

\\ed-rk.com\fs\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\G-02_Abbreviations & Symbols.dwg Jan 09, 2026 - 10:48am Plot By: rdixon Tab: G-02

GENERAL NOTES

1. BASE MAPPING IN THE AREAS OF PROPOSED WATER MAINS WAS PREPARED FROM TOPOGRAPHIC SURVEYS PERFORMED BY MERCADO CONSULTANTS MAY 2021.
HORIZONTAL DATUM = NAD 83
DATUM = NGVD 29
2. BASE MAPPING BEYOND THE LIMITS OF PROPOSED WATER MAIN CONSTRUCTION WAS UTILIZED FROM EXISTING MAPPING FROM WESTERN BRANCH WWTP ENR & FACILITY UPGRADE CONTRACTS.
3. EXISTING UNDERGROUND UTILITIES ARE SHOWN FROM BEST AVAILABLE RECORDS AND VISIBLE EVIDENCE COMPILED DURING MERCADO'S SURVEY PERFORMED IN MAY, 2021. THE CONTRACTOR SHALL TEST PIT IN THE AREA OF KNOWN UTILITIES TO VERIFY SIZE, ELEVATION, LOCATION, AND TYPE PRIOR TO PERFORMING ANY WORK. ANY UTILITY, WHETHER SHOWN OR NOT, THAT IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE COMMISSION. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE COMMISSION IS TO BE NOTIFIED IMMEDIATELY. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT THE AUTHORIZATION OF THE COMMISSION, THEN THE CONTRACTOR ASSUMES THE RESPONSIBILITY FOR SAID CORRECTIONS AND ADJUSTMENTS.
4. CONTRACTOR SHALL TEST PIT ALL EXISTING UTILITY CROSSINGS AND WATER SERVICE CONNECTIONS A MINIMUM OF TWO WEEKS IN ADVANCE OF LAYING PIPE. CONTRACTOR SHALL MAKE ADJUSTMENTS AS NECESSARY WITH PRIOR APPROVAL FROM WSSC AND AT NO ADDITIONAL COST TO WSSC.
5. ALL PROPOSED WATER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE CLASS DR-18 IN ACCORDANCE WITH AWWA C900. ALL FITTINGS SHALL BE ZINC COATED DUCTILE IRON WRAPPED IN V-BIO ENHANCED POLYETHYLENE.
6. ALL PROPOSED WATER MAINS AND FITTINGS SHALL BE RESTRAINED AND SHALL HAVE A MINIMUM OF 4' COVER UNLESS OTHERWISE NOTED ON THE PLANS. ALL EXTERNAL METALLIC RESTRAINT DEVICES SHALL BE WRAPPED WITH V-BIO ENHANCED POLYETHYLENE.
7. VALVES GREATER THAN 4 FOOT DEPTH REQUIRE EXTENSION STEMS PER STANDARD DETAIL W/2.2.
8. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL PVC AWWA C900 PIPE PER STANDARD DETAILS W/9.0 AND W/9.1.
9. ALL DIP FITTINGS, VALVES, HYDRANTS, CAPS, SERVICE SADDLES AND RESTRAINED JOINTS SHALL HAVE ANODE PROTECTION PER STANDARD DETAILS C/7.0, C/7.3, C/7.4, C/7.6, C/7.7, C/7.9, AND C/7.10 IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
10. 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.
11. RESTRAINED COUPLINGS SHALL BE LIMITED TO A TOTAL DEFLECTION OF 3-DEGREES (1-1/2 DEGREE ON EITHER END OF THE COUPLING), THE PIPE SHALL BE INSERTED AN EQUAL DEPTH ON BOTH SIDES OF THE COUPLING. THE CONTRACTOR SHALL PROVIDE CORROSION PROTECTION AS PER STANDARD DETAILS. RESTRAINED COUPLINGS SHALL BE SERIES 3800 MEGA-COUPLING, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.
12. FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STD DETAIL W/8.0 OR W/8.01 UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL FIRE HYDRANT LEAD PIPING SHALL BE CLASS 54 ZINC COATED DIP.
13. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING FENCES, DRIVEWAYS, SIGNS, DRAINAGE PIPES, SHRUBS, ETC. DAMAGED OR REMOVED DURING CONSTRUCTION. ALL DISTURBED AREAS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION, OR BETTER. COST OF COMPLETING THIS WORK IS TO BE INCLUDED IN THE CONTRACTOR'S BASE BID.
14. MAINTAIN 1' VERTICAL AND 5' HORIZONTAL CLEARANCE FROM OUTSIDE OF PIPE TO ANY OTHER UTILITIES OR APPURTENANCES. A 10 FT HORIZONTAL CLEARANCE AND 1.5 FT VERTICAL CLEARANCE ARE REQUIRED BETWEEN NEW WATER MAIN AND SANITARY SEWER PIPE.
15. ALL ABANDONED IN PLACE EXISTING MAINS 4" AND LARGER AND APPURTENANCES SHALL BE FILLED ENTIRELY WITH FLOWABLE FILL.
16. ALL BYPASS PIPES SHALL BE LOCATED OUTSIDE OF THE PAVEMENT. ALL TRAVEL WAYS SHALL BE RESTORED TO TWO WAY TRAVEL AT THE END OF EACH WORKING DAY.
17. STAKEOUT OF THE PROPOSED WORK SHALL BE PROVIDED BY THE CONTRACTOR.
18. CONTRACTOR SHALL COORDINATE WITH THE COMMISSION AS DESCRIBED IN SECTION 02510 FOR SHUTDOWN OF THE EXISTING WATER MAINS.
19. CONTRACTOR SHALL REPLACE ALL ASPHALT PAVEMENT AND/OR CONCRETE THAT IS 1) SHOWN TO BE RESTORED ON THE CONTRACT DRAWINGS, 2) IMPACTED BY NEW CONSTRUCTION, AND 3) IMPACTED BY CONTRACTOR'S OPERATIONS PER SECTION 02950.
20. CONTRACTOR MUST CONTACT THE COMMISSION AS PER SECTION 01110 PRIOR TO START OF ANY WORK UNDER THIS CONTRACT.
21. TRENCH EXCAVATIONS SHALL NOT BE MADE WITHIN 4 FEET OF UTILITY POLES UNLESS SPECIAL ARRANGEMENTS ARE MADE WITH POTOMAC ENERGY POWER COMPANY (PEPCO). THE CONTRACTOR SHALL INSTALL AND LEAVE IN PLACE SHEETING FIVE FEET EACH SIDE OF UTILITY POLES WHERE THE EDGE OF TRENCH EXCAVATION IS FIVE FEET OR LESS AWAY FROM POLES.
22. A DESIGNATED MATERIAL AND EQUIPMENT LAYDOWN AREA HAS BEEN DEFINED FOR THIS PROJECT AS SHOWN ON THE DRAWING C-07. THE STORAGE OF ANY EQUIPMENT OR MATERIAL OUTSIDE OF THE DESIGNATED LAYDOWN AREA IS PROHIBITED.
23. A TOTAL OF NINE (9) BUILDINGS ARE SERVED BY THE POTABLE WATER SYSTEM. THE BUILDINGS AND THE SIZES OF THEIR SERVICE CONNECTIONS ARE SHOWN ON THE TABLE ON THIS SHEET. WATER SERVICE TO THESE BUILDINGS MUST BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION EXCEPT FOR MAKING CONNECTION TO NEW WATER SYSTEM. SERVICE INTERRUPTIONS SHALL BE LIMITED TO A MAXIMUM OF FOUR (4) HOURS TO MAKE CONNECTION TO NEW WATER SYSTEM AND SHALL BE COORDINATED WITH WSSC A MINIMUM OF TWO (2) WEEKS IN ADVANCE.
24. WSSC INSPECTOR SHALL BE PRESENT FOR OPERATION OF ANY WATER MAIN VALVES.
25. BACKFILL COMPACTION NOTE - LICENSED GEOTECHNICAL ENGINEER TO PERFORM COMPACTION TESTS FOLLOWING ASTM D1556, ASTM D6938 OR ASTM D2937 AT A MINIMUM RATE OF 1 TEST EVERY 100 FEET OF FILL ALONG MAIN TRENCH, AND AT EVERY LATERAL TRENCH, STRUCTURE, AND VALVE BOX IN TYPE 1 AREAS.
26. 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.
27. IN COMPLIANCE WITH (COMAR 09.20.01.03 AND THE SAFE DRINKING WATER ACT (SECTION 1417 (a)(4)(8)), 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.
28. A GROUNDWATER SOURCE SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C654. AFTER DISINFECTION OF A GROUNDWATER SOURCE, WATER SAMPLES SHALL BE SUBMITTED TO A CERTIFIED LABORATORY FOR ANALYSES AND RESULTS SUBMITTED TO MDE WATER SUPPLY PROGRAM.
29. IN ACCORDANCE WITH COMAR 26.04.04, A CERTIFICATE OF POTABILITY (COP) FROM MARYLAND DEPARTMENT OF ENVIRONMENT (MDE) IS REQUIRED BEFORE PLACING NEW POTABLE WATER WELLS INTO SERVICE. REFER TO SPECIFICATION 13300 FOR COLLECTING AND SUBMITTING RAW WATER QUALITY SAMPLES TO MDE.
30. SUBMIT FINAL BACTERIOLOGICAL WATER QUALITY SAMPLES OF THE NEW WATER WELLS TO MDE FOR APPROVAL PRIOR TO PLACING INTO SERVICE. A SITE INSPECTION BY MDE'S WATER SUPPLY PROGRAM ENGINEER MUST BE COMPLETED PRIOR TO PLACING NEW WELLS INTO SERVICE.

LEGEND - EXISTING

	PROPERTY LINE
	WATER & SEWER EASEMENT
	CHAINLINK FENCE
	TREELINE
	UNDEGROUND ELECTRIC
	UNDERGROUND TELEPHONE
	STORM DRAIN
	SANITARY SEWER
	WATER
	WATER VALVE
	DIVISION VALVE
	WATER METER
	FIRE HYDRANT
	SIGN
	TELEPHONE JUNCTION BOX
	TRAVERSE POINT
	TREE
	BUSH
	MAILBOX
	ELECTRIC MANHOLE
	SANITARY SEWER MANHOLE
	STORM DRAIN MANHOLE
	STORM DRAIN INLET
	SOIL BORING
	TEST PIT
	LIGHT POLE
	CABLE TV BOX
	SANITARY CLEANOUT
	ABANDONED UTILITY

LEGEND - PROPOSED

	WATER PRESSURE ZONE BOUNDARY
	WATER
	UTILITY TO BE ABANDONED
	UTILITY TO BE REMOVED
	WATER VALVE
	FIRE HYDRANT
	TEE
	45' HORIZONTAL BEND
	90' HORIZONTAL BEND
	REDUCER
	CAP
	PLUG
	ACCESS GATE
	FCV VAULT
	TEST HOLE
	CONTINUITY TEST STATION

ABBREVIATIONS

ALUM	ALUMINUM	STD.	STANDARD
@	AT	SQ.	SQUARE
ATSSA	AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION	TP	TEST PIT
CFM	CUBIC FEET MINUTE	TYP	TYPICAL
CL	CLASS	VERT.	VERTICAL
CONC.	CONCRETE	W/	WITH
C&G	CURB & GUTTER	W	WATER
℄	CENTERLINE	W&S	WATER & SEWER
ø	DIAMETER	WSSC	WASHINGTON SUBURBAN SANITARY COMMISSION
DIA.	DIAMETER		
DI/DIP	DUCTILE IRON PIPE		
DIM	DIMENSION		
DTL	DETAIL		
DP/IE	DEPARTMENT OF PERMITTING, INSPECTIONS & ENFORCEMENT		
DPW&T	DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION		
DWG.	DRAWING		
EA	EACH		
ELEV.	ELEVATION		
EX.	EXISTING		
FCV	FLOW CONTROL VALVE		
FH	FIRE HYDRANT		
GALV.	GALVANIZED		
HB	HORIZONTAL BEND		
HHG	HIGH HYDRAULIC GRADE		
HORZ.	HORIZONTAL		
HZ	HERTZ		
INV.	INVERT		
LHG	LOW HYDRAULIC GRADE		
MH	MANHOLE		
MIN.	MINIMUM		
MDOT SHA	MARYLAND STATE HIGHWAY ADMINISTRATION		
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES		
N.T.S	NOT TO SCALE		
NO./NOS.	NUMBER/NUMBERS		
PG	PRINCE GEORGE'S		
ROW	RIGHT-OF-WAY		
S	SEWER		
SB	SOIL BORING		
SCH.	SCHEDULE		
SD	STORM DRAIN		
SF	SQUARE FOOT		
S.S.	STAINLESS STEEL		
STA	STATION		


BUILDINGS SERVED BY POTABLE WATER SYSTEM			
BUILDING	SERVICE SIZE	SERVICE MATERIAL	REMARKS
CHEMICAL STORAGE/FEED BUILDING	1"	COPPER	EXTEND AND RECONNECT
PG COUNTY POLICE TRAILER	1"	UNKNOWN	RECONNECT
CONTROL BUILDING	3"	DUCTILE IRON	EXTEND AND RECONNECT
DISOLVED AIR FLOTATION BUILDING	1"	COPPER	RECONNECT
SOLIDS HANDLING BUILDING	1"	COPPER	RECONNECT
MAINTENANCE BUILDING	6"	CAST IRON	EXTEND AND RECONNECT
	3"	GALVANIZED	EXTEND AND RECONNECT
INFLUENT PUMP STATION	3"	UNKNOWN	RECONNECT
WSSC CONSTRUCTION TRAILER	3/4"	COPPER	EXTEND AND RECONNECT
FILTER BUILDING	2"	COPPER	RECONNECT

SUGGESTED SEQUENCE OF CONSTRUCTION

1. CONSTRUCT NEW WELL HOUSE AND COMPLETE ALL REQUIRED TESTING AND OBTAIN MDE CERTIFICATE OF POTABILITY.
2. INSTALL WATER MAINS, VALVES, HYDRANTS AND FITTINGS AS SHOWN ON THE PLANS IN A SEPARATE TRENCH. INSTALLATION OF NEW WATER MAINS CAN BE PERFORMED CONCURRENTLY WITH CONSTRUCTION OF THE NEW WELL HOUSE BUT HYDROSTATIC TESTING AND DISINFECTION OF NEW WATER MAINS CANNOT OCCUR PRIOR TO THE WELL HOUSE BUILDING CONSTRUCTED AND APPROVED FOR SERVICE.
3. INSTALL TEMPORARY RESTRAINED CAP ON NEWLY INSTALLED 8" WATER MAIN AT THE INTERSECTION OF DON'S STREET AND OTIS AVENUE, ONCE PROPOSED 8" IS TESTED, DISINFECTED, AND BACTERIOLOGICAL TEST IS APPROVED AND PROPOSED SERVICES ARE TRANSFERRED TO NEW WELL UP TO DON'S STREET STA 12+00 AS SHOWN TO COMPLETE THE SAME TRENCH WATER MAIN REPLACEMENT ON OTIS AVE. INSTALL TEMPORARY BYPASS PIPING AND TEMPORARY BYPASS HYDRANTS AS SHOWN ON THE PLANS. TEST AND DISINFECT TEMPORARY BYPASS PIPING. TRANSFER SERVICES TO TEMPORARY BYPASS PIPING AFTER BACTERIOLOGIC TESTS ARE APPROVED.
4. INSTALL TEMPORARY RESTRAINED CAP ON EX 3" WATER MAIN ON WSSC TREATMENT PLANT ROAD WITHIN AN 8-HOUR WATER SHUTDOWN, WHILE EXISTING SERVICES ARE STILL CONNECTED TO THE EXISTING WELL FROM STA 6+00 ONWARDS ON WSSC TREATMENT PLANT ROAD.
5. INSTALL PROPOSED 8" WITHIN THE LIMITS OF SAME TRENCH REPLACEMENT ON OTIS AVENUE. DURING 8-HOUR WATER SHUTDOWN, COMPLETE TIE-IN OF NEWLY INSTALLED 8" WATER MAIN ON OTIS AVENUE ON DON'S STREET AND WSSC TREATMENT PLANT ROAD.
6. COMPLETE HYDROSTATIC TESTING AND DISINFECT NEWLY INSTALLED WATER MAINS.
7. TRANSFER ALL WATER SERVICES TO THE NEW WATER MAINS.
8. RESTORE ALL DISTURBED AREAS.

LEGEND - EROSION AND SEDIMENT CONTROL

LIMIT OF DISTURBANCE	LOD	FILTER BAG	<input checked="" type="checkbox"/> FB
SILT FENCE AT LOD	LOD/SF	PORTABLE SEDIMENT TANK	<input checked="" type="checkbox"/> PST
SUPER SILT FENCE AT LOD	LOD/SSF	CURB INLET PROTECTION	<input type="checkbox"/> CIP
STABILIZED CONSTRUCTION ENTRANCE		STANDARD INLET PROTECTION	<input type="checkbox"/> SIP

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
<div>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.</div> <div></div>				
LICENSE NO.: 20566 EXPIRATION DATE: 09/06/2026		CONTRACT: #CD6915B20		
GENERAL NOTES, SEQUENCE, LEGEND & ABBREVIATIONS		G-02		NO 02
				OF 62

WASHINGTON SUBURBAN SANITARY COMMISSION



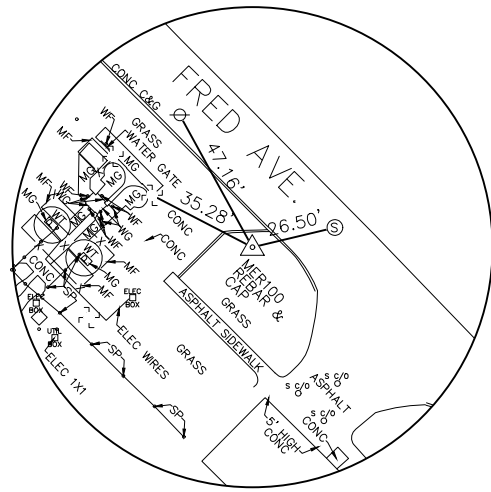
THESE DOCUMENTS CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REDISTRIBUTED WITHOUT PRIOR WSSC APPROVAL



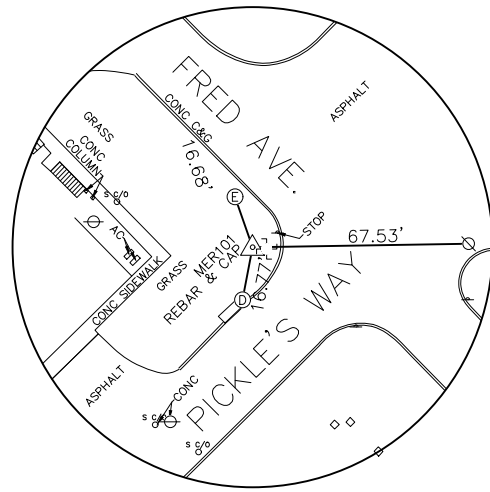
700 EAST PRATT STREET
SUITE 500
BALTIMORE, MD 21201
(P) 410 728-2900
(F) 410 728-2834

WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

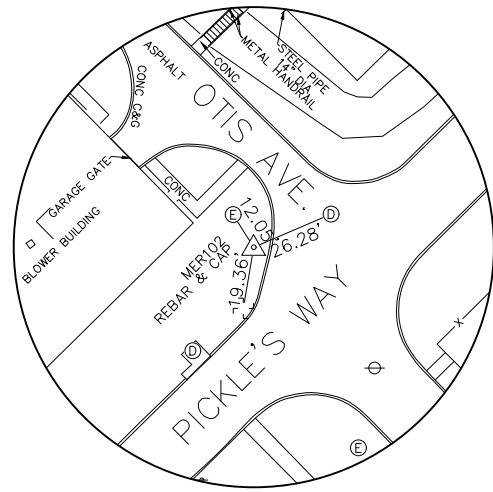
\\od-rk.com\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design CAD\Plans\G-03 Survey Controls.dwg, Jun 09, 2026 - 10:48am Plot By: rdixon Tab: G-03



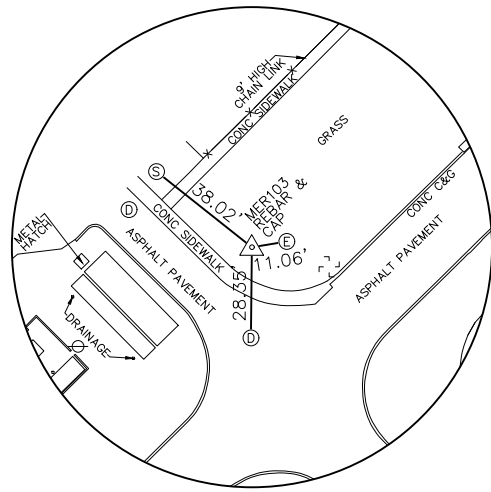
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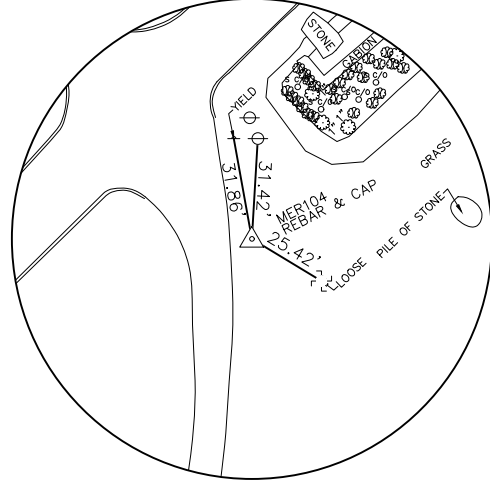
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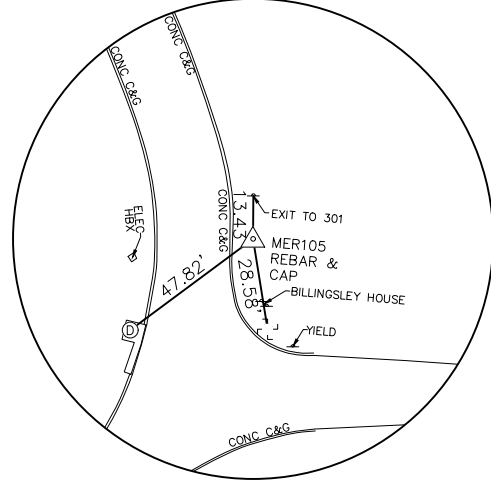
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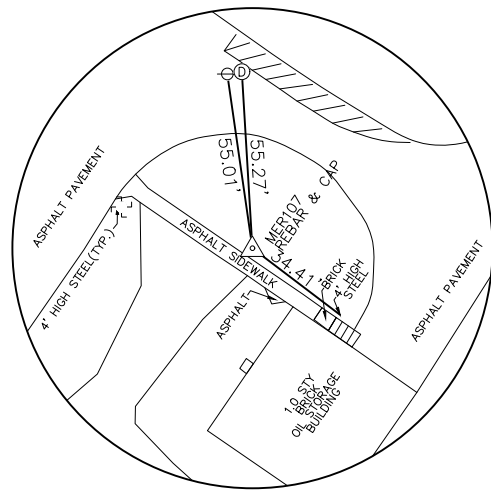
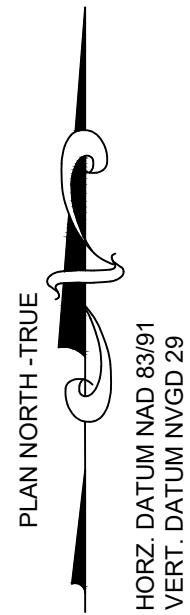
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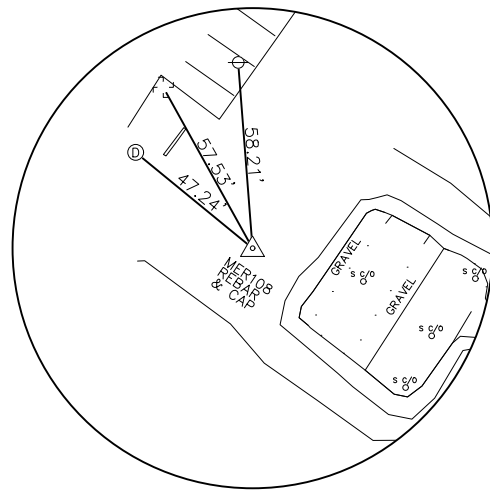
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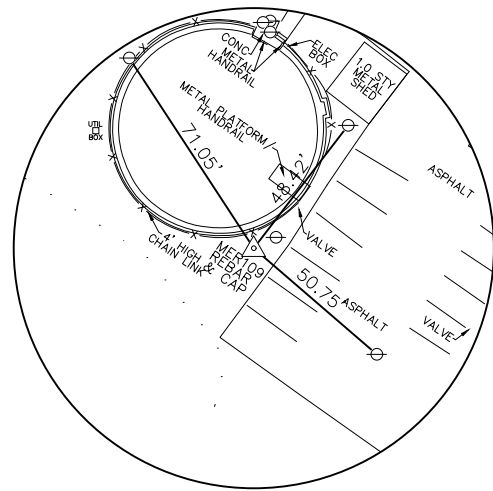
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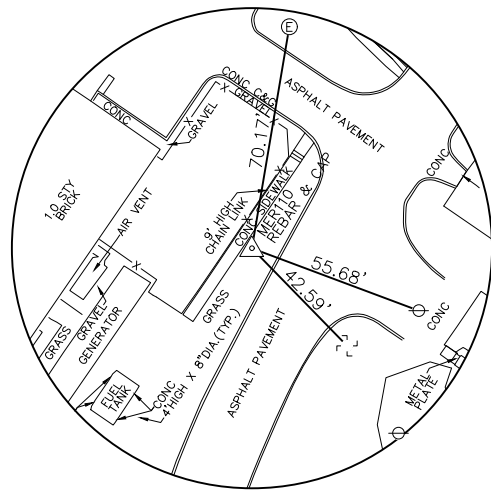
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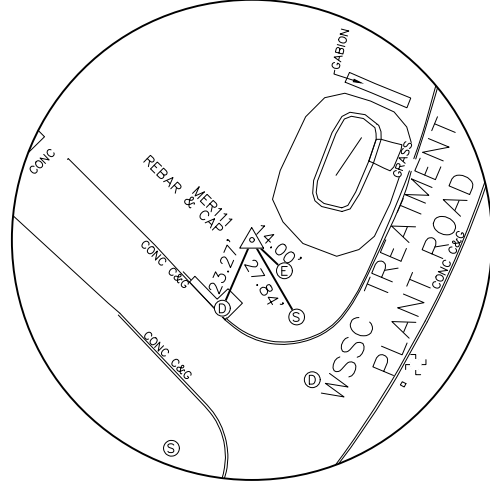
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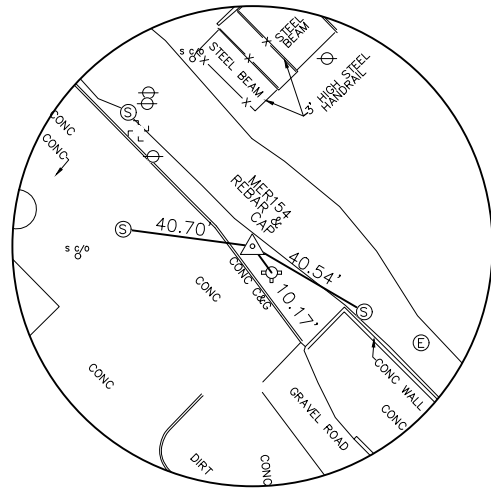
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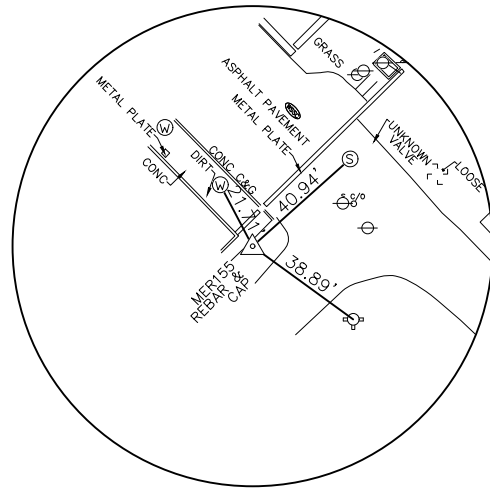
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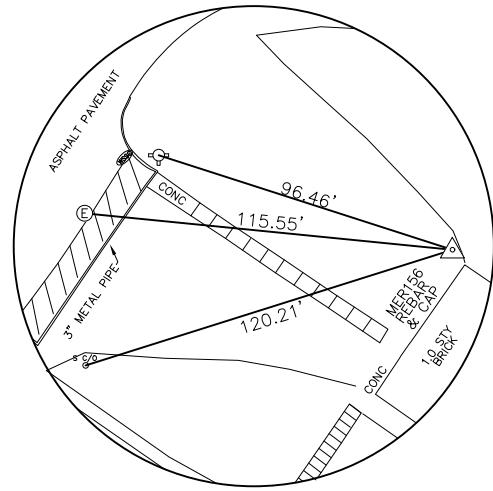
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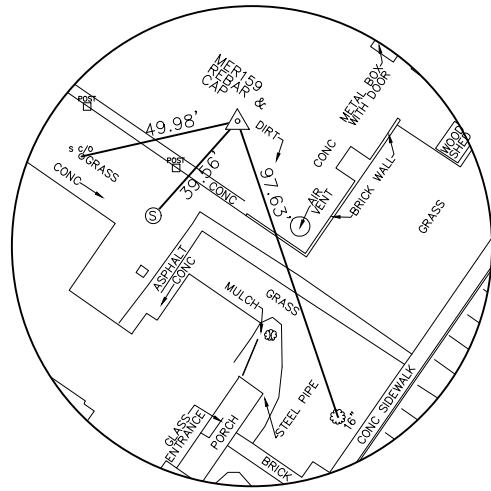
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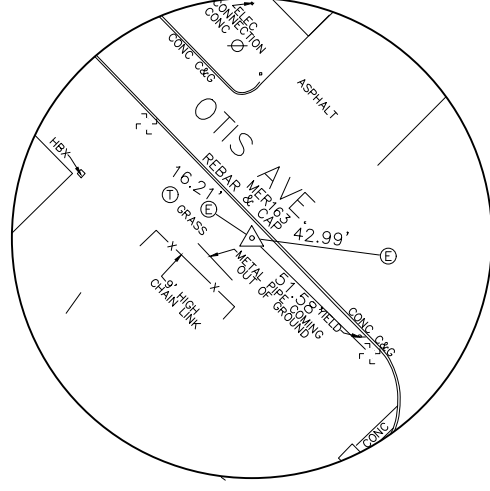
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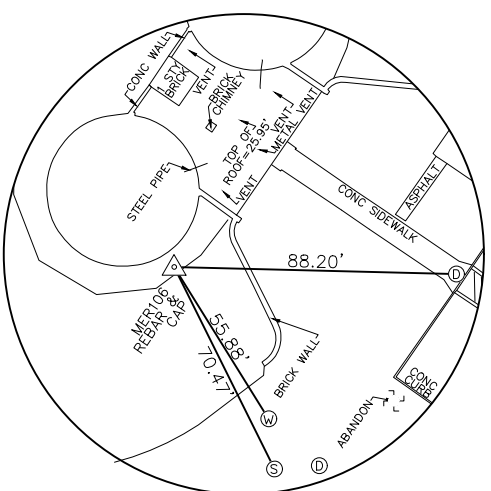
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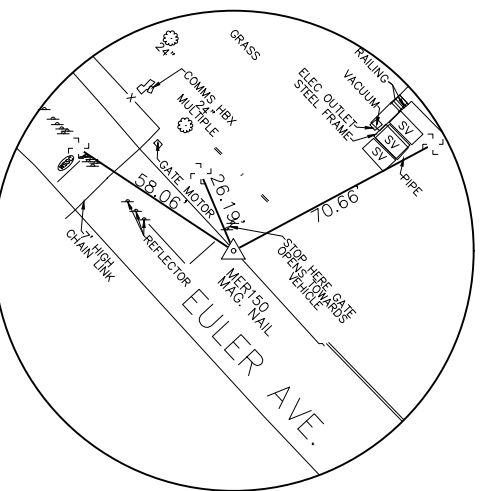
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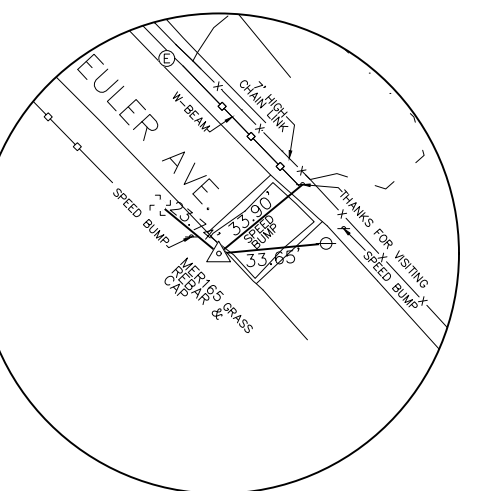
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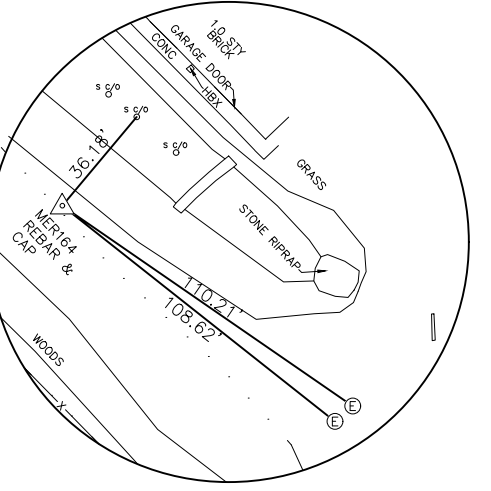
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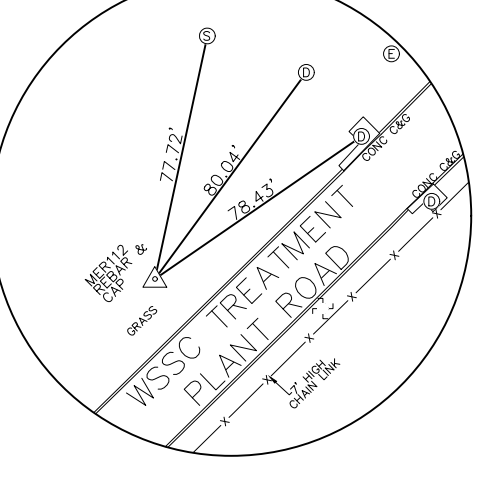
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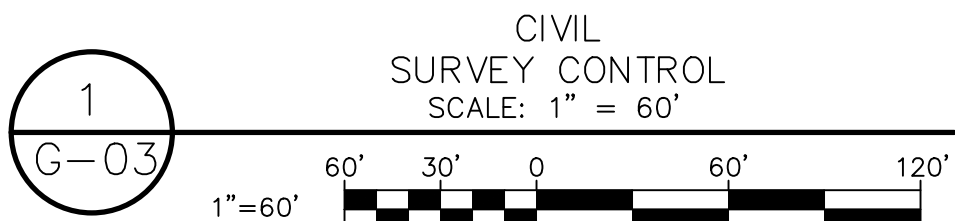
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MER112
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EL 46.52'



NOTE: LOCATION OF SB-1 AND SB-2 ARE SHOWN ON C-07.

