NO. 46 BLOCK NO. XX

SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT

CAPITAL PROJECT NO. S6600
CONTRACT NO. 44-5172
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE NOT TO SCALE
SHEET 3 OF 7

ABBREVIATIONS

CIP	CAST IRON PIPE
EL	ELEVATION
EX	EXISTING
FT	FEET
GPM	GALLONS PER MINUTE
GTV	GATE VALVE
TYP	TYPICAL
/W	WITH

INSTRUMENTATION ABBREVIATIONS AND SYMBOLS

AI	ANALYSIS INDICATE
AT	ANALYSIS TRANSMIT
CIP	CAST IRON PIPE
FI	FLOW INDICATE
FT	FLOW TRANSMIT
LAH	LEVEL ALARM HIGH
LI	LEVEL INDICATE
LSH	LEVEL SWITCH HIGH
MC	MOTOR CONTROL
PT	PRESSURE TRANSMIT

COMAR NOTES

IN ACCORDANCE WITH CODE OF MARYLAND REGULATIONS (COMAR) 26.04.01.33, DIRECT AND INDIRECT ADDITIVES, SUPPLIERS OF WATER SHALL ONLY USE PRODUCTS (ANY MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY) THAT MEET THE APPLICABLE AMERICAN NATIONAL STANDARDS INSTITUTE/NSF INTERNATIONAL (ANSI / NSF) STANDARDS FOR DIRECT OR INDIRECT DRINKING WATER ADDITIVES. THE PRODUCTS CAN ALSO BE CERTIFIED BY AN ORGANIZATION HAVING A THIRD-PARTY CERTIFICATION PROGRAM ACCREDITED BY THE ANSI (E.G., UNDERWRITERS LABORATORY, NORTHBROOK IL; WATER QUALITY ASSOCIATION, LISLE IL; AND INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS RESEARCH AND TESTING, ONTARIO, CA; AND CSA INTERNATIONAL, TORONTO, ONT.).

IN ACCORDANCE WITH CODE OF MARYLAND REGULATIONS (COMAR) 09.20.01.03 AND THE SAFE DRINKING WATER ACT (SECTION 1417(A)(4)(B)), MATERIALS THAT COME IN CONTACT WITH WATER INTENDED FOR USE IN PUBLIC WATER SUPPLY SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT, WHICH WENT INTO EFFECT IN MARYLAND IN JANUARY 2012.

PAINTING NOTES

- SUBMIT SHOP DRAWINGS FOR THE PAINT SYSTEM AND SURFACE PREPARATION METHODS FOR REVIEW.
- DAMAGED PAINT DUE TO THE WORK PERFORMED SHALL BE REMOVED, METAL SHALL BE CLEAN OF ALL RESIDUE.
- PAINT ALL DAMAGED SURFACES DUE TO THE WORK, PAINT NEW PIPING, SLEEVE AND METAL SUPPORTS. DO NOT PAINT STAINLESS STEEL, GALVANIZED STEEL.
- COORDINATE THE PAINT COLOR REQUIREMENTS WITH THE COUNTY AND PAINT THE AREA TO MATCH ADJACENT SURFACES.
- COUNTY SHALL SELECT THE COLOR OF THE FINAL COAT.
- THE FOLLOWING REFERENCES SHALL BE USED TO ESTABLISH THE MINIMUM COATING REQUIREMENTS:
 - SSPC - SP11 POWER TOOL CLEANING TO BARE METAL
 - SSPC - SP10 NEAR-WHITE BLAST CLEANING
 - SSPC - SP7 BRUSH-OFF BLAST CLEANING
 - SSPC - SPO COMMERCIAL BLAST CLEANING
 - SSPC - SP1 SOLVENT CLEANING
 - SSPC - VLSL VISUAL STANDARDS FOR ABRASIVE BLAST CLEANED STEEL
 - SSPC - VLS3 VISUAL STANDARDS FOR POWER AND HAND TOOL CLEANED STEEL
 - SSPC - PA1 SHOP, FIELD AND MAINTENANCE PAINTING
 - SSPC - PM MEASUREMENT OF DRY PAINT THICKNESS
- PAINT SYSTEM: SHALL BE TNEVEC
- PAINT STEEL: STRUCTURAL, TANKS, PIPES AND EQUIPMENT, IMMERSION - POTABLE WATER AS SCHEDULED BELOW:
 - SURFACE PREP: SSPC-SP10
 - PRIME COAT SERIES 90-97 TNEVEC ZINC 2.5 TO 3.5 MILS DRY FILM
 - 2ND COAT SERIES N-140F POTA-POX PLUS 2.0 TO 6.0
 - 3RD COAT SERIES N-140F POTA-POX PLUS 2.0 TO 6.0
 - TOTAL DRY FILM THICKNESS SHALL EQUAL 6.5 TO 15.5
- DO NOT PAINT PIPE FLANGES OR BOLTS.

GATE VALVES 16 INCHES AND LARGER NOTES

- SUBMIT SHOP DRAWINGS FOR THE EQUIPMENT AND OPERATOR FOR REVIEW. CONTRACTOR SHALL COORDINATE THE PIPING LAYOUT AND VALVES SO THAT THE OPERATOR NUT ALIGNS WITH THE VALVE BOX CAST IN THE TOP OF THE VAULT. ALL VALVES SHALL BE SUITABLE FOR POTABLE WATER SERVICE. VALVES SHALL BE MANUALLY OPERATED BY OPERATING NUT AND WRENCH, SIMILAR TO THE EXISTING CONFIGURATION.
- GATE VALVES AND VALVE BOXES SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL IV, MAY 30, 2017 EDITION, SECTION 961.01 AND 961.06.

VALVE BOXES

- SUBMIT SHOP DRAWINGS FOR THE EQUIPMENT FOR REVIEW. CONTRACTOR SHALL COORDINATE THE LAYOUT AND BOX SO THAT THE VALVE BOX WILL FIT SECURELY INTO THE EXISTING BELL. CONNECTIONS SHALL BE WATER TIGHT.
- VALVE BOX MANUFACTURERS SHALL BE: BINGHAM & TAYLOR, EAST JORDAN IRON WORKS, MUELLER COMPANY, SIGMA CASTING, ADAPTOR, INC.

DISINFECTION NOTES

- THE FACILITY AND WATER MAIN SHALL BE DISINFECTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL IV, MAY 30, 2017 EDITION. SECTION 1007.
- BACTERIOLOGICAL TESTING OF WATER MAINS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL IV, MAY 30, 2017 EDITION. SECTION 1008.

PIPE AND FITTINGS NOTES

- DUCTILE IRON PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL IV, MAY 30, 2017 EDITION. SECTION 905.10.
- COPPER PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL IV, MAY 30, 2017 EDITION. SECTION 905.14.
- PROVIDE 3 PART UNIONS AT VALVES IN SMALL COPPER PIPING.
- VALVES SMALLER THAN 4" SHALL MEET THE COMAR REQUIREMENTS AND BE AS MANUFACTURED BY APOLLO OR EQUAL.

VENTILATION NOTES

- SUBMIT SHOP DRAWINGS FOR THE EQUIPMENT FOR REVIEW. CONTRACTOR SHALL COORDINATE THE LAYOUT AND LOCATION OF EQUIPMENT SO THAT IT FITS WITHOUT OBSTRUCTIONS.
- VENTILATION FAN SHALL BE 1/6 HP, 120 VOLT, 1 PHASE 60 HZ. 585 CFM AT 0.25 INCHES S.P.
- FAN SHALL BE DIRECT DRIVE, CENTRIFUGAL TYPE. PERFORMANCE OF ALL UNITS SHALL BE SUCH TO PROVIDE NOT LESS THAN THE MINIMUM CAPACITY AT THE INDICATED STATIC PRESSURE IN ACCORDANCE WITH AMCA STANDARD NO. 210.
- FAN HOUSING SHALL BE CONSTRUCTED OF 319 CAST ALUMINUM OR FRP.
- SHAFT SHALL BE MACHINED GROUND AND POLISHED, SUITABLE FOR MOUNTING BEARINGS AND THE FAN WHEEL. FAN WHEEL SHALL BE KEVED TO SHAFT.
- FAN WHEEL SHALL BE CONSTRUCTED OF 319 CAST ALUMINUM WITH RADIAL OR BACKWARD INCLINED BLADES. BLADES SHALL BE WELDED TO THE SPUN WHEEL FLANGE OR INLET SHROUD AND TO THE BACKPLATE.
- BEARINGS SHALL BE ANTI-FRICTION, BALL, SELF-ALIGNING PILLOW BLOCK TYPE. BEARINGS SHALL BE GREASE LUBRICATED WITH A RATED L-10 LIFE OF AT LEAST 100,000 HOURS.
- MOTOR SHALL BE TEFC HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS. THE MOTOR SHALL BE SIZED TO PROVIDE THE RATED BRAKE HORSEPOWER REQUIRED BY THE FAN. MOTOR ENCLOSURE SHALL BE OPEN AND DRIPPROOF. MOTOR SHALL HAVE A 1.15 SERVICE FACTOR.
- SOUND POWER LEVELS FOR EACH FAN, AS TESTED IN ACCORDANCE WITH AMCA PUBLICATION NO. 300, SHALL BE 75 DBA OR LESS AT 10 FEET.
- THE CENTRIFUGAL FAN SHALL CARRY AMCA CERTIFICATE RATING AIR PERFORMANCE SEAL.
- ACCEPTABLE MANUFACTURERS OF FANS: CHICAGO BLOWER CORPORATION: 38-CPB DESIGN, GREENHECK; SERIES 21 OR 41, HOWDEN BUFFALO: BABY VENT SET, NEW YORK BLOWER: PRESSURE BLOWERS
- PROVIDE ELASTOMER VIBRATION ISOLATION MOUNTING DEVICES. THESE DEVICES SHALL BE SELECTED BY THE FAN MANUFACTURER TO SUIT THE ROTATING SPEED, WEIGHT, AND MOUNTING SUPPORT LOCATIONS. ELASTOMER VIBRATION ISOLATION MOUNTING DEVICES SHALL BE MANUFACTURED BY ENIDINE, OR EQUAL.
- PROVIDE FERNCO OR EQUAL, FLEXIBLE ADAPTOR WITH STAINLESS STEEL BANDS TO CONNECT FAN DISCHARGE TO EXISTING DUCT.