WASHINGTON SUBURBAN SANITARY COMMISSION STANDARD BORING LOG



Sheet 1 of 1
Boring 1 of 2

Contract No. CD6915A20 Project Description WSSC Western Branch WWTP
Consultant RK&K Geotech Consultant/Contractor Kim Engineering, Inc
Boring No. SB-1 Station Ground Surface Elevation 47.0 ft
Easting 1389020.6107 Northing 410086.1224 Logged by JM
Date Started 11/9/21 Date Completed 11/9/21
Inspector JM Driller JM

WATER TABLE				CAVE-IN TABLE			
Depth Below Surface Depth (ft) Elev (ft)	Time (hours)	Date		Depth Below Surface Depth (ft) Elev (ft)	Time (hours)	Date	
13.8	31.3	11/9/21		10.7	36.3	11/9/21	

DEPTH IN FEET	ELEV. IN FEET	MATL.	MATERIAL DESCRIPTION	SPT SPOON/ROCK CORE SAMPLE NO.	BLOWS/ ROD	SAMPLE DEPTH	REC (%)	LAB. INDEX TESTS			REMARKS
								NMC (%)	LL (%)	PI (%)	
0.4	46.58		5" Topsoil	1	1-2-4	0.0-1.5	44%	34.98			Elevation was taken from google earth.
2.5	44.50		Brown, dark brown, gray, moist, medium stiff, sandy SILT (ML) with clay.	2	11-12-15	2.5-4.0	56%	10.79			
			Brown, light brown, gray, moist, loose to medium dense, silty SAND (SM) with clay and gravel.	3	5-6-7	5.0-6.5	78%	9.61			
				4	4-6-6	7.5-9.0	56%	10.21			
				5	3-3-3	10.0-11.5	56%	10.71	NV	NP	
				6	5-3-3	13.5-15.0	44%	9.7			
18.5	28.50		Light gray, gray, brown, moist, loose, poorly graded SAND with silt (SP-SM) with trace clay and some gravel.	7	4-6-4	18.5-20.0	67%	4.82			
25.0	22.00			8	5-3-7	23.5-25.0	78%	7.97			

Legend: NMC - Natural Moisture Content, PI - Plasticity Index, REC - Recovery, MATL - Material Graphics, SPT - Standard Penetration Test, RQD - Rock Quality Designation, LL - Liquid Limit, Elev - Elevation, Geotech - Geotechnical, OD - Outside Diameter

Logging and Sampling
Complies to ASTM D1586-17
1/206, 1/207

WASHINGTON SUBURBAN SANITARY COMMISSION STANDARD BORING LOG



Sheet 1 of 1
Boring 2 of 2

Contract No. CD6915A20 Project Description WSSC Western Branch WWTP
Consultant RK&K Geotech Consultant/Contractor Kim Engineering, Inc
Boring No. SB-2 Station Ground Surface Elevation 45.0 ft
Easting 1389056.4063 Northing 410121.0527 Logged by JM
Date Started 11/9/21 Date Completed 11/9/21
Inspector JM Driller JM

WATER TABLE				CAVE-IN TABLE			
Depth Below Surface Depth (ft) Elev (ft)	Time (hours)	Date		Depth Below Surface Depth (ft) Elev (ft)	Time (hours)	Date	
13.8	31.3	11/9/21		10.7	36.3	11/9/21	

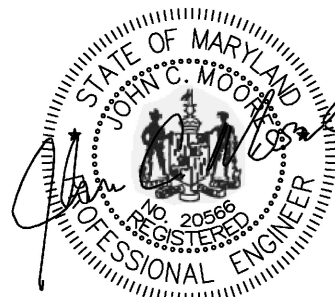
DEPTH IN FEET	ELEV. IN FEET	MATL.	MATERIAL DESCRIPTION	SPT SPOON/ROCK CORE SAMPLE NO.	BLOWS/ ROD	SAMPLE DEPTH	REC (%)	LAB. INDEX TESTS			REMARKS
								NMC (%)	LL (%)	PI (%)	
0.3	44.67		5" Topsoil	1	1-4-7	0.0-1.5	56%	22.82			Elevation was taken from google earth.
2.5	42.50		Light brown, brown, gray, moist, stiff, sandy SILT (ML) with clay and gravel.	2	12-16-16	2.5-4.0	67%	4.8			
			Light brown, light gray, moist, loose to medium dense, silty SAND (SM)	3	7-4-3	5.0-6.5	67%	7.94			
7.5	37.50		Light brown, gray, brown, moist, loose to dense, poorly graded SAND with silt (SP-SM) with hard layer of gravel at the bottom.	4	4-4-4	7.5-9.0	33%	8.31	NV	NP	
				5	3-3-7	10.0-11.5	56%	8.19			
				6	4-3-7	13.5-15.0	56%	8.4			
20.0	25.00		Auger refusal at 20.0 feet due to the hard large gravel.	7	5-8-7	18.5-20.0	67%	8.44			

Legend: NMC - Natural Moisture Content, PI - Plasticity Index, REC - Recovery, MATL - Material Graphics, SPT - Standard Penetration Test, RQD - Rock Quality Designation, LL - Liquid Limit, Elev - Elevation, Geotech - Geotechnical, OD - Outside Diameter

Logging and Sampling
Complies to ASTM D1586-17
1/206, 1/207

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.: 20566
EXPIRATION DATE: 09/06/2026

DATE

REVISIONS

CONTRACT: #CD6915B20

WASHINGTON SUBURBAN SANITARY COMMISSION



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(F) 410 728-2834

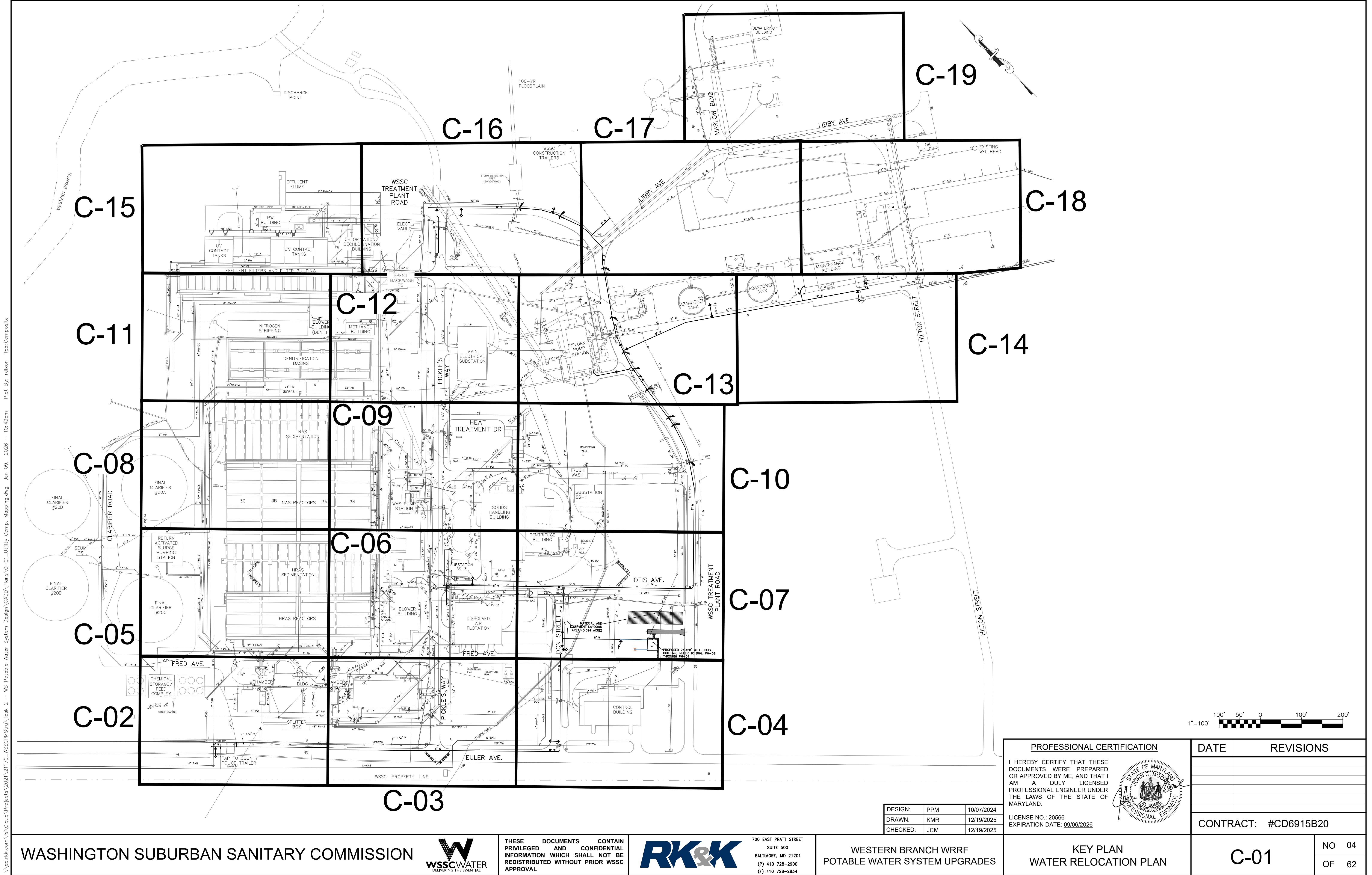
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

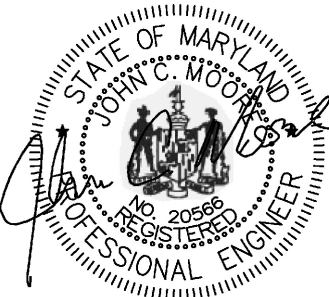
SURVEY CONTROL AND STAKEOUT

G-03

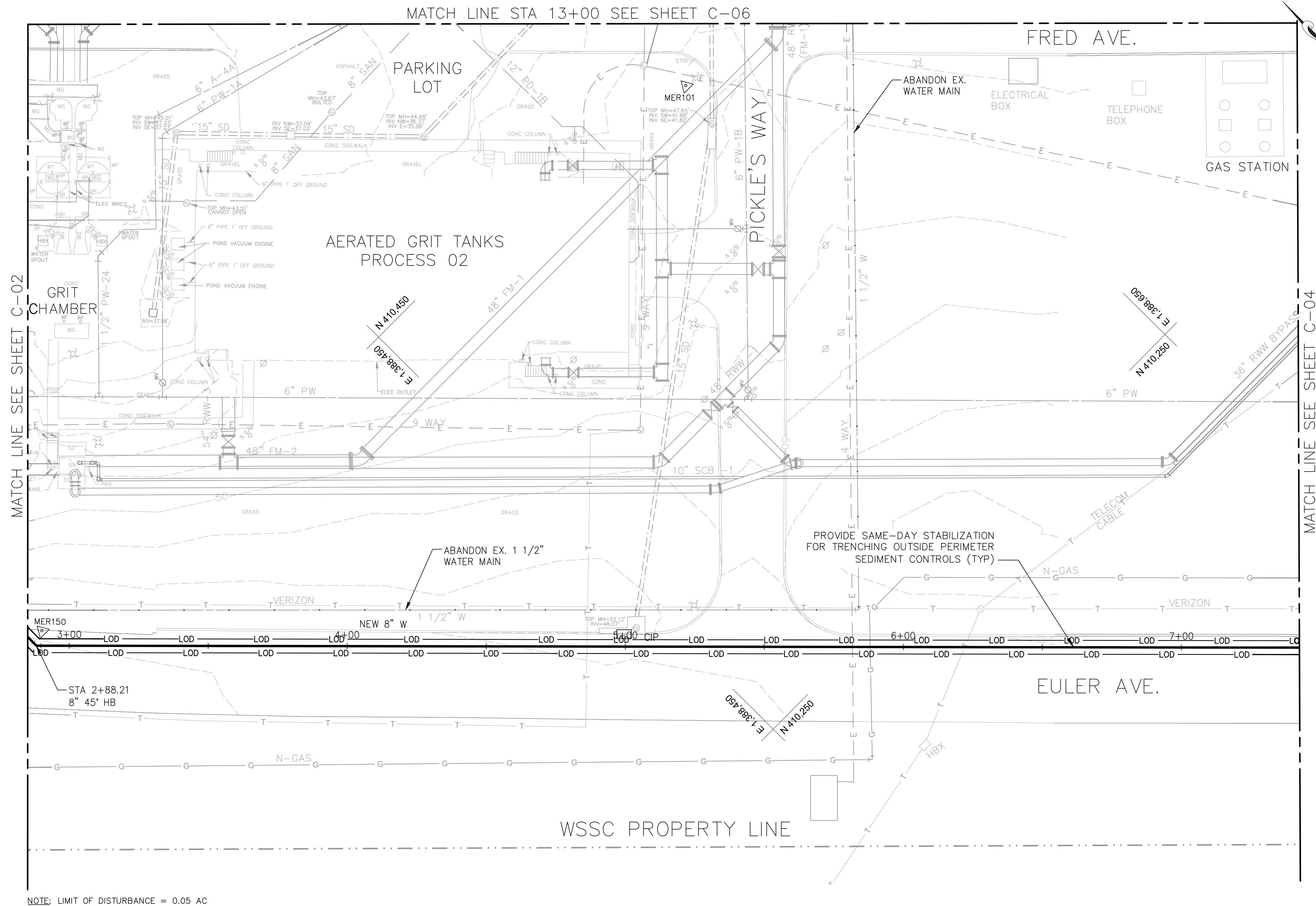
NO 03
OF 62

\\gdr.rk.com\c\sa\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\Utility Comp. Mapping.dwg Jan 09, 2026 - 10:49am Plot By: rdixon Tab:Composite



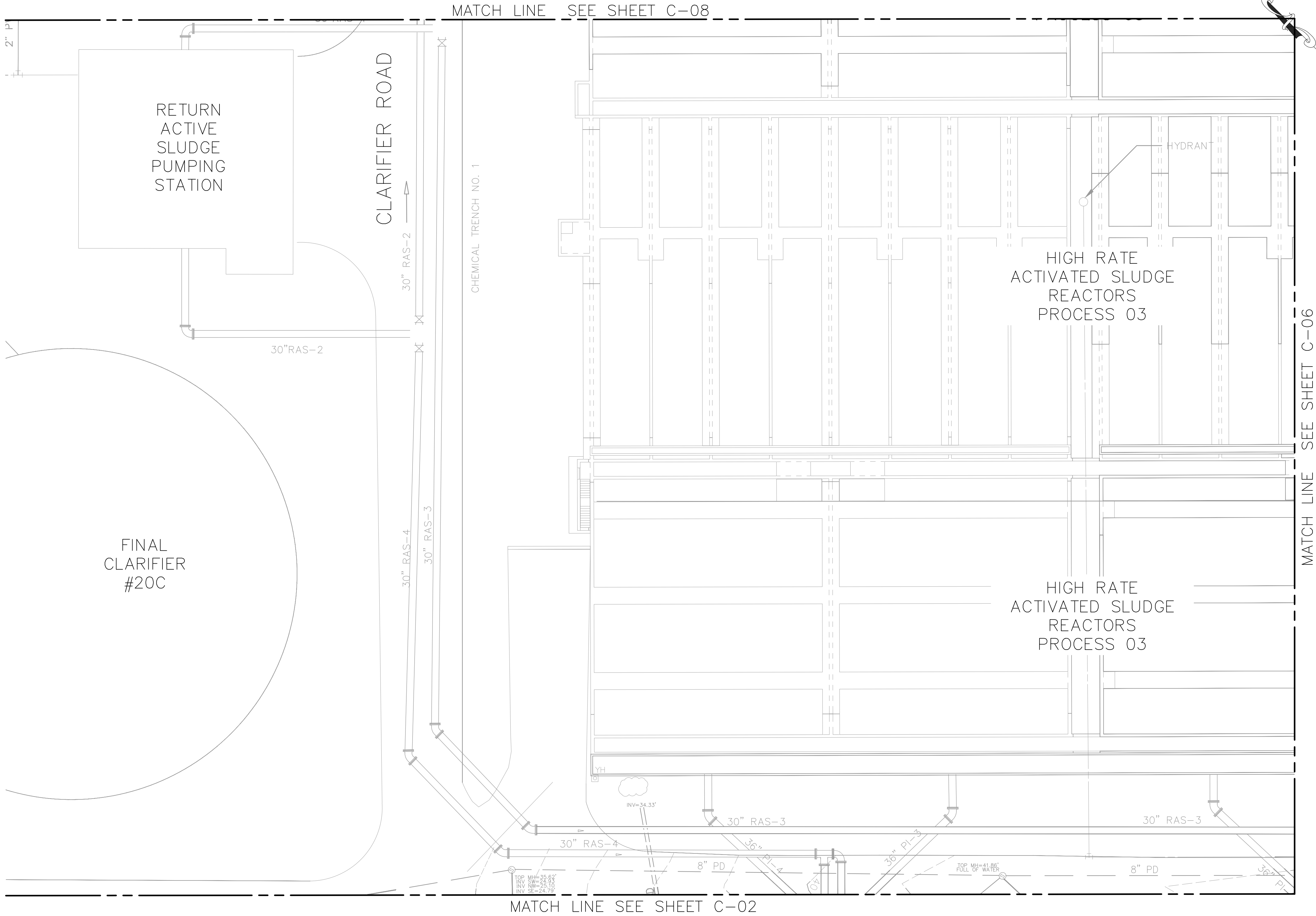
PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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WASHINGTON SUBURBAN SANITARY COMMISSION		THESE DOCUMENTS CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REDISTRIBUTED WITHOUT PRIOR WSSC APPROVAL		 <div>700 EAST PRATT STREET SUITE 500 BALTIMORE, MD 21201 (P) 410 728-2900 (F) 410 728-2834</div>	WESTERN BRANCH WRRF POTABLE WATER SYSTEM UPGRADES	KEY PLAN WATER RELOCATION PLAN	C-01		NO 04 OF 62
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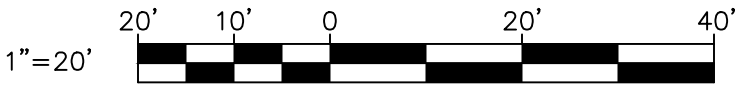
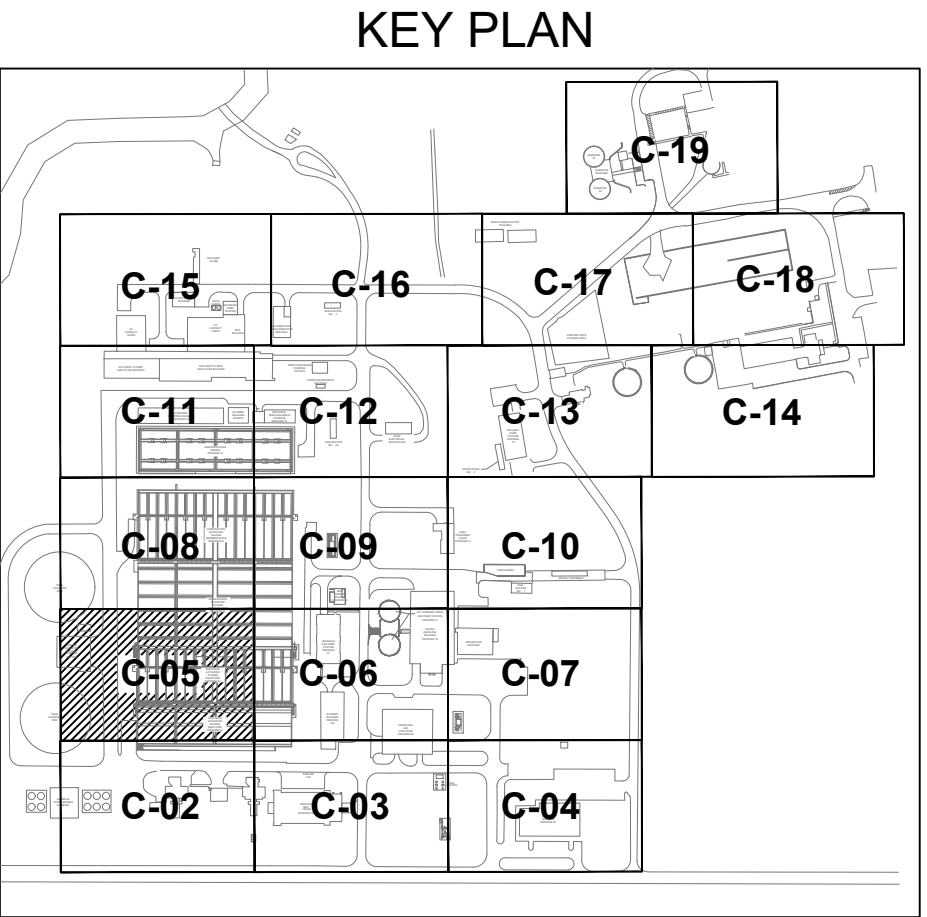




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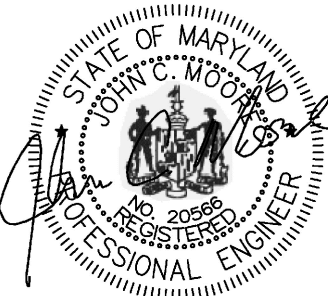
NOTE: THERE IS NO PROPOSED WORK ON THIS SHEET. BASE MAPPING IS PROVIDED FOR REFERENCE ONLY.



DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

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DATE	REVISIONS

LICENSE NO.: 20566
EXPIRATION DATE: 09/06/2026

CONTRACT: #CD6915B20

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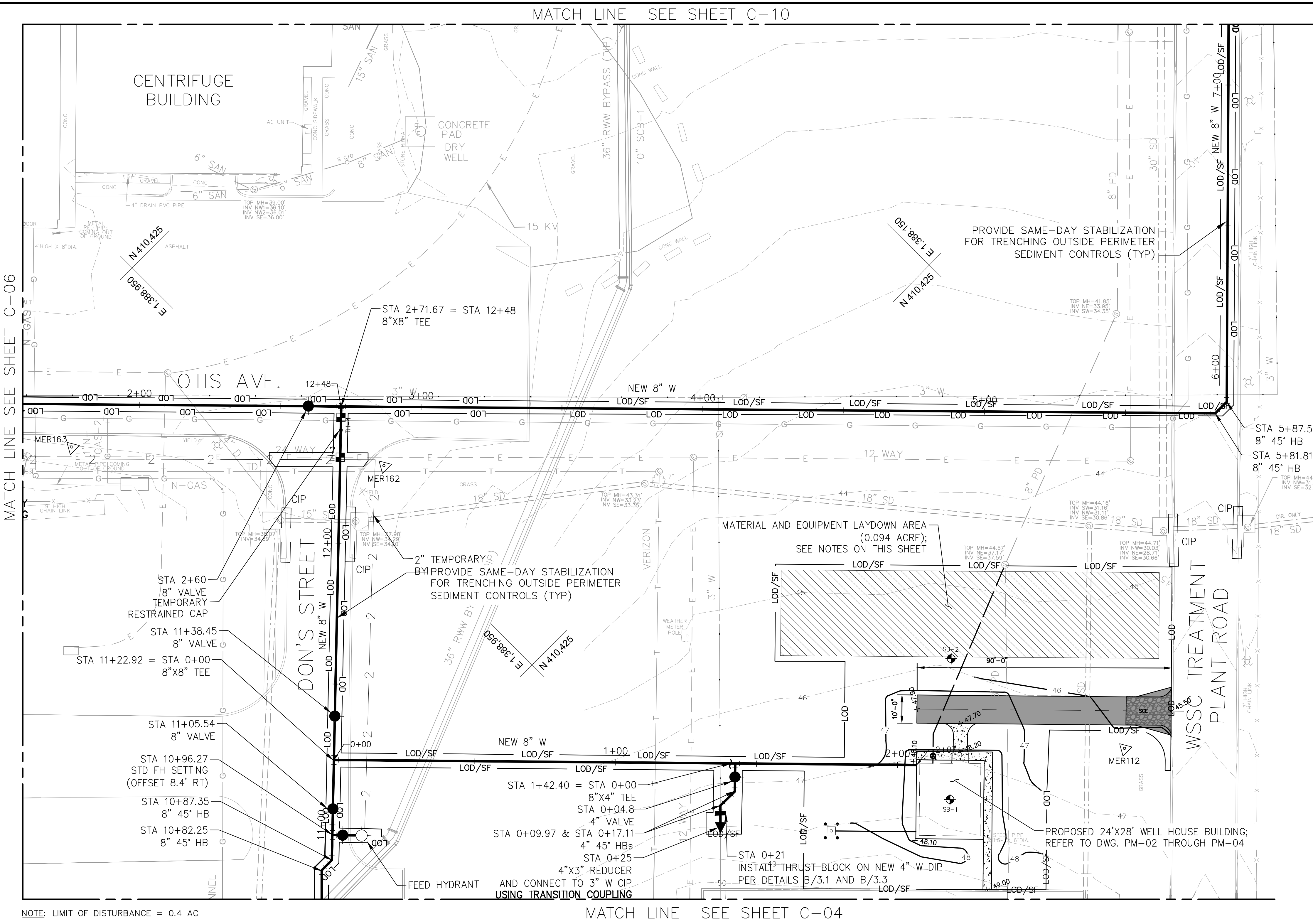
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

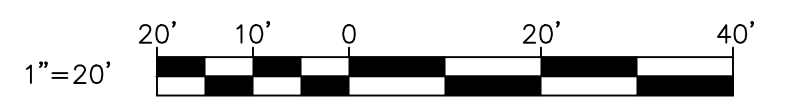
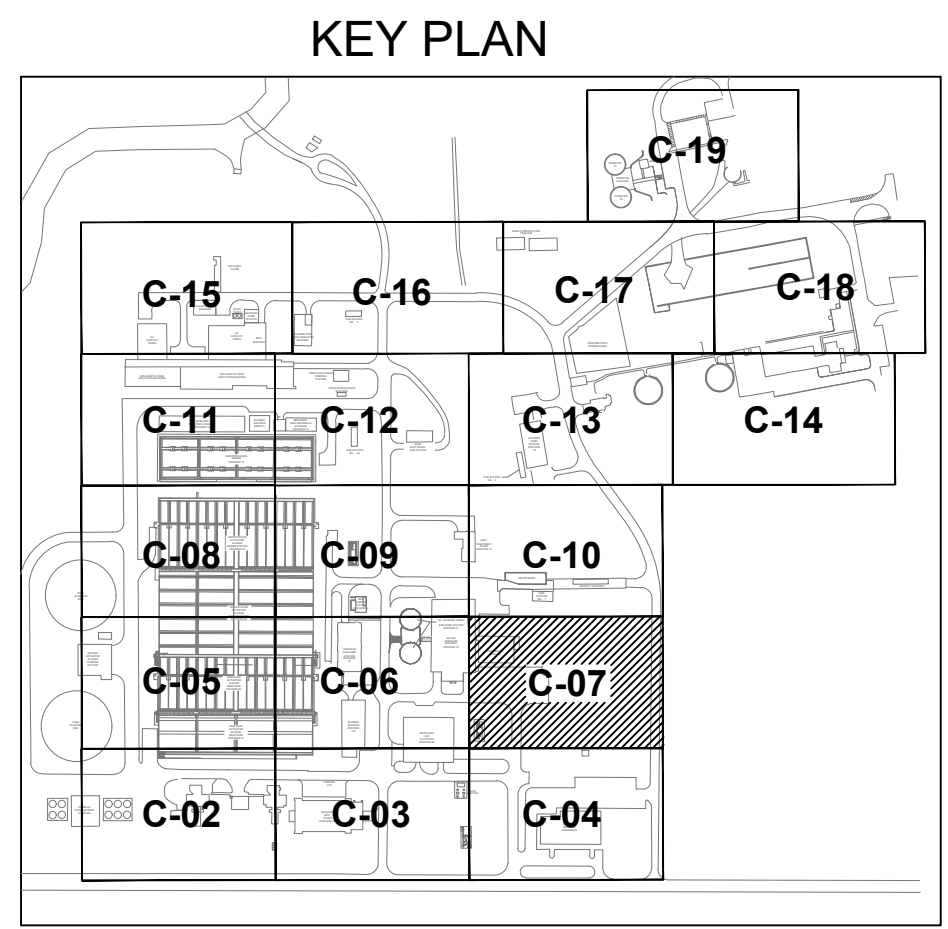
C-05

NO 08
OF 62

\\ad-rk.com\ra\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\C-07_Water Relocation.dwg Jan 09, 2026 - 11:21am Plot By: rdixon Tab: C-07

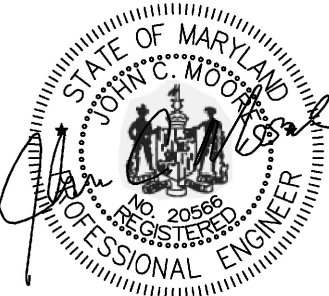


- SEQUENCE OF CONSTRUCTION – EROSION AND SEDIMENT CONTROL**
1. CONTACT THE MARLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT 410-537-3510 AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITY.
 2. HOLD PRE-CONSTRUCTION MEETING UNLESS WAIVED BY MDE.
 3. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND CLEAR AND GRUB AREAS AS SHOWN ON PLANS.
 4. INSTALL PERIMETER SEDIMENT CONTROLS.
 5. PERFORM CONSTRUCTION ACTIVITIES AS PER SEQUENCE OF CONSTRUCTION ON SHEET G-02.
 6. STABILIZE THE SITE AFTER CONSTRUCTION HAS BEEN COMPLETED. REMOVE ALL SEDIMENT CONTROLS.
 7. PERFORM FINAL SITE GRADING, PERMANENT STABILIZATION AND PERMANENT SEEDING AND VEGETATION ESTABLISHMENT.
- NOTES:**
1. CONTRACTOR SHALL LAYDOWN MATS OR SIMILAR DEVICES TO PROTECT THE EXISTING SANITARY SEWER AND DRAIN PIPE WITHIN THE MATERIAL AND EQUIPMENT LAYDOWN AREA.
 2. PROVIDE BLAZE ORANGE SAFETY FENCE AROUND SANITARY MH ADJACENT TO LAYDOWN AREA.

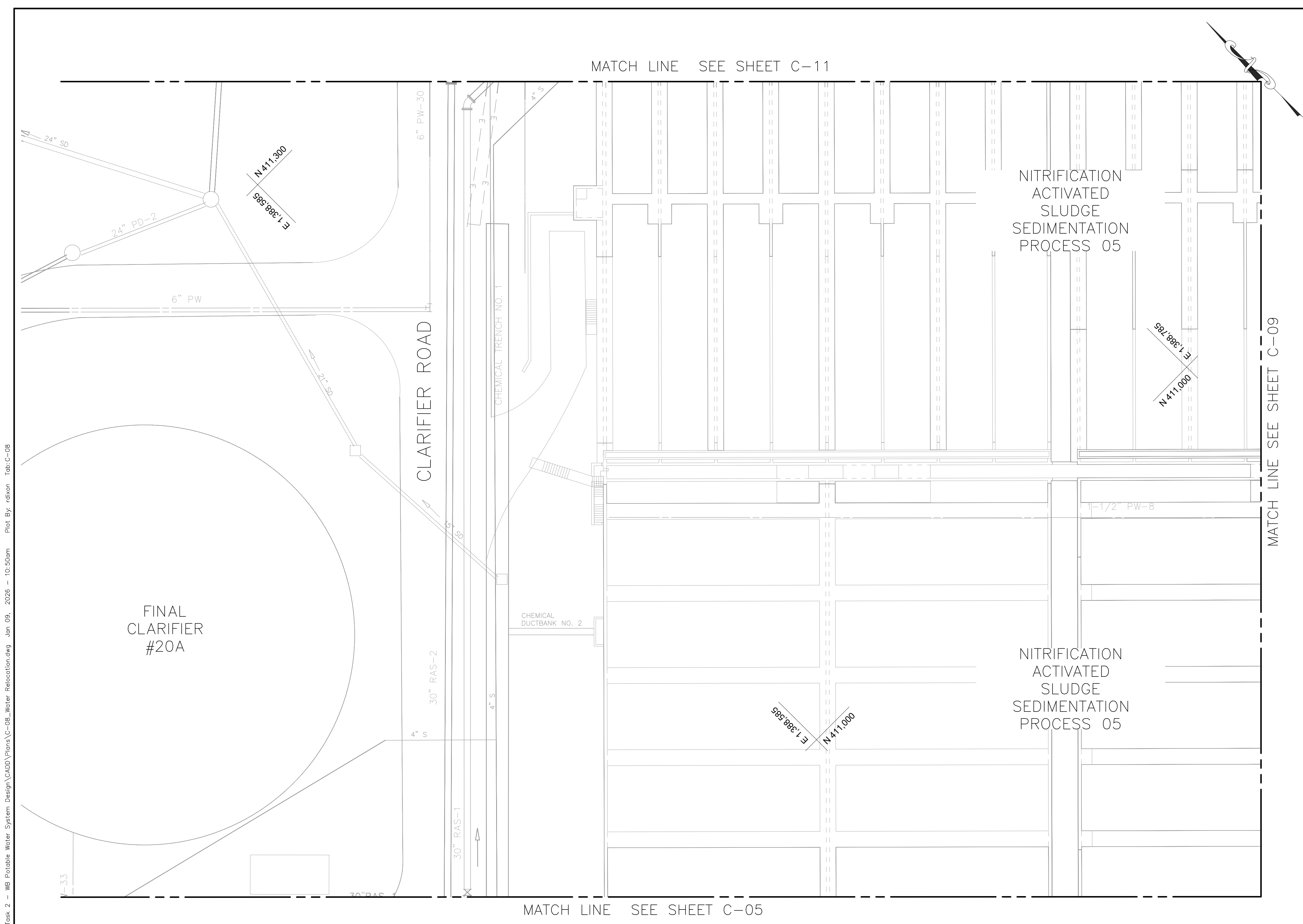


UTILITY TEST HOLE					
NO.	NORTHING	EASTING	TOP OF UTILITY	SURFACE ELEVATION	DESCRIPTION
TH-03	410,325.25	1,388,954.35			24-WAY ELECTRIC DUCT
TH-04	410,335.03	1,388,964.55			1" N-GAS

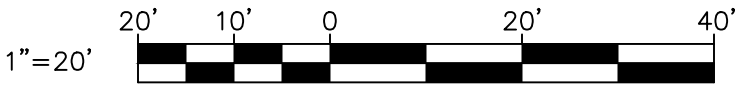
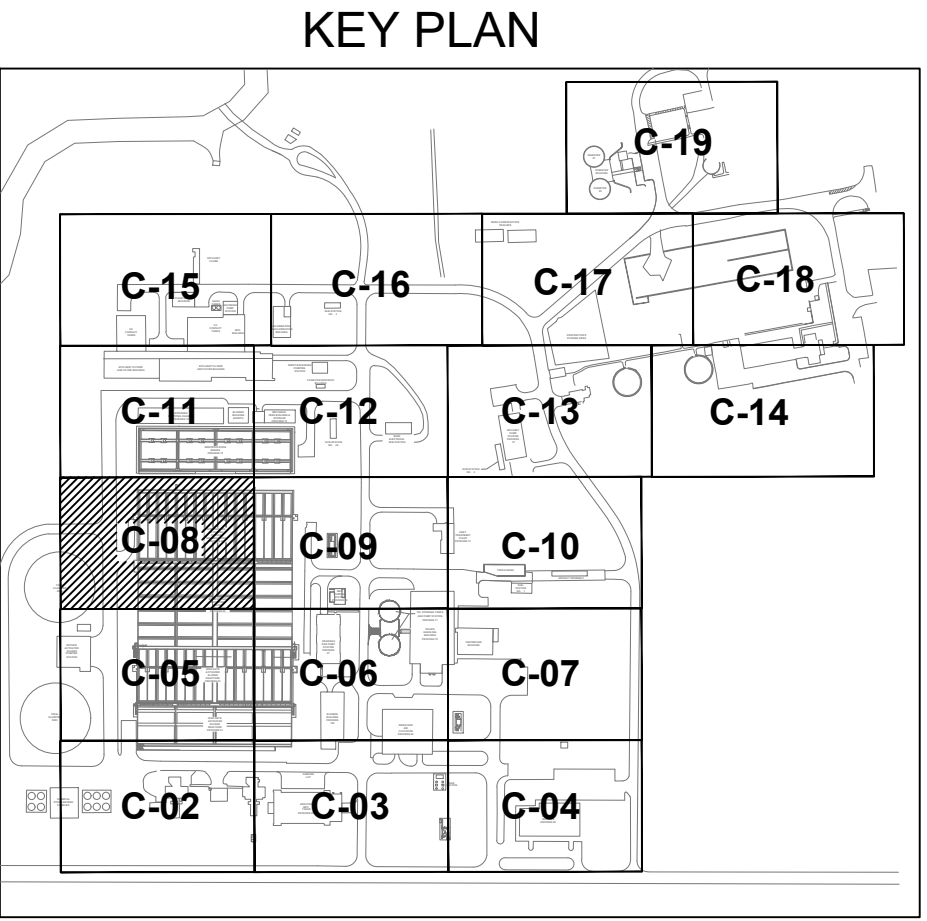
DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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CONTRACT: #CD6915B20			

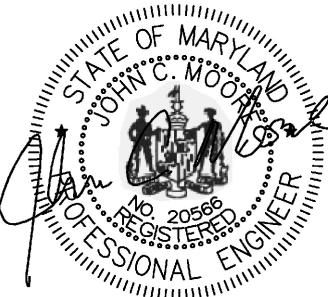
\\od-rk.com\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CAAD\Plans\C-08_Water Relocation.dwg Jan 09, 2026 - 10:50am Plot By: rdixon Tab:C-08



NOTE: THERE IS NO PROPOSED WORK ON THIS SHEET. BASE MAPPING IS PROVIDED FOR REFERENCE ONLY.



DESIGN:	PPM	10/07/2024
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PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
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CONTRACT: #CD6915B20				
WATER RELOCATION PLAN		C-08		NO 11
				OF 62

WASHINGTON SUBURBAN SANITARY COMMISSION



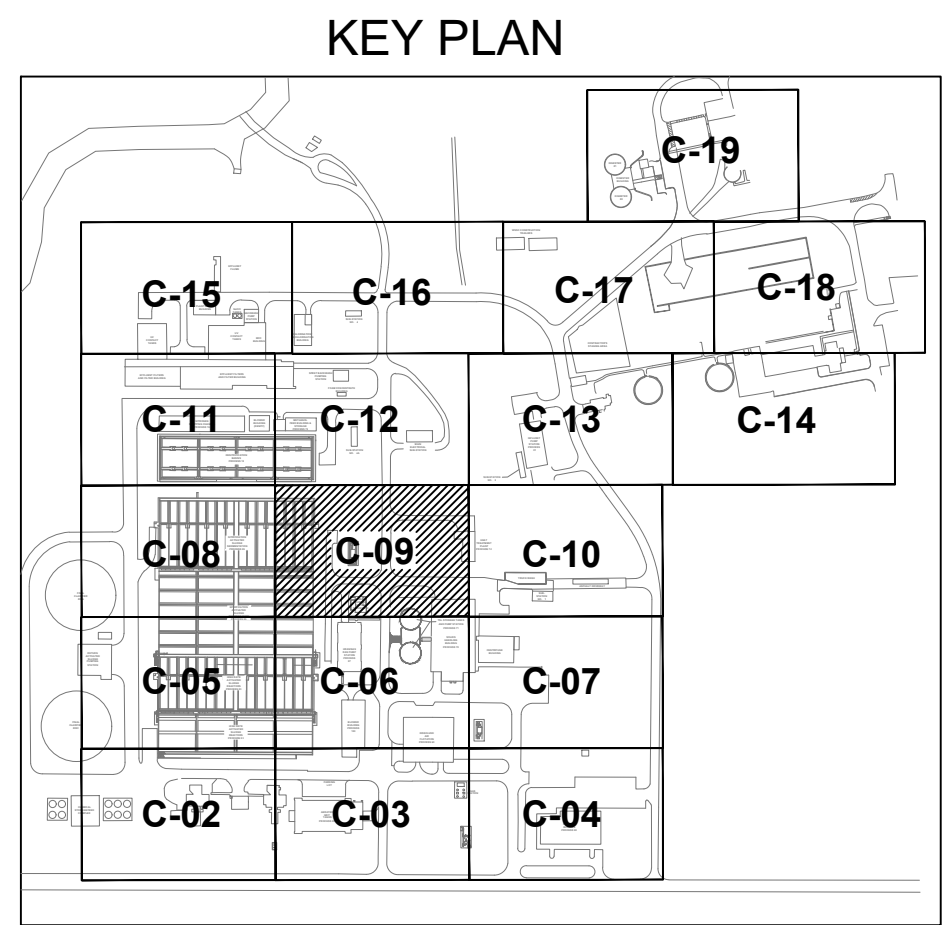
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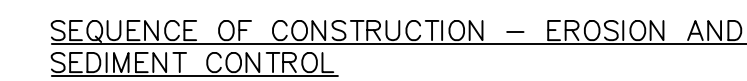
700 EAST PRATT STREET
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(F) 410 728-2834

WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

MATCH LINE SEE SHEET C-10



December 19, 2025 - PLOT DATE

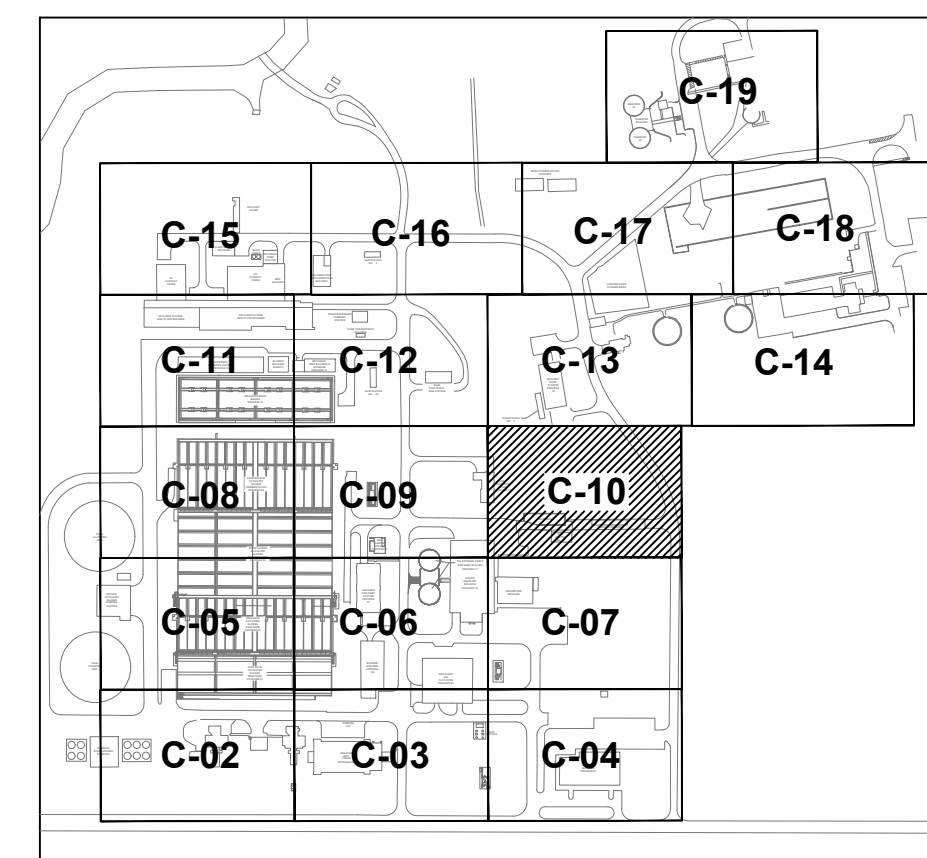


1. CONTACT THE MARLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT 410-537-3510 AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITY.
2. HOLD PRE-CONSTRUCTION MEETING UNLESS WAIVED BY MDE.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND CLEAR AND GRUB AREAS AS SHOWN ON PLANS.
4. INSTALL PERIMETER SEDIMENT CONTROLS.
5. PERFORM CONSTRUCTION ACTIVITIES AS PER SEQUENCE OF CONSTRUCTION ON SHEET G-02.
6. STABILIZE THE SITE AFTER CONSTRUCTION HAS BEEN COMPLETED. REMOVE ALL SEDIMENT CONTROLS.
7. PERFORM FINAL SITE GRADING, PERMANENT STABILIZATION AND PERMANENT SEEDING AND VEGETATION ESTABLISHMENT.


— PROVIDE SAME-DAY STABILIZATION
FOR TRENCHING OUTSIDE PERIMETER
SEDIMENT CONTROLS (TYP)

ABANDON
EX. 3"
WATER MAIN

KEY PLAN



1"=20'



A horizontal graphic scale bar with alternating black and white segments. It is marked with '20'', '10'', '0', '20'', and '40'' from left to right. The first '20'' is at the far left, followed by '10'', '0' in the center, then another '20'', and finally '40'' at the far right.

UTILITY TEST HOLE					
NO.	NORTHING	EASTING	TOP OF UTILITY	SURFACE ELEVATION	DESCRIPTION
TH-06	410,338.73	1,389,397.70			6-WAY ELECTRIC DUCT

DESIGN:	PPM	10/07/202
DRAWN:	KMR	12/19/202
CHECKED:	JCM	12/19/202

PROFESSIONAL CERTIFICATION

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LICENSE NO.: 20566
EXPIRATION DATE: 09/06/2026

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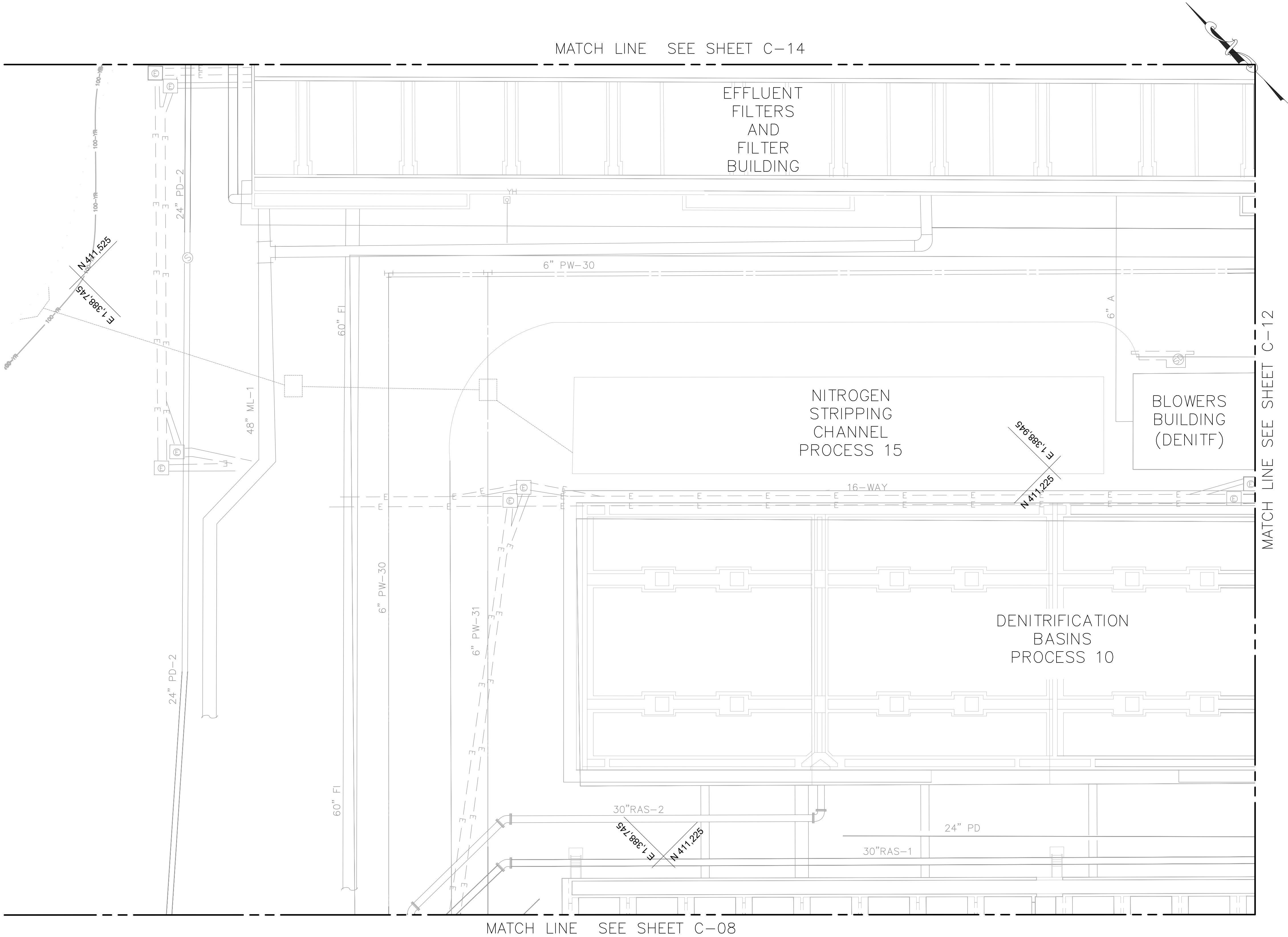
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

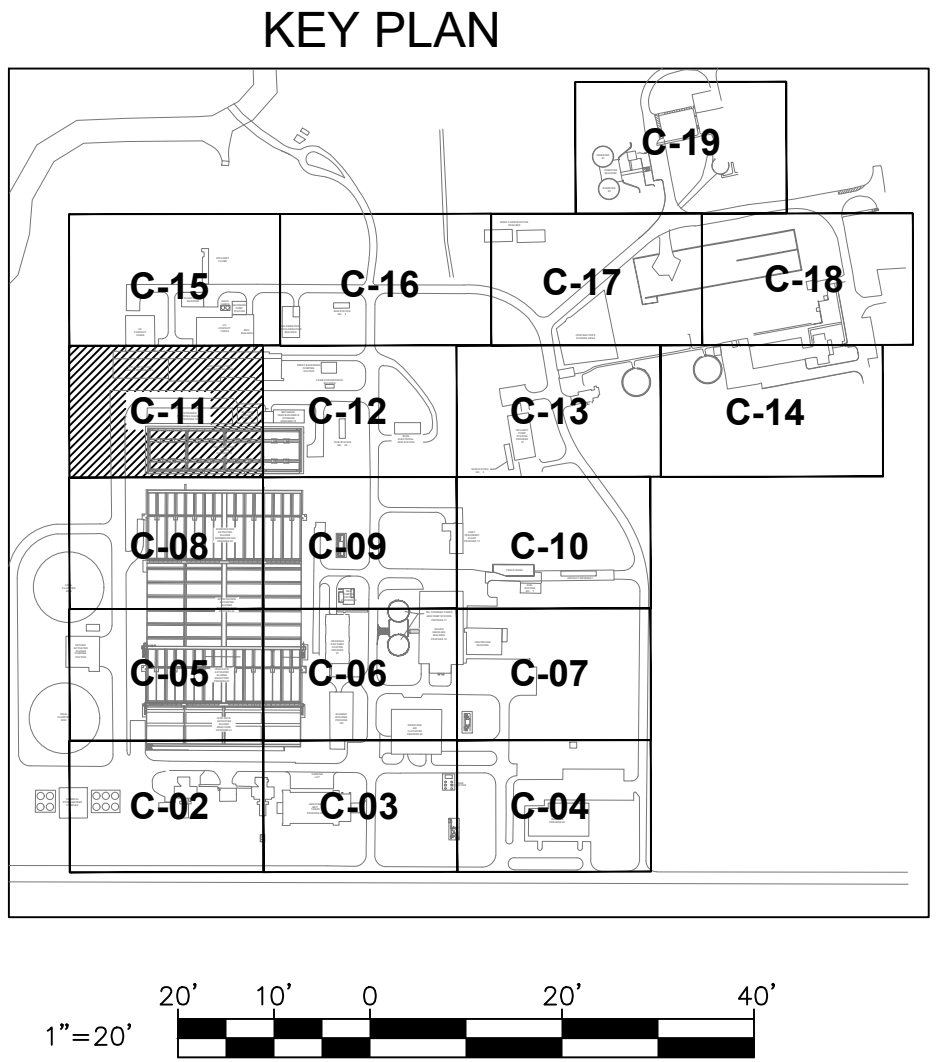
C-10

NO	13
OF	62

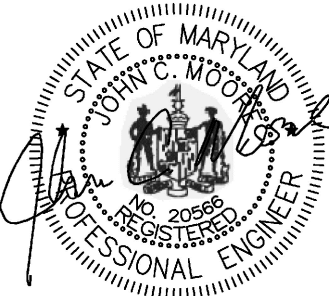
\\od-rk.com\res\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CAAD\Plans\C-11_Water Relocation.dwg Jan 09, 2026 - 10:51am Plot By: rdixon Tab:C-11



NOTE: THERE IS NO PROPOSED WORK ON THIS SHEET. BASE MAPPING IS PROVIDED FOR REFERENCE ONLY.



DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
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LICENSE NO.: 20566 EXPIRATION DATE: 09/06/2026		CONTRACT: #CD6915B20		
WATER RELOCATION PLAN		C-11		NO 14
				OF 62

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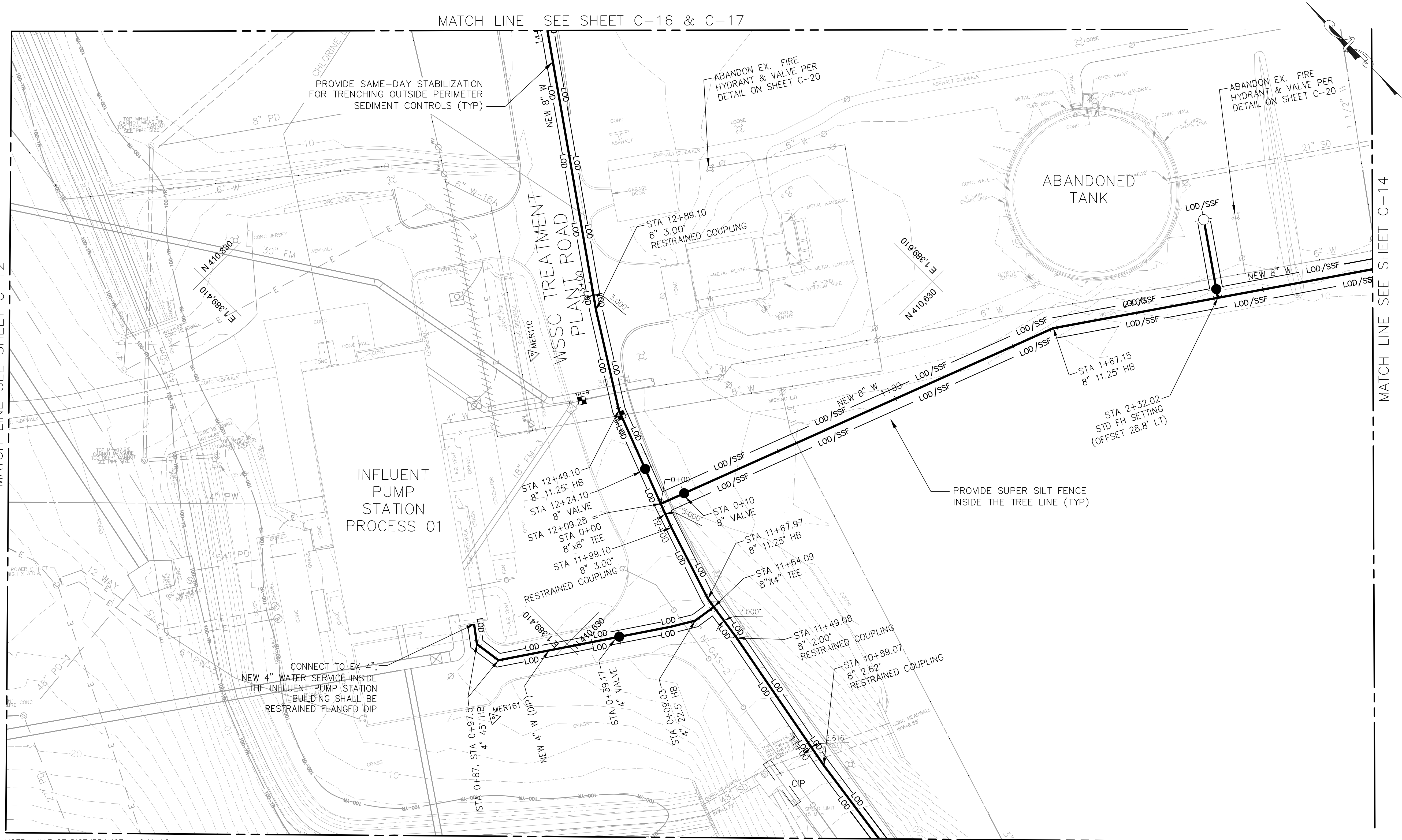


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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

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MATCH LINE SEE SHEET C-12



NOTE: LIMIT OF DISTURBANCE = 0.11 AC

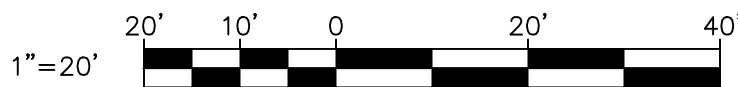
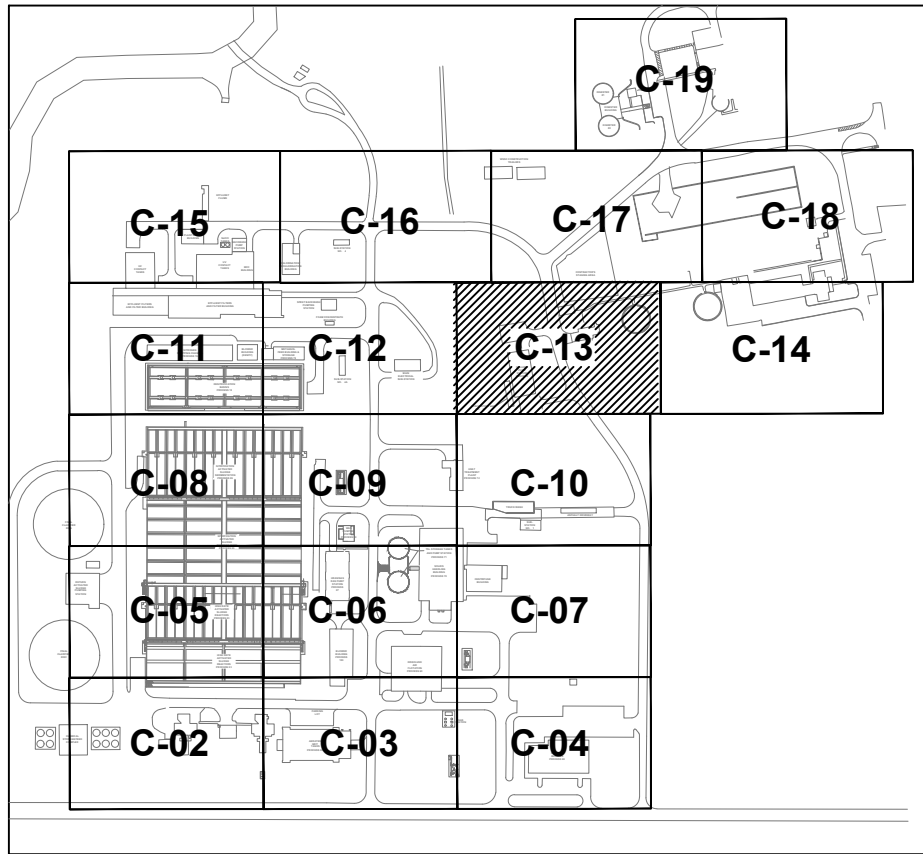
MATCH LINE SEE SHEET C-10

SEQUENCE OF CONSTRUCTION – EROSION AND SEDIMENT CONTROL

1. CONTACT THE MARLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT 410-537-3510 AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITY.
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MATCH LINE SEE SHEET C-14

KEY PLAN

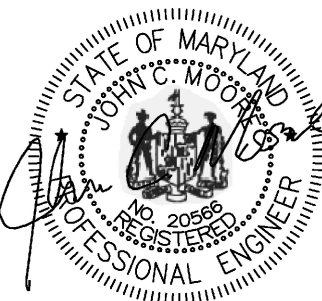


UTILITY TEST HOLE					
NO.	NORTHING	EASTING	TOP OF UTILITY	SURFACE ELEVATION	DESCRIPTION
TH-09	410,693.05	1,389,480.77			4" WATER
TH-10	410,678.23	1,389,487.55			6" WATER

DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

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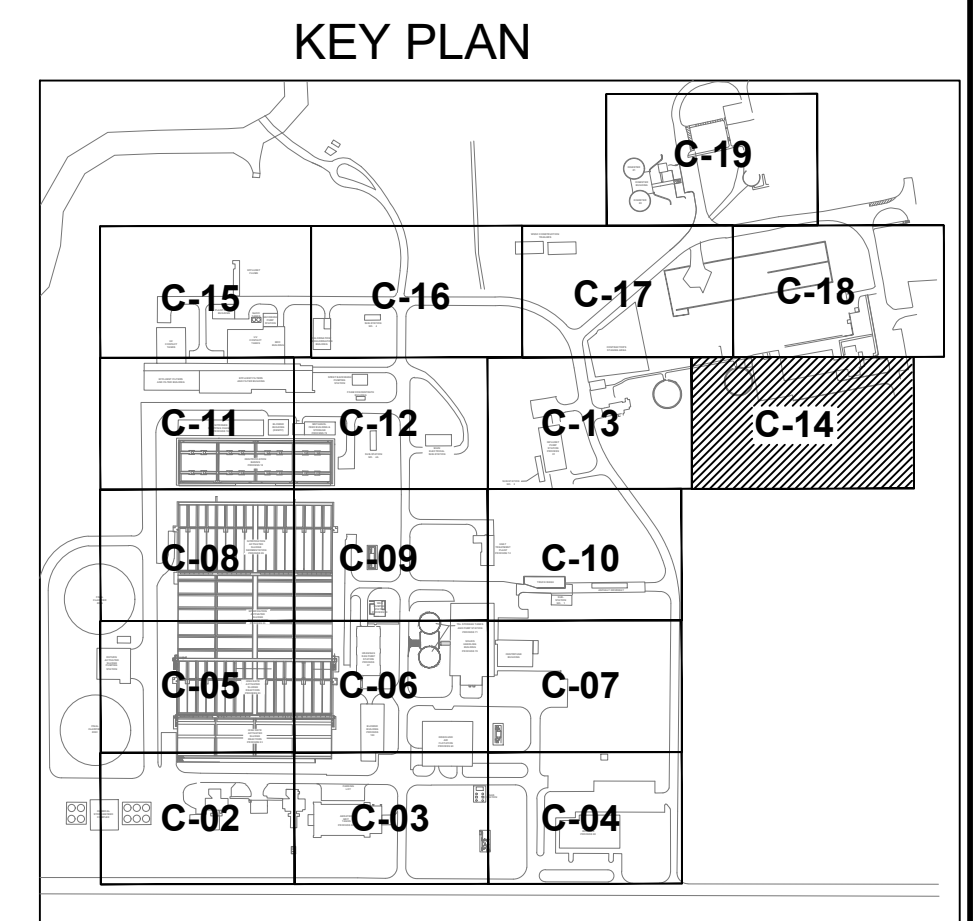
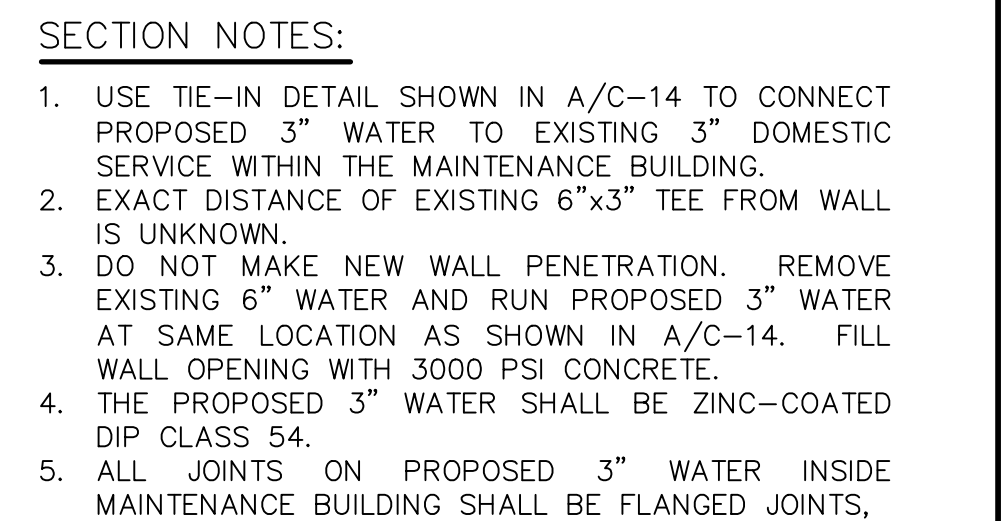
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(F) 410 728-2834

WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

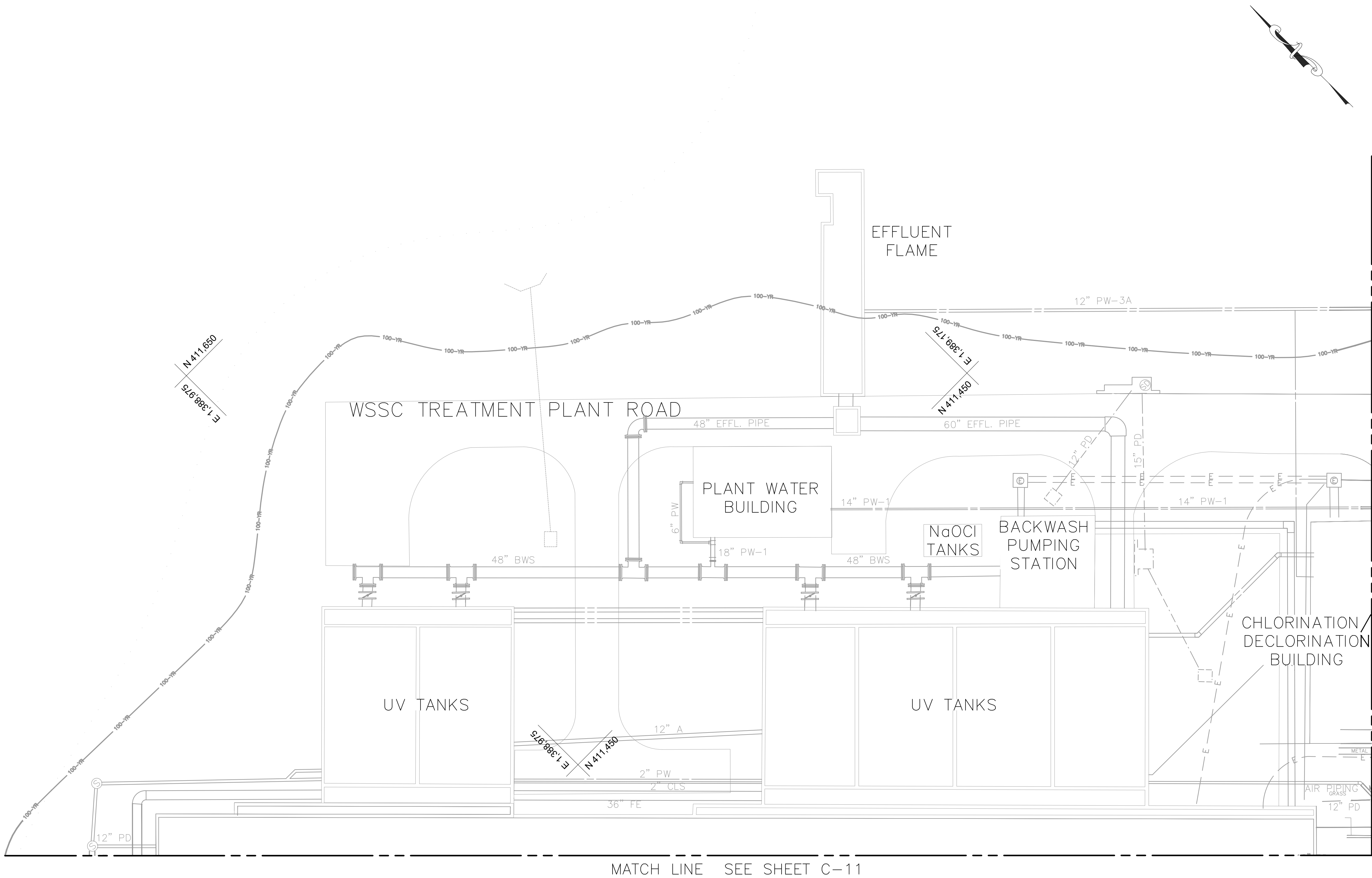
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NO 16
OF 62

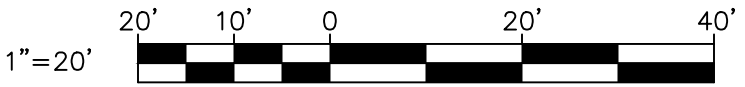
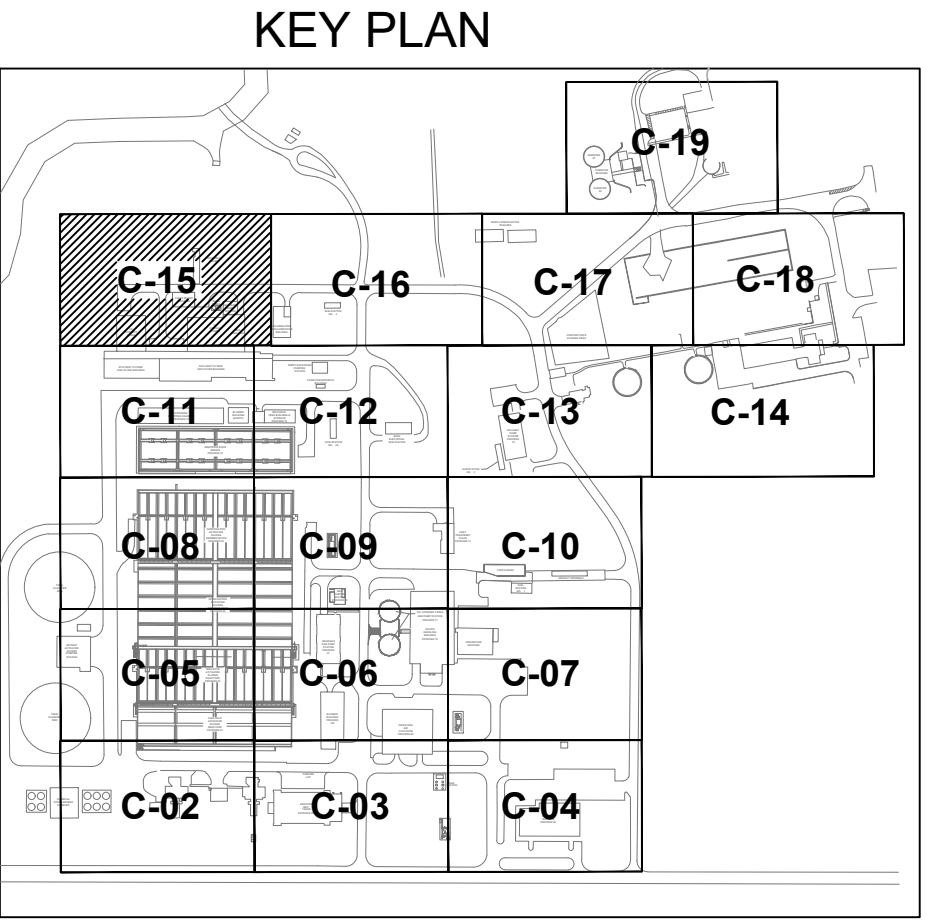


C-14

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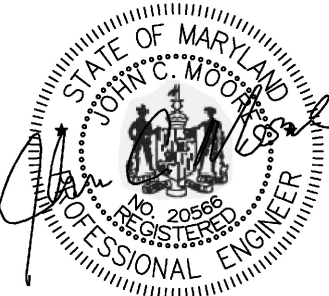


DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

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LICENSE NO.: 20566
EXPIRATION DATE: 09/06/2026



DATE	REVISIONS
CONTRACT: #CD6915B20	

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(F) 410 728-2834

WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

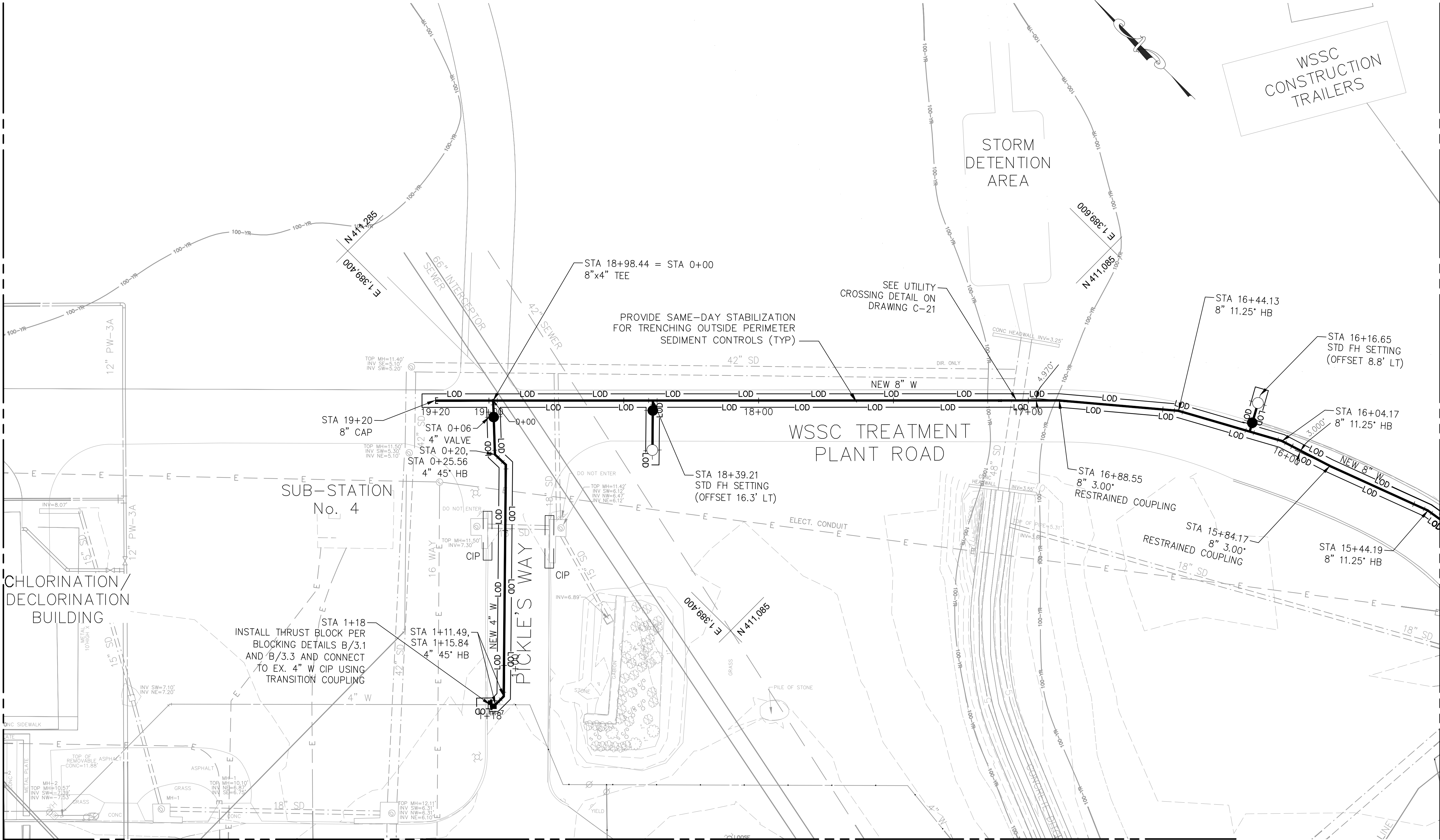
WATER RELOCATION PLAN

C-15

NO 18
OF 62

\\od-rk.com\ra\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\C-16_Water Relocation.dwg Jan 09, 2026 - 10:53am Plot By: rdixon Tab: C-16

MATCH LINE SEE SHEET C-15



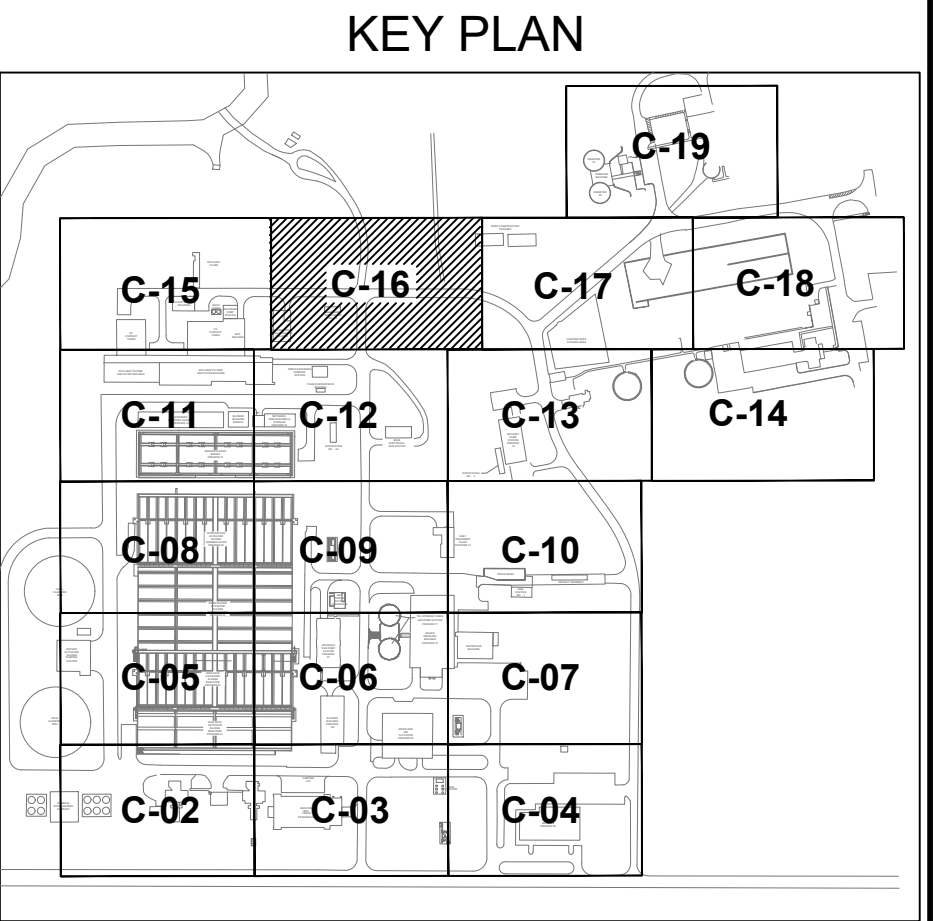
NOTE: LIMIT OF DISTURBANCE = 0.06 AC

MATCH LINE SEE SHEET C-12 & C-13

UTILITY TEST HOLE					
NO.	NORTHING	EASTING	TOP OF UTILITY	SURFACE ELEVATION	DESCRIPTION
TH-07	411,128.35	1,389,318.34			4" WATER

DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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LICENSE NO.: 20566 EXPIRATION DATE: 09/06/2026		CONTRACT: #CD6915B20	



SEQUENCE OF CONSTRUCTION – EROSION AND SEDIMENT CONTROL

1. CONTACT THE MARLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT 410-537-3510 AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITY.
2. HOLD PRE-CONSTRUCTION MEETING UNLESS WAIVED BY MDE.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND CLEAR AND GRUB AREAS AS SHOWN ON PLANS.
4. INSTALL PERIMETER SEDIMENT CONTROLS.
5. PERFORM CONSTRUCTION ACTIVITIES AS PER SEQUENCE OF CONSTRUCTION ON SHEET G-02.
6. STABILIZE THE SITE AFTER CONSTRUCTION HAS BEEN COMPLETED. REMOVE ALL SEDIMENT CONTROLS.
7. PERFORM FINAL SITE GRADING, PERMANENT STABILIZATION AND PERMANENT SEEDING AND VEGETATION ESTABLISHMENT.

MATCH LINE SEE SHEET C-17

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(F) 410 728-2834

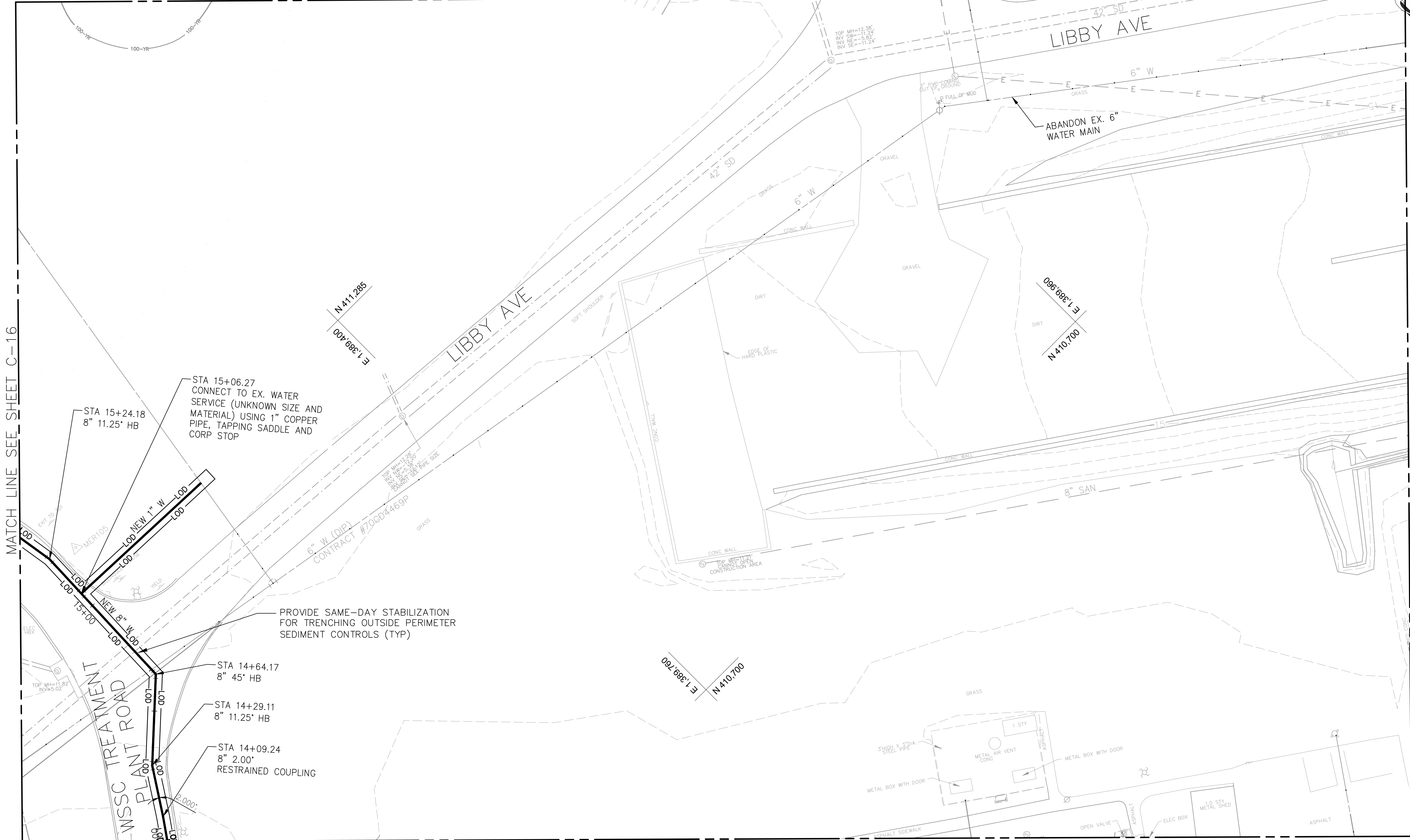
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

C-16

NO 19
OF 62

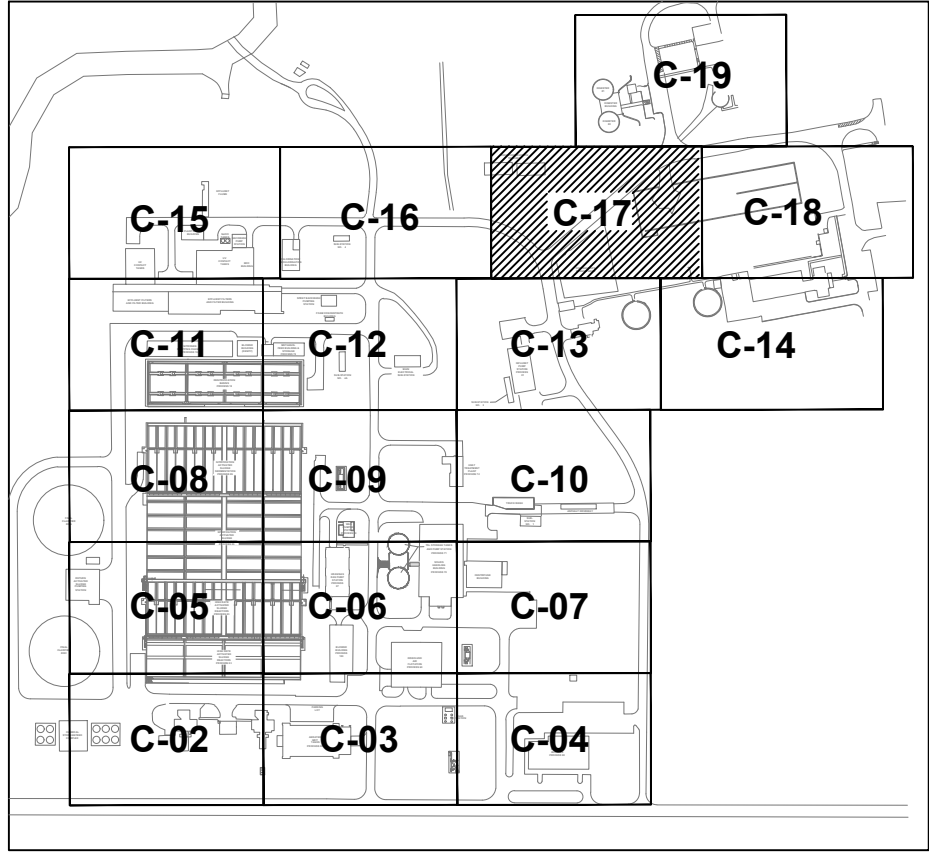
MATCH LINE SEE SHEET C-19



SEQUENCE OF CONSTRUCTION — EROSION AND SEDIMENT CONTROL

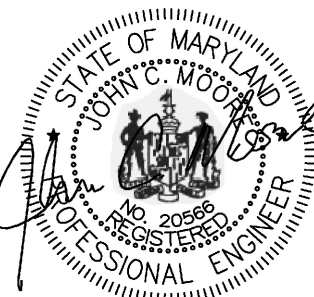
1. CONTACT THE MARLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AT 410-537-3510 AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITY.
2. HOLD PRE-CONSTRUCTION MEETING UNLESS WAIVED BY MDE.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND CLEAR AND GRUB AREAS AS SHOWN ON PLANS.
4. INSTALL PERIMETER SEDIMENT CONTROLS.
5. PERFORM CONSTRUCTION ACTIVITIES AS PER SEQUENCE OF CONSTRUCTION ON SHEET G-02.
6. STABILIZE THE SITE AFTER CONSTRUCTION HAS BEEN COMPLETED. REMOVE ALL SEDIMENT CONTROLS.
7. PERFORM FINAL SITE GRADING, PERMANENT STABILIZATION AND PERMANENT SEEDING AND VEGETATION ESTABLISHMENT.