ALTITUDE VALVE NOTES

- SUBMIT SHOP DRAWINGS FOR THE EQUIPMENT FOR REVIEW. CONTRACTOR SHALL COORDINATE THE LAYOUT AND LOCATION OF EQUIPMENT SO THAT IT FITS WITHOUT OBSTRUCTIONS.
- THE ALTITUDE CONTROL VALVE SHALL BE INSTALLED ON THE TANK COMMON INLET/OUTLET LINE. IT SHALL OPERATE AS A TWO WAY FLOW VALVE. IT SHALL BE DESIGNED TO FILL THE TANK AND SHUT OFF WHEN THE HIGH WATER LEVEL IS REACHED IN THE TANK. IT SHALL REOPEN WHEN THE SYSTEM PRESSURE DROPS BELOW THE TANK HEAD TO LET WATER FLOW BACK THROUGH THE ALTITUDE VALVE. THIS FLOW SHALL DEPEND ON THE PRESSURE DIFFERENTIAL CAUSED BY DEMAND. THE VALVE SHALL SENSE THE TANK HEAD FROM THE SENSING LINE RUN BACK TO THE PILOT (MODEL CDS6A) MOUNTED ON THE ALTITUDE VALVE. THE ALTITUDE VALVE PILOT CONTROLS SHALL ALSO INCLUDE A SOLENOID SHUTOFF FEATURE. THIS SHALL GIVE THE COUNTY THE ABILITY TO OPEN AND CLOSE THE VALVE REMOTELY BY ENERGIZING OR DE-ENERGIZING A SOLENOID ON THE PILOT SYSTEM. THIS SOLENOID SHALL BE NORMALLY OPEN AND ENERGIZED TO CLOSE AND STOP FILLING THE TANK.
- THE 20 INCH ALTITUDE VALVE SHALL BE A DIAPHRAGM ACTUATED GLOBE STYLE VALVE. IT SHALL BE A SINGLE FLAT DIAPHRAGM THAT FLEXES AS THE VALVE OPENS AND CLOSSES. NO DOUBLE ROLLING DIAPHRAGM VALVES SHALL BE PERMITTED. IT SHALL CONSIST OF THREE PARTS. THE BODY WITH SEAT INSTALLED, THE DIAPHRAGM ASSEMBLY, AND THE COVER WITH COVER BEARING. THE ALTITUDE VALVE SHALL BE DUCTILE IRON AND HAVE STAINLESS STEEL TRIM. THE DIAPHRAGM ASSEMBLY SHALL BE FULLY GUIDED THROUGHOUT ITS ENTIRE STROKE. THERE SHALL BE A BEARING IN THE VALVE COVER AND AN INTEGRAL BEARING IN THE VALVE SEAT. THE VALVE SHALL HAVE AN NSF61 APPROVED FUSION BONDED EPOXY COATING ON ALL FERROUS METAL SURFACES. IT SHALL BE A PACKLESS VALVE WITH NO O-RINGS OR PACKING GLANDS ANYWHERE WITHIN THE ALTITUDE VALVE. THE ALTITUDE VALVE SHALL HAVE A ONE PIECE STAINLESS STEEL SEAT. NO SNAP SEAT RINGS SHALL BE ACCEPTED. THE ALTITUDE VALVE COVER HARDWARE SHALL BE STAINLESS STEEL. THE ALTITUDE VALVE COVER SHALL HAVE A LOCATING LIP TO ENSURE FOR PROPER ALIGNMENT AND ALSO EASE OF MAINTENANCE. THERE SHALL BE NO ALIGNMENT PINS ON THE COVER.
- THE PILOT CONTROL SYSTEM SHALL HAVE THREE SEPARATE PILOTS. PILOT MODEL CDS6A HYDRAULIC ALTITUDE PILOT SHALL BE RESPONSIBLE FOR SHUTTING OFF THE ALTITUDE VALVE AT THE HIGH WATER LEVEL IN THE TANK AND SHALL HAVE A 150-200 FEET ADJUSTABLE RANGE. THE PILOT SYSTEM SHALL INCLUDE A RETURN FLOW CHECK VALVE THAT SHALL OPEN AND UNLOAD THE ALTITUDE VALVE COVER TO THE SYSTEM SIDE OF THE VALVE WHEN THE SYSTEM PRESSURE DROPS BELOW THE TANK PRESSURE. LASTLY, THE PILOT SYSTEM SHALL ALSO HAVE A NORMALLY OPEN SOLENOID IN THE CONTROL LOOP. IT SHALL BE DESIGNED TO CLOSE THE ALTITUDE VALVE AND STOP FILLING THE TANK, WHEN THE SOLENOID IS ENERGIZED. THIS SHALL BE DONE USING A LEVEL TRANSDUCER LOCALLY OR THE SOLENOID CAN BE ENERGIZED THROUGH SCADA TO CLOSE THE ALTITUDE VALVE AT ANY TIME TO STOP FILLING. THE PILOT SYSTEM SHALL ALSO HAVE A CLOSING SPEED CONTROL. THE PILOT CONTROL SYSTEM SHALL CONTAIN A LIMIT SWITCH (MODEL NO X105LCW) FOR ELECTRONIC MONITORING OF OPEN OR CLOSED POSITION. THE LIMIT SWITCH SHALL BE A SINGLE POLE/DOUBLE THROW, DRY CONTACT TYPE.
- THE MANUFACTURER SHALL WARRANTY THE VALVE FOR 3 YEARS FROM DATE OF ACCEPTANCE.
- THE MANUFACTURER SHALL ALSO PROVIDE A DIRECT FACTORY EMPLOYEE FOR START UP, TRAINING AND ADJUSTMENT. THE ALTITUDE VALVE MANUFACTURER SHALL BE ON SITE FOR 2-EIGHT HOUR DAYS FOR ADJUSTMENT AND TRAINING. THE INITIAL ADJUSTMENT TO THE VALVE SHALL BE DURING THE DAY, THE FINAL ADJUSTMENT SHALL BE MADE AT NIGHT AROUND 12:00 AM.
- THE VALVE SHALL BE A 20-INCH 610-27BCYKC D.B. FSB AS MANUFACTURED BY CLA-VAL CO. NEWPORT BEACH, CA.

TESTING OF PIPES NOTES

- HYDROSTATIC AND LEAKAGE TESTING OF WATER MAINS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL IV, MAY 30, 2017 EDITION, SECTION 1006

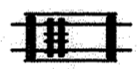
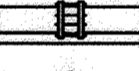


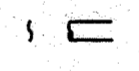
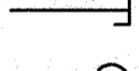









ALTITUDE VALVE ISOLATION NOTES

- THE COUNTY SHALL OPERATE EXISTING VALVES AND SHALL ISOLATE THE VALVE VAULT AND TAKE THE TANK OFF LINE FOR THE WORK TO BE PERFORMED.
- ONCE WORK IS COMPLETED, THE COUNTY SHALL PLACE THE TANK BACK INTO SERVICE.
- CONTRACTOR SHALL COORDINATE ALL SHUTDOWNS AND PLACING OF THE ALTITUDE VALVE VAULT INTO SERVICE WITH THE COUNTY.



MECHANICAL NOTES

- CONTRACTOR SHALL VERIFY ELEVATIONS, EQUIPMENT LOCATIONS AND ORIENTATIONS.
- DIMENSIONS AND ELEVATIONS PROVIDED ARE FROM RECORD DRAWINGS AND PROVIDED AS A GENERAL REFERENCE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ACTUAL DIMENSIONS AND ELEVATIONS NECESSARY TO INSTALL THE EQUIPMENT SO THAT IT ALIGNS WITH EXISTING WALL PENETRATIONS, CLEARANCES AND VALVE BOXES.
- PIPING CONNECTIONS 3" AND SMALLER HAVE BEEN SCHEMATICALLY SHOWN ON PLAN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETAILED PIPE ROUTING AND ALL APPURTENANCES IN ACCORDANCE WITH RESPECTIVE SCHEMATICS. CONTRACTOR SHALL SUPPLY ALL NECESSARY FITTINGS TO MAKE CONNECTIONS.
- NOT ALL PIPE SUPPORTS ARE SHOWN, THE CONTRACTOR IS RESPONSIBLE TO PROVIDE PROPER PIPING AND EQUIPMENT SUPPORTS.
- COORDINATE THE LOCATION OF VALVE SUPPORTS SO THAT ACCESS TO THE VALVE BEARING(S) IS NOT RESTRICTED.
- MINIMUM SLOPE FOR DRAINS SHALL BE 1/4" PER LINEAR FOOT UNLESS NOTED OTHERWISE.
- VALVES ARE NORMALLY OPEN (N.O.) UNLESS NOTED OTHERWISE. (N.C.)
- ALL EXPANSION JOINTS, FLANGE ADAPTERS AND FLEXIBLE COUPLINGS SHALL BE RESTRAINED WITH TIE-RODS UNLESS NOTED OTHERWISE. SEE TIE-ROD DETAIL.
- METAL FABRICATIONS WITH BURS, SHARP EDGES OR ARE A HAZARD SHALL BE MADE DULL/BLUNT OR SHALL BE PROVIDED WITH AN APPROPRIATE COVERING THAT SHALL MITIGATE AND DRAW ATTENTION TO THE HAZARD.
- COORDINATE THE LOCATION AND ORIENTATION OF ALL VALVE STEMS AND OPERATORS (HAND WHEEL, SPUR GEAR, BEVELED GEAR, ETC.) WITH RESPECT TO ITS SURROUNDINGS, SO THAT THE HAND WHEELS, CHAIN WHEELS, BEVELED GEAR, ETC. ARE EASY TO OPERATE, UNOBSTRUCTED AND ACCESSIBLE AND ALIGN WITH VALVE BOXES.
- MISSING OR MISLABELED CROSS REFERENCES SHALL NOT ELIMINATE THE CONTRACTORS RESPONSIBILITY TO COORDINATE ALL OF THE WORK.
- MAINTAIN DETAILED RED LINE AS BUILT DRAWINGS ON THE JOB SITE DURING CONSTRUCTION TO DOCUMENT CONSTRUCTION CHANGES AND INFORMATION AS DELINEATED IN THE SPECIFICATIONS. RED LINE AS BUILT DRAWINGS SHALL BE MADE AVAILABLE FOR PERIODIC REVIEW DURING THE PROGRESS MEETINGS.
- VALVES SMALLER THAN 4 INCHES ARE NOT LABELED.
- ALL HARDWARE ON VALVES (NUTS, BOLTS, PLUGS ETC...) TO BE STAINLESS STEEL.
- WELDED STAINLESS STEEL SHALL BE PASSIVATED.