KEY PLAN



PROFESSIONAL CERTIFICATION

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LICENSE NO.: 20566
EXPIRATION DATE: 09/06/2026

DATE REVISIONS

DATE	REVISIONS

CONTRACT: #CD6915B20

DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

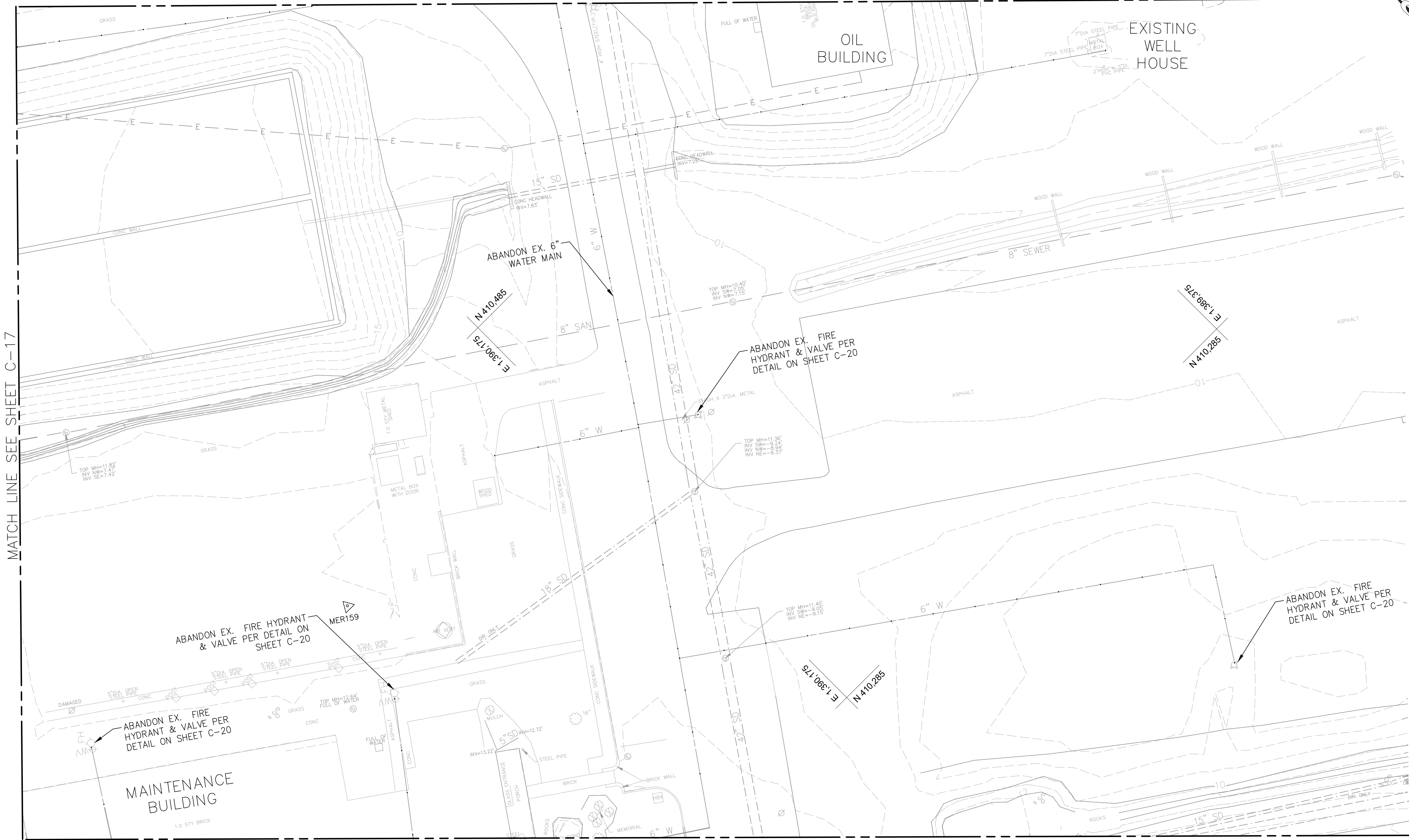
C-17

NO 20
OF 62

\\od-rk.com\Users\jcm\OneDrive\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\C-18_Water Relocation.dwg Jan 09, 2026 - 10:52am Plot By: rdishon Tab-C-18

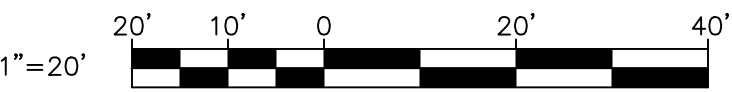
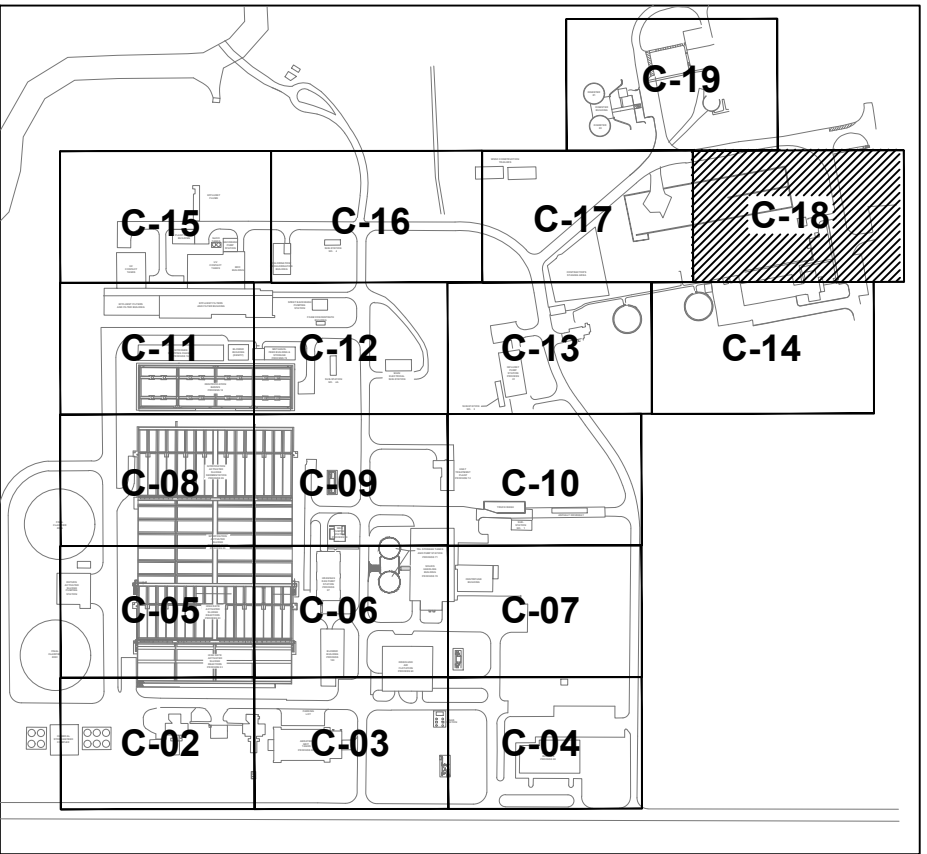
MATCH LINE SEE SHEET C-19

MATCH LINE SEE SHEET C-17



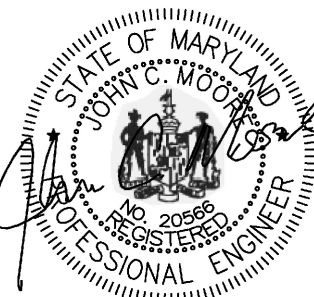
MATCH LINE SEE SHEET C-14

KEY PLAN



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EXPIRATION DATE: 09/06/2026

DATE

REVISIONS

CONTRACT: #CD6915B20

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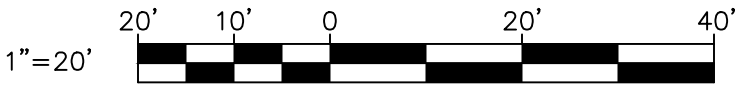
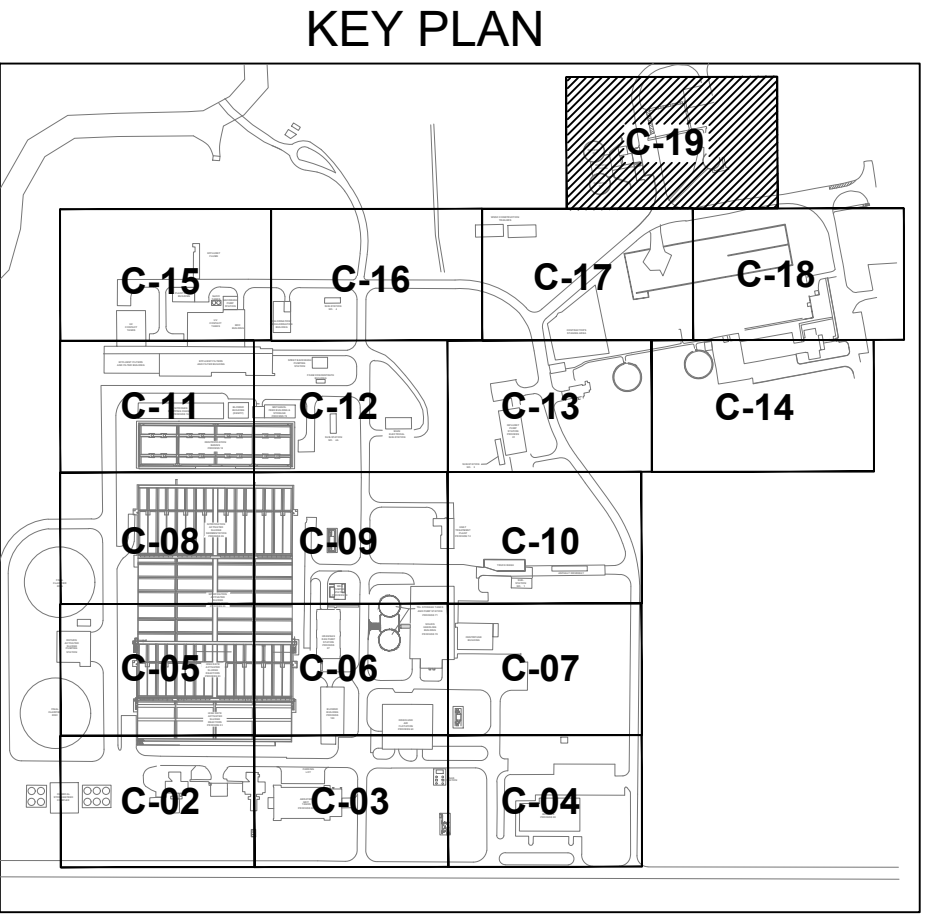
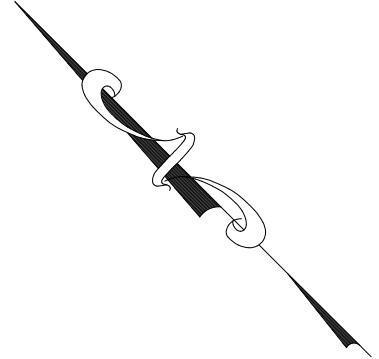
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

C-18

NO 21
OF 62

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DRAWN:	KMR	12/19/2025
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DATE	REVISIONS
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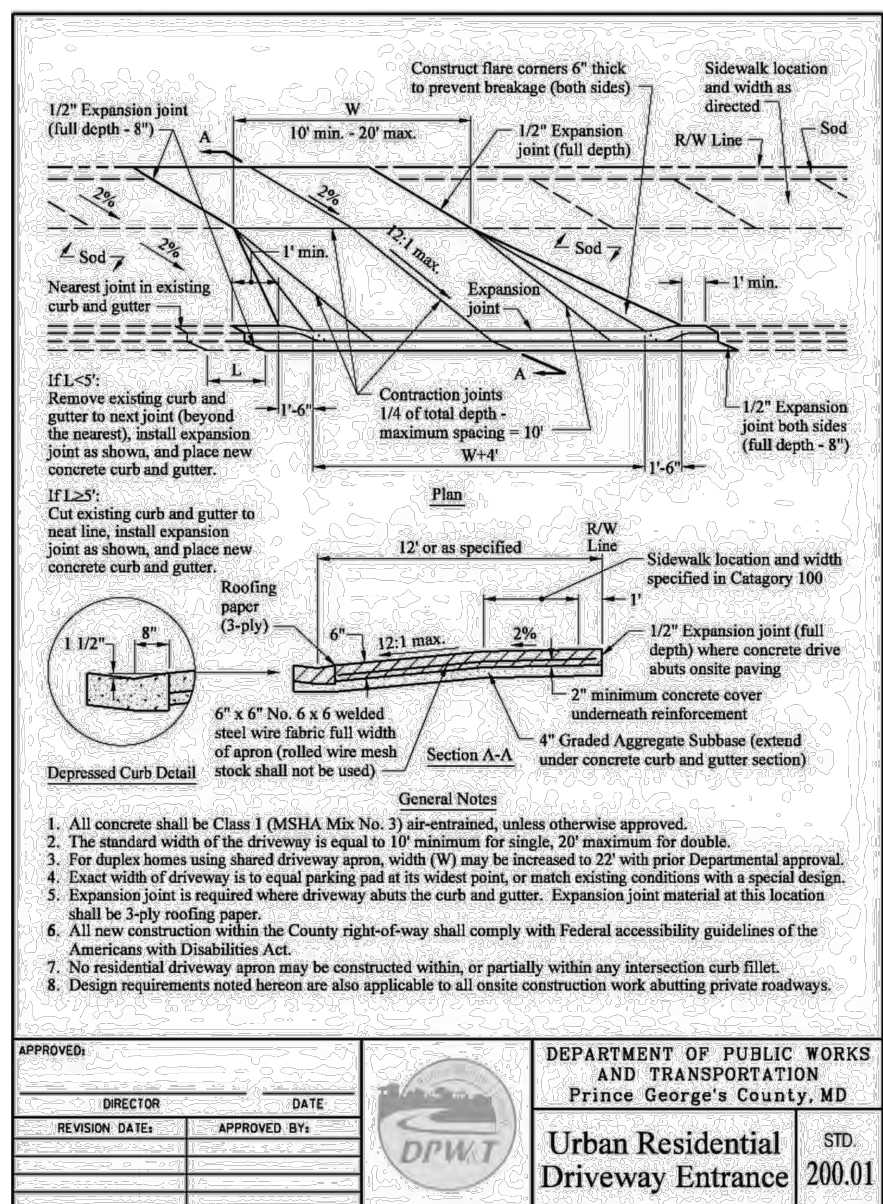
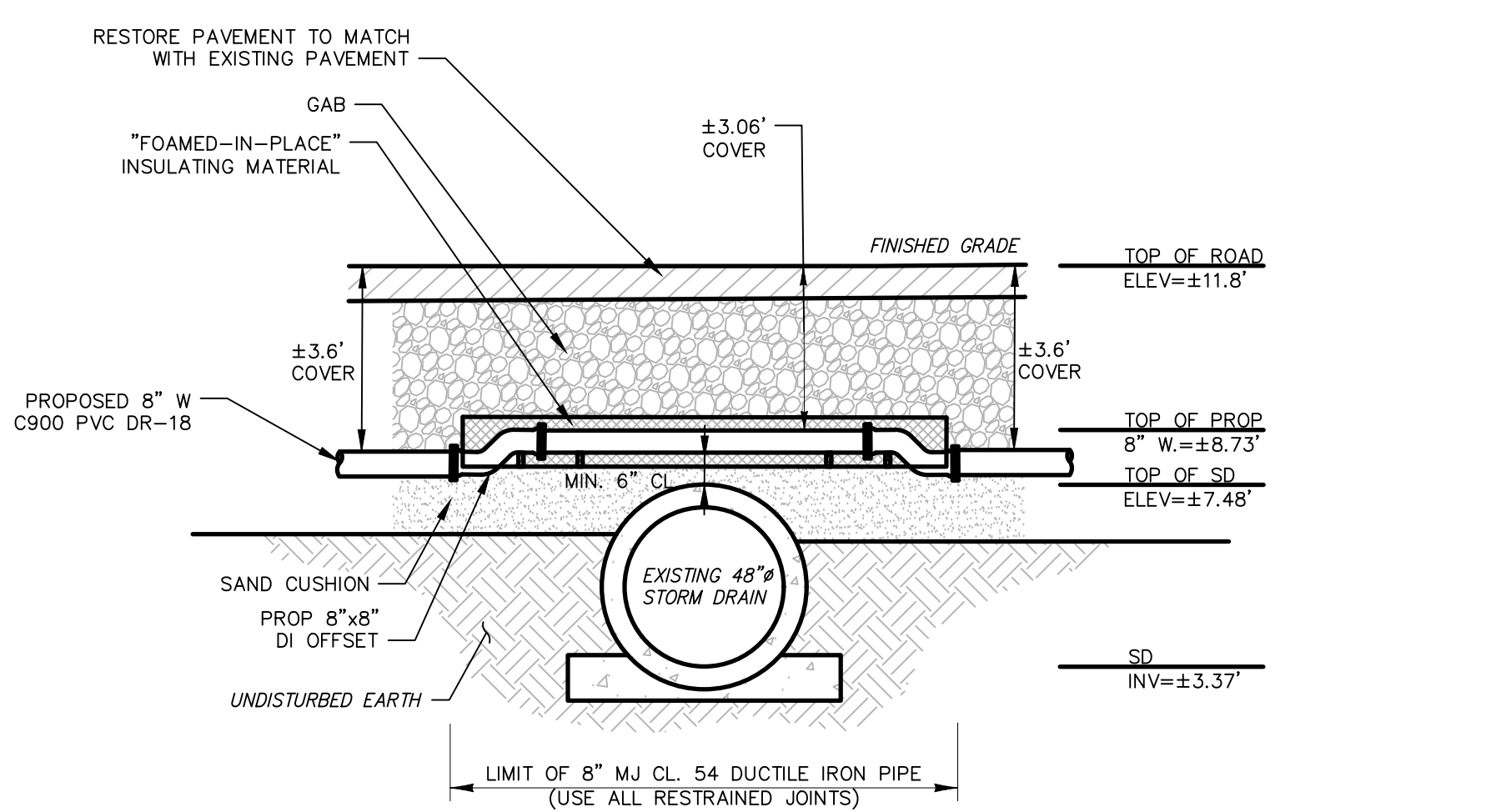
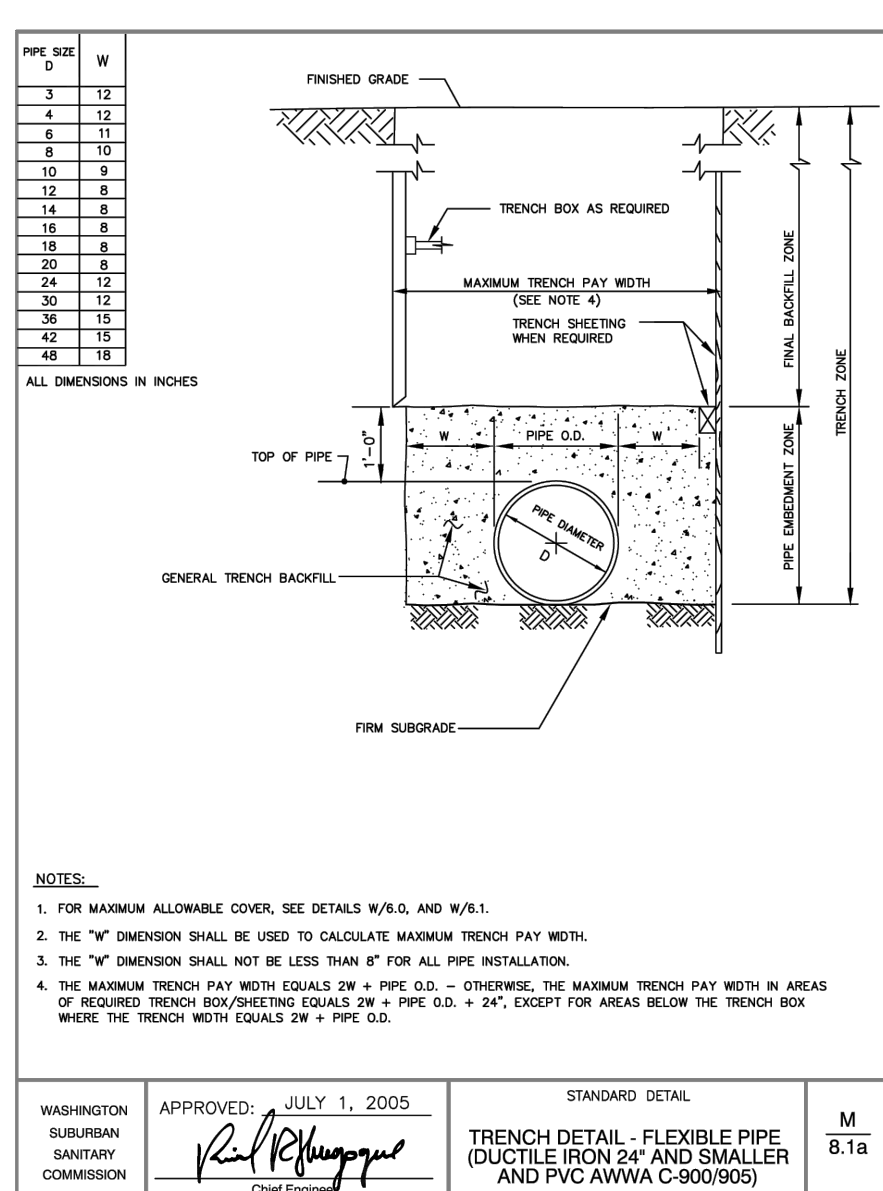
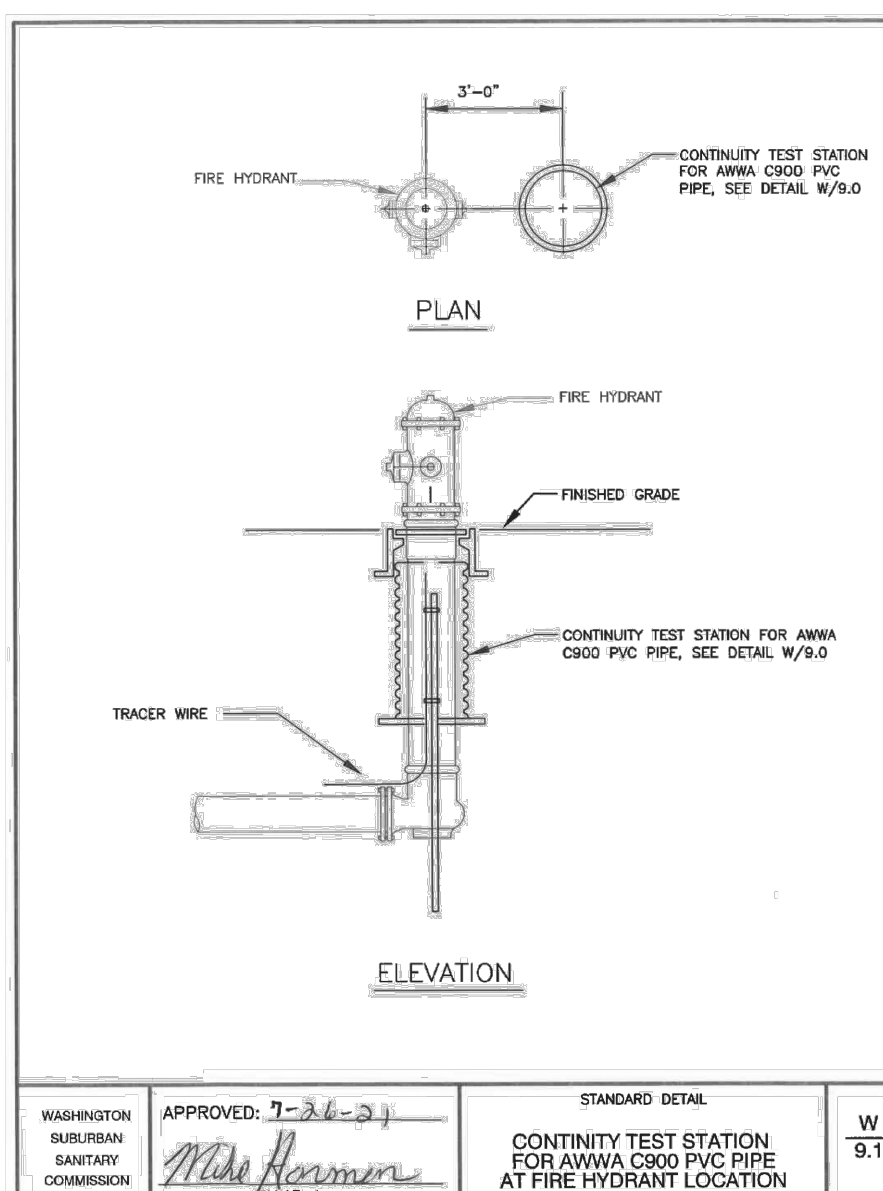
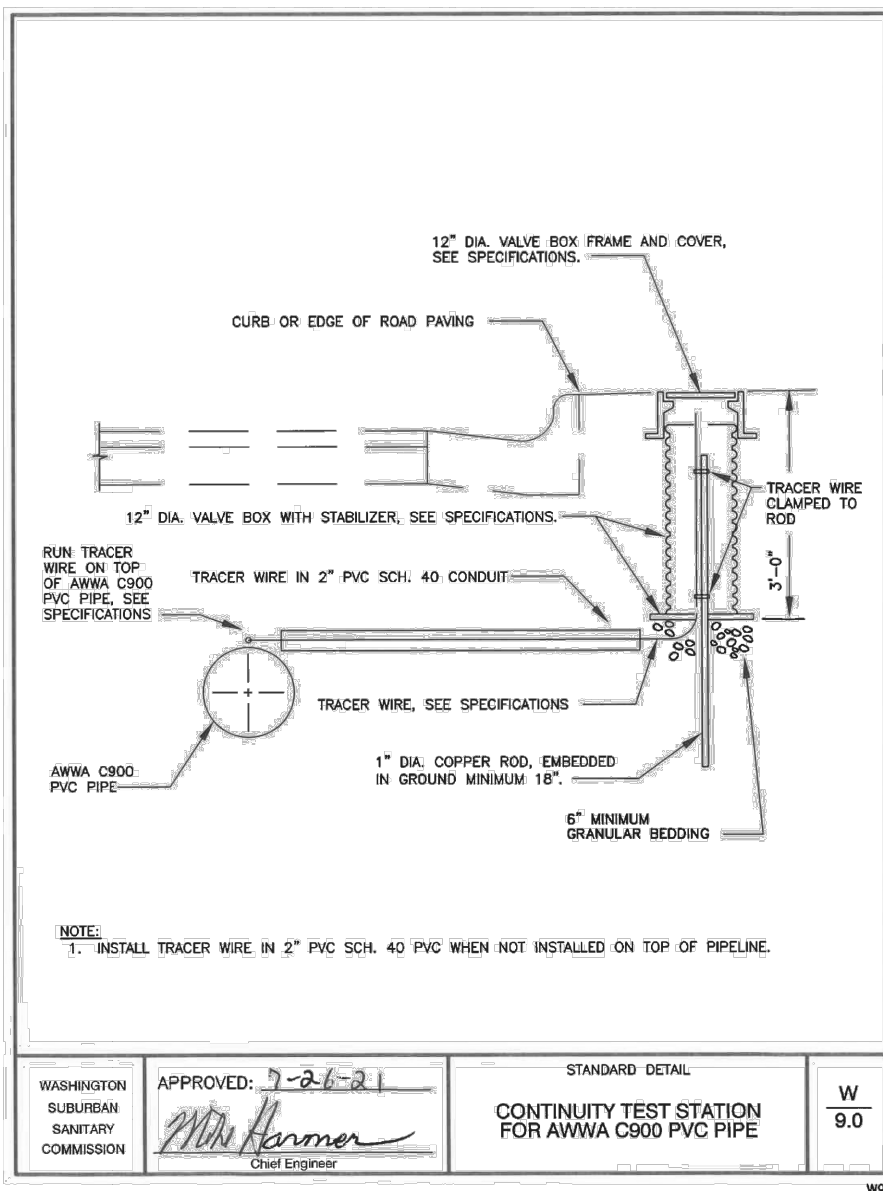
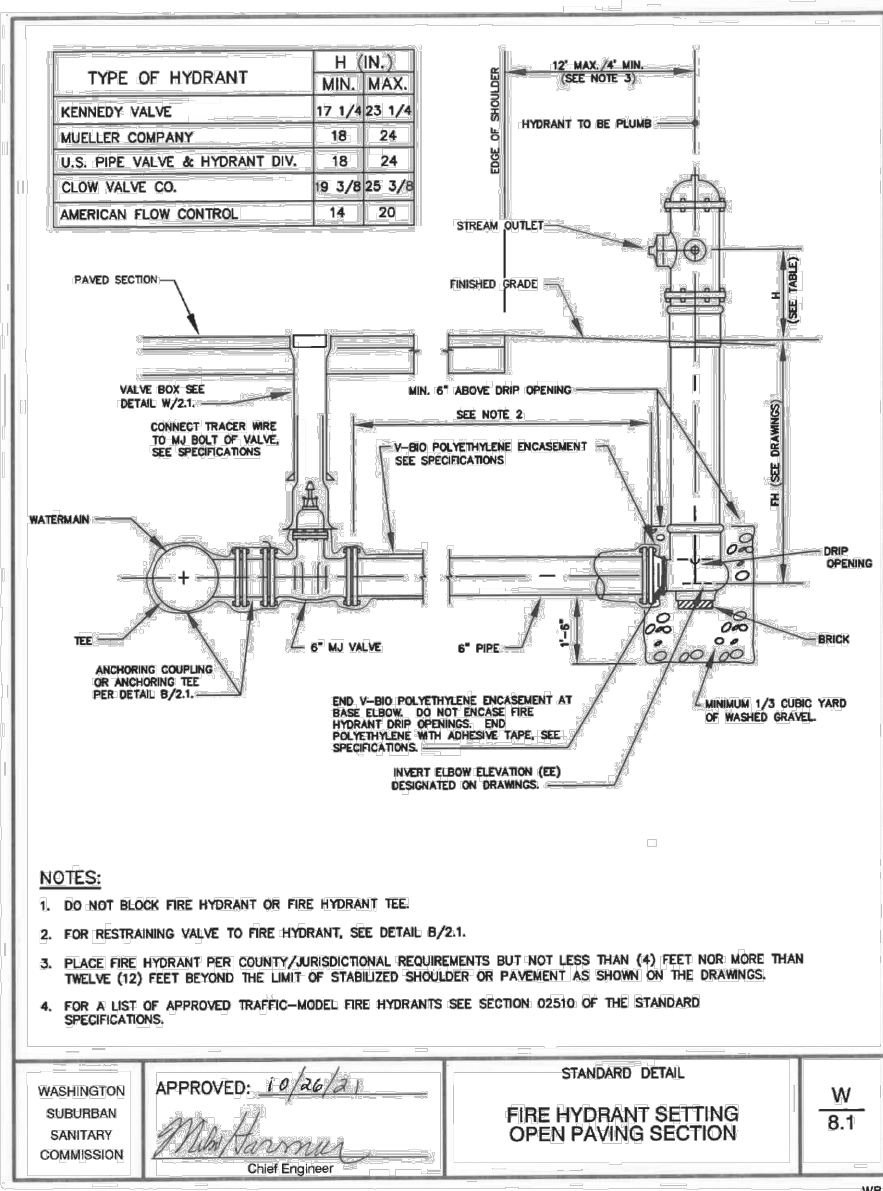
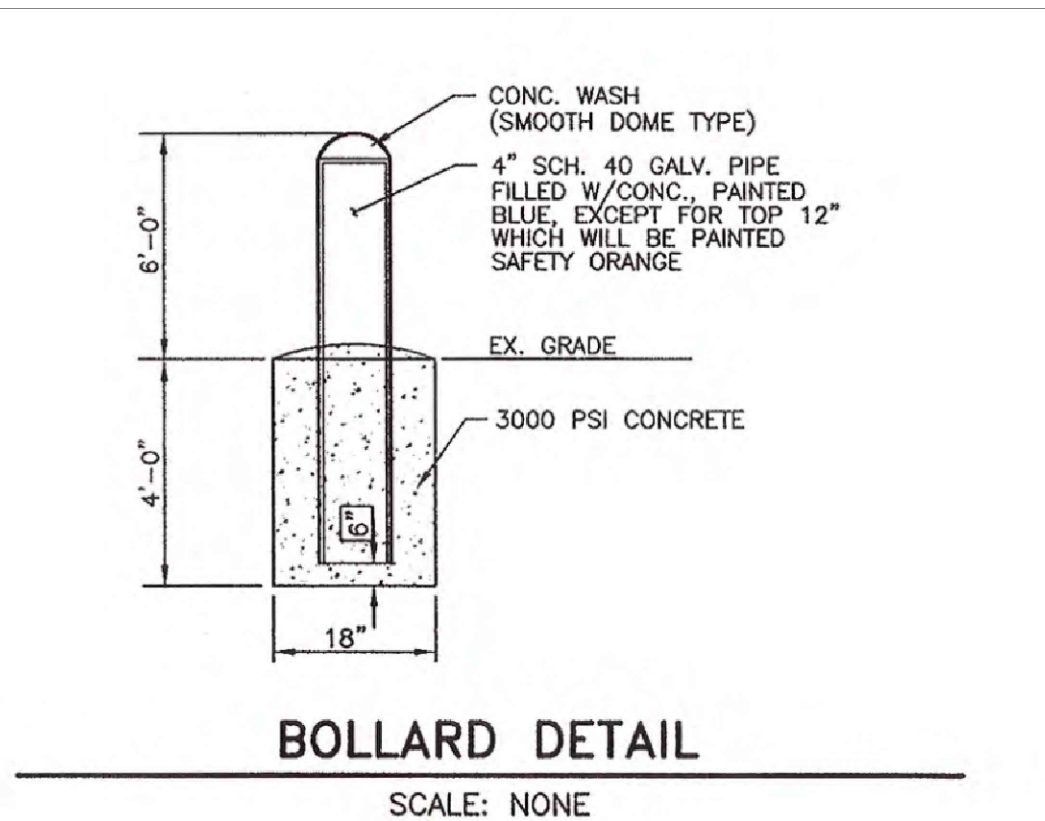
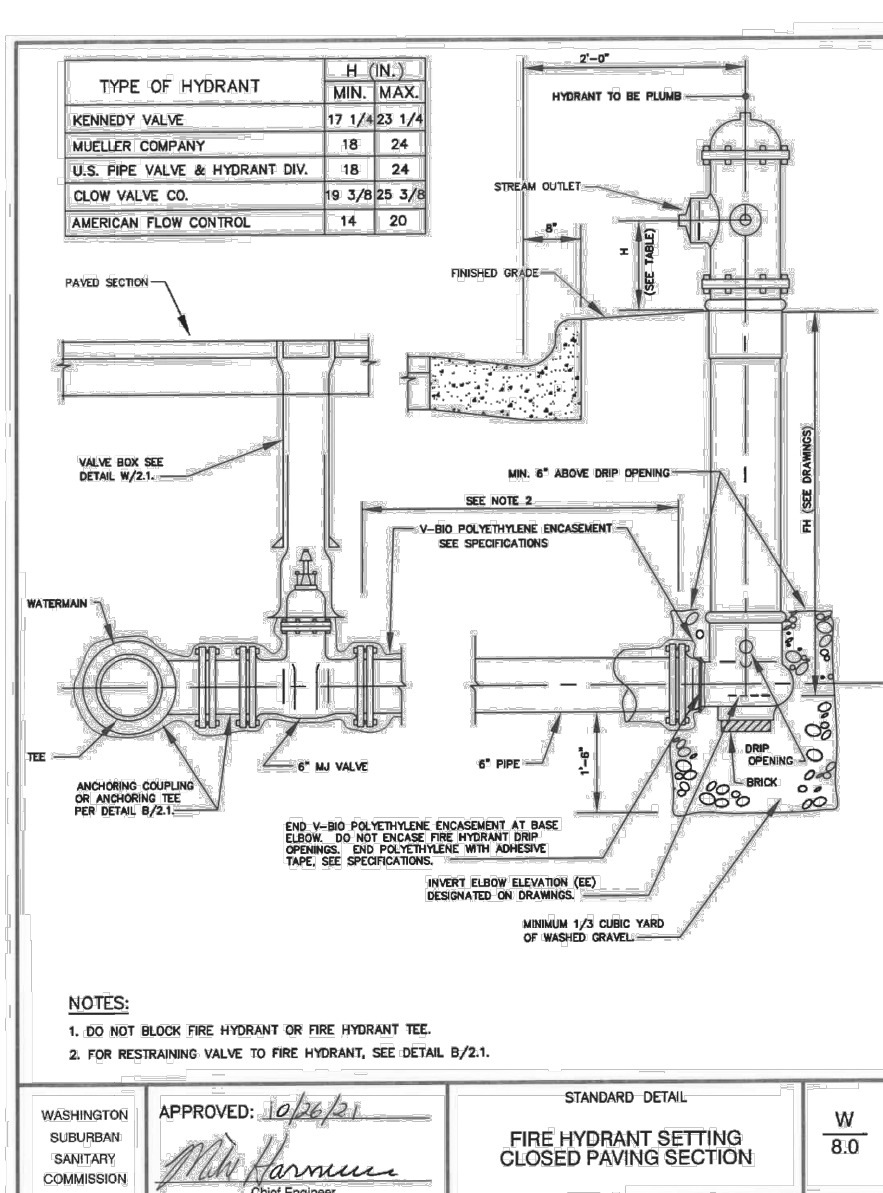
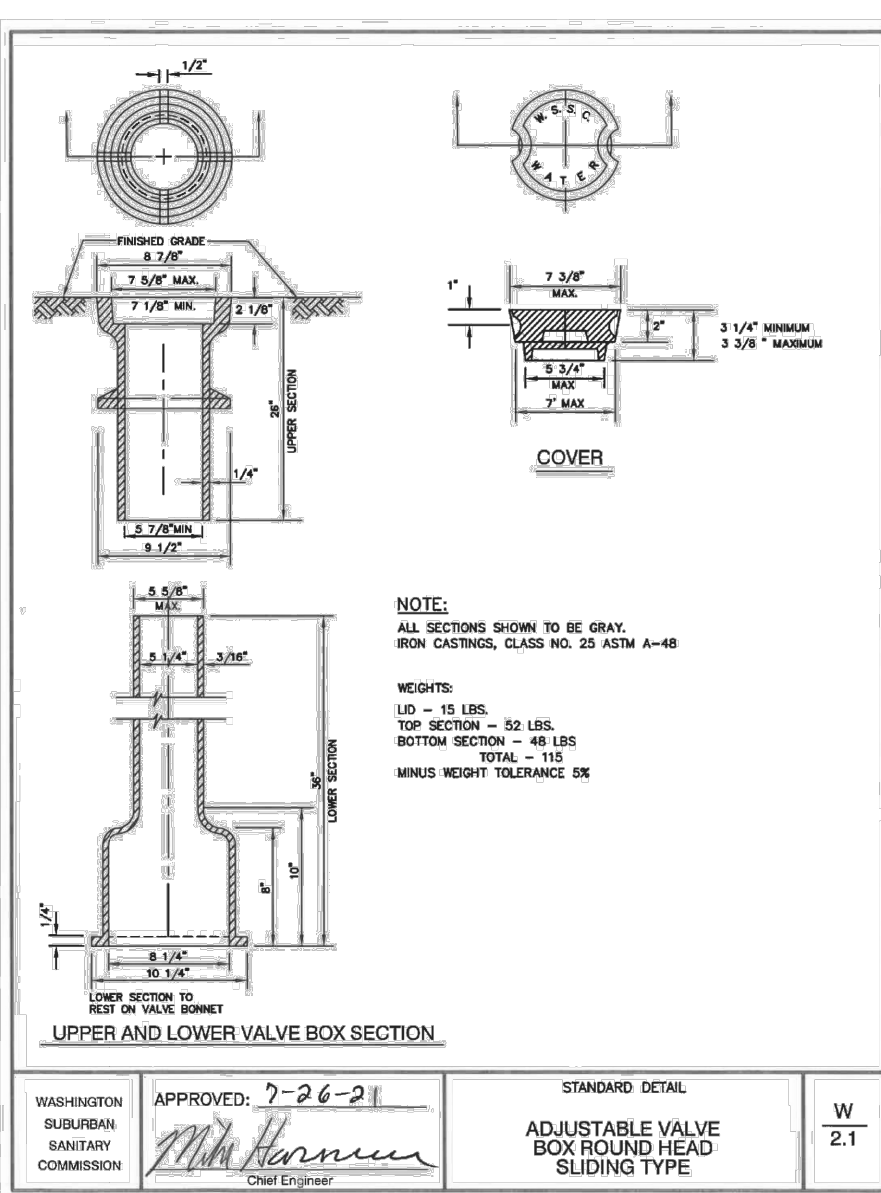
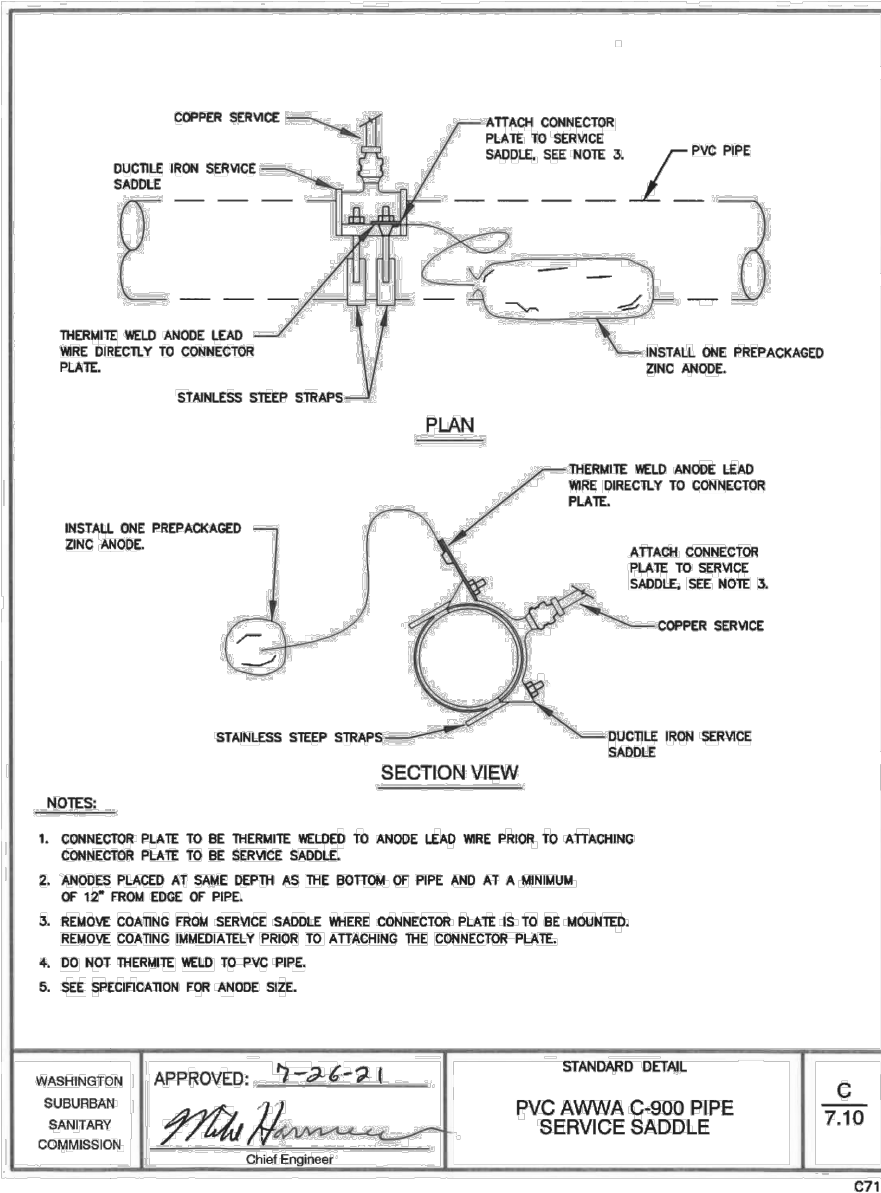
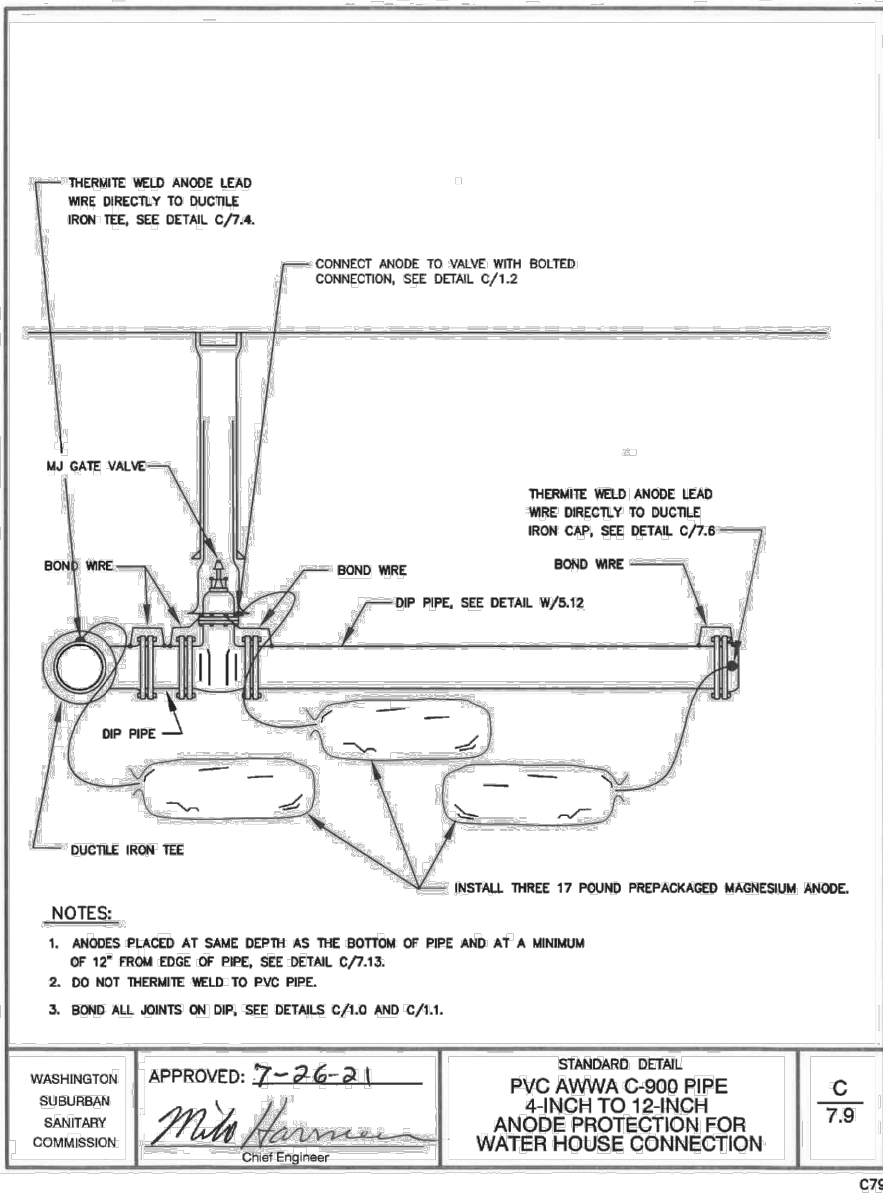
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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER RELOCATION PLAN