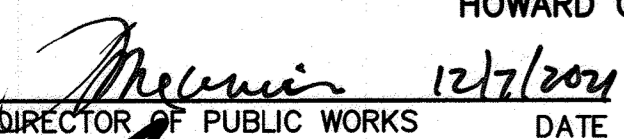
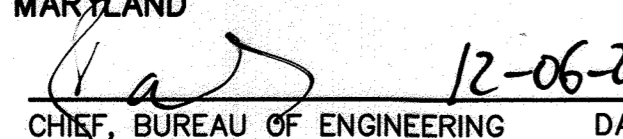


MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
	FLANGE ADAPTOR
	FLEXIBLE COUPLING WITH TIE RODS
	FLEXIBLE HOSE
	FLOW ARROW
	GATE VALVE
	PIPE BREAK
	PIPE CAP
	PIPE ELBOW-TURNED DOWN
	PIPE ELBOW-TURNED UP
	PIPE FACING UP
	PIPE GUIDE/SLEEVE
	PIPE TEE-OUTLET DOWN
	PIPE TEE-OUTLET UP
	CONCENTRIC REDUCER OR INCREASER
	UNION

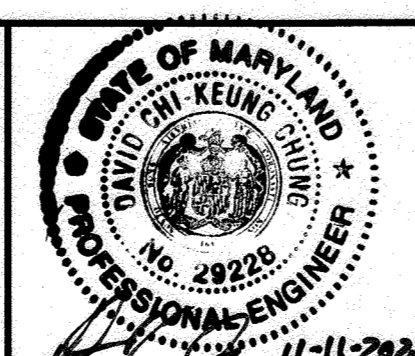
ELECTRICAL SYMBOLS

	MOTOR
	ELECTRICAL RECEPTACLE

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
 DIRECTOR OF PUBLIC WORKS DATE 12/7/2021	 CHIEF, BUREAU OF ENGINEERING DATE 12-06-21
 CHIEF, BUREAU UTILITIES DATE 12-7-21	 CHIEF, UTILITY DESIGN DIVISION DATE 12/01/21

WRA
 Whitman, Reardon & Associates, LLP
 801 South Caroline Street, Baltimore, MD 21231



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DRN:	BKM				
CHK:	DCC				
BY:	WRA	AS BUILT	6/23		
NO.					
REVISION					
DATE					

MECHANICAL NOTES, ABBREVIATIONS AND LEGEND

600' SCALE MAP NO. 46 BLOCK NO. XX

SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT

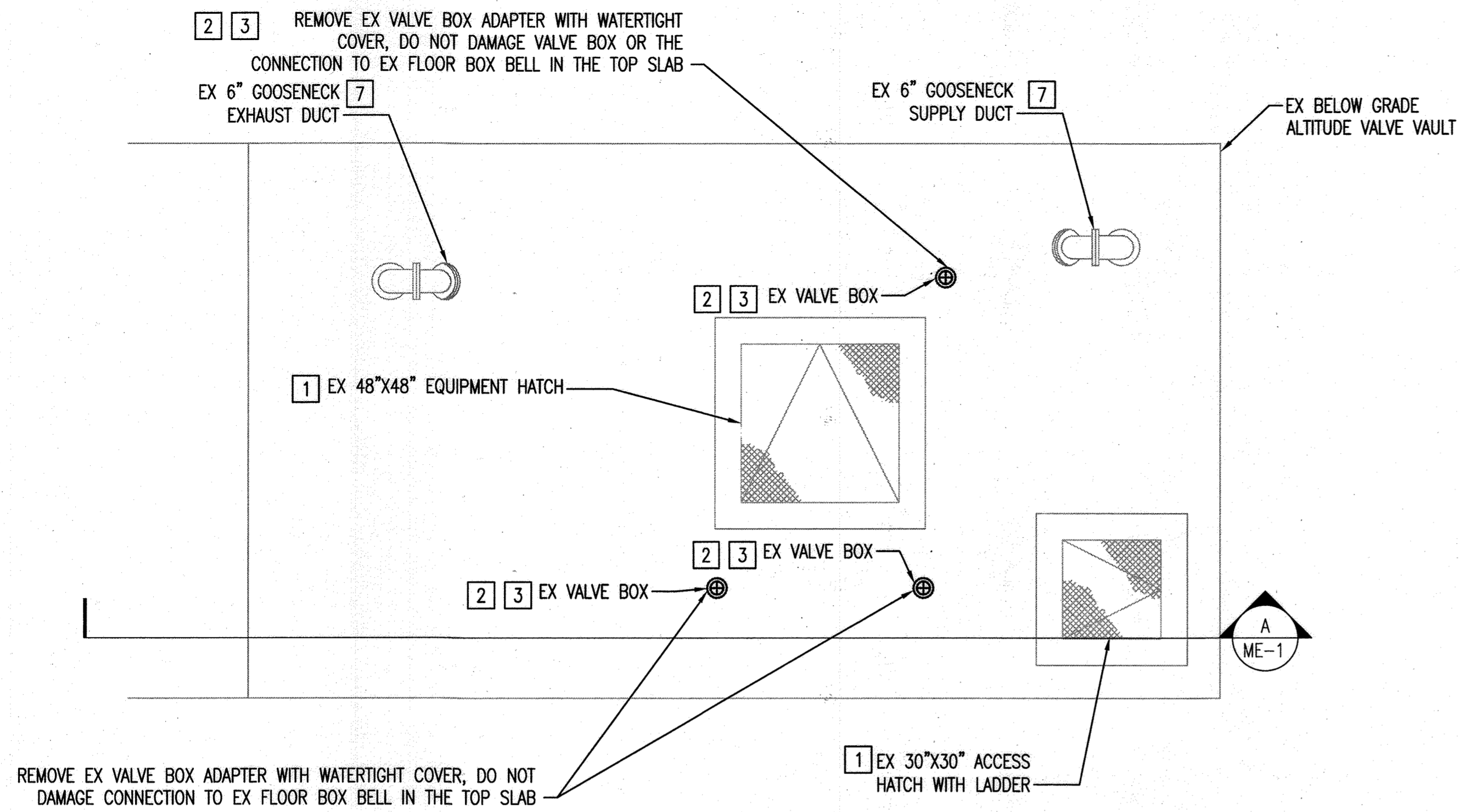
CAPITAL PROJECT NO. S6600
 CONTRACT NO. 44-5172
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

AS-BUILT

M-1

SCALE NOT TO SCALE

SHEET 4 OF 7



**6 EXISTING ALTITUDE VALVE VAULT
REMOVAL GRADE LEVEL PLAN**
ME-1 SCALE: 3/8" = 1'-0"

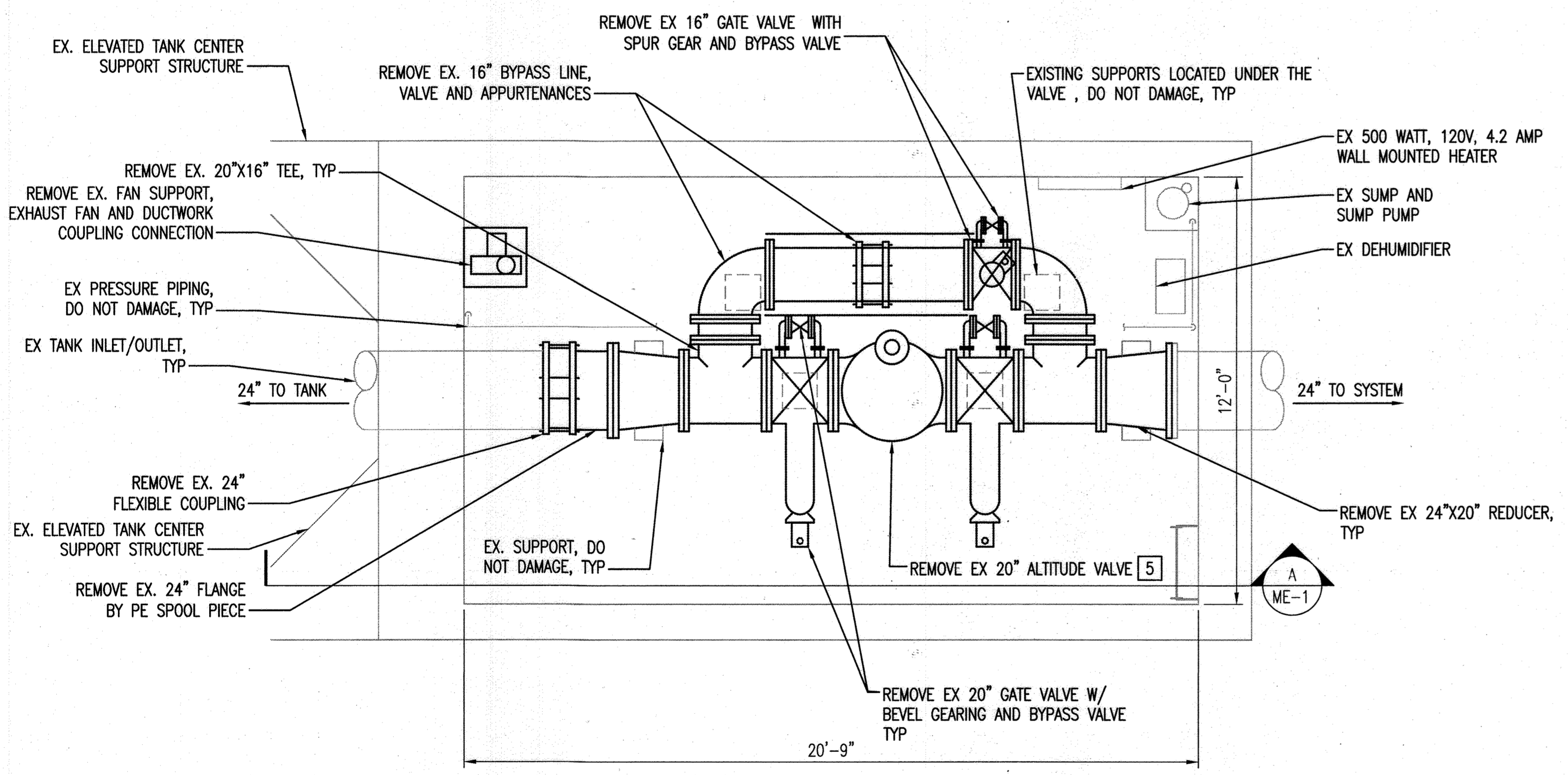
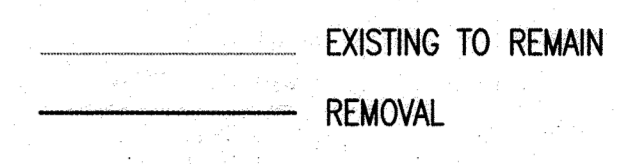
REMOVAL SPECIFIC NOTES

1. CLEAN AND UNPLUG HATCH COVER DRAIN SYSTEM AND DRAIN.
2. PROVIDE TEMPORARY PLUG IN EXISTING CAST IN FLOOR BOX BELL END TOP SLAB TO PREVENT WATER FROM ENTERING THE VAULT. DO NOT DAMAGE THE EXISTING FLOOR BOX WITH BELL OR THE VALVE BOX ADAPTER WITH WATER TIGHT COVER.
3. HAND DIG AROUND EXISTING VALVE BOX ADAPTER. REMOVE EXISTING VALVE BOX ADAPTER AND CLEAN. IDENTIFY ALL UNDERGROUND UTILITIES BEFORE PERFORMING ANY EXCAVATION.
4. FOR DISCONNECTING ELECTRICAL AND INSTRUMENTATION EQUIPMENT, LABEL ALL WIRING AND CONDUCTORS, DO NOT DAMAGE CONDUCTORS AND CONDUITS. THEY WILL BE REUSED TO RECONNECT TO NEW EQUIPMENT.
5. DISCONNECT EXISTING ALTITUDE VALVE FROM PRESSURE SENSING LINES, DRAIN LINES AND INSTRUMENTATION. DO NOT DAMAGE.
6. EQUIPMENT AND APPURTENANCES TO REMAIN, THAT ARE DAMAGED DUE TO REMOVAL WORK SHALL BE REPLACED AT NO ADDITIONAL COST OR TIME.
7. CLEAN DEBRIS FROM SCREENS LOCATED INSIDE THE VENT PIPES.

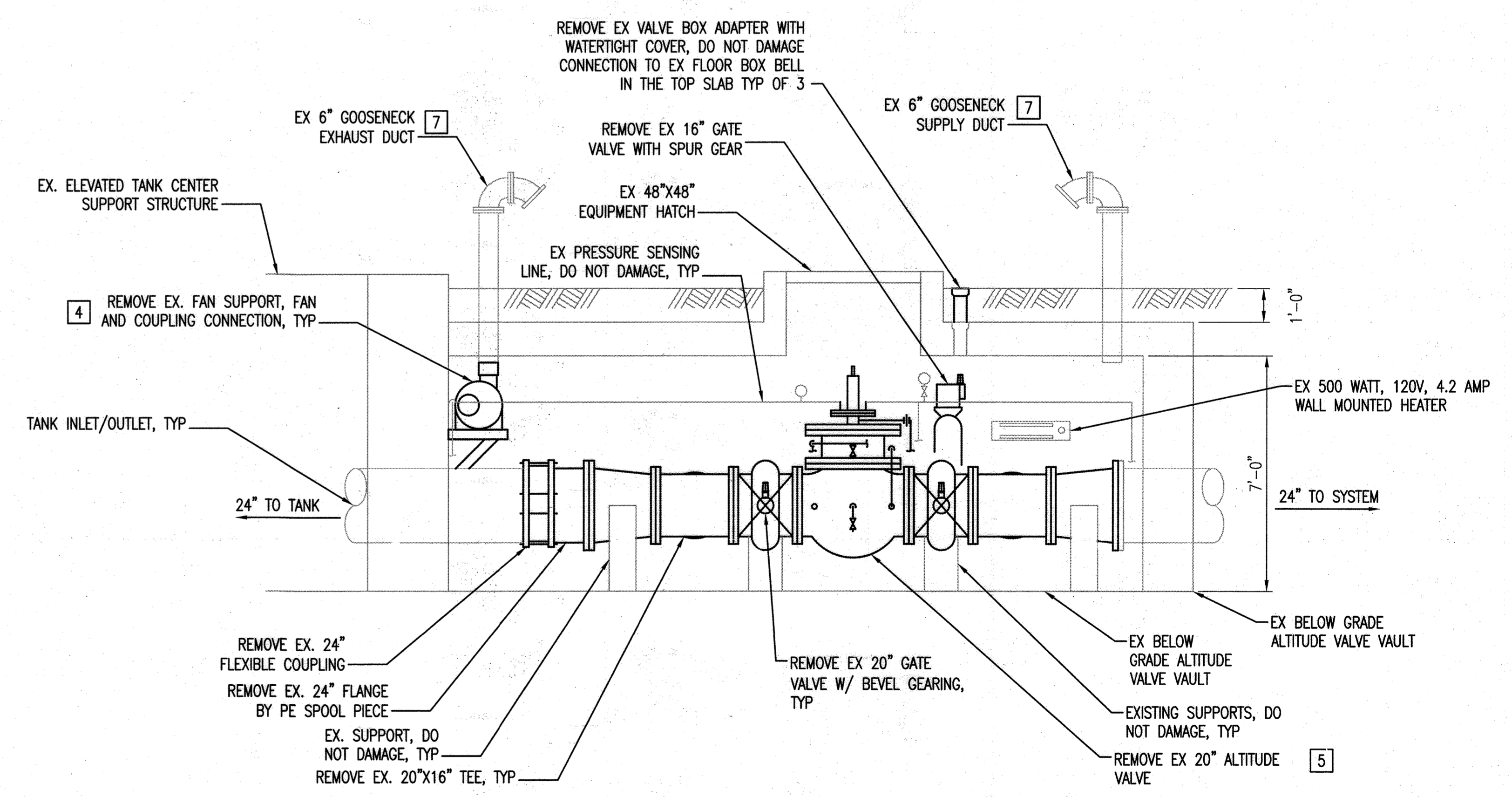
REMOVAL PLAN NOTES

1. SEE M-1 FOR GENERAL NOTES, LEGEND, ABBREVIATIONS AND SPECIFICATIONS.
2. VERIFY ALL FIELD DIMENSIONS.
3. COORDINATE ALL SHUTDOWNS WITH THE COUNTY.