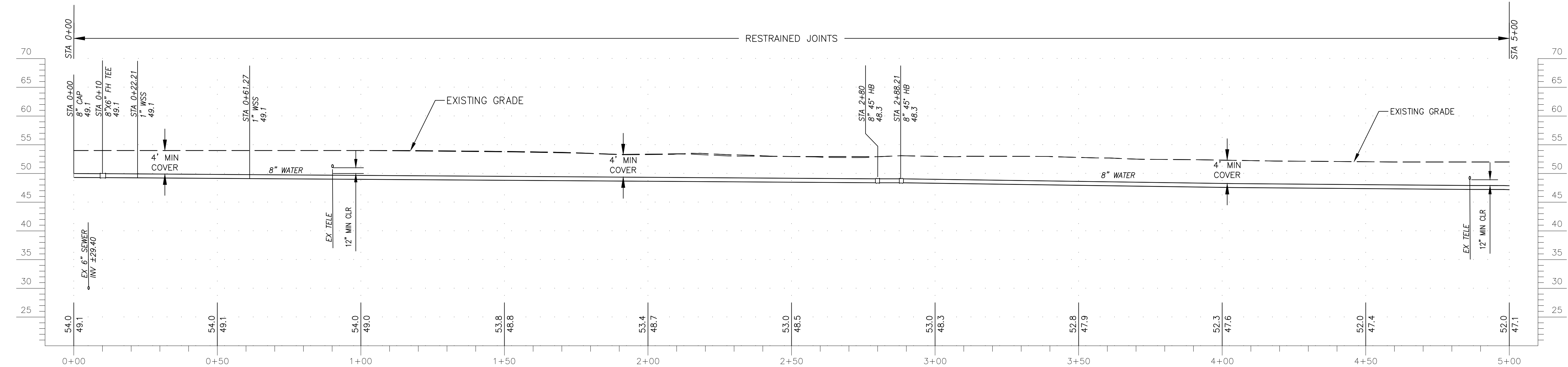
C-19

NO 22
OF 62



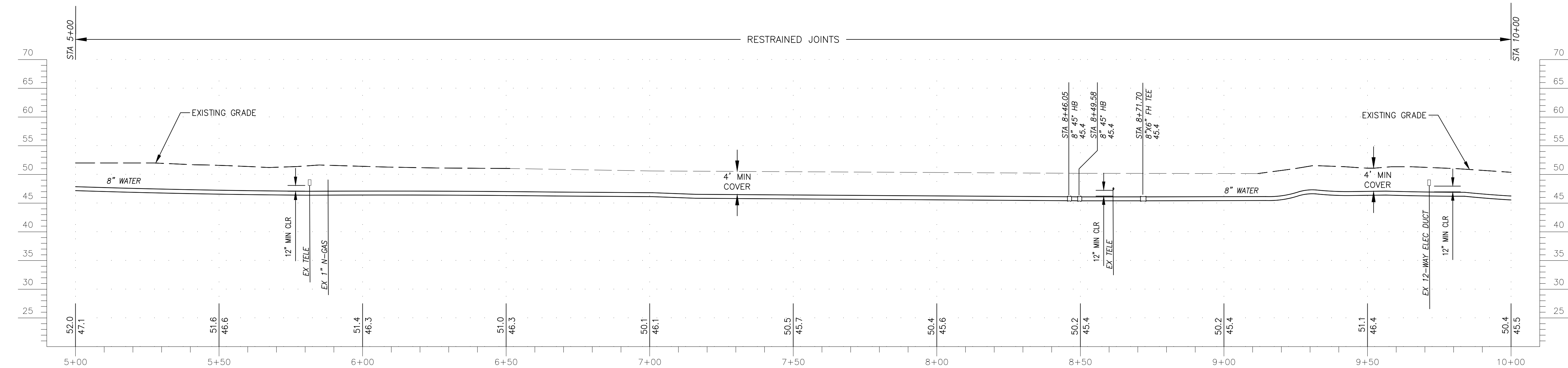
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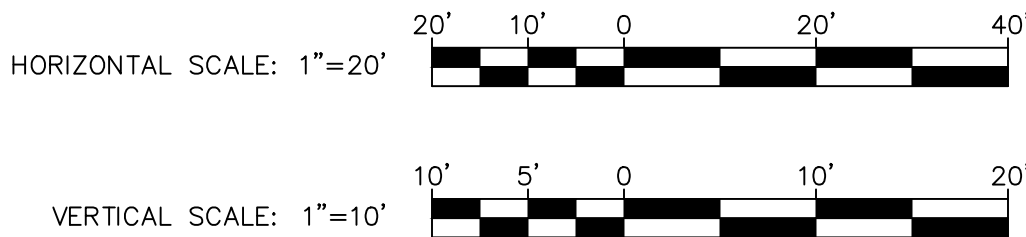
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ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)

PROFILE: PROP 8-INCH WATER (EULER AVE)
SEE SHEET C-02 & C-03 FOR PLAN

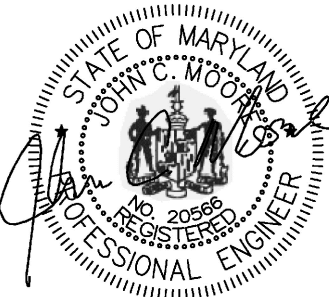


ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)

PROFILE: PROP 8-INCH WATER (EULER AVE & DON'S ST)
SEE SHEET C-03 & C-04 FOR PLAN



DESIGN:	PPM	10/07/2024
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CHECKED:	JCM	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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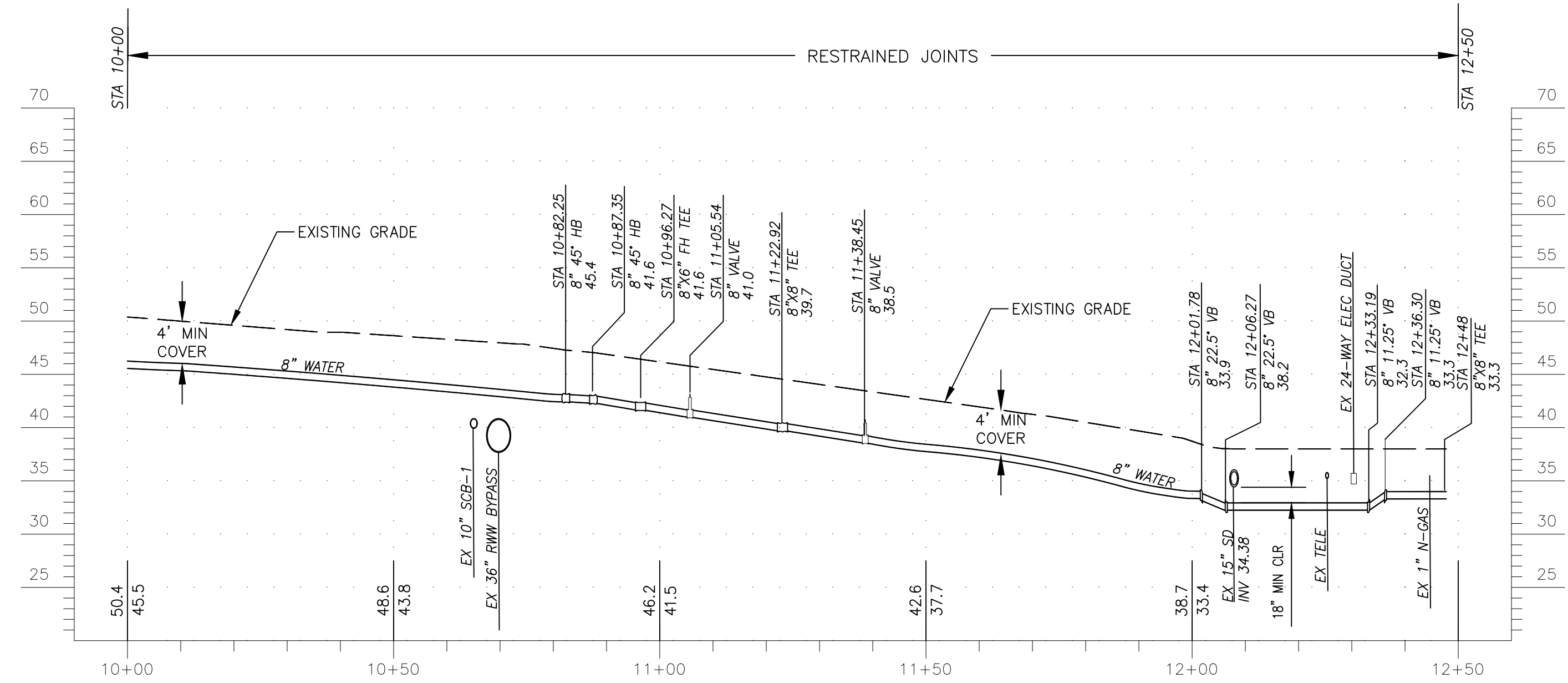
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER MAIN PROFILES

C-22

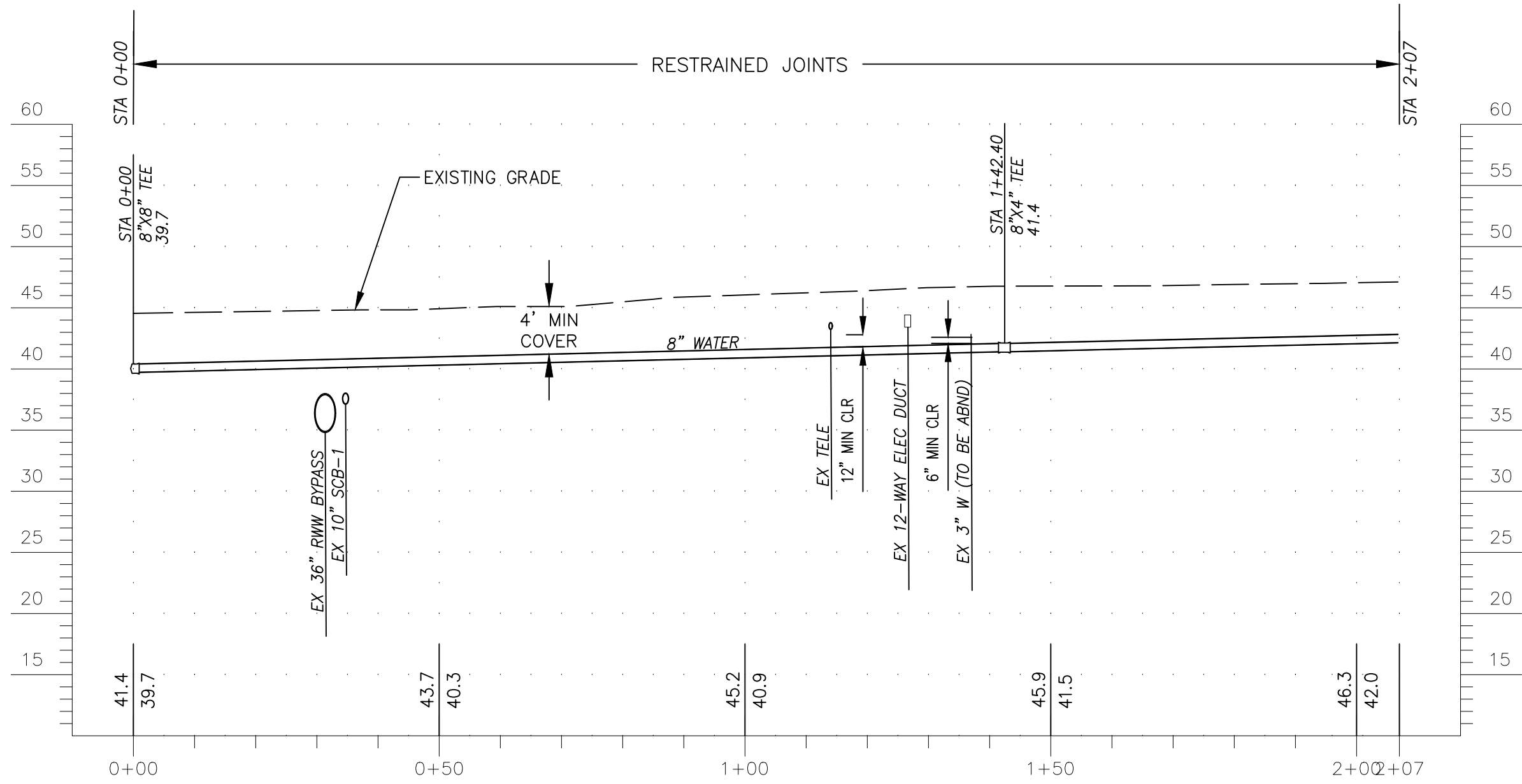
NO 25
OF 62

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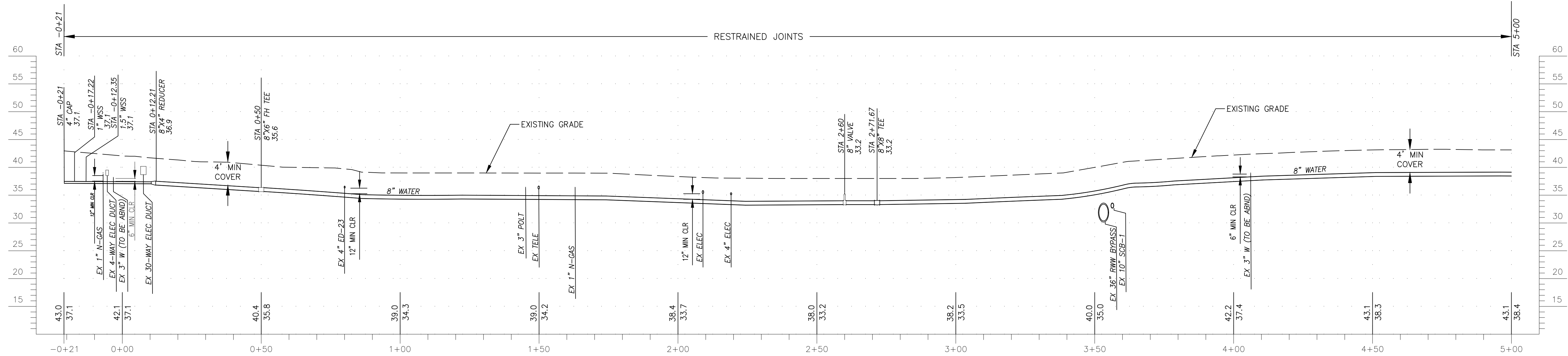


ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)

PROFILE: PROP 8-INCH WATER (DON'S ST)
SEE SHEET C-04 & C-07 FOR PLAN

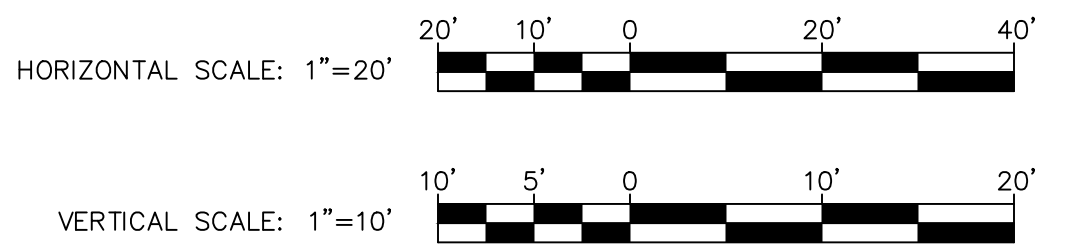


PROFILE: PROP 8-INCH WATER (FROM DON'S ST TO THE WELL HOUSE)
SEE SHEET C-07 FOR PLAN

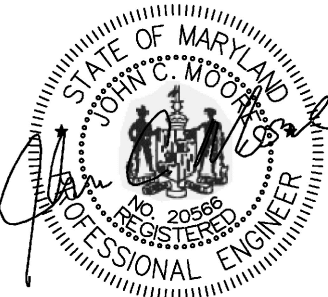


ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)

PROFILE: PROP 8-INCH WATER (OTIS AVE)
SEE SHEET C-04 & C-07 FOR PLAN



DESIGN:	PPM	10/07/2024
DRAWN:	KMR	12/19/2025
CHECKED:	JCM	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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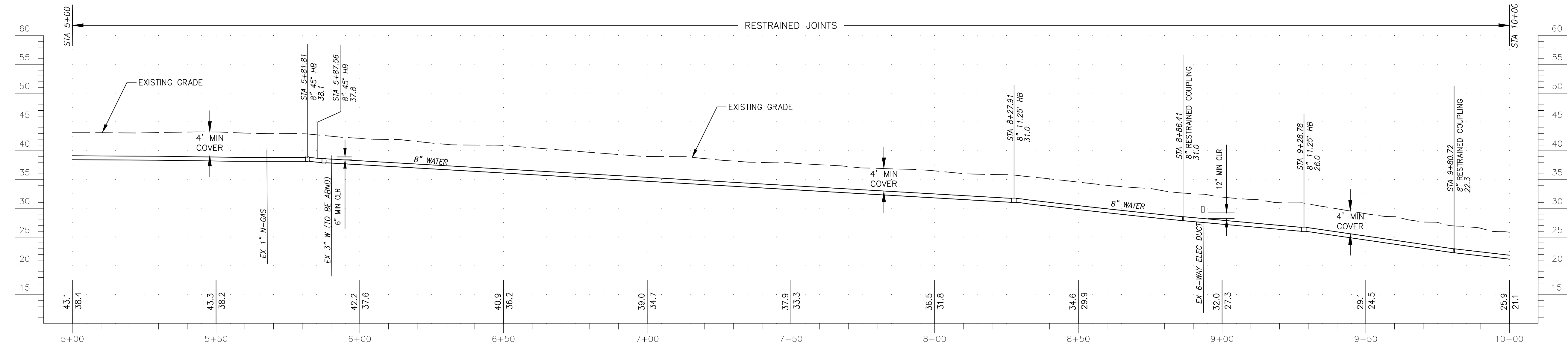
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER MAIN PROFILES

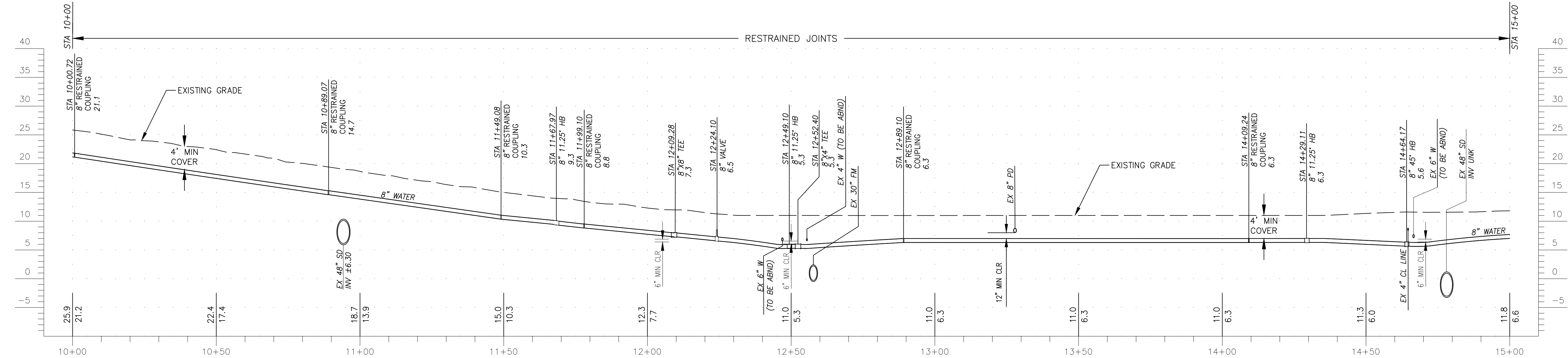
C-23

NO 26
OF 62

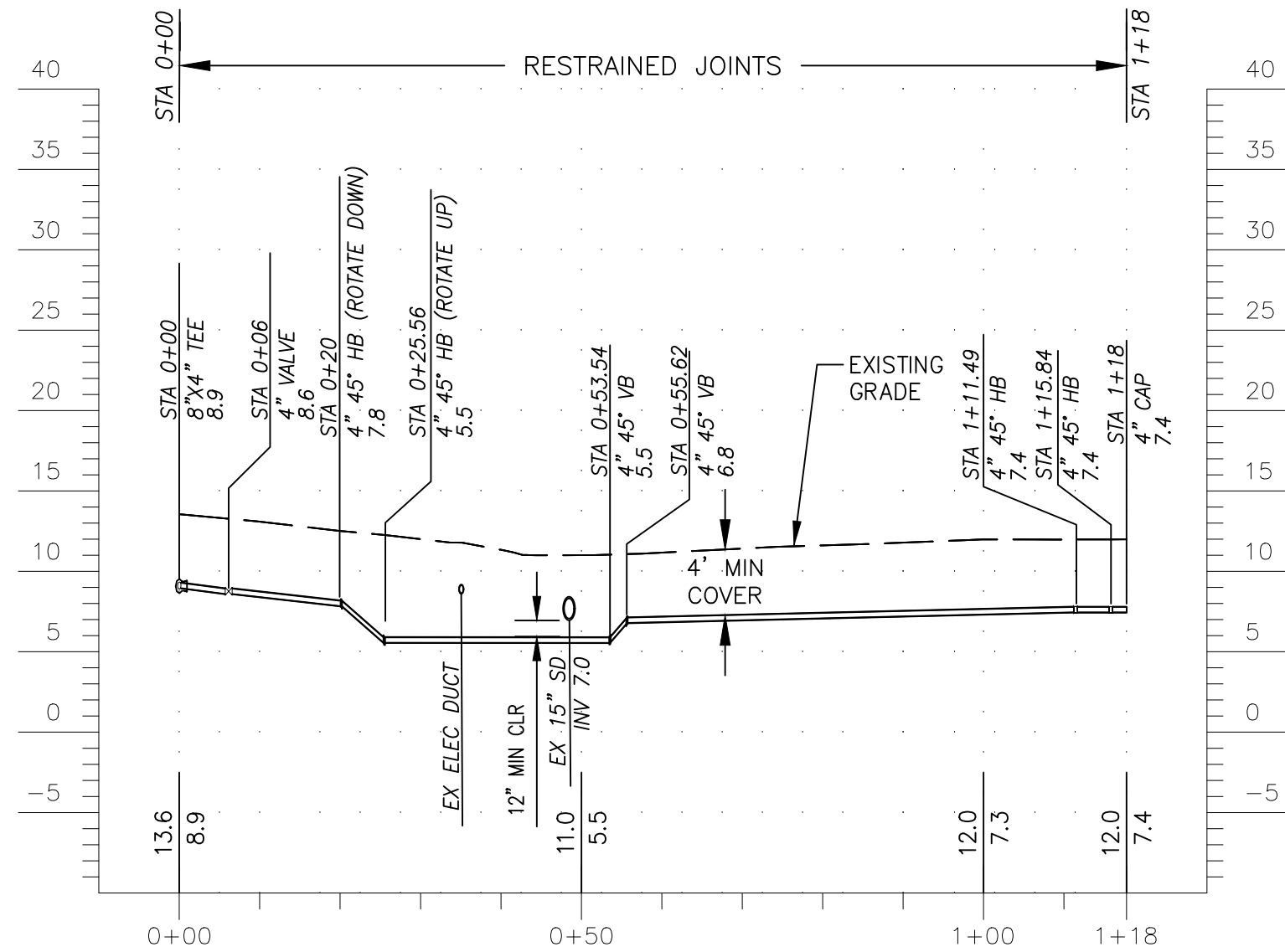
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ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)
PROFILE: PROP 8-INCH WATER (WSSC TREATMENT PLANT ROAD)
SEE SHEET C-07 & C-10 FOR PLAN

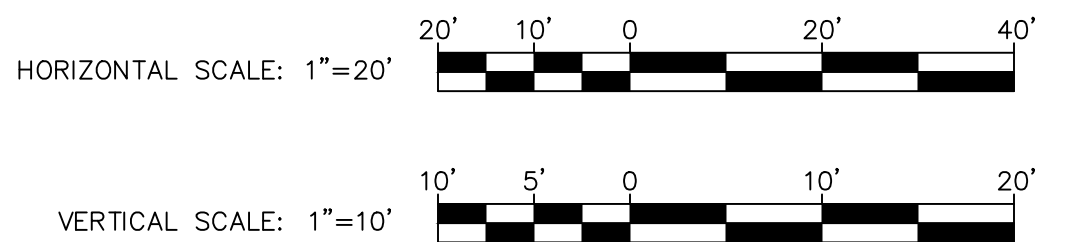


ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)
PROFILE: PROP 8-INCH WATER (WSSC TREATMENT PLANT ROAD)
SEE SHEET C-10 & C-13 FOR PLAN

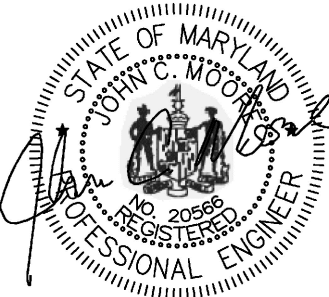


PROFILE: PROP 4-INCH WATER (PICKLE'S WAY)
SEE SHEET C-16 FOR PLAN

ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)



DESIGN:	PPM	10/07/2024
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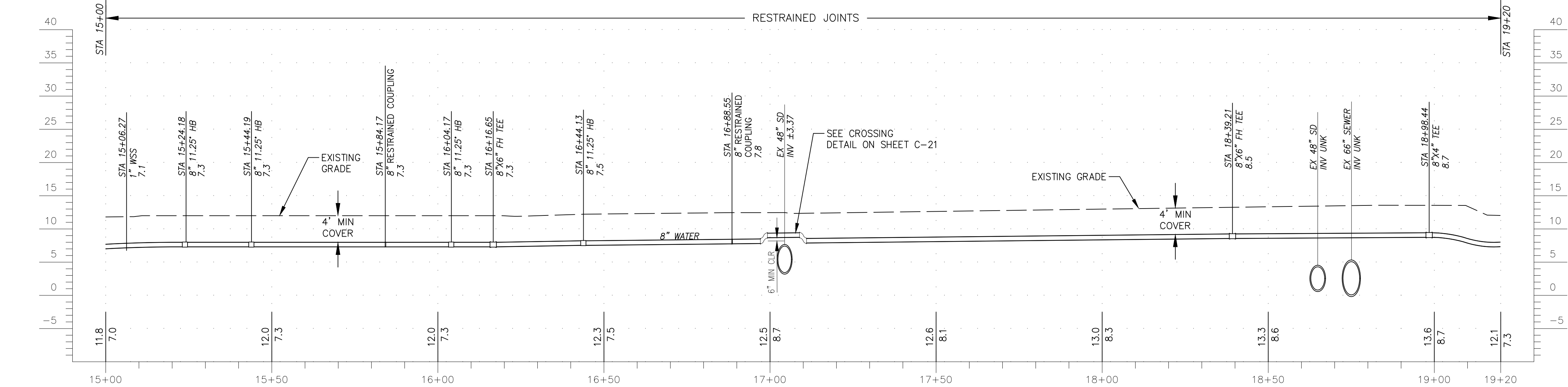
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER MAIN PROFILES

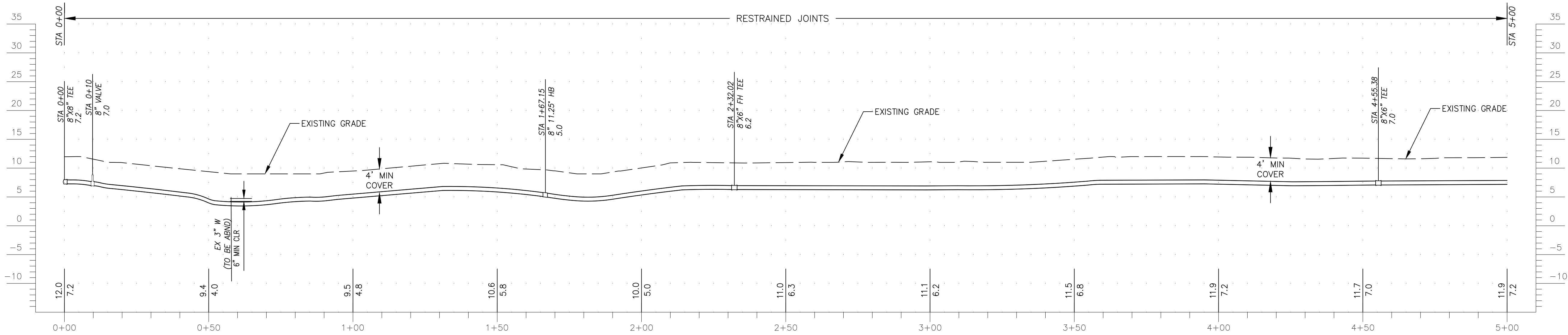
C-24

NO 27
OF 62

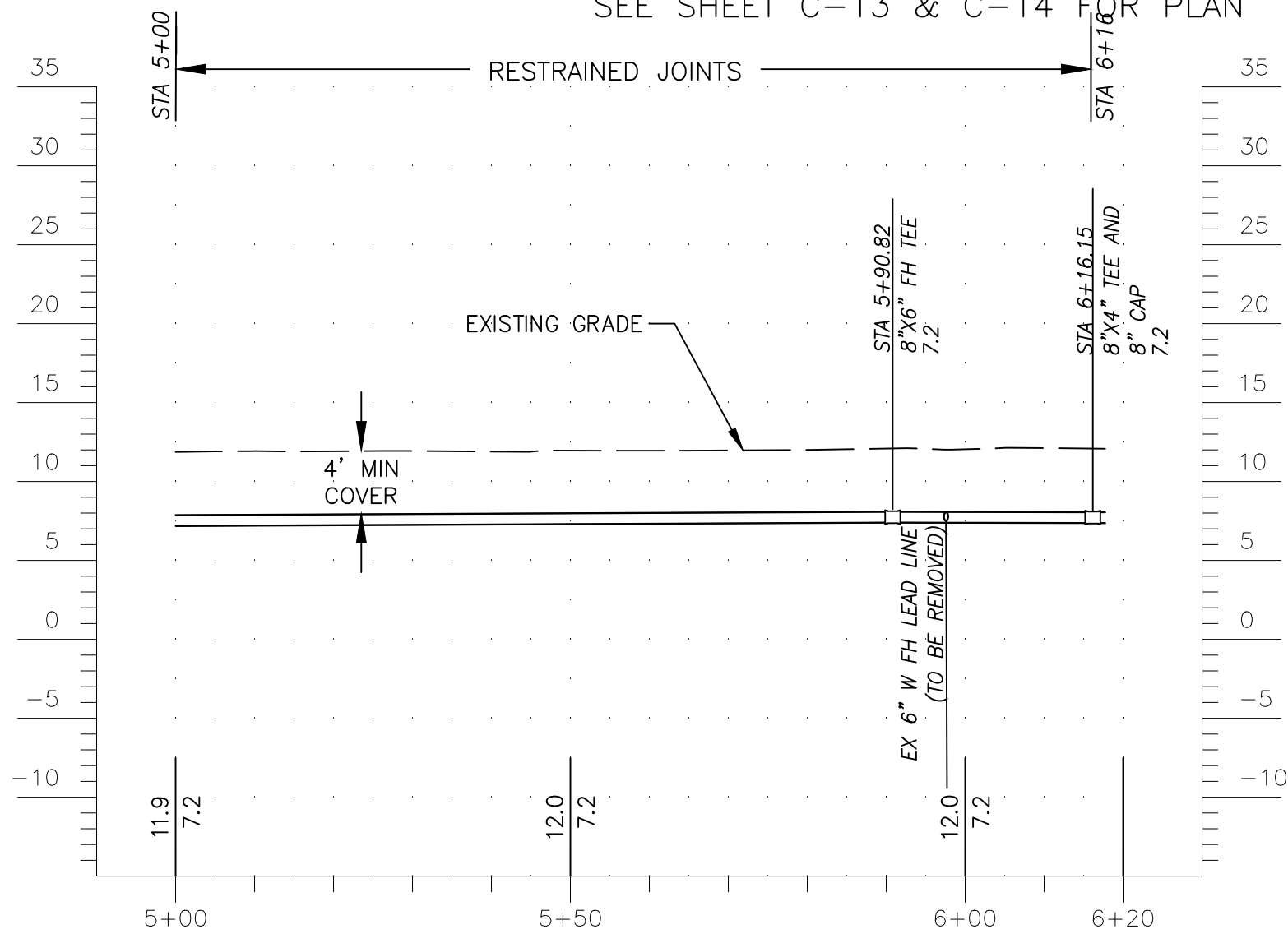
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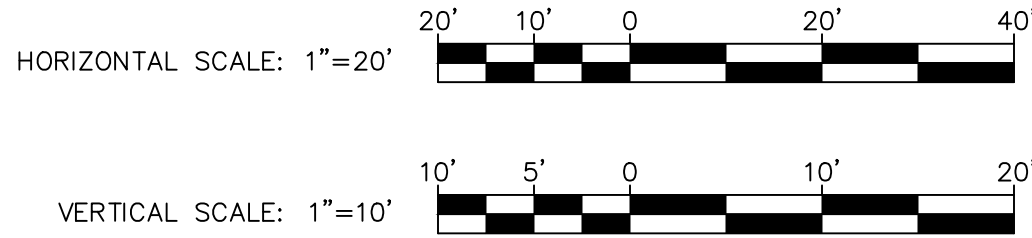
ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)
PROFILE: PROP 8-INCH WATER (WSSC TREATMENT PLANT ROAD)
SEE SHEET C-16 & C-17 FOR PLAN



ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)
PROFILE: PROP 8-INCH WATER (TO MAINTENANCE BUILDING)
SEE SHEET C-13 & C-14 FOR PLAN



ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)
PROFILE: PROP 8-INCH WATER (TO MAINTENANCE BUILDING)
SEE SHEET C-13 & C-14 FOR PLAN



PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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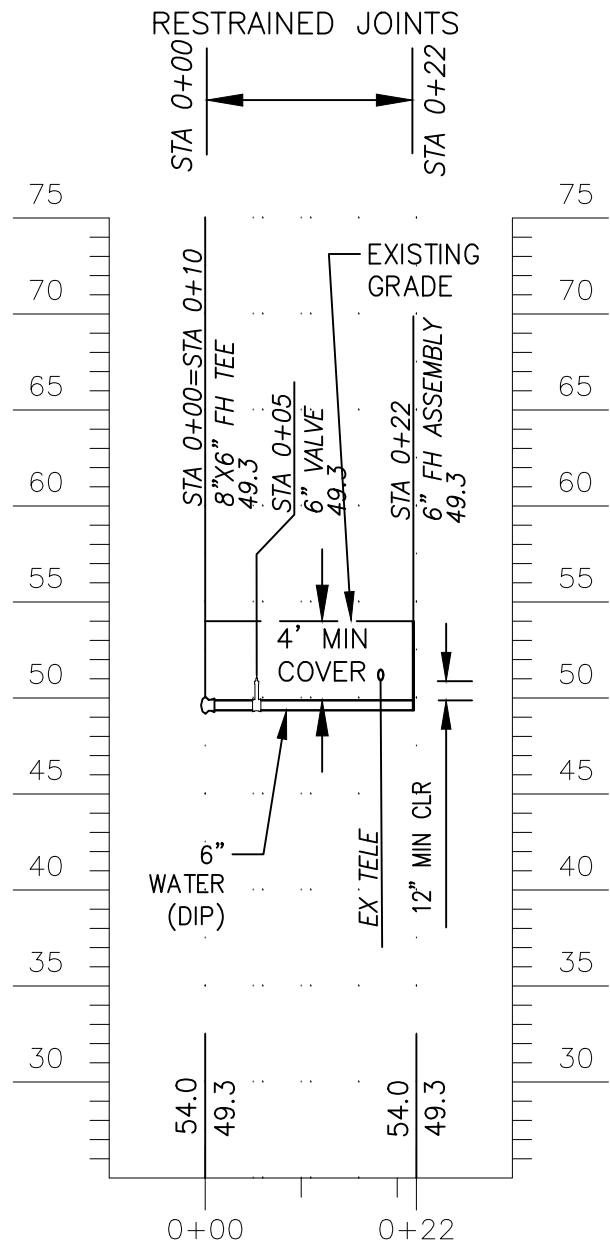
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER MAIN PROFILES

C-25

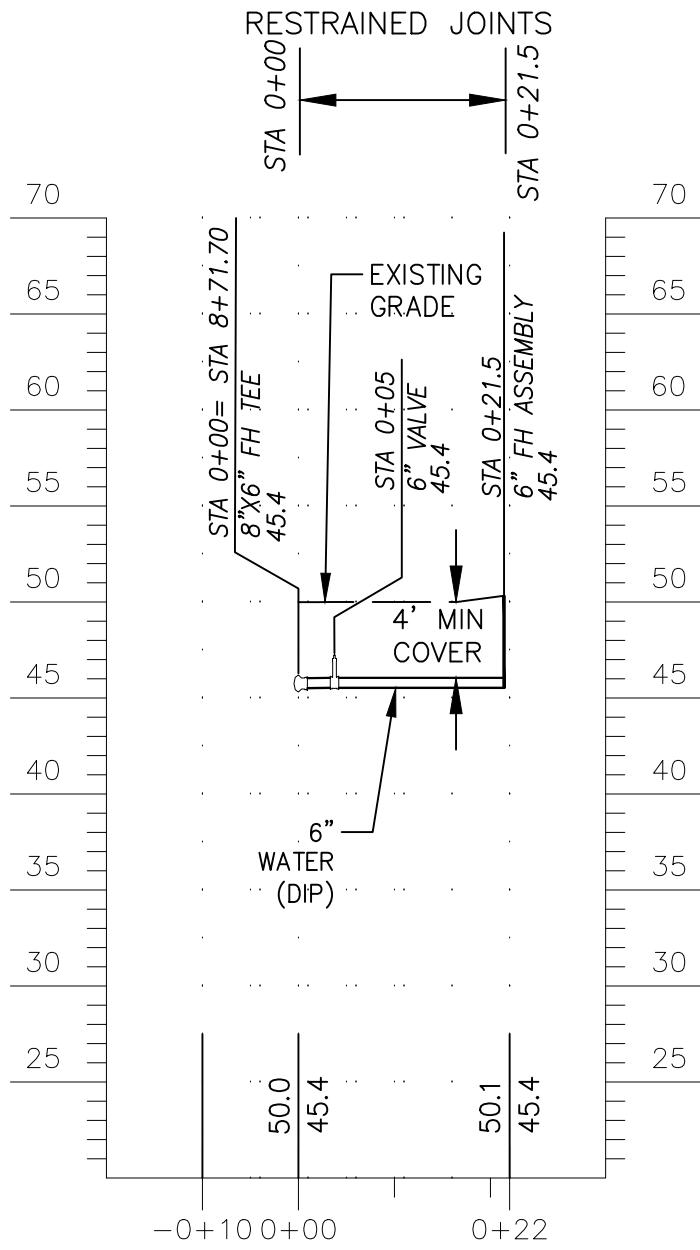
NO 28
OF 62

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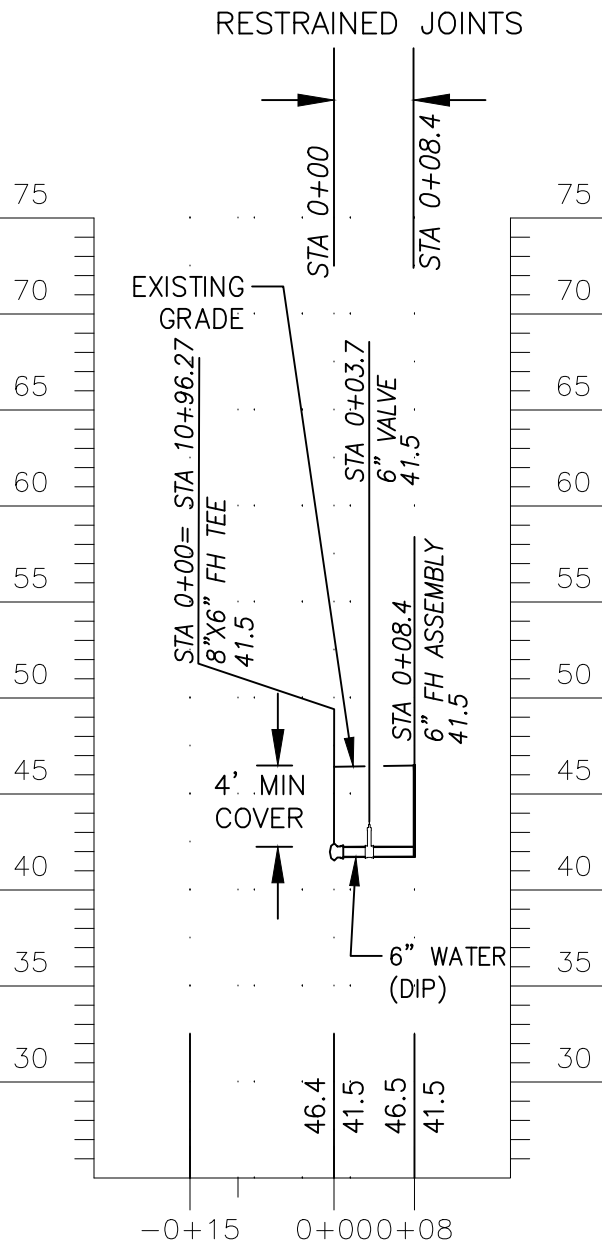


PROFILE: PROP FH @ STA 0+10
(EULER AVE)
SEE SHEET C-03 FOR PLAN

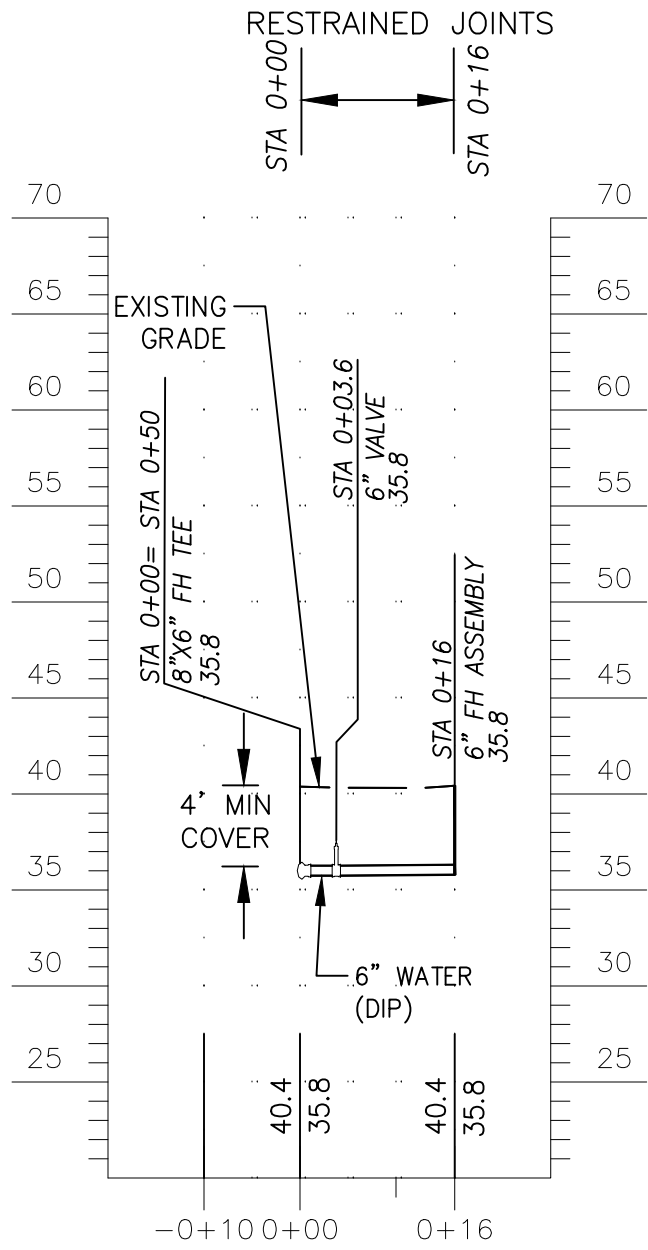
ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)



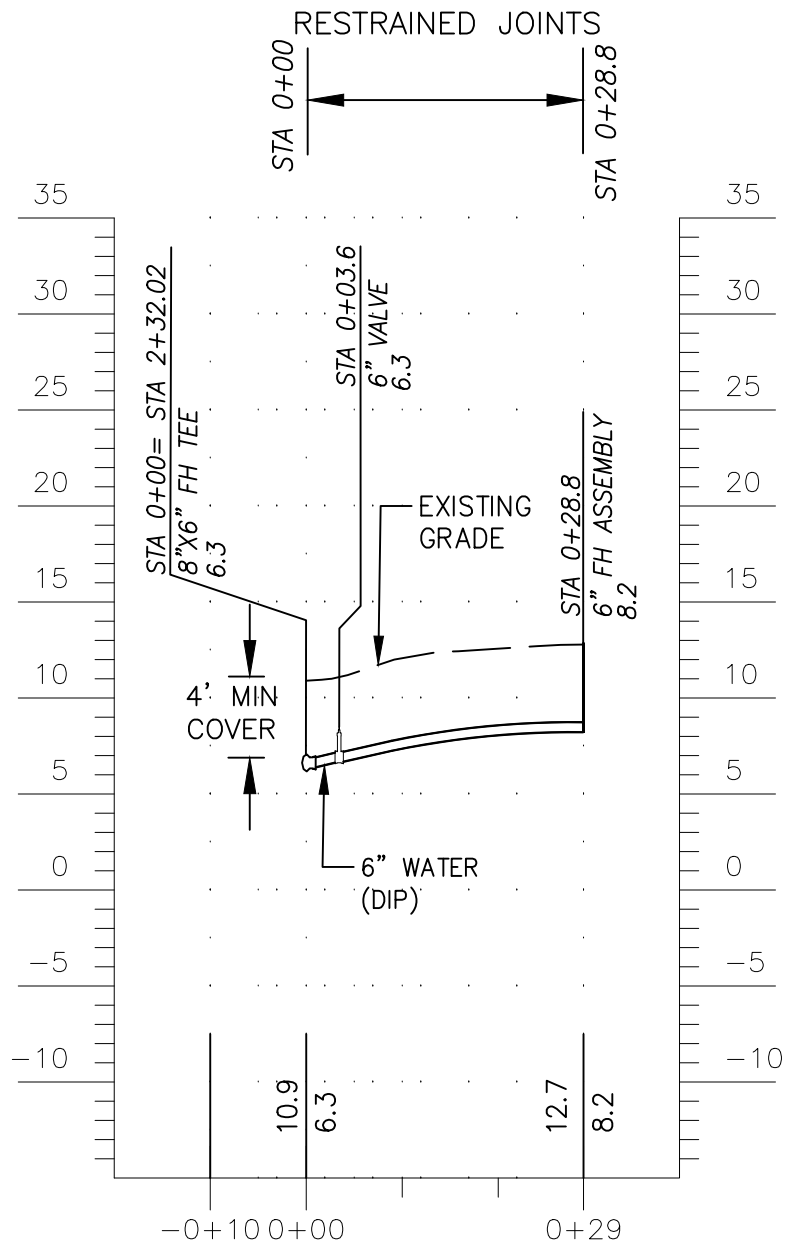
PROFILE: PROP FH @ STA 8+71.70
(DON STREET)
SEE SHEET C-04 FOR PLAN



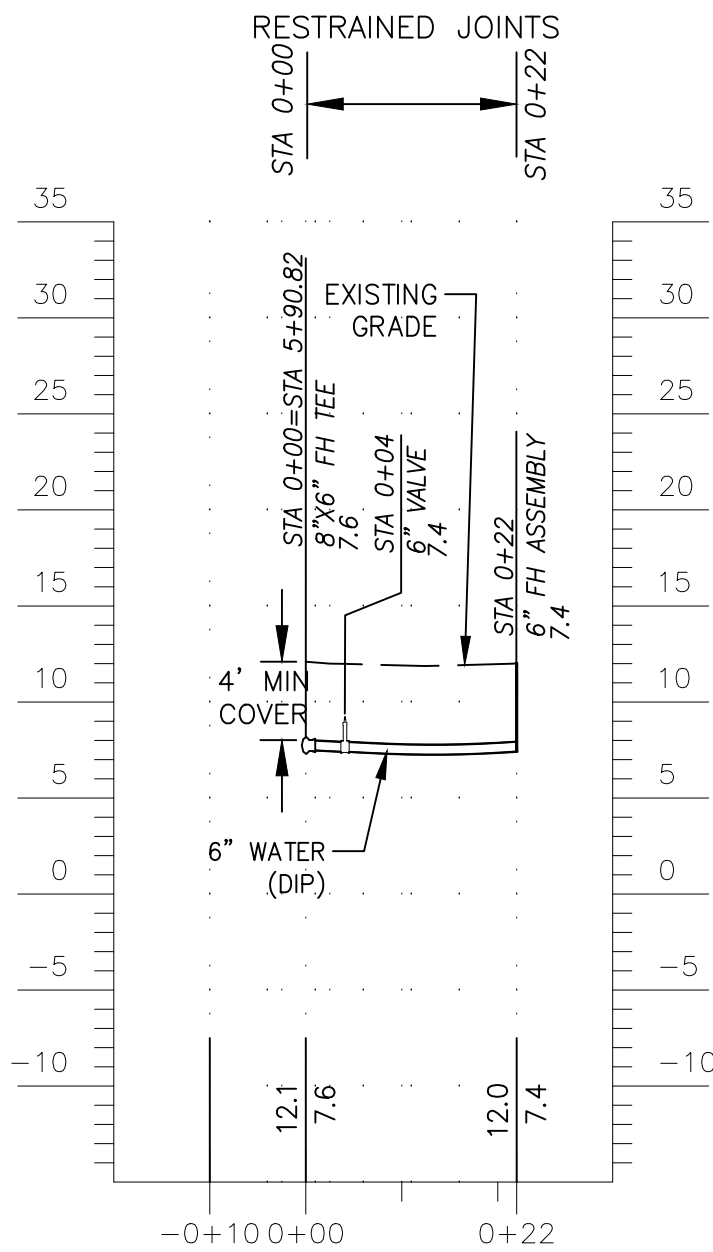
PROFILE: PROP FH @ STA 10+96.27
(DON STREET)
SEE SHEET C-07 FOR PLAN



PROFILE: PROP FH @ STA 0+50
(OTIS AVE)
SEE SHEET C-06 FOR PLAN

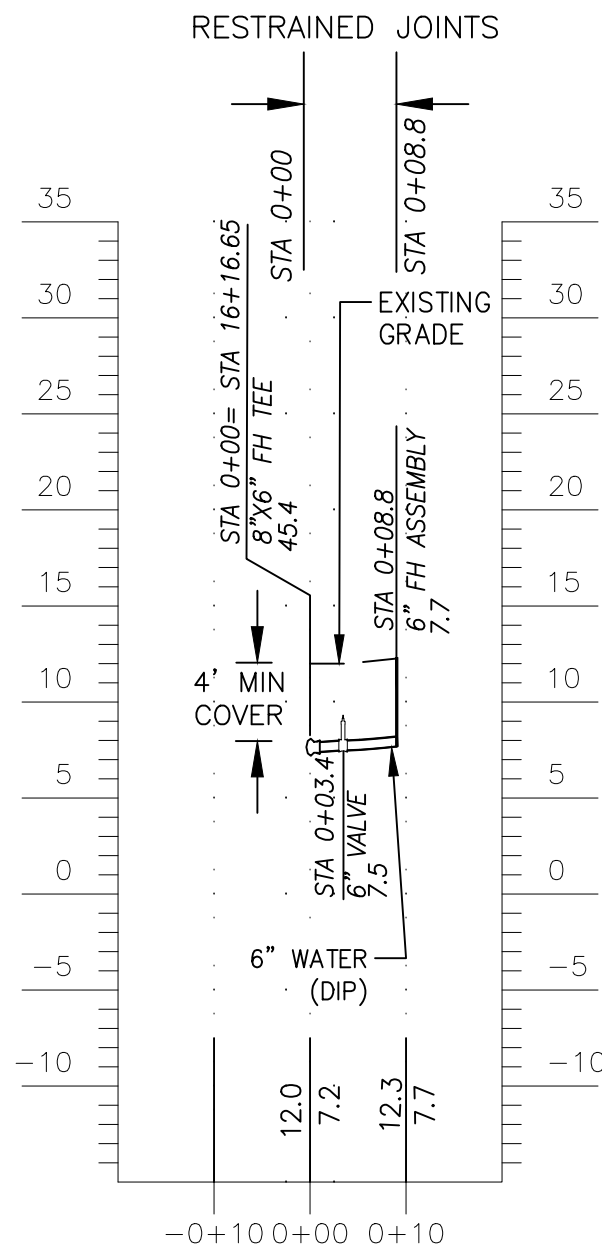


PROFILE: PROP FH @ STA 2+32.02
(TO MAINTENANCE BUILDING)
SEE SHEET C-13 FOR PLAN

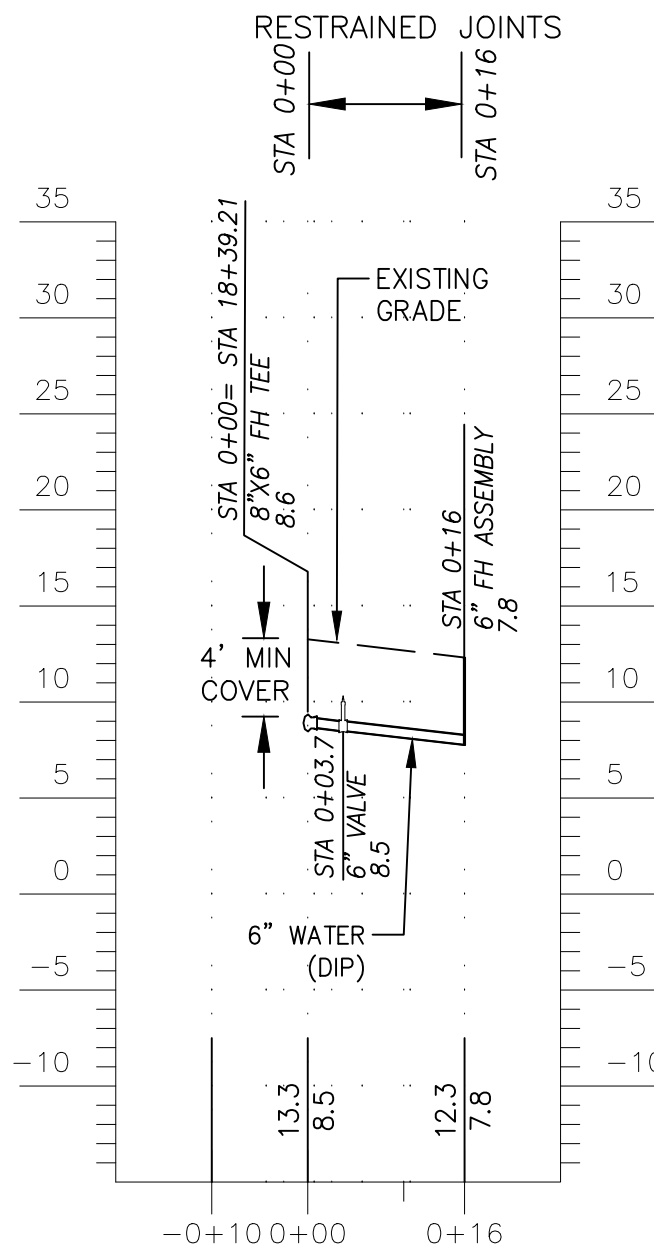


PROFILE: PROP FH @ STA 5+90.82
(TO MAINTENANCE BUILDING)
SEE SHEET C-14 FOR PLAN

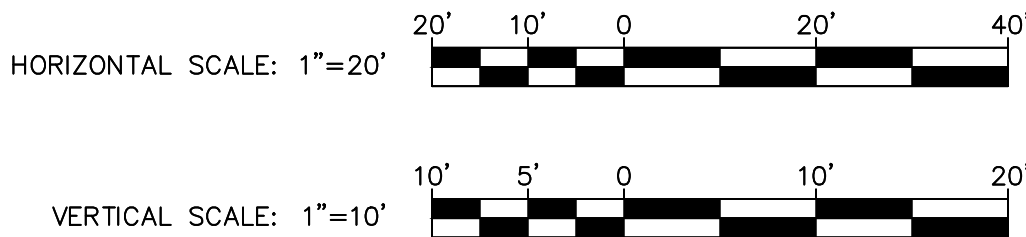
ELEVATION LEFT OF STATION=EXISTING GROUND
ELEVATION RIGHT OF STATION=BOTTOM OF PIPE (BOP)

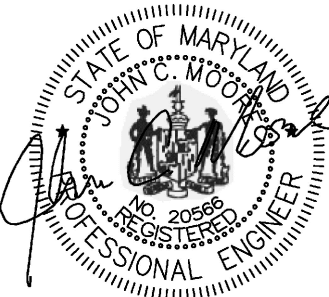


PROFILE: PROP FH @ STA 16+16.65
(WSSC TREATMENT PLANT RD)
SEE SHEET C-16 FOR PLAN



PROFILE: PROP FH @ STA 18+39.21
(WSSC TREATMENT PLANT RD)
SEE SHEET C-16 FOR PLAN



PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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. 			
DESIGN: PPM 10/07/2024		CONTRACT: #CD6915B20	
DRAWN: KMR 12/19/2025			
CHECKED: JCM 12/19/2025			
LICENSE NO.: 20566 EXPIRATION DATE: 09/06/2026			

WASHINGTON SUBURBAN SANITARY COMMISSION



THESE DOCUMENTS CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REDISTRIBUTED WITHOUT PRIOR WSSC APPROVAL



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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WATER MAIN PROFILES

C-26

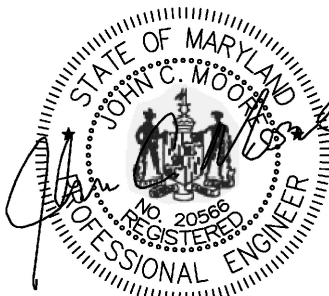
NO 29
OF 62

\\od-rk.com\ra\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\C-27_Fitting Schedule.dwg Jan 09, 2026 -- 10:50am Plot By: rdixon Tab: C-27

STAKE-OUT DATA				
LOCATION	STATION	ITEM DESCRIPTION	NORTHING	EASTING
EULER AVE	0+00	8" CAP	410,666.26	1,388,089.49
	0+10	8" X 6" FH TEE	410,659.69	1,388,097.40
	0+22.21	1" TAPPING SADDLE	410,652.26	1,388,104.82
	0+61.27	1" TAPPING SADDLE	410,624.18	1,388,132.91
	2+80	8" 45° HB	410,471.52	1,388,284.62
	2+88.21	8" 45° HB	410,459.16	1,388,284.56
	8+46.05	8" 45° HB	410,062.65	1,388,677.12
	8+49.58	8" 45° HB	410,062.61	1,388,680.66
DON'S ST	8+71.70	8" X 6" FH TEE	410,098.10	1,388,680.06
	10+82.25	8" 45° HB	410,226.46	1,388,845.54
	10+87.35	8" 45° HB	410,226.60	1,388,850.78
	10+96.27	8" X 6" FH TEE	410,232.85	1,388,857.30
	11+05.64	8" VALVE	410,240.71	1,388,862.60
	11+22.92 = 0+00	8" X 8" TEE	410,251.20	1,388,876.29
OTIS AVE	11+38.45	8" VALVE	410,263.69	1,388,887.52
	-0+21	4" CAP	410,546.97	1,388,762.78
	-0+17.22	1" TAPPING SADDLE	410,544.29	1,388,765.45
	-0+13.08	1" TAPPING SADDLE	410,541.71	1,388,763.15
	0+12.21	8" X 4" REDUCER	410,521.32	1,388,782.96
	0+50	8" X 6" FH TEE	410,496.20	1,388,812.42
	2+60	8" VALVE	410,346.07	1,388,959.25
	2+71.67 = 12+48	8" X 8" TEE	410,337.69	1,388,967.38
	5+81.81	8" 45° HB	410,115.92	1,389,184.18
	5+87.56	8" 45° HB	410,115.89	1,389,189.93
WSSC TREATMENT PLANT ROAD	8+27.91	8" 11.25° BEND	410,284.36	1,389,361.35
	8+86.41	8" 3.00' RESTRAINED COUPLING	410,332.71	1,389,394.27
	9+28.78	8" 11.25° HB	410,369.68	1,389,414.98
	9+80.72	8" 3.00' RESTRAINED COUPLING	410,419.08	1,389,431.04
	10+00.72	8" 3.00' RESTRAINED COUPLING	410,438.56	1,389,435.54
	10+89.07	8" 2.62' RESTRAINED COUPLING	410,526.09	1,389,447.56
	11+49.07	8" 2.00' RESTRAINED COUPLING	410,585.11	1,389,458.42
	11+64.09	8" X 4" TEE	410,599.97	1,389,460.65
	0+09.03	4" 22.5° HB	410,601.29	1,389,451.71
	0+39.17	4" VALVE	410,617.65	1,389,426.42
	0+87	4" 45° HB	410,644.22	1,389,386.65
	0+97.5	4" 45° HB	410,654.60	1,389,385.12
	11+67.97	8" 11.25° HB	410,603.79	1,389,461.19
	11+99.10	8" 3.00' RESTRAINED COUPLING	410,633.45	1,389,470.65
	12+09.28	8" X 8" TEE	410,643.00	1,389,474.28
	12+24.10	8" VALVE	410,657.37	1,389,477.63
	12+49.10	8" 11.25° HB	410,680.23	1,389,488.31
	12+89.10	8" 3.00' RESTRAINED COUPLING	410,714.18	1,389,509.47
	14+09.24	8" 2.00' RESTRAINED COUPLING	410,812.57	1,389,578.20
	14+29.11	8" 11.25° HB	410,829.36	1,389,589.07
	14+64.17	8" 45° HB	410,853.18	1,389,614.78

FITTING SCHEDULE				
LOCATION	STATION	ITEM DESCRIPTION	NORTHING	EASTING
WSSC TREATMENT PLANT ROAD	15+06.27	8" X 8" TEE	410,895.25	1,389,616.41
	15+24.18	8" 11.25° HB	410,913.13	1,389,617.06
	15+44.19	8" 11.25° HB	410,932.88	1,389,613.91
	15+84.17	8" 3.00' RESTRAINED COUPLING	410,970.39	1,389,600.02
	16+04.17	8" 11.25° HB	410,989.55	1,389,594.05
	16+16.65	8" X 6" FH TEE	411,007.23	1,389,600.43
	16+44.13	8" 11.25° HB	411,024.60	1,389,574.99
	16+88.55	8" 3.00' RESTRAINED COUPLING	411,058.70	1,389,546.53
	18+39.21	8" X 6" FH TEE	411,165.58	1,389,440.34
	18+98.44 = 0+00	8" X 4" TEE	411,207.60	1,389,398.59
	19+20	8" CAP	411,222.91	1,389,383.52
PATH TOWARDS FILTER BUILDING	0+06	4" VALVE	411,204.34	1,389,393.23
	0+20	4" 45° HB	411,193.04	1,389,384.86
	0+25.56	4" 45° HB	411,187.49	1,389,385.02
	1+11.49	4" 45° HB	411,127.51	1,389,323.49
	1+15.84	4" 45° HB	411,127.53	1,389,319.16
PATH TOWARDS MAINTENANCE BUILDING	1+18	4" CAP	411,128.88	1,389,317.81
	0+10	8" VALVE	410,637.69	1,389,482.94
	1+67.15	8" 11.25° HB	410,583.95	1,389,630.62
	2+32.02	8" X 6" FH TEE	410,547.27	1,389,684.30
	4+55.38	8" X 6" TEE	410,421.35	1,389,868.62
	5+90.82	8" X 6" FH TEE	410,326.05	1,389,964.50
	6+16.15	8" X 4" TEE	410,330.67	1,390,001.37
	6+16	8" CAP	410,329.77	1,390,002.69

DESIGN:		10/07/2024
DRAWN:		12/19/2025
CHECKED:	JCM	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
<p>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.</p> <p>LICENSE NO.: 20566 EXPIRATION DATE: <u>09/06/2026</u></p>				
		CONTRACT: #CD6915B20		
STAKE-OUT DATA	C-27		NO	30
			OF	62

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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

STAKE-OUT DATA

C-27

NO 30
OF 62

DETAIL H-6

ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL

CWS

10 FT TYP.

SANDBAG

IMPERMEABLE SHEETING

A

SECTION A-A

3 FT TYP.

SANDBAG OR EQUIVALENT

IMPERMEABLE SHEETING

1:1 OR FLATTER SIDE SLOPE

SECTION A-A

10 FT TYP.

10 FT TYP.

PLAN

EXCAVATED WASHOUT STRUCTURE

10 FT TYP.

10 FT TYP.

B

IMPERMEABLE SHEETING

WOOD FRAME SECURELY FASTENED AROUND ENTIRE PERIMETER WITH TWO STAKES

3 FT TYP.

STAKE (TYP.)

10 FT TYP.

WOOD FRAME

IMPERMEABLE SHEETING

PLAN

SECTION B-B

WASHOUT STRUCTURE WITH WOOD PLANKS

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

DETAIL H-6

ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL

CWS

10 FT TYP.

STAKE (TYP.)

2 IN.

1/8 IN DIA. STEEL WIRE

4 IN.

STAPLE DETAIL

10 FT TYP.

B

IMPERMEABLE SHEETING

STRAW BALES (TYP.)

3 FT TYP.

STAPLES (2 PER BALES)

BINDING WIRE

WOOD OR METAL STAKES (2 PER BALES)

PLAN

SECTION B-B

NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.

2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.

3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.

4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.

5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

EROSION AND SEDIMENT CONTROL GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY MDE AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY MDE, SHALL BE REQUIRED TO HOLD A PRECONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF MDE.

2. THE CONTRACTOR SHALL NOTIFY MDE IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:

A. THE REQUIRED PRE-CONSTRUCTION MEETING.

B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.

C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.

D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).

E. PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.

F. PRIOR TO FINAL ACCEPTANCE.

3. THE PLAN APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE AND THE AGENCY RESPONSIBLE FOR THE PROJECT.

4. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE MDE INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE MDE INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM MDE INSPECTOR. THE CONTRACTOR SHALL OBTAIN PRIOR AGENCY AND MDE APPROVAL FOR MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.

5. THE MDE INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.

6. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.

7. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE MDE INSPECTOR.

8. EROSION AND SEDIMENT CONTROL FOR UTILITY CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH APPROVED PLANS. UTILITY CONSTRUCTION SHALL ONLY BE FOR AREAS WITHIN THE DELINEATED LIMIT OF DISTURBANCE. CALL "MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK. WHEN SAME DAY STABILIZATION IS APPROVED:

A. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.

B. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY.

9. ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH AN MDE APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE.

10. CONCRETE WASHOUT STRUCTURES SHALL BE USED WHEN CONCRETE TRUCKS, DRUMS, PUMPS, CHUTES, OR OTHER EQUIPMENT IS RINSED OR CLEANED ON-SITE.

11. CONSTRUCTION ACTIVITIES PRODUCING DUST SHALL IMPLEMENT CONTROL MEASURES TO AVOID THE SUSPENSION OF DUST PARTICLES AND/OR PREVENT DUST FROM BLOWING OFF-SITE OR TO AREAS WITHOUT TREATMENT.

12. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

13. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.

14. WHEN SEEDING, ALL DISTURBED AREAS WITH SLOPES FLATTER THAN 2:1 SHALL BE STABILIZED WITH 4 INCHES OF TOPSOIL, SEED, AND MULCH. ALL DISTURBED AREAS WITH SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITH MATTING OVER 2 INCHES OF TOPSOIL AND SEED.

15. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL BE MINIMIZED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

16. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SEED AND AN APPROVED EROSION CONTROL MATTING, SOD, RIP-RAP, OR OTHER APPROVED STABILIZATION MEASURES.

17. FOR STOCKPILE SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), THE CONTRACTOR SHALL APPLY SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN THREE (3) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. FOR SLOPES 3:1 OR FLATTER, THE CONTRACTOR SHALL APPLY STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN SEVEN (7) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

18. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.

19. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE SHALL BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE SHALL BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.

20. ALL SEDIMENT TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS SHALL HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.

21. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.

22. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE SHALL BE DIRECTED TO AN MDE APPROVED SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.

23. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT FOR SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN (7) CALENDAR DAYS FOR FLATTER SLOPES. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.

24. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED WITH PERMISSION OF THE MDE INSPECTOR WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. UPON REMOVAL OF SEDIMENT CONTROL DEVICES, THE AREA DISTURBED BY REMOVAL SHALL BE STABILIZED WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED, WITHIN 24 HOURS OF SAID REMOVAL. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

25. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY SHALL HAVE PRIOR APPROVAL BY MDE AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES; OTHERWISE APPROVAL SHALL BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE SHALL BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

26. SITE INFORMATION:

A. AREA DISTURBED 0.87 ACRES

B. TOTAL CUT 1,336.7 CUBIC YARDS

C. TOTAL FILL 1,410.4 CUBIC YARDS

D. OFF-SITE WASTE / BORROW AREA LOCATION TBD

LEGEND:

SF

SILT FENCE

SIP

STANDARD INLET PROTECTION

SSF

SUPER SILT FENCE

CIP

CURB INLET PROTECTION

SFOP

SILT FENCE ON PAVEMENT

SCF

STABILIZED CONSTRUCTION ENTRANCE

PST

PORTABLE SEDIMENT TANK

FB

FILTER BAG

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

EROSION AND SEDIMENT CONTROL NOTES

1. LAND DISTURBING ACTIVITY – SHALL MEAN ANY EARTH MOVEMENT AND LAND CHANGES WHICH MAY RESULT IN SOIL EROSION FROM WATER OR WIND OR THE MOVEMENT OF SEDIMENTS INTO STATE WATERS OR ADJACENT LANDS, INCLUDING BUT NOT LIMITED TO: CLEARING, GRADING, EXCAVATING, STRIPPING, FILLING, AND ACTIVITIES RELATED TO THE COVERING OF LAND SURFACES WITH AN IMPERMEABLE MATERIAL.

2. DURING THE LAND DISTURBANCE LIFE OF THIS PROJECT. THE FOLLOWING CONSTRUCTION SCHEDULE SHALL BE ADHERED TO:

CONSTRUCTION SCHEDULE

a. CLEARING AND GRUBBING FOR THOSE AREAS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS (STOCKPILING OF TOP SOIL).

b. CONSTRUCTION OF PERIMETER CONTROLS.

c. REMAINING CLEARING AND GRUBBING (CONSTRUCTION OF ACCESS ROADS, TEMPORARY STREAM CROSSING, ETC.).

d. TRENCHING AND UTILITY INSTALLATION (TEMPORARY STABILIZATION AS REQUIRED).

e. FINAL GRADING AND STABILIZATION.

f. REMOVAL OF CONTROLS.

3. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED AND ADEQUATELY FUNCTIONING AT THE END OF EACH WORKDAY. ANY EXISTING MEASURES THAT ARE DAMAGED SHALL BE PROPERLY REPAIRED AT THE END OF EACH WORKDAY.

4. ALL EXCAVATED MATERIAL NOT HAULED AWAY SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH AND SHALL BE PROTECTED FROM EROSION BY USING APPROVED DEVICES OR STABILIZATION.

5. ALL TRAPPED SEDIMENT SHALL BE REMOVED FROM THE AREA OF DEPOSITION AND EITHER SPREAD ONSITE (INCLUDING VEGETATIVELY STABILIZED) OR DISPOSED OF IN ACCORDANCE WITH THE APPROVED "WASTE/BORROW" PLAN.

6. EXCAVATED TOP SOIL AND SUBSOIL SHALL BE KEPT SEPARATE, PROTECTED FROM EROSION, AND REPLACED IN THEIR NATURAL ORDER AT RESTORATION.

7. POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT THE TRACKING OF SOIL ONTO PUBLIC WAYS, BY USING A STABILIZED CONSTRUCTION ENTRANCE AT INTERFACES WITH PUBLIC ROADWAYS.

13. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE THAT THE STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE SPECIFICATIONS AND DETAILS PROVIDED ON THE PLANS.

DESIGN CERTIFICATION


I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II INCLUDING SUPPLEMENTS, THE ENVIRONMENT ARTICLE SECTIONS 4-101 THROUGH 116 AND SECTIONS 4-201 AND 215, AND THE CODE OF MARYLAND REGULATIONS (COMAR) 26.17.01 AND COMAR 26.17.02 FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT, RESPECTIVELY.

DECEMBER 12, 2025

DATE

MD REGISTRATION NO. MD 20566

(P.E.) R.L.S., R.L.A. or R.A. (circle one)



DESIGNER SIGNATURE

JOHN C. MOORE, P.E., DIRECTOR WATER

PRINTED NAME AND TITLE

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I/WE HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY APPROPRIATE INSPECTION AND ENFORCEMENT AUTHORITY OR THE STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT. I/WE HEREBY CERTIFY THAT STORMWATER MANAGEMENT FACILITIES WILL BE MAINTAINED IN ACCORDANCE WITH APPROVED PLANS.

DATE

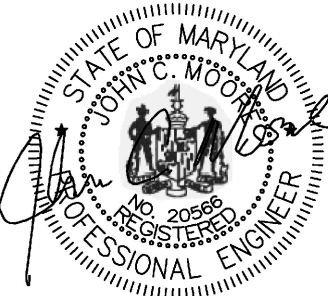
OWNER/DEVELOPER SIGNATURE

RESPONSIBLE PERSONNEL CERTIFICATION NO.

PRINTED NAME AND TITLE

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.: 20566
EXPIRATION DATE: 09/06/2026

DATE


REVISIONS

CONTRACT: #CD6915B20

WASHINGTON SUBURBAN SANITARY COMMISSION

 WSSC WATER
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THESE DOCUMENTS CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REDISTRIBUTED WITHOUT PRIOR WSSC APPROVAL

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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

EROSION AND SEDIMENT
CONTROL DETAILS

C-28

NO 31
OF 62

December 19, 2025 - PLOT DATE

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B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

USING VEGETATION AS COVER TO PROTECT EXPOSED SOIL FROM EROSION.

PURPOSE

TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES

ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY

EFFECTS ON WATER QUALITY AND QUANTITY

STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL. WHEN SOIL IS STABILIZED WITH VEGETATION, THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL, THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS.

PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH.

VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE.

SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

1.

ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.
2.

IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
3.

IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
4.

MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION

ESTABLISHMENT OF VEGETATIVE COVER ON CUT AND FILL SLOPES.

PURPOSE

TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES

ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

CRITERIA

- A.

INCREMENTAL STABILIZATION – CUT SLOPES
1.

EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
2.

CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
- a.

CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
- b.

PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
- c.

PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
- d.

PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

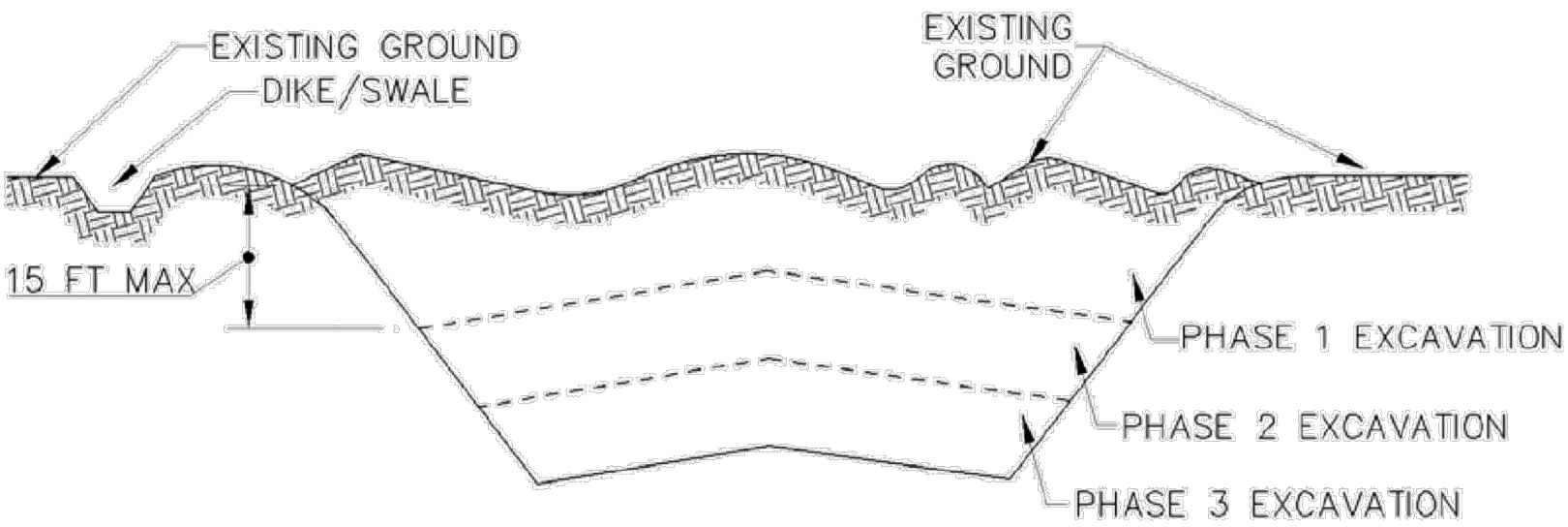


FIGURE B.1: INCREMENTAL STABILIZATION – CUT

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

B. INCREMENTAL STABILIZATION – FILL SLOPES

1.

CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
2.

STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
3.

AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
4.

CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
- a.

CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
- b.

AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
- c.

PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
- d.

PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
- e.

PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

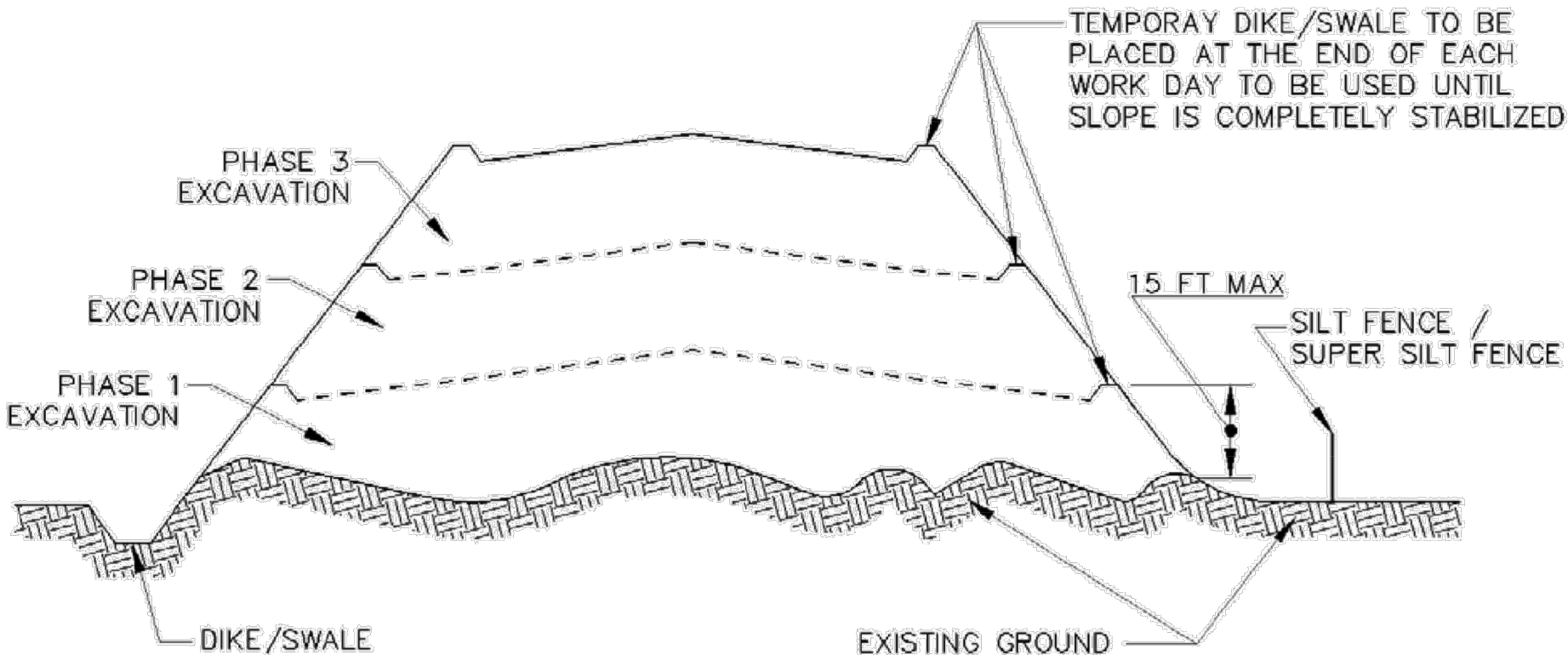
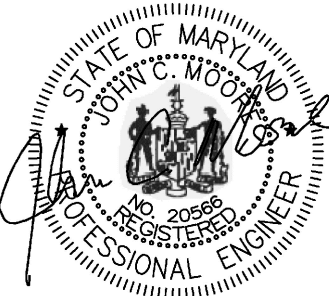


FIGURE B.2: INCREMENTAL STABILIZATION – FILL

DESIGN:	PPM	12/16/2024
DRAWN:	PPM	12/19/2025
CHECKED:	JCM	12/19/2025

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LICENSE NO.: 20566 EXPIRATION DATE: 09/06/2026		CONTRACT: #CD6915B20		
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B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE

THE PROCESS OF TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.REPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

- A. SOIL PREPARATION
- a. TEMPORARY STABILIZATION
- i. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
- ii. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- iii. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- b. PERMANENT STABILIZATION
- i. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
1. SOIL PH BETWEEN 6.0 AND 7.0.
 2. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 3. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 4. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 5. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
- ii. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
- iii. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
- iv. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
- v. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 2 INCHES OF SOIL LOOSE AND FRIABLE: SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.
- B. TOPSOILING
- a. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
- b. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
- c. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
1. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 2. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 3. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 4. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- d. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
- e. SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
1. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLUDGE, FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.
 2. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 3. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
- f. TOPSOIL APPLICATION
1. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 2. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 3. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
- a. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
- b. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
- c. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
- d. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
- e. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 SEEDING AND MULCHING

DEFINITION

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING

- A. SEEDING
- a. SPECIFICATIONS
- i. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
- ii. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
- iii. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
- iv. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
- b. APPLICATION
- i. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
1. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE, PERMANENT SEEDING TABLE, OR SITE-SPECIFIC SEEDING SUMMARIES.
 2. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDBED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
- ii. DRILL SOIL.
1. CULTPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
 2. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- iii. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER)
1. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
 2. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 3. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 4. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
- B. MULCHING
- a. MULCH MATERIALS (IN ORDER OF PREFERENCE)
1. STRAW CONSISTING OF THOROUGHLY DRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 - ii. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 1. WCWM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
 2. WCWM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 3. WCWM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER BITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER. ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 4. WCWM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 5. WCWM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
- b. APPLICATION
- i. APPLY MULCH TO ALL SEEDBED AREAS IMMEDIATELY AFTER SEEDING.
 - ii. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDBED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
 - iii. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- c. ANCHORING: PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE):
- i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
 - ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. LIGHTWEIGHT PLASTIC NETTING IS STRICTLY PROHIBITED.
 - iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 TEMPORARY STABILIZATION

CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

TEMPORARY SEEDING SUMMARY

Seed Mixture (Hardiness Zone 7a)				Fertilizer Rate (10-20-20)	Lime Rate
Species	Application rate	Recommended Seeding Dates	Seeding Depths		
ANNUAL RYEGRASS	40 lb/ac	2/15 - 4/30 8/15 - 11/30	1/2"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
FOXTAIL MILLET	30 lb/ac	5/1 - 8/14	1/2"		

1. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
2. IF STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

B-4-5 PERMANENT STABILIZATION

- A. SEED MIXTURES
- a. GENERAL USE
- i. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN PERMANENT SEEDING TABLE AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2 OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ii. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
 - iii. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
 - iv. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER SQUARE FOOT (15 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY .
- 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. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 1. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE.
 2. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 3. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
 4. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA, MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MAT OF THE TOTAL MIXTURE. THE BEST GUARANTEE OF CULTIVAR PURITY, THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

- iii. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES:
 - 5B) WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B)
 - 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
 - 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
- iv. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND RAKE THE AREAS. PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- v. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

A. SEED MIXTURES (CONT.)

PERMANENT SEEDING SUMMARY

Seed Mixture (Hardiness Zone 7a)					Fertilizer Rate (10-20-20)			Lime Rate
Mix. No.	Species	Application Rate	Seeding Dates	Seeding Depths	N	P ₂ O ₅	K ₂ O	
3	DEERTONGUE SHEEP FESCUE REDTOP COMMON LESPEDEZA	20 lb/ac 20 lb/ac 1 lb/ac 10 lb/ac	2/15 - 4/30* 5/1 - 5/31*		45 lb/ac	90 lb/ac	90 lb/ac	2 tons/ac
10	ORCHARDGRASS CREEPING RED FESCUE REDTOP ALSKE CLOVER WHITE CLOVER	25 lb/ac 10 lb/ac 1 lb/ac 3 lb/ac 3 lb/ac	2/15 - 4/30 8/15 - 10/31 11/1 - 11/30***	1/4" - 1/2"	(1.0 lb/ 1000 sf)	(2.0 lb/ 1000 sf)	(2.0 lb/ 1000 sf)	(90 lb/ 1000 sf)

* WARM-SEASON GRASSES NEED A SOIL TEMPERATURE OF AT LEAST 50 DEGREES F IN ORDER TO GERMINATE. IF SOIL TEMPERATURES ARE COLDER THAN 50 DEGREES, OR MOISTURE IS NOT ADEQUATE, THE SEEDS WILL REMAIN DORMANT UNTIL CONDITIONS ARE FAVORABLE. IN GENERAL, PLANTING DURING THE LATTER PORTION OF THIS PERIOD ALLOWS MORE TIME FOR WEED EMERGENCE AND WEED CONTROL PRIOR TO PLANTING. WHEN SELECTING A PLANTING DATE, CONSIDER THE NEED FOR WEED CONTROL VS. THE LIKELIHOOD OF HAVING SUFFICIENT MOISTURE FOR LATER PLANTINGS, ESPECIALLY ON DROUGHTY SITES.

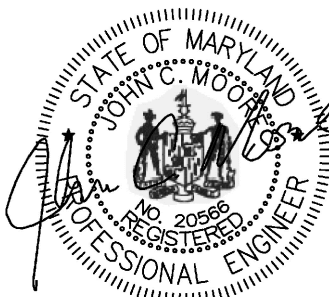
** ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.

*** ADDITIONAL PLANTING DATES FOR THE LOWER COASTAL PLAIN, DEPENDENT ON ANNUAL RAINFALL AND TEMPERATURE TRENDS. RECOMMEND ADDING A NURSE CROP IF PLANTING DURING THIS PERIOD.

- B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
- a. GENERAL SPECIFICATIONS
- i. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - ii. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾ INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - iii. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
 - iv. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - v. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- b. SOD INSTALLATION
- i. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
 - ii. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - iii. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - iv. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
- c. SOD MAINTENANCE
- i. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - ii. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - iii. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ¼ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

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.: 20566
EXPIRATION DATE: 09/06/2026

DATE

REVISIONS

CONTRACT: #CD6915B20

WASHINGTON SUBURBAN SANITARY COMMISSION



THESE DOCUMENTS CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION WHICH SHALL NOT BE REDISTRIBUTED WITHOUT PRIOR WSSC APPROVAL



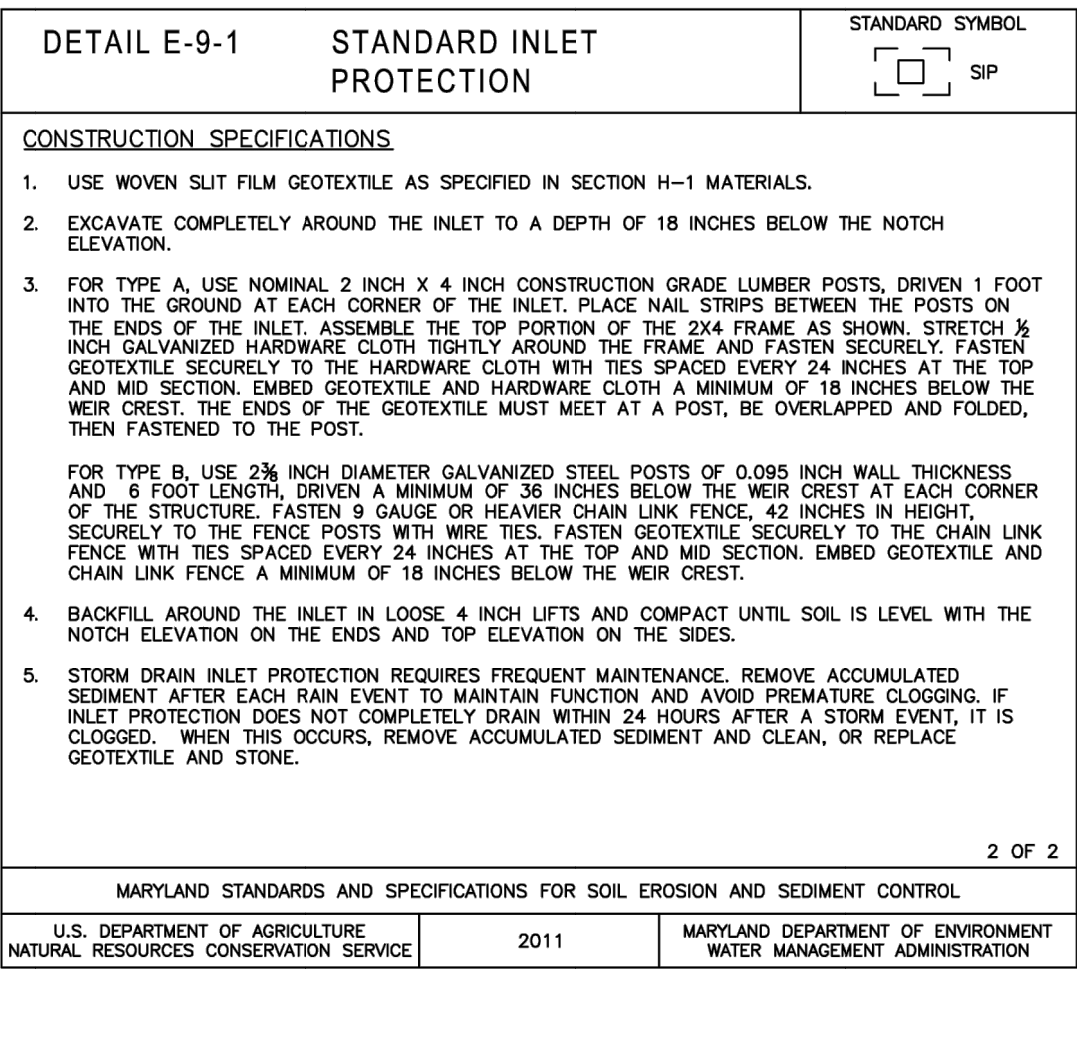
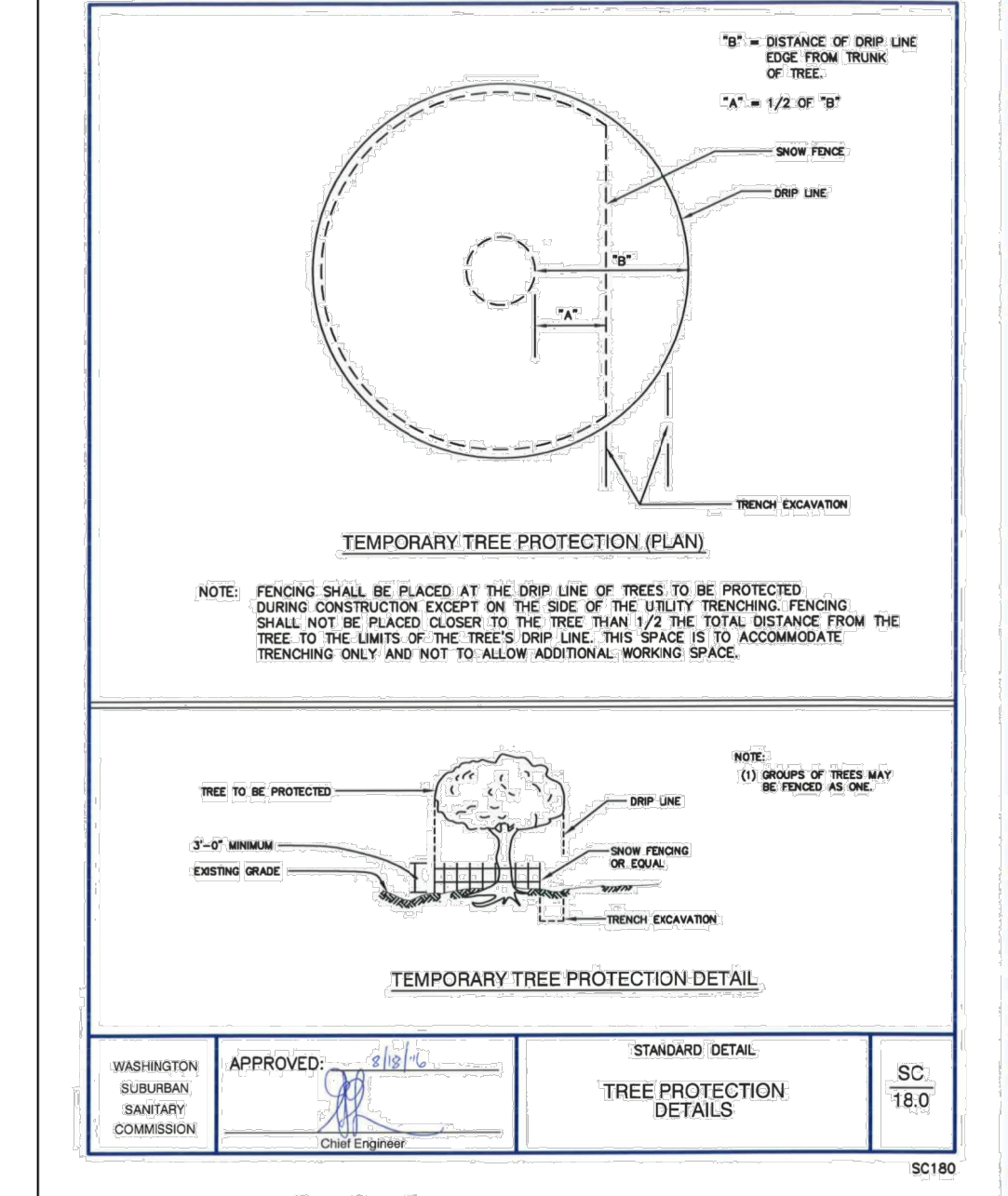
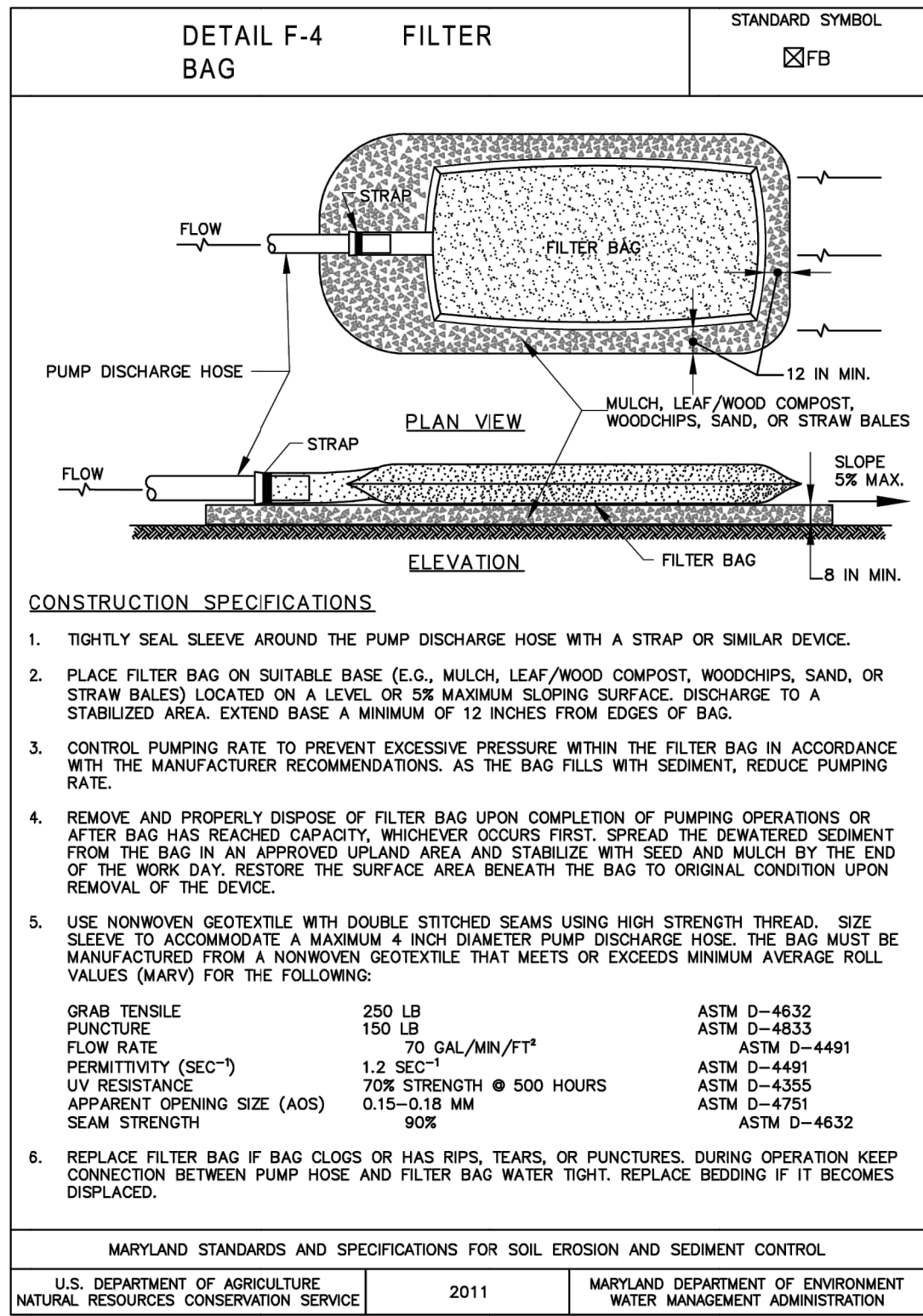
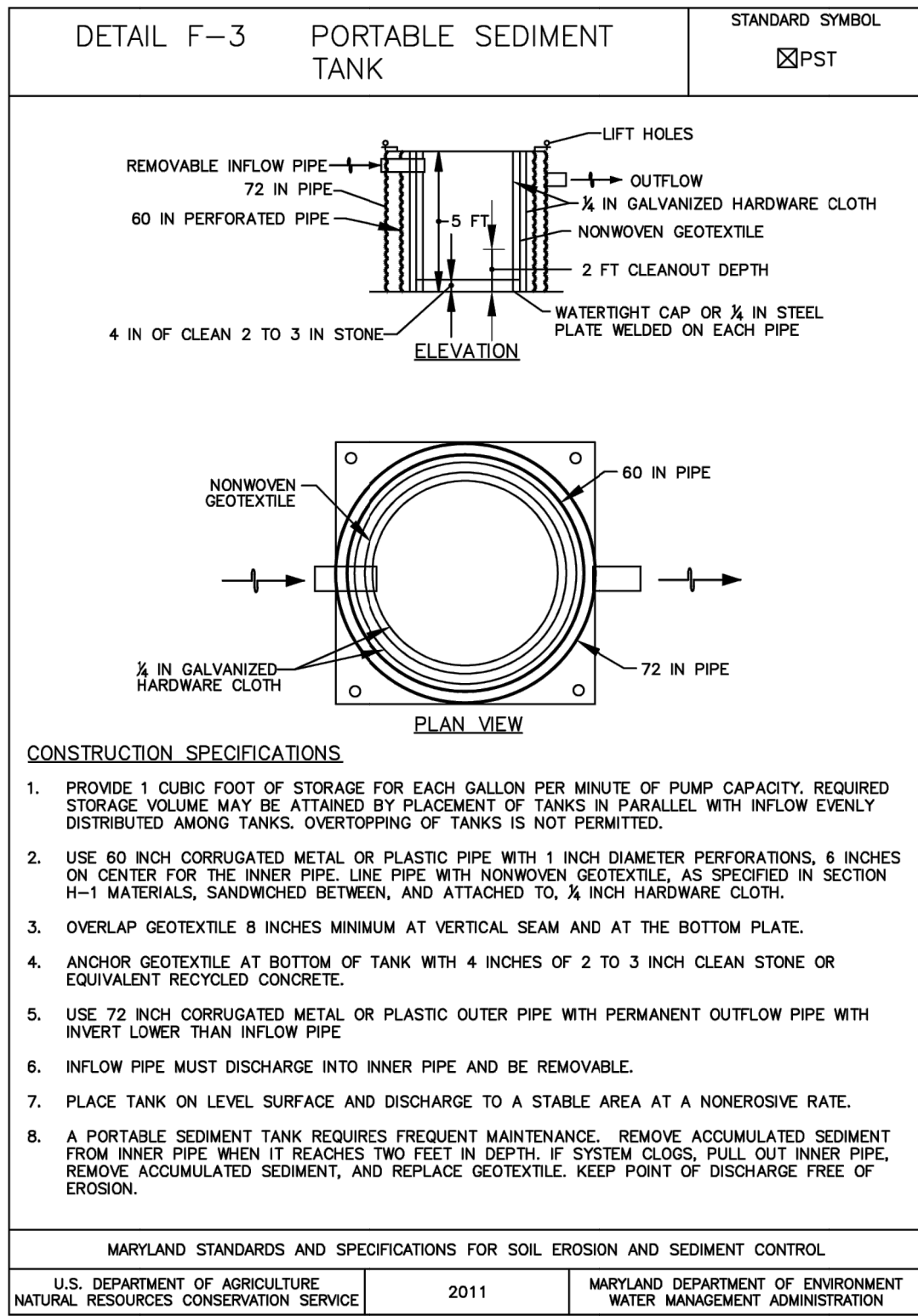
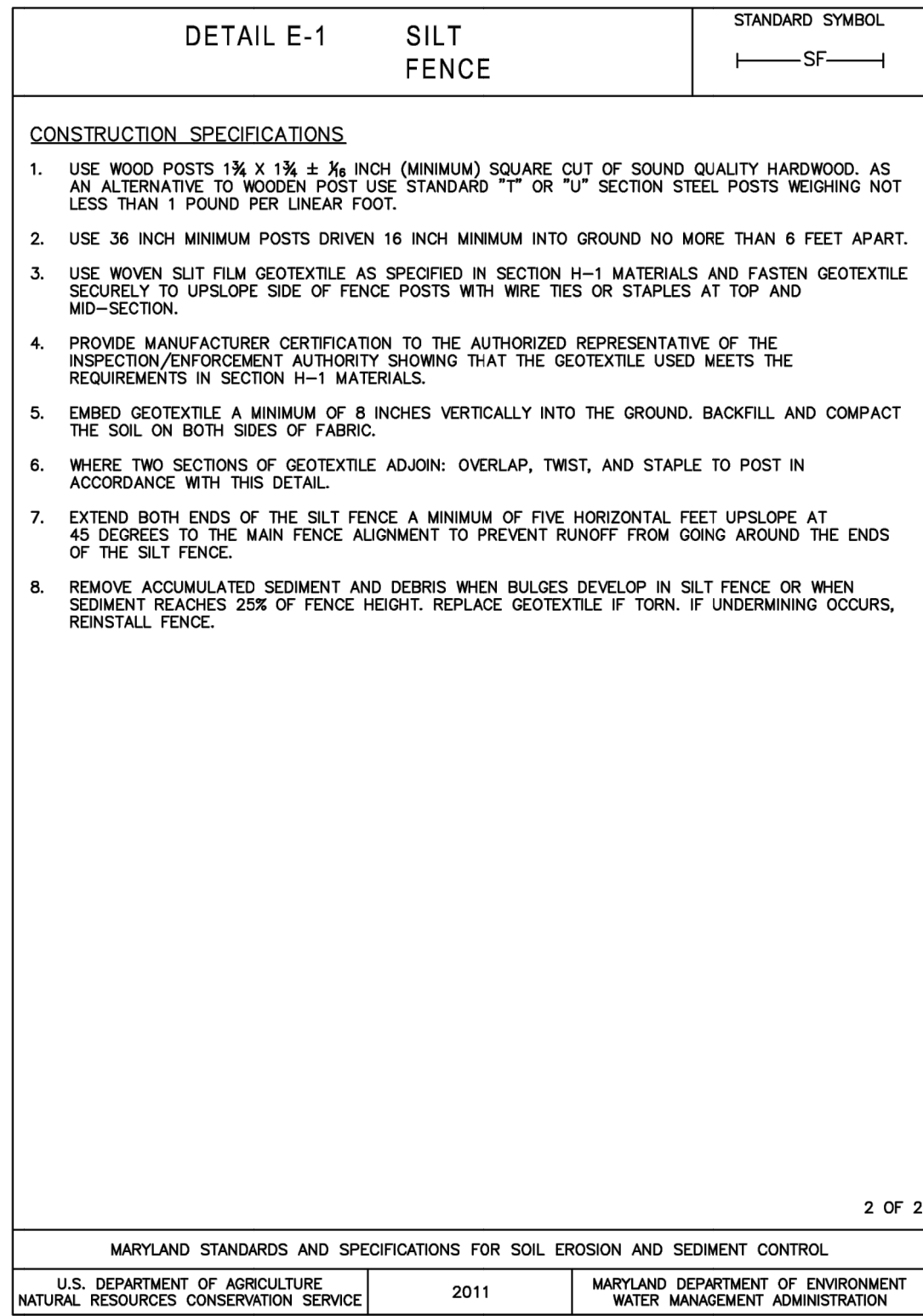
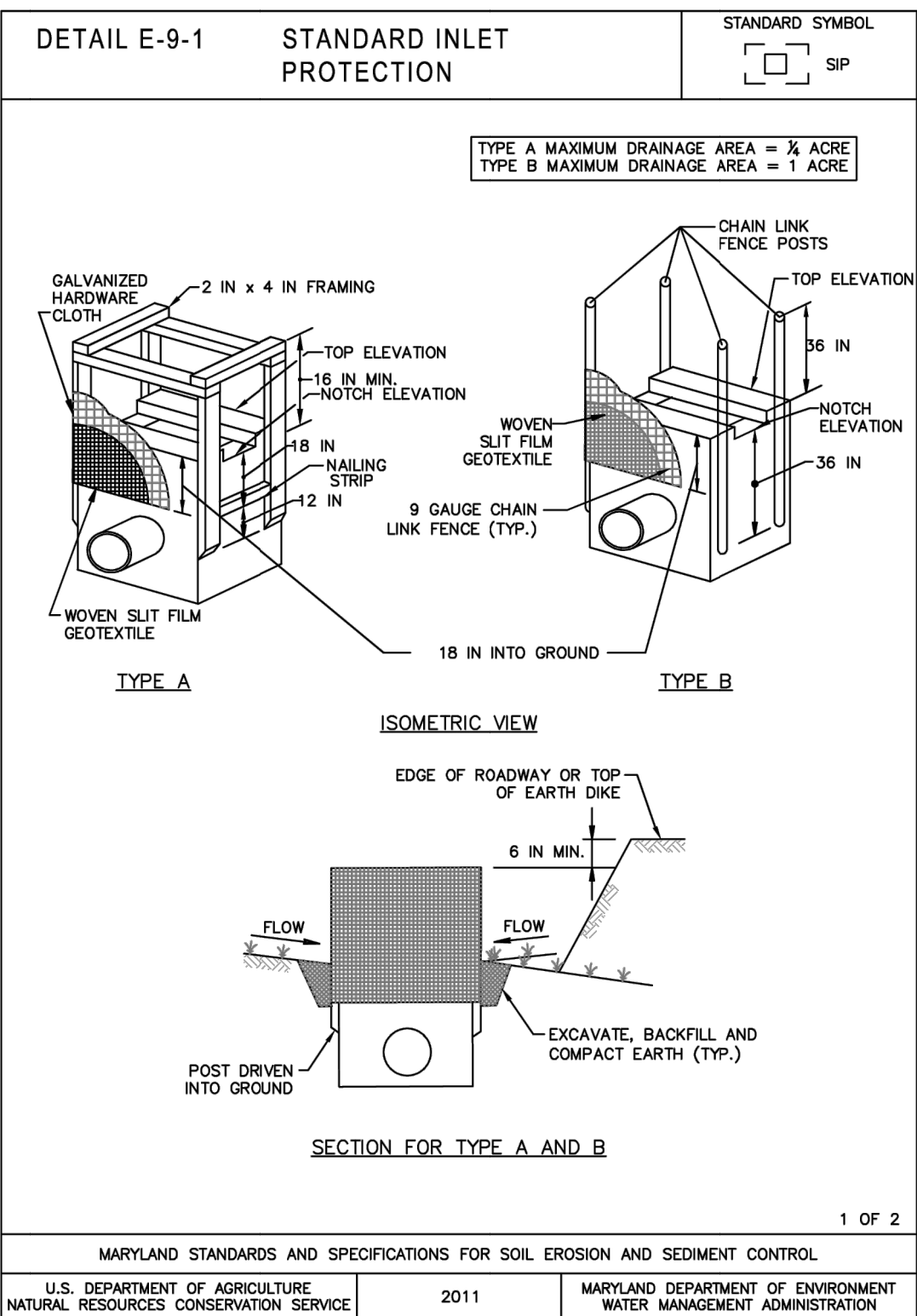
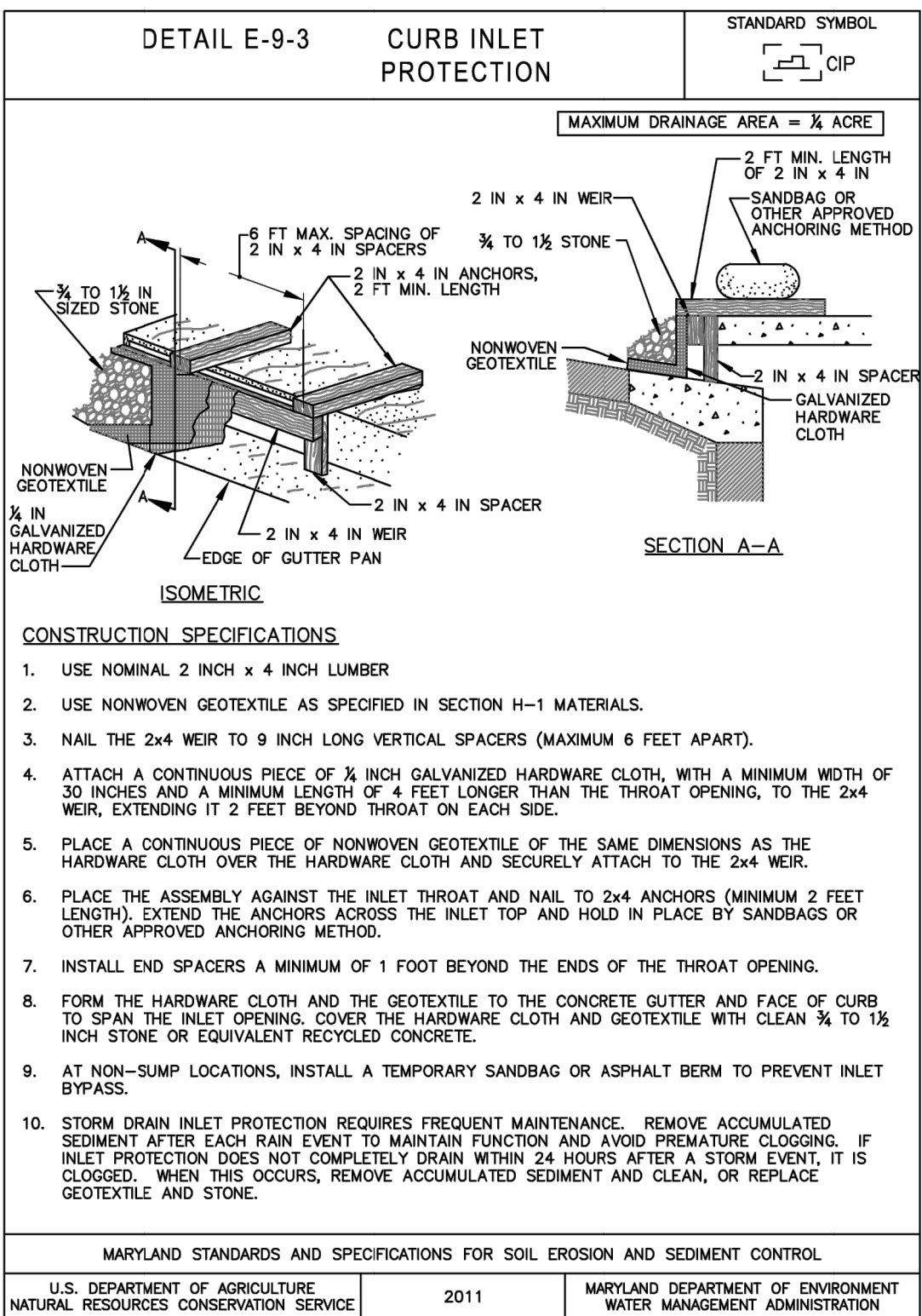
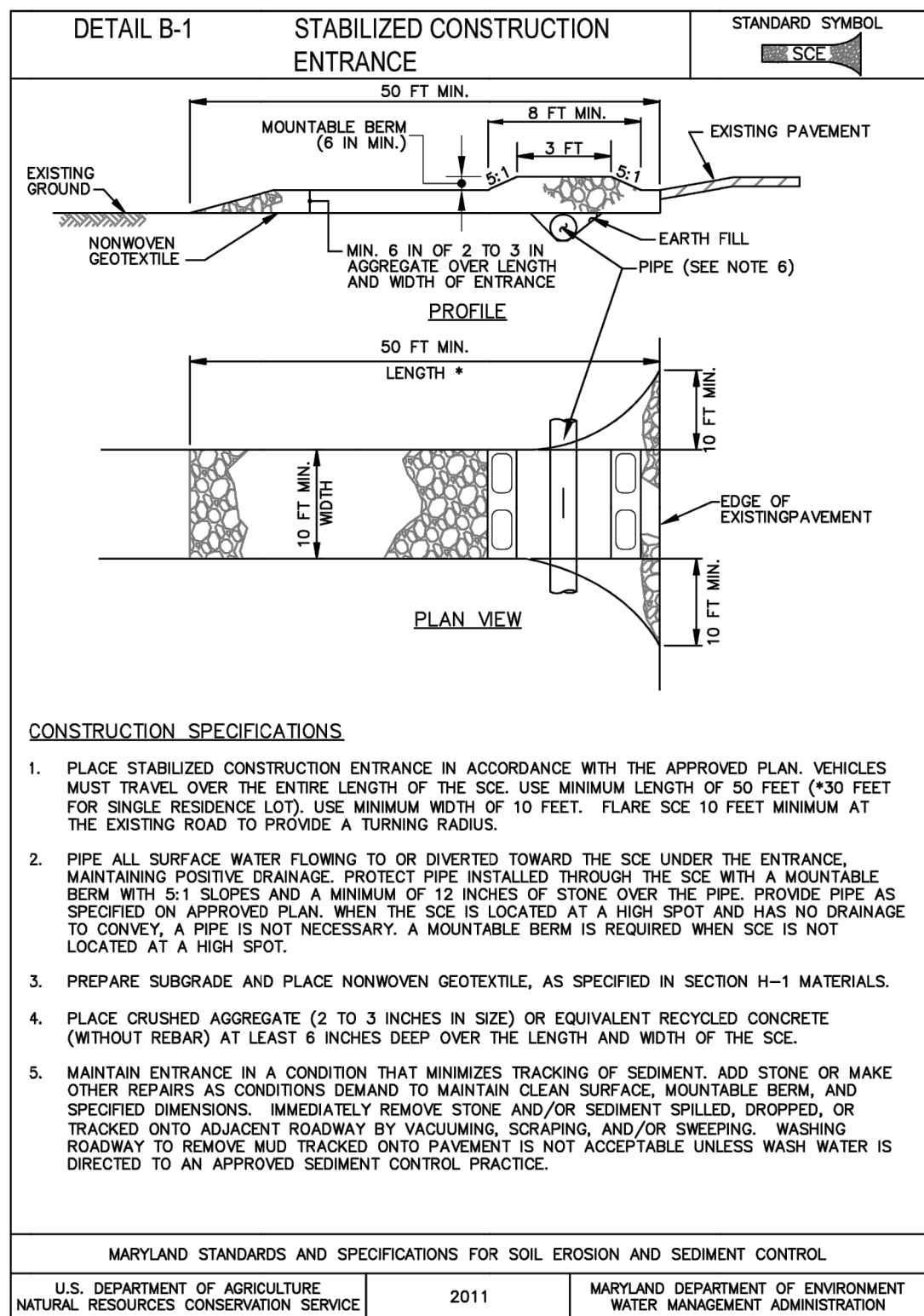
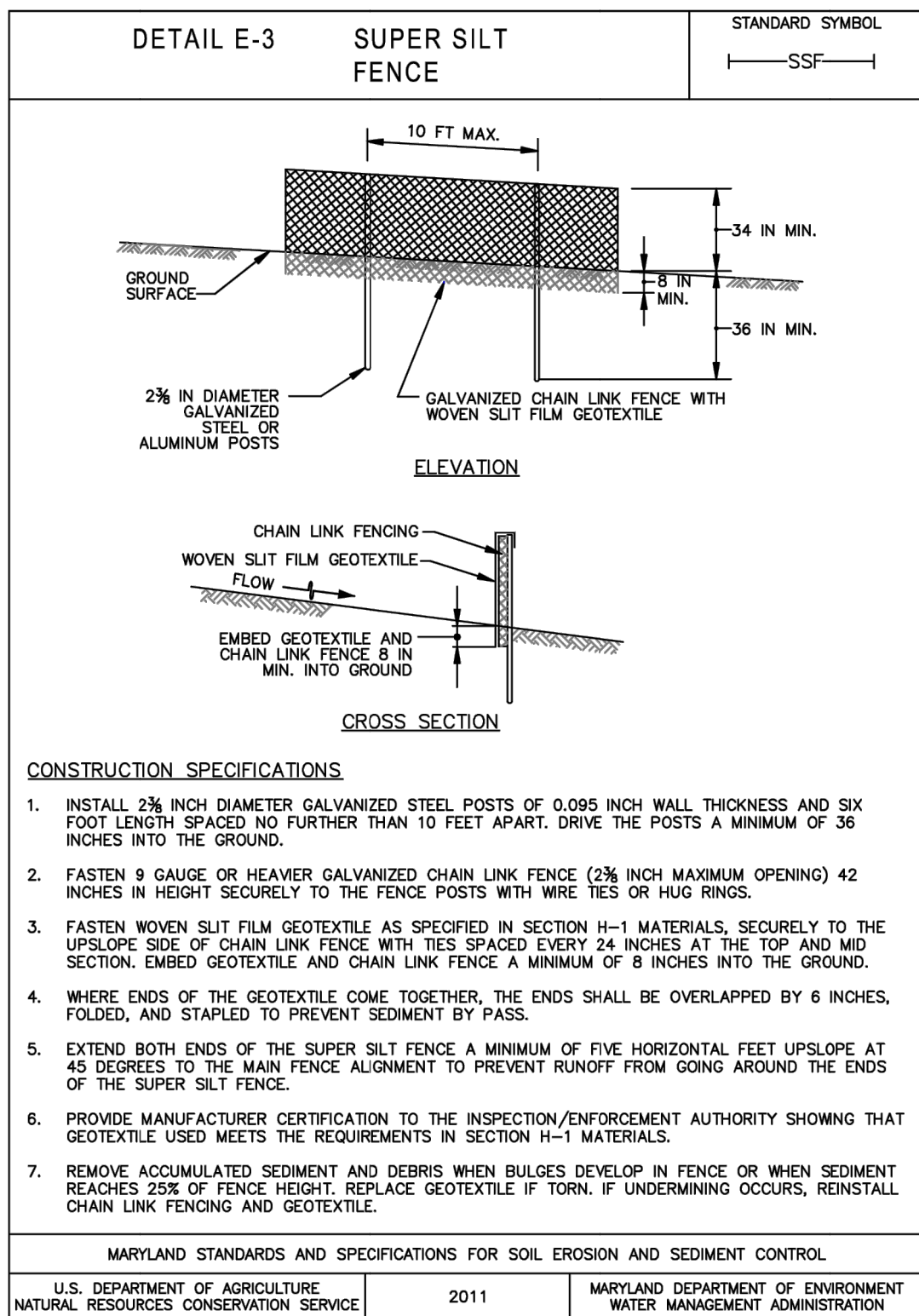
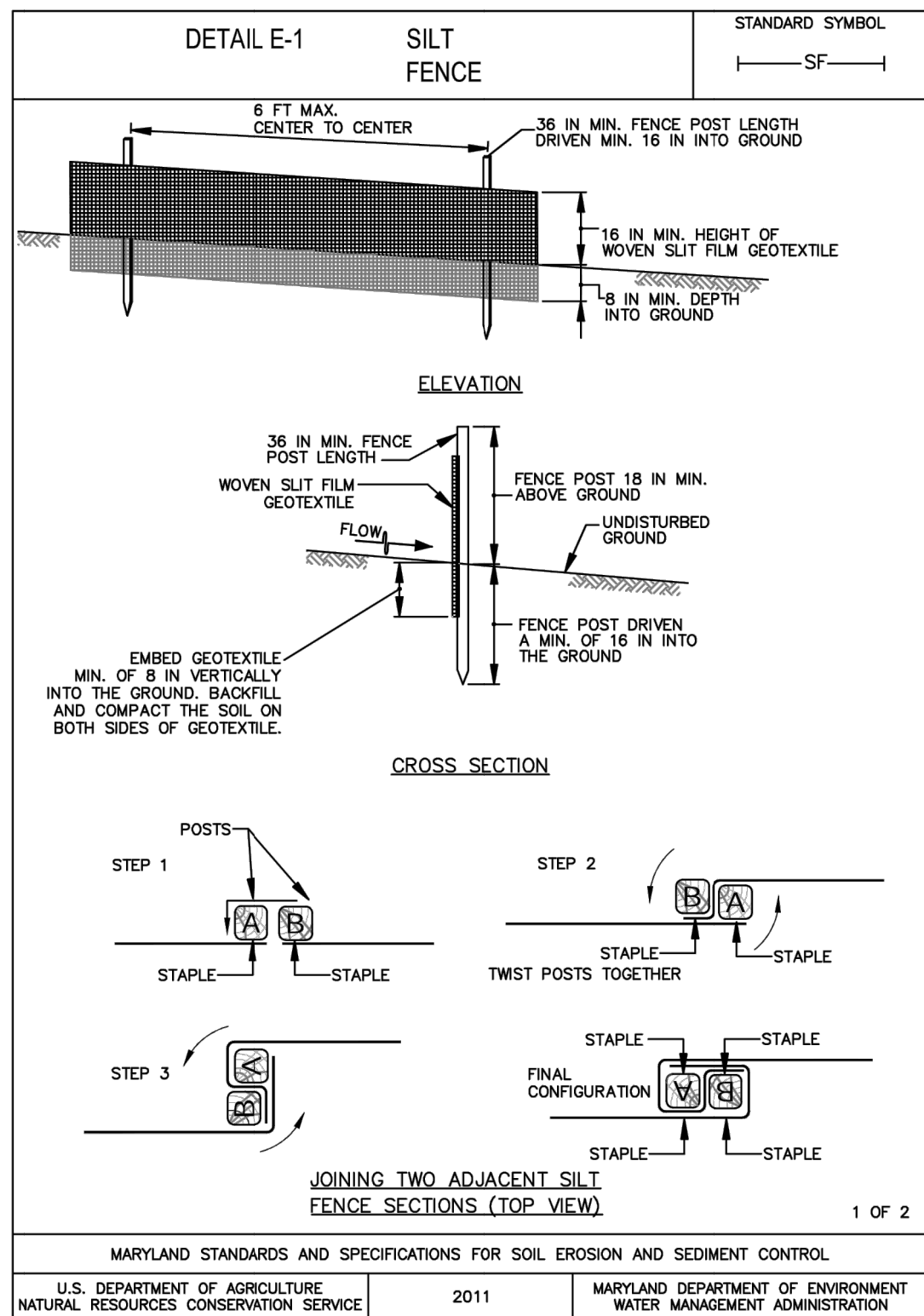
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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