LEGEND



**4 6 EXISTING ALTITUDE VALVE VAULT
INTERIOR REMOVAL PLAN**
ME-1 SCALE: 3/8" = 1'-0"



**4 6 EXISTING ALTITUDE VALVE VAULT
INTERIOR REMOVAL SECTION**
ME-1 SCALE: 3/8" = 1'-0"
NOTE: ACCESS HATCH AND NOT ALL VALVE BOXES SHOWN FOR CLARITY

AS-BUILT
GRAPHIC SCALE
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works DATE: 12-7-21 Chief, Bureau of Utilities		Chief, Bureau of Engineering DATE: 12-06-21 Chief, Utility Design Division DATE: 12/1/21	
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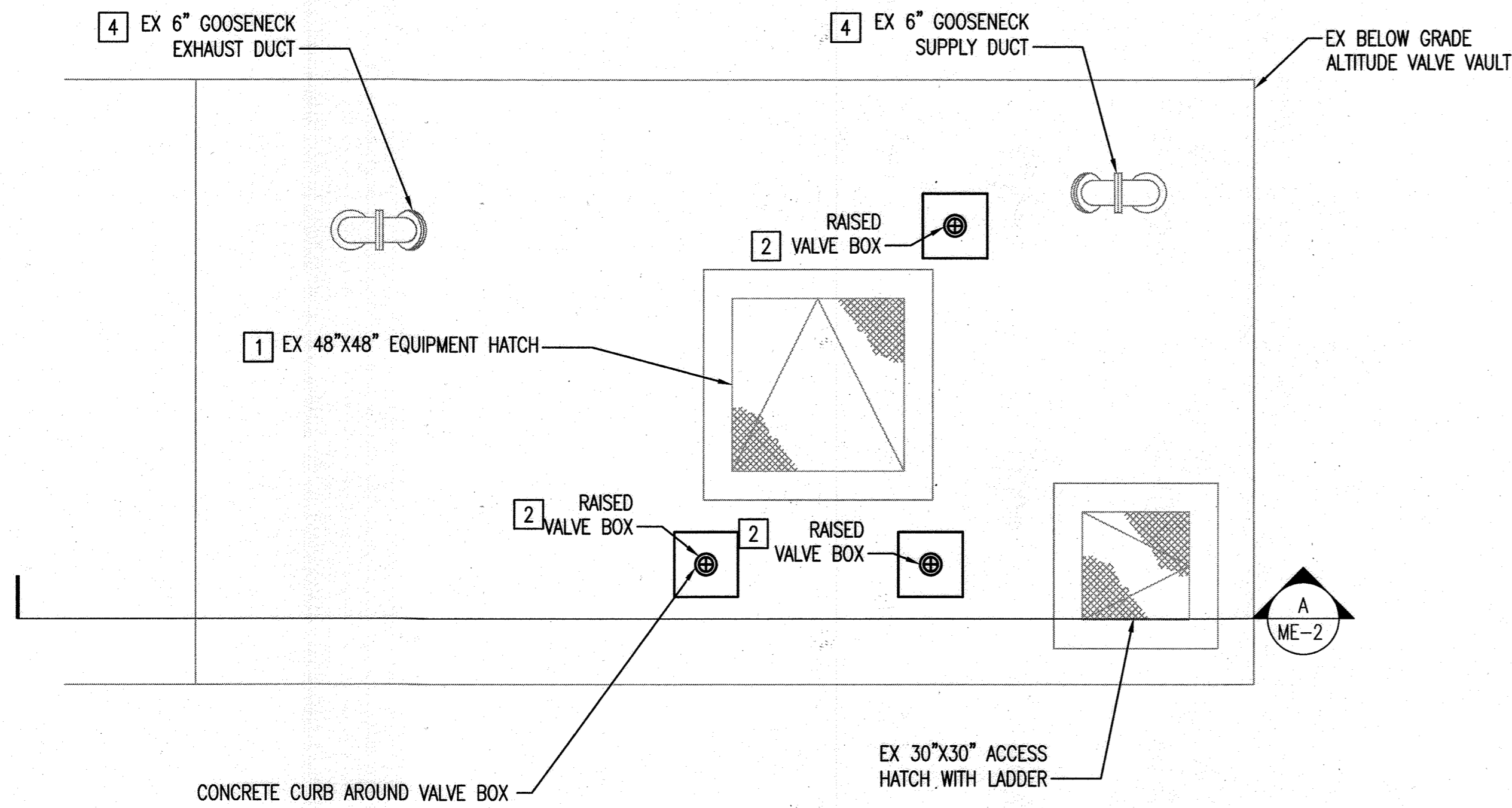
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		REVISION		DATE

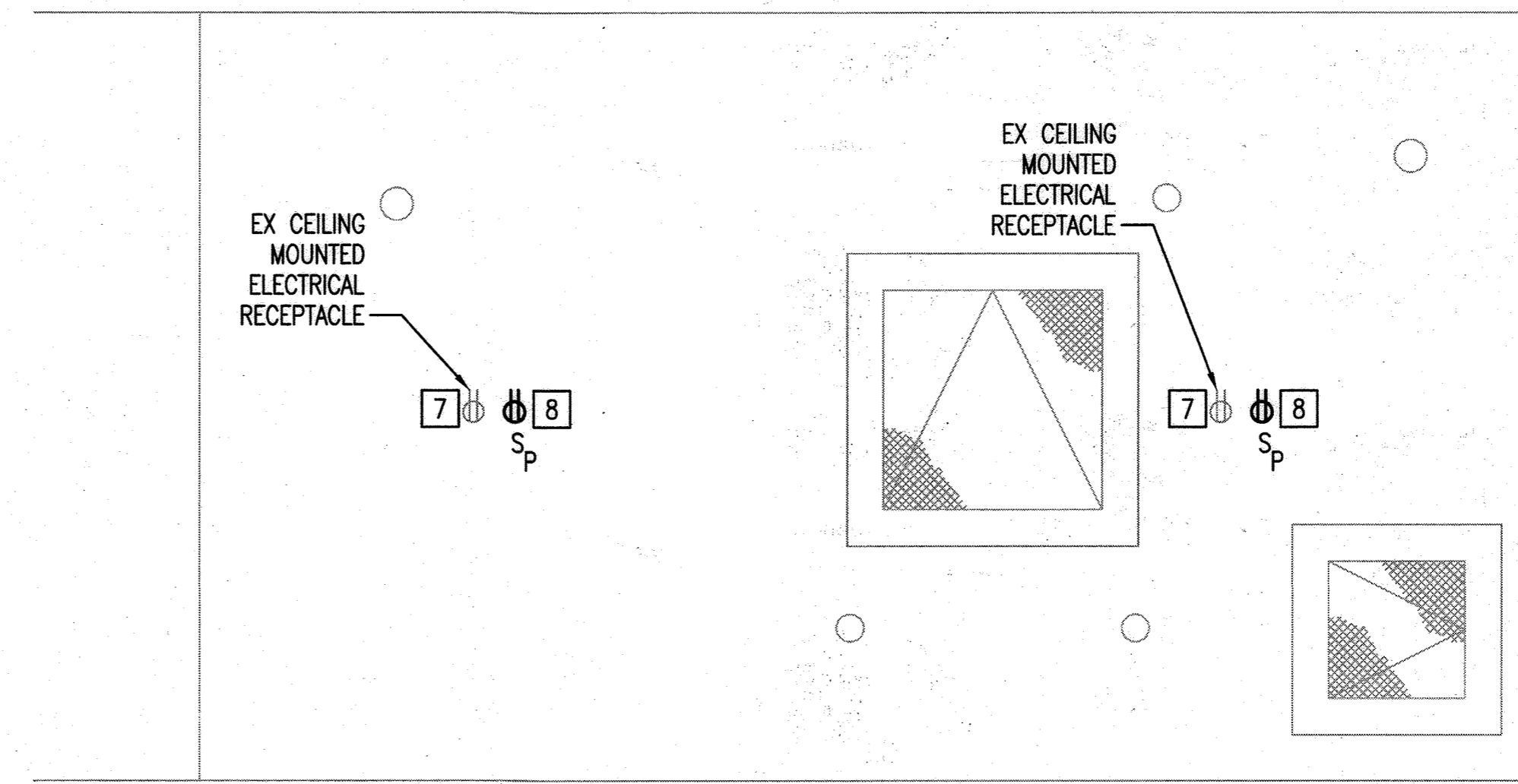
**ALTITUDE VALVE VAULT
REMOVAL PLANS AND SECTION**

SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT
CAPITAL PROJECT NO. S6600
CONTRACT NO. 44-5172
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ME-1
SCALE NOT TO SCALE
SHEET 5 OF 7



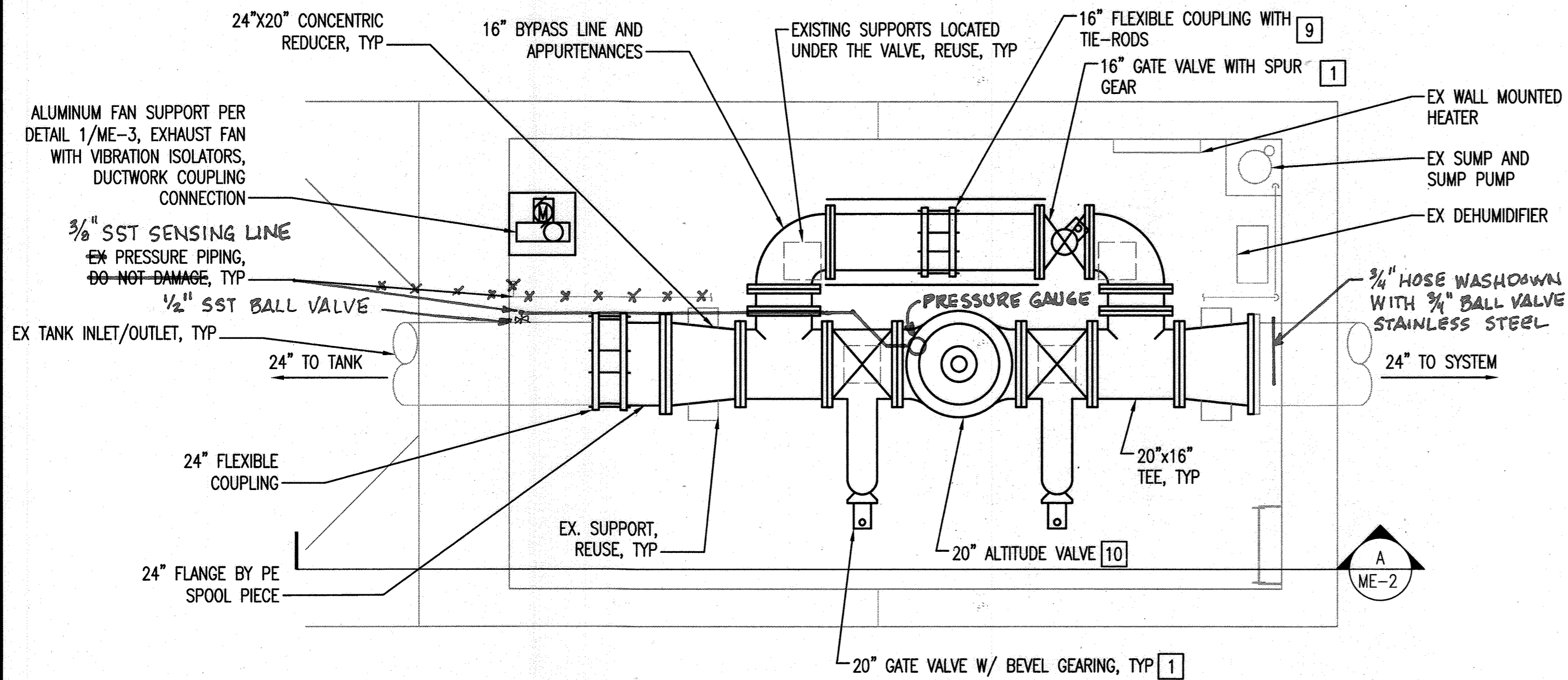
**EXISTING ALTITUDE VALVE VAULT
NEW WORK - GRADE LEVEL PLAN**
1
ME-2 SCALE: 3/8" = 1'-0"



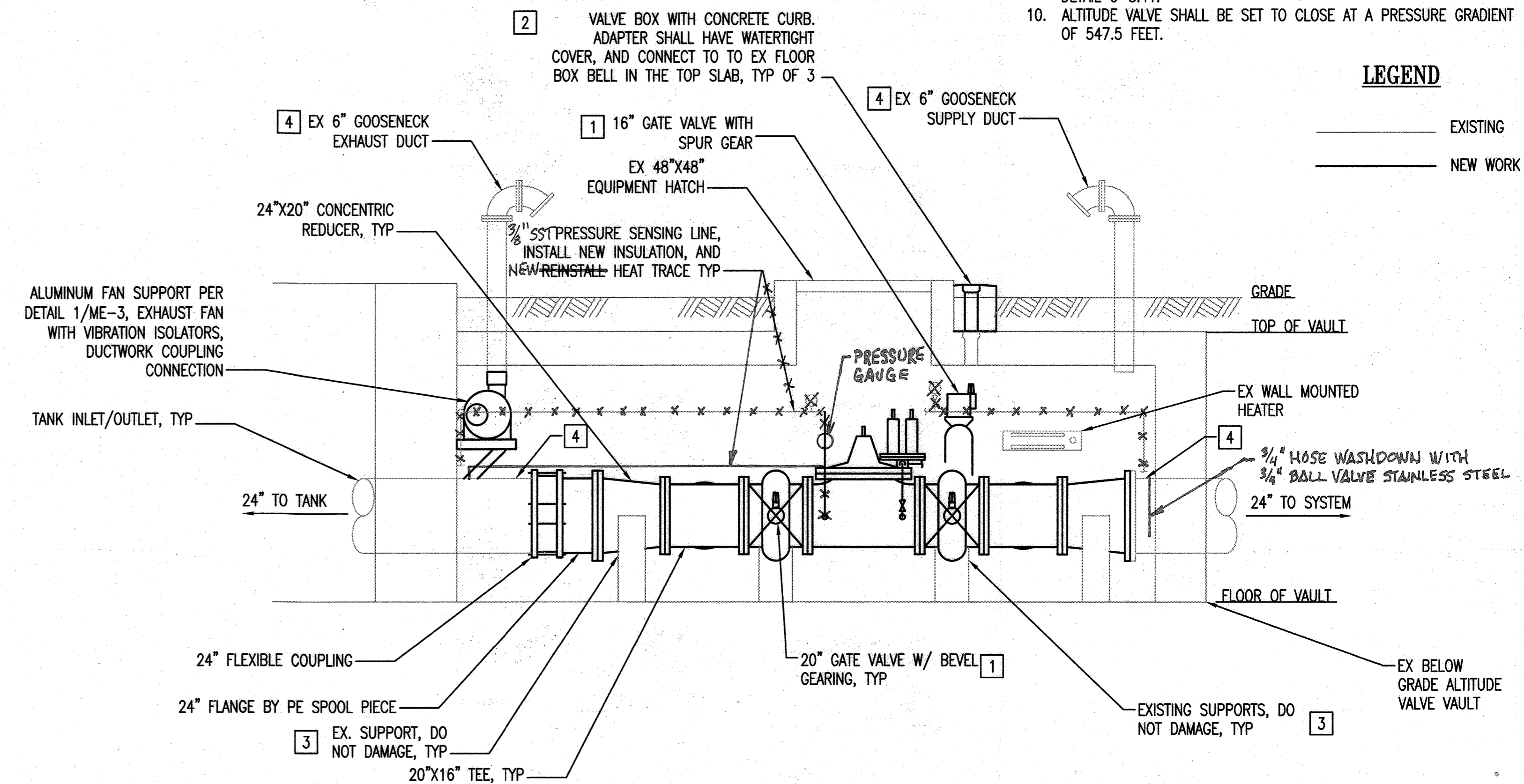
**EXISTING ALTITUDE VALVE VAULT
NEW WORK - CEILING POWER PLAN**
1
ME-2 SCALE: 3/8" = 1'-0"

- PLAN NOTES**
- SEE M-1 FOR GENERAL NOTES, LEGEND, ABBREVIATIONS AND SPECIFICATIONS.
 - VERIFY ALL FIELD DIMENSIONS.
 - COORDINATE ALL SHUTDOWNS WITH THE COUNTY.
- SPECIFIC NOTES**
- COORDINATE THE LOCATION OF THE VALVE OPERATOR NUT WITH THE VALVE BOX SO THAT THEY ALIGN. CONTRACTOR TO PROVIDE EXTENSION SYSTEMS, UNIVERSALS AND SUPPORTS AS NEEDED TO ALIGN THE VALVE NUT WITH THE EXISTING OPENING IN THE CEILING. THE ACCESS TO THE ALTITUDE VALVE AND THE WALKWAYS SHALL NOT BE OBSTRUCTED.
 - CLEAN VALVE BOX HUB, SEAL AND MAKE WATER TIGHT. PROVIDE CONCRETE CURB AS SHOWN ON DETAIL 2/ME-3. CONTRACTOR SHALL EXTEND THE EXISTING VALVE BOX OR PROVIDE A NEW VALVE BOX EXTENSION THAT SHALL MATCH UP WITH THE BELL THAT IS IN THE EXISTING TOP SLAB OF THE ALTITUDE VALVE VAULT. THE CONTRACTOR SHALL SEAL ALL JOINTS AND MAKE WATER TIGHT.
 - PROTECT AND REUSE EXISTING SUPPORTS. PROVIDE ADDITIONAL GROUT AND SUPPORTS AS NECESSARY.
 - CLEAN EXISTING PIPE AND PAINT IN ACCORDANCE WITH PAINT NOTES ON M-1.
 - RECONNECT EXISTING PRESSURE SENSING LINES TO THE NEW ALTITUDE VALVE AS WELL AS THE ALTITUDE VALVE DRAIN TO THE EXISTING DRAIN LINE. PROVIDE RUBBER SELF-SEALING PIPE WRAP INSULATION AND APPLY TO ALL SMALL DIAMETER PIPING. MIN R VALUE 4. FIRE RATED, SUITABLE TO BE USED WITH HEAT TRACE. RECONNECT EXISTING HEAT TRACING, INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO THE EX AND NEW PRESSURE SENSING LINES AND ALTITUDE VALVE LINES, PLUG HEAT TRACE INTO NEW RECEPTACLE INSTALLED PER SPECIFIC NOTE 8 BELOW.
 - CONTRACTOR SHALL PROVIDE ADDITIONAL CONDUIT AND CONDUIT SIZED AND INSTALLED PER NEC, IEEE AS NECESSARY.
 - DO NOT DAMAGE THE EXISTING CEILING MOUNTED ELECTRIC RECEPTACLES.
 - ADJACENT TO THE EXISTING CEILING MOUNTED ELECTRICAL RECEPTACLE, PROVIDE A "SWITCHED DUPLEX RECEPTACLE", NEMA 5-20R, AND A SWITCH WITH PILOT LIGHT. CONNECT THE NEW RECEPTACLE AND SWITCH TO THE EXISTING RECEPTACLE WITH 2#12+1#12G THHN/THWN.
 - THE RODS AT COUPLINGS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STRAPPING MECHANICAL COUPLINGS IN VAULTS & FACILITIES DETAIL G-8.4.1.
 - ALTITUDE VALVE SHALL BE SET TO CLOSE AT A PRESSURE GRADIENT OF 547.5 FEET.

- LEGEND**
- EXISTING
 - NEW WORK



**EXISTING ALTITUDE VALVE VAULT
NEW WORK - INTERIOR PLAN**
2
ME-2 SCALE: 3/8" = 1'-0"



**EXISTING ALTITUDE VALVE VAULT
NEW WORK - INTERIOR SECTION**
A
ME-2 SCALE: 3/8" = 1'-0"
NOTE: ACCESS HATCH AND ALL VALVE BOXES ARE NOT SHOWN FOR CLARITY

AS-BUILT
GRAPHIC SCALE
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

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HOWARD COUNTY, MARYLAND

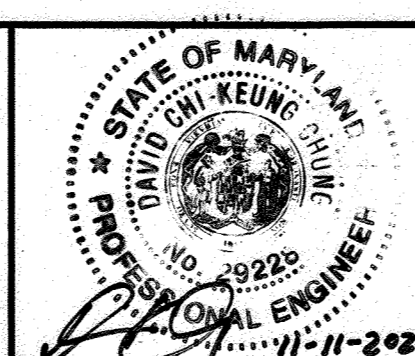
Melania 12/7/2021
DIRECTOR OF PUBLIC WORKS DATE

Carroll 12-06-21
CHIEF, BUREAU OF ENGINEERING DATE

Carroll 12-7-21
CHIEF, BUREAU UTILITIES DATE

SRK
CHIEF, UTILITY DESIGN DIVISION DATE

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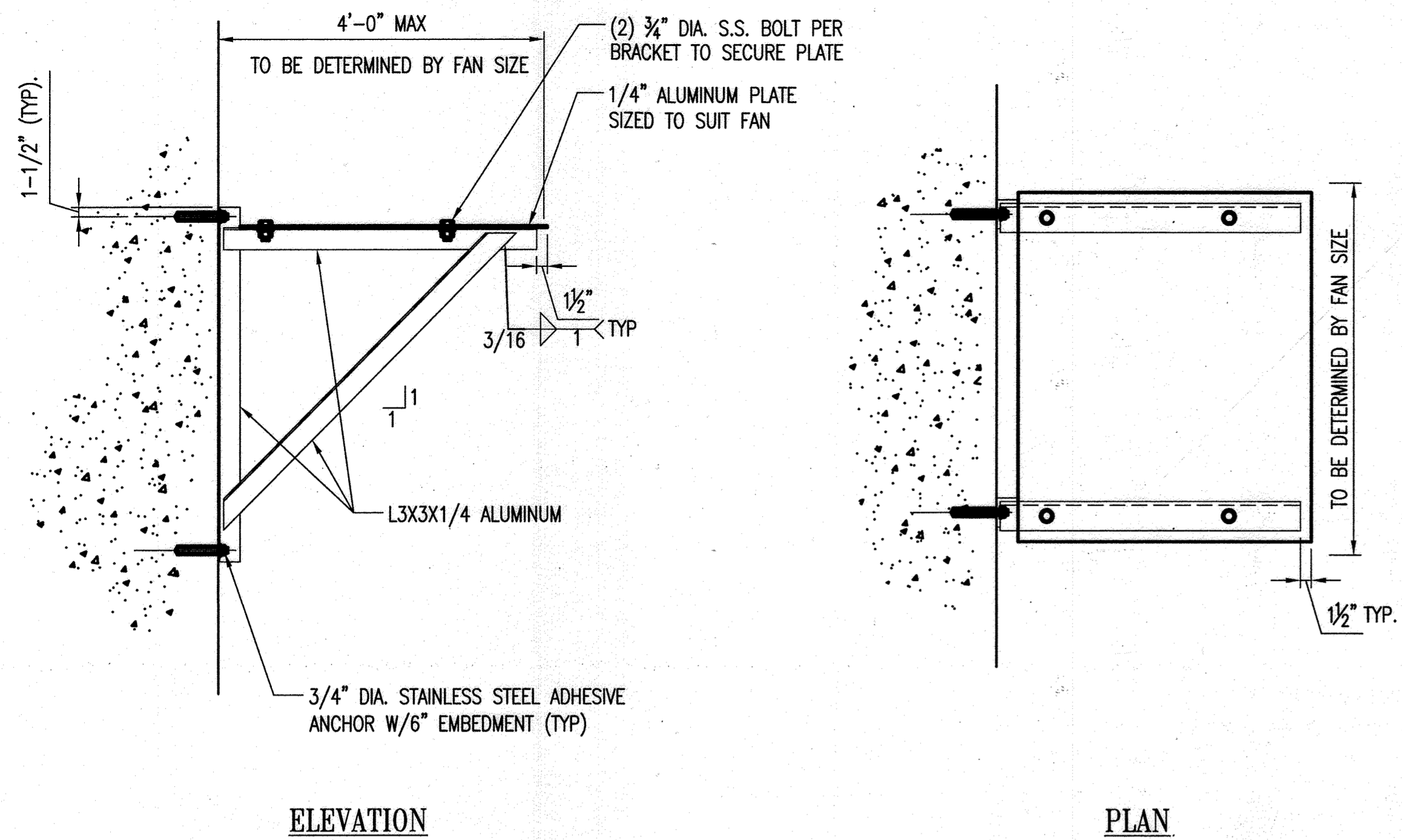
**ALTITUDE VALVE VAULT
PLANS AND SECTION**

600' SCALE MAP NO. 46 BLOCK NO. XX

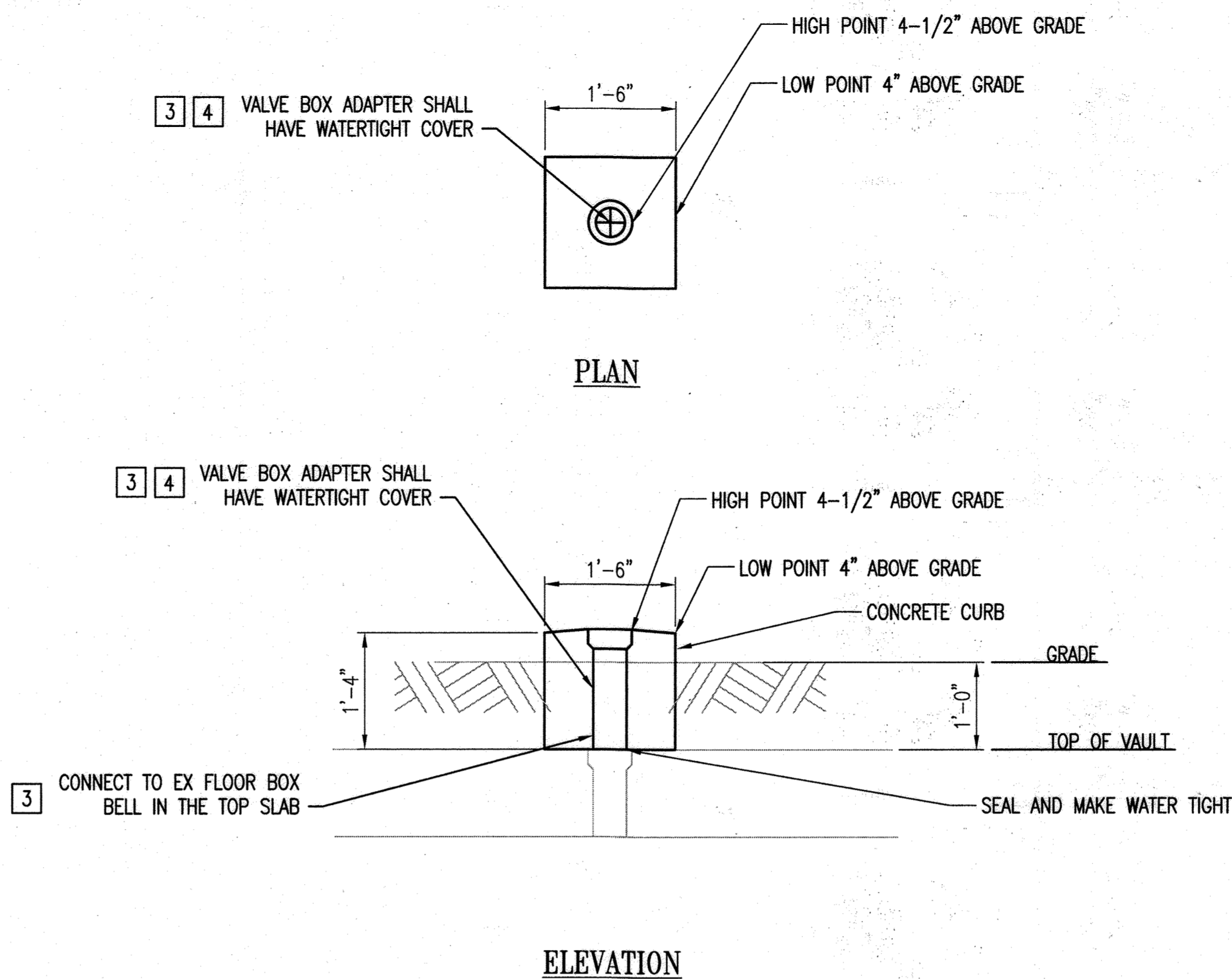
SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT

CAPITAL PROJECT NO. S6600
CONTRACT NO. 44-5172
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ME-2
SCALE NOT TO SCALE
SHEET 8 OF 7



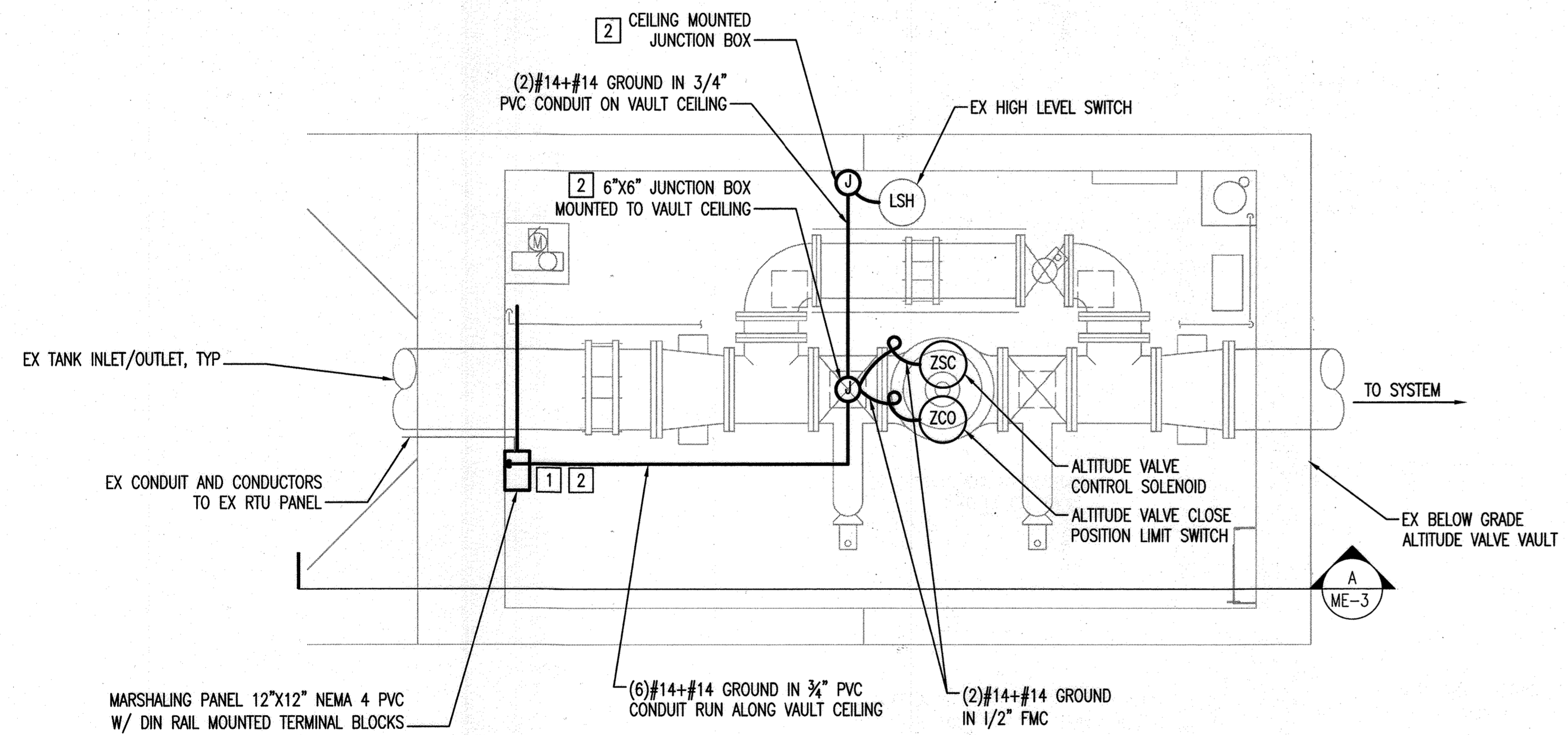
1 FAN SUPPORT DETAIL
ME-3 SCALE: 3/4" = 1'-0"



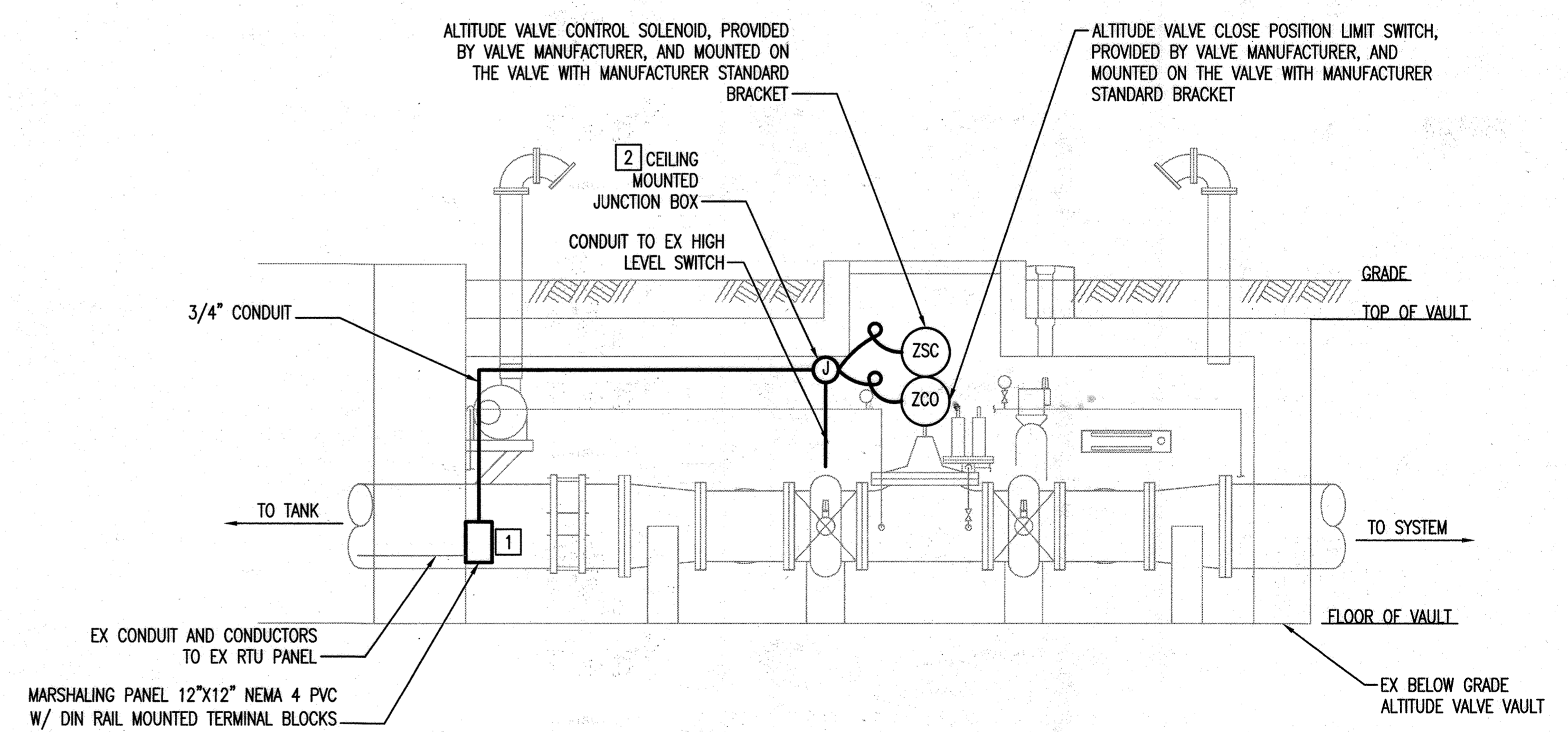
2 VALVE BOX CONCRETE CURB DETAIL, TYPICAL
ME-3 SCALE: 3/4" = 1'-0"

PLAN NOTES
1. SEE M-1 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.

- SPECIFIC NOTES**
1. TERMINATE EXISTING CONDUCTORS FROM RTU ON TERMINAL BLOCKS IN MARSHALLING PANEL. PROVIDE CONDUCTORS TO EXTEND TO FIELD DEVICES AS SHOWN. COORDINATE TERMINATIONS WITH RTU POINTS AS REQUIRED.
 2. MOUNT JUNCTION BOX TO CONCRETE WITH APPROVED 1/4" DIAMETER 1-5/8" MINIMUM EMBEDMENT WEDGE EXPANSION ANCHORS AND STAINLESS STEEL HARDWARE.
 3. CONTRACTOR SHALL EXTEND THE EXISTING VALVE BOX OR PROVIDE A NEW VALVE BOX EXTENSION THAT SHALL MATCH UP WITH THE BELL THAT IS IN THE EXISTING TOP SLAB OF THE ALTITUDE VALVE VAULT. THE CONTRACTOR SHALL SEAL ALL JOINTS AND MAKE WATER TIGHT.
 4. VALVE BOX MANUFACTURERS SHALL BE: BINGHAM & TAYLOR, EAST JORDAN IRON WORKS, MUELLER COMPANY, SIGMA CASTING, ADAPTOR, INC.



3 EXISTING ALTITUDE VALVE VAULT NEW WORK - I&C PLAN
ME-3 SCALE: 3/8" = 1'-0"



4 EXISTING ALTITUDE VALVE VAULT NEW WORK - I&C SECTION
ME-3 SCALE: 3/8" = 1'-0"
NOTE: ACCESS HATCH AND ALL VALVE BOXES ARE NOT SHOWN FOR CLARITY

AS-BUILT
GRAPHIC SCALES
0 1' 2' 3'
SCALE: 3/4" = 1'-0"
0 1' 2' 3' 5'
SCALE: 3/8" = 1'-0"

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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

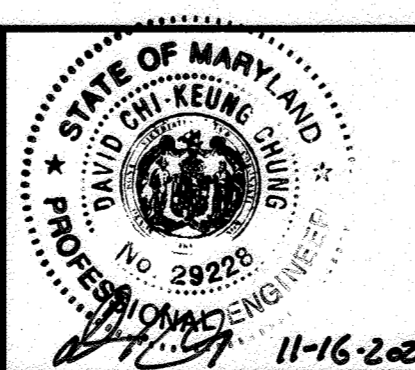
Amour 12/1/2021
DIRECTOR OF PUBLIC WORKS DATE

Law 12-06-21
CHIEF, BUREAU OF ENGINEERING DATE

SRK 12-7-21
CHIEF, BUREAU OF UTILITIES DATE

SRK 12-7-21
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ALTITUDE VALVE VAULT
DETAILS AND INSTRUMENTATION &
CONTROLS

600' SCALE MAP NO. 46 BLOCK NO. XX

SNOWDEN ELEVATED STORAGE TANK ALTITUDE VALVE REPLACEMENT

CAPITAL PROJECT NO. S6600
CONTRACT NO. 44-5172
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ME-3
SCALE NOT TO SCALE
SHEET 7 OF 7