EROSION AND SEDIMENT
CONTROL NOTES

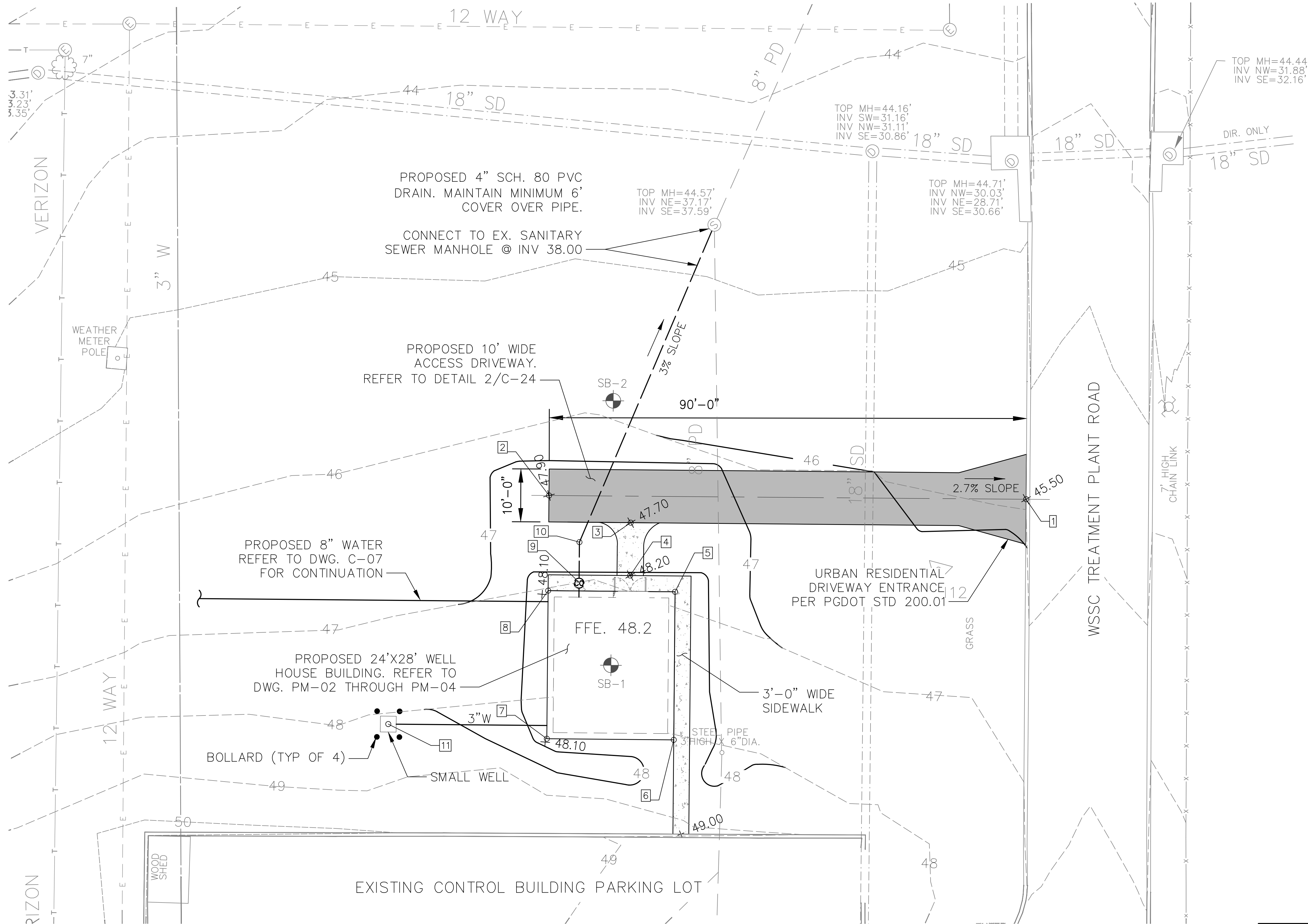
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			<h2 style="text-align: center;">PROFESSIONAL CERTIFICATION</h2> <p>I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"> <p>LICENSE NO.: 20566</p> <p>EXPIRATION DATE: 09/06/2026</p> </div>  </div>		<h2 style="text-align: center;">REVISIONS</h2> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>DATE</th><th></th></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>		DATE																			
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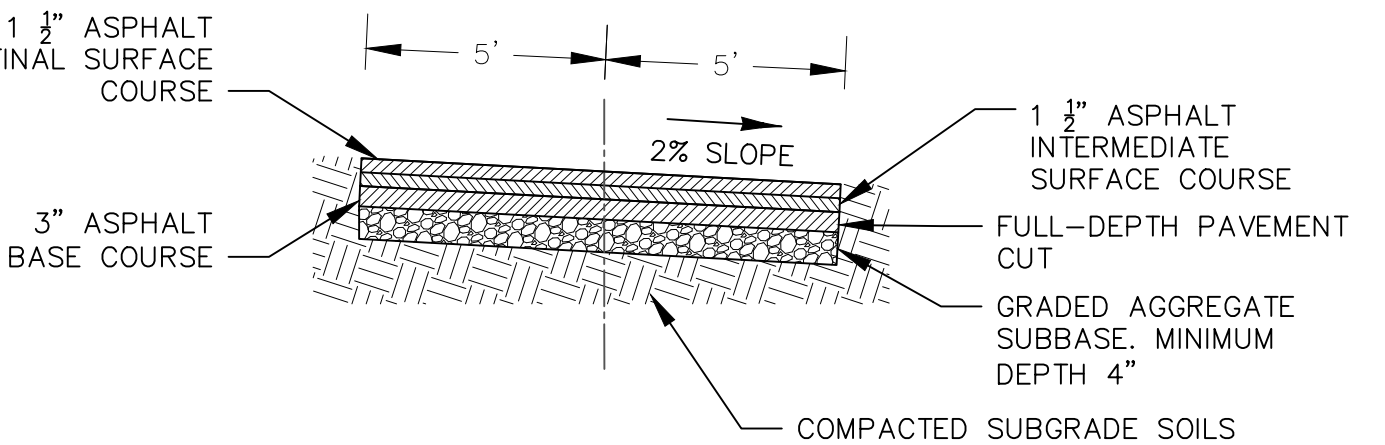
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GEOMETRY POINTS			
POINT #	DESCRIPTION	NORTHING	EASTING
1	CL ACCESS DRIVEWAY @ C&G	410052.54	1389098.21
2	CL ACCESS DRIVEWAY	410117.06	1389035.14
3	CL CONC. PAVEMENT @ ACCESS DRIVEWAY	410102.11	1389042.73
4	CL CONC. PAVEMENT @ SIDEWALK	410095.13	1389035.58
5	BUILDING	410087.31	1389039.01
6	BUILDING	410067.76	1389018.97
7	BUILDING	410084.94	1389002.21
8	BUILDING	410104.49	1389022.25
9	CLEANOUT	410105.20	1389031.11
10	4" SCH. 80 PVC 22.5' HB	410106.76	1389032.93
11	SMALL WELL	410108.15	1388983.05

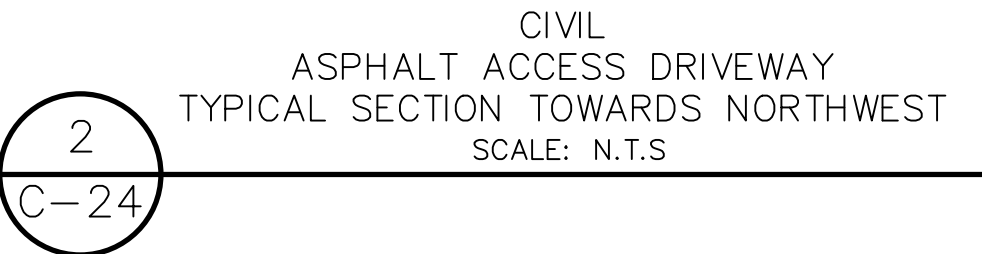
PLAN NOTES

- FOR ALL WORK INSIDE THE PROPOSED WELL HOUSE, SEE DWG. PM-02 THROUGH PM-04.
- REFER TO DWG. PM-03 & 04 FOR EXACT LOCATION OF PROPOSED 6" WATER MAIN & 4" DRAIN PIPE EXITING THE WELL HOUSE BUILDING.



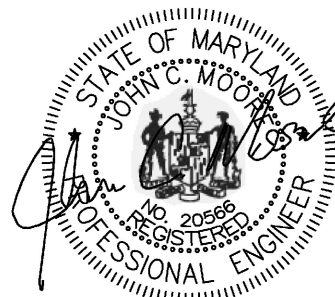
SECTION NOTES

- GRADED AGGREGATE BASE (GAB) - MEETING THE REQUIREMENTS FOR GAB IN THE SPECIFICATIONS OR CR-6.
- ASPHALT BASE COURSE - SUPERPAVE ASPHALT MIX BASE, 19 MM, PG 64S-22, LEVEL 2.
- INTERMEDIATE SURFACE COURSE - SUPERPAVE ASPHALT MIX SURFACE, 9.5 MM, PG 64S-22, LEVEL 2.
- FINAL SURFACE COURSE - SUPERPAVE ASPHALT MIX SURFACE, 9.5MM, PG 64S-22, LEVEL 2.



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.: 20566
EXPIRATION DATE: 09/06/2026

DATE

REVISIONS

CONTRACT: #CD6915B20

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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE BUILDING
SITE PLAN

C-32

NO 35
OF 62

\\od-rk.com\fs\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\S-01 General Notes.dwg Jan 09, 2026 -- 11:02am Plot By: rdixon Tab:S-01

STRUCTURAL GENERAL NOTES:

1. FOR MATERIAL SPECIFICATIONS, SEE CONTRACT SPECIFICATIONS.
2. DESIGN CRITERIA:

A. STRENGTH DESIGN PER ACI 318 –19 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".

B. STRENGTH DESIGN PER ACI 350 – 20 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES".

C. STRENGTH DESIGN PER TMS 402 – 2016 "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES".

D. STRENGTH DESIGN PER ANSI/AISC 360 – 16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".

E. ASCE 7 – 16, MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES.

F. INTERNATIONAL BUILDING CODE, 2021.
3. CONCRETE:

A. ALL CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318, ACI 350, ACI 301, AND ACI 350.5, EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS, WHERE DIFFERENCES EXIST BETWEEN CODES AND STANDARDS, THE ONE AFFORDING THE GREATEST PROTECTION SHALL APPLY.

B. ALL STRUCTURAL CONCRETE SHALL HAVE A MINIMUM 28 – DAY COMPRESSIVE STRENGTH OF 4,500 PSI, UNLESS OTHERWISE NOTED.

C. ALL FILL CONCRETE, THRUST BLOCKS, EQUIPMENT PADS, VALVE SUPPORTS AND PUMP SUPPORTS SHALL HAVE A MINIMUM 28 – DAY COMPRESSIVE STRENGTH OF 3,500 PSI.

D. JOINTS

• UNLESS OTHERWISE NOTED ON THE DRAWINGS, JOINTS SHOWN SHALL BE CONSTRUCTION JOINTS.

• CONSTRUCTION JOINTS SHALL BE AS DETAILED, AND NO ADDITIONAL JOINTS SHALL BE USED NOR ANY OMITTED EXCEPT BY WRITTEN AUTHORIZATION BY THE ENGINEER.

• CONTRACTOR SHALL SUBMIT THE LOCATION OF PROPOSED CONSTRUCTION JOINTS THAT ARE NOT SHOWN ON THE DRAWINGS FOR APPROVAL.

• CONTRACTOR SHALL COORDINATE LOCATION OF JOINTS SHOWN WITH OPENINGS, EQUIPMENT, AND REINFORCING STEEL LAP REQUIREMENTS. NUMBER OF JOINTS SHOWN IS A MINIMUM.

E. CHAMFER ALL EXPOSED EDGES 3/4"x 3/4". CHAMFER REQUIRED UNLESS NOTED OTHERWISE ON THE DRAWINGS.

F. ALLOW 48 HOURS MINIMUM CURING TIME BETWEEN PLACEMENT OF ADJACENT CONCRETE POURS.

G. WATERSTOPS

• PROVIDE WATERSTOPS AT ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS LOCATED IN SLABS, EXTERIOR WALLS, AND WALLS IN CONTACT WITH FLUID AND/OR SOIL. WATERSTOPS SHALL FORM A CONTINUOUS WATERTIGHT DIAPHRAGM TO PREVENT LEAKAGE.

• PROVIDE HYDROPHILIC WATERSTOPS ONLY WHERE INDICATED ON THESE DRAWINGS.

• ALL WATERSTOPS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

• REINFORCING STEEL, CONDUIT, BOLTS, SCREWS, FORM TIES, OR ANY OTHER MATERIAL SHALL NOT PASS THROUGH WATERSTOPS.

H. THE EXTERIOR OF ALL BURIED WALLS SHALL BE WATERPROOFED AND DAMPROOFED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.

I. STRUCTURAL CONCRETE IN CONTACT WITH LIQUID SHALL HAVE A 21 – DAY DRYING SHRINKAGE OF 0.028 PERCENT OR LESS AND A 28 – DAY DRYING SHRINKAGE OF 0.032 PERCENT OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM C157 AS MODIFIED BY THE PROJECT SPECIFICATIONS.

J. PROVIDE A ROUGHENED CONSTRUCTION JOINT WHERE INDICATED IN THESE DRAWINGS AND FOR SURFACES WHERE NEW CONCRETE WILL BE PLACED AGAINST EXISTING CONCRETE. CONCRETE SURFACES SHALL BE ROUGHENED TO A FULL 1/4"AMPLITUDE AND AN EPOXY BONDING COMPOUND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

K. CONTRACTOR SHALL COORDINATE LOCATION OF JOINTS SHOWN WITH PIPE OPENINGS, EQUIPMENT, AND REINFORCING STEEL LAP REQUIREMENTS.
4. REINFORCING STEEL:

A. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 AND SHALL HAVE A FUSION BONDED EPOXY POWDER COATING CONFORMING TO ASTM D3963. COATING SHALL BE A BRIGHT COLOR IN CONTRAST TO THAT OF REINFORCEMENT STEEL AND RUST.

B. WELDED STEEL WIRE REINFORCEMENT SHALL CONFORM TO ASTM A1064. THE REINFORCEMENT SHALL BE FURNISHED IN FLAT SHEETS.

C. DO NOT WELD OR TACK REINFORCING STEEL.

D. CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE ON THE DRAWINGS:

• UNFORMED CONCRETE CAST AGAINST EARTH, ROCK, GRAVEL OR STONE = 3"

• ALL OTHER CONCRETE SURFACES = 2"

E. EMBEDDED ITEMS:

• SEE CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL EMBEDDED ITEMS SUCH AS SCREWS, ANCHORS, ELECTRICAL CONDUIT, OPENINGS, ETC. WHICH MAY INTERFERE WITH CONCRETE CONSTRUCTION.

• CONDUITS AND EMBEDDED PIPES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND ACI 350.

• CONDUITS, PIPES, OR ITEMS OTHER THAN THOSE SPECIFIED IN SECTION Q3310 ARE NOT TO BE EMBEDDED IN CONCRETE OF WATER BEARING STRUCTURES UNLESS SPECIFICALLY SHOWN IN THE CONTRACT DOCUMENTS, OR BY WRITTEN APPROVAL OF THE ENGINEER.

F. SPLICES:

• ALL SPLICES SHALL BE CLASS B, TENSION LAPS UNLESS OTHERWISE NOTED IN THESE DRAWINGS.

• ALL WELDED WIRE REINFORCEMENT SHALL BE SPLICED SO THAT THE OVERLAP OF THE OUTERMOST CROSS WIRES OF EACH ADJOINING SHEET IS NOT LESS THAN THE SPACING THE CROSS WIRES PLUS TWO INCHES, UNLESS NOTED OTHERWISE.

• LAP CONTINUOUS BOTTOM REINFORCEMENT AT THE CENTER OF A SPAN AND CONTINUOUS TOP REINFORCEMENT AT SUPPORTS IN FOUNDATION MATS AND BASE SLABS, UNLESS OTHERWISE INDICATED.

G. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REINFORCING STEEL PRIOR TO PROCEEDING WITH FABRICATION.
5. MASONRY:

A. MASONRY CONSTRUCTION SHALL CONFORM TO TMS 602 – 16.

B. HOLLOW UNITS: ASTM C90, NORMAL WEIGHT

C. MASONRY STRENGTH: f_m = 2000 PSI

D. CELLS TO BE GROUTED SHALL BE GROUTED FOR FULL WALL HEIGHT. THE MINIMUM 28–DAY COMPRESSIVE STRENGTH OF GROUT SHALL BE 2000 PSI. GROUT SHALL BE IN ACCORDANCE WITH ASTM C476 WITH 3/8" MAXIMUM AGGREGATE AND 8" – 10" SLUMP.

E. CONTRACTOR IS RESPONSIBLE FOR LATERAL BRACING OF CMU WALLS DURING CONSTRUCTION.

F. MORTAR: ASTM C270, TYPE M OR S, AT FULL BEDDING.

• REMOVE MORTAR PROTRUDING INTO CELL CAVITIES TO BE REINFORCED AND GROUTED.

• TYPE "M" MORTAR SHALL BE USED FOR ALL MASONRY CONSTRUCTION BELOW GRADE, TYPE "S" ABOVE GRADE.

G. REINFORCEMENT:

• HORIZONTAL JOINTS: PROVIDE TRUSS – TYPE JOINT REINFORCEMENT AT 16" OC.

a. USE PREFABRICATED CORNERS AND TEES AT WALL INTERSECTIONS, OVERLAP DISCONTINUED ENDS, AND EXTEND INTO COLUMNS 6" MIN.

• VERTICAL AND HORIZONTAL REINFORCEMENT: ASTM A615, GRADE 60.

b. PROVIDE MINIMUM #4 BARS TYPICAL AT WALL INTERSECTIONS, EACH SIDE OF OPENINGS, AND AT WALL ENDS.

• HOOK TOP OF ALL DISCONTINUED BARS, LAP CONTINUOUS REINFORCEMENT 48 BAR DIAMETERS UNLESS NOTED OTHERWISE.

• USE BAR SPACERS IN EVERY 4TH COURSE WHERE CELLS ARE TO BE GROUTED.

H. WHERE EXPANSION ANCHOR BOLTS ARE SET IN MASONRY WALLS, FILL BLOCK CELLS WITH GROUT FOR BOLTED COURSE AND TWO COURSES ABOVE AND BELOW ANCHOR ELEVATION.

I. LINTELS

• PROVIDE LINTELS OVER OPENINGS LARGER THAN 1'– 0", IN ACCORDANCE WITH STRUCTURAL PLANS, DETAILS AND SPECIFICATIONS.

• PROVIDE A MINIMUM OF 8" BEARING ON EACH SIDE OF OPENING FOR ALL LINTELS, UNLESS INDICATED OTHERWISE.

J. HOLLOW MASONRY UNITS SHALL HAVE MORTAR APPLIED TO ALL FACE SHELLS AND WEBS TO ACHIEVE FULL MORTAR BEDDING.
6. ALUMINUM:

A. ALUMINUM SHAPES AND PLATES: ALLOY TYPE 6061 – T6

B. BOLTED CONNECTIONS: ASTM F593 TYPE 304, CONDITION CW1 OR CW2 STAINLESS STEEL, PROVIDE GALVANIC SEPERATION WHERE ALUMINUM IS IN CONTACT WITH CONCRETE OR STEEL.

C. WELDED CONNECTIONS: PER AWS D1.2 LATEST EDITION

7. LOADINGS:

A. DEAD LOADS:

• CONCRETE150 PCF

• FRP GRATING8 PCF

• BUILDING MATERIALSACTUAL LOAD OF MATERIALS

• MASONRY135 PCF

B. LIVE LOADS:

• GRATING LOADS200 PSF/1,000 LBS

• STAIRS1,000 LBS/ 500 LB/ STRINGER

• EQUIPMENT PLATFORMS250 PSF (UNO)

• STORAGE250 PSF (UNO)

• FLUID65 PCF

C. WIND LOADS:

• DESIGN CODEASCE 7 – 16

• DESIGN WIND VELOCITY120 MPH

• EXPOSURE CATEGORYC

• OCCUPANCY CATEGORYIII

D. SNOW LOADS:

• GROUND SNOW LOAD40 PSF

• ROOF SNOW LOADVARIES

• IMPORTANCE FACTOR1.1

E. SEISMIC LOADS:

• RISK CATEGORYIII

• SEISMIC IMPORTANCE FACTOR (I_e)1.25

• MAPPED SPECTRAL RESPONSE ACCELERATION (S_a) (S1)0.113

• SITE CLASSD0.041

• DESIGN SPECTRAL RESPONSE ACCELERATION (SDS) (SD1)0.123

• SEISMIC DESIGN CATEGORYA0.066

8. GENERAL REQUIREMENTS:

A. ELEVATIONS ARE TO BE ACTUAL FINISH ELEVATIONS. SEE CIVIL DRAWINGS FOR GRADE ELEVATIONS.

B. TEMPORARY SUPPORT: STRUCTURES SHOWN ON THESE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT REQUIRED FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING, AND OTHER WORK AIDS REQUIRED TO MAINTAIN STABILITY UNTIL STRUCTURE IS COMPLETE.

C. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS FOUND IN CONTRACT DOCUMENTS AND/OR FIELD CONDITIONS.

D. CONTRACTOR SHALL COORDINATE ALL REQUIRED OPENINGS WITH MECHANICAL AND ELECTRICAL DRAWINGS. CONTRACTOR SHALL COORDINATE FINAL SIZE AND LOCATION OF ALL OPENINGS WITH THE ACTUAL EQUIPMENT SUPPLIED, PROJECT REQUIREMENTS, AND WITH FIELD CONDITIONS.

E. THE ENGINEER PERMITS NO OPENINGS OR ALTERATIONS THROUGH BEAMS OR COLUMNS, UNLESS DETAILED ON STRUCTURAL DRAWINGS.

F. THE SIZES AND LOCATIONS OF EQUIPMENT PADS AND PEDESTALS, AS WELL AS EQUIPMENT RELATED FLOOR SLAB OPENINGS ARE DEPENDENT ON THE ACTUAL EQUIPMENT FURNISHED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND VERIFY ALL SUCH ITEMS. NO DIMENSIONS INDICATED ON THESE DRAWINGS SHALL BE ALTERED WITHOUT THE ENGINEER'S APPROVAL.

G. FOR MECHANICAL OR ELECTRICAL WORK TO BE INCORPORATED IN FOUNDATION WORK, SEE MECHANICAL OR ELECTRICAL DRAWINGS.

H. BAND ALL EDGES AND OPENINGS IN GRATINGS.

I. BACKFILL MATERIAL MAY NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL THE UPPER BRACING FLOORS ARE IN PLACE FOR AT LEAST 7 DAYS.

J. ANY ADDITIONAL PIPE SUPPORTS THAT ARE REQUIRED AND NOT SHOWN OR DETAILED SHALL BE DESIGNED BY THE CONTRACTOR. CALCULATIONS AND DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

L. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF TEMPORARY SUPPORT OF EXCAVATION MERE REQUIRED. CALCULATIONS AND DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

M. MATERIALS SHALL CONFORM TO THE PROJECT SPECIFICATIONS ISSUED AS PART OF THE CONTRACT DOCUMENTS AND SUPPLEMENTAL TO THESE DRAWINGS.

O. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE ROOF SYSTEM PER PROJECT SPECIFICATIONS. CALCULATIONS AND DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

9. FOUNDATIONS:

A. MAXIMUM ALLOWABLE BEARING CAPACITY AT BASE SLAB: 3,500 PSF.

B. DESIGN SOIL PARAMETERS AT BURIED WALLS

• DENSITY: 130 PCF

• ANGLE OF INTERNAL FRICTION: 30 DEGREES

C. FOUNDATION PREPARATION

• BUILDING AREAS SHALL BE COMPLETELY STRIPPED OF VEGETATION, PAVEMENTS, WALLS, AND SOFT MUDDY AREAS.

• EXISTING FILL IS ANTICIPATED TO BE ENCOUNTERED. EXISTING FILL SHALL BE REMOVED AS DETAILED IN CONTRACT DRAWINGS AND REPLACED WITH COMPACTED SELECT FILL.

D. ALL EXCAVATIONS SHALL BE KEPT DRY. STANDING WATER SHALL NOT BE ALLOWED IN EXCAVATION.

10. IBC CHAPTER 17 SPECIAL INSPECTIONS ARE REQUIRED.

ALUMINUM

- A. MATERIALS SHALL CONFORM TO THE FOLLOWING:

1. GRATING: ASTM B221 W/ALLOY AND TEMPER TYPE 6063–T6.
- B. BAND ALL EDGES AND OPENINGS IN GRATINGS.
- C. DISSIMILAR MATERIALS

1. PROVIDE GALVANIC SEPARATION WHERE ALUMINUM IS IN CONTACT WITH CONCRETE OR STEEL.
- D. ALL ALUMINUM SHALL BE ANODIZED, INCLUDING ALUMINUM LADDERS AND LADDER COMPONENTS.

EXCAVATION AND EARTHWORK

- A. REFER TO GEOTECHNICAL ENGINEERING REPORT, DECEMBER 2, 2021 BY KIM ENGINEERING FOR SUBSURFACE CONDITIONS IN THE VICINITY OF THE PROPOSED WELL HOUSE.
- B. FOR SITE, EXCAVATION, FILL, AND BACKFILL REQUIREMENTS, SEE PROJECT SPECIFICATIONS AND CONTRACT DRAWINGS.
- C. REFER TO SPECIFICATIONS FOR ADDITIONAL SITE PREPARATION AND FOUNDATION SUPPORT REQUIREMENTS.
- D. LOCATE ANY EXISTING UTILITY LINES OR APPURTENANCES AND ADVISE ENGINEER OF ANY CONFLICTS WITH NEW STRUCTURES PRIOR TO THEIR CONSTRUCTION.
- E. DO NOT DEMOLISH ANY EXISTING STRUCTURE WITHOUT WRITTEN AUTHORIZATION.
- F. ALL EXCAVATIONS SHALL BE KEPT DRY. STANDING WATER SHALL NOT BE ALLOWED IN EXCAVATIONS.
- G. CONTRACTOR SHALL DESIGN AND PROVIDE SUPPORT OF EXCAVATION SYSTEM AS REQUIRED TO SUPPORT SOIL AND CONSTRUCTION LOADS.

FORMWORK, SHORING AND BRACING

- A. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

FOUNDATIONS

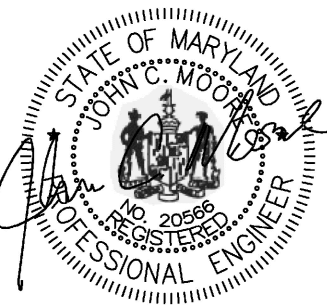
- A. FOUNDATION PREPARATION

1. BUILDING AREAS SHALL BE COMPLETELY STRIPPED OF VEGETATION, PAVEMENTS, WALLS AND SOFT OR MUDDY AREAS.

2. EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY, PER ASTM D698.
- B. BEFORE PLACING ANY CRUSHED STONE OR CONCRETE ON SUBGRADE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
- C. ALL FOUNDATIONS SHALL BEAR ON A MINIMUM OF 6" OF GRANULAR AGGREGATE BEDDING OVER UNDISTURBED SOIL WITH AN ALLOWABLE BEARING CAPACITY OF AT LEAST 2,500 PSF.
- D. FOR MECHANICAL OR ELECTRICAL WORK TO BE INCORPORATED IN FOUNDATION WORK, SEE MECHANICAL OR ELECTRICAL DRAWINGS.
- E. CONCRETE SHALL NOT BE POURED ON FROZEN GROUND.
- F. BACKFILL MATERIAL MAY NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL THE UPPER BRACING SLAB IS IN PLACE FOR AT LEAST 7 DAYS, AND THE WALLS AND BASE SLAB HAVE REACHED THE MINIMUM 28–DAY COMPRESSIVE STRENGTH. BACKFILL ALL FOUR SIDES OF VAULT SIMULTANEOUSLY AND IN EVEN LIFTS.
- G. REFER TO GEOTECHNICAL REPORT DATED DECEMBER 2, 2021 BY KIM ENGINEERING, INC.

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.



DATE

REVISIONS

DESIGN:	DD	10/07/2024
DRAWN:	DD	12/19/2025
CHECKED:	JCM	12/19/2025

CONTRACT: #CD6915B20

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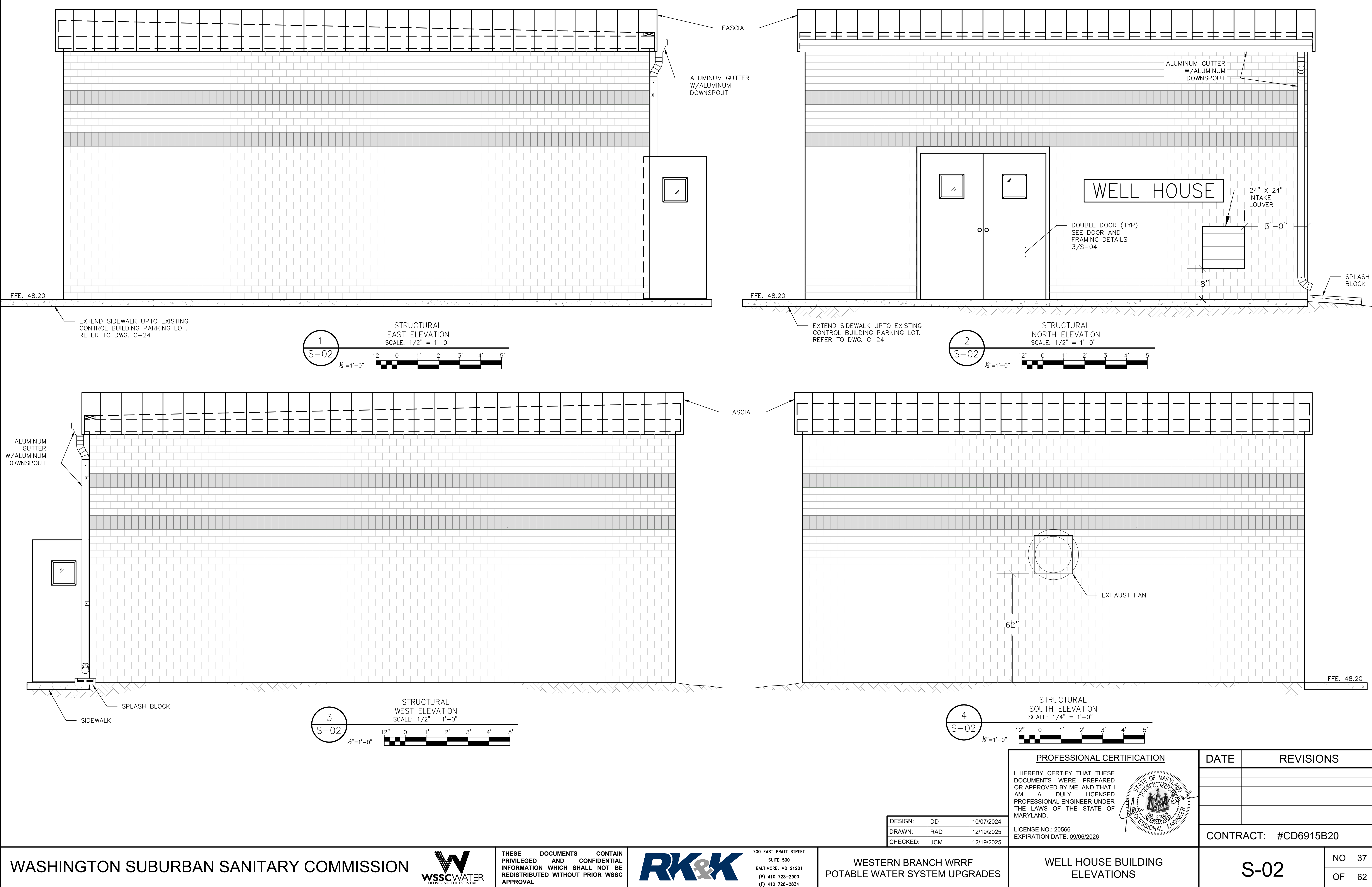
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

GENERAL NOTES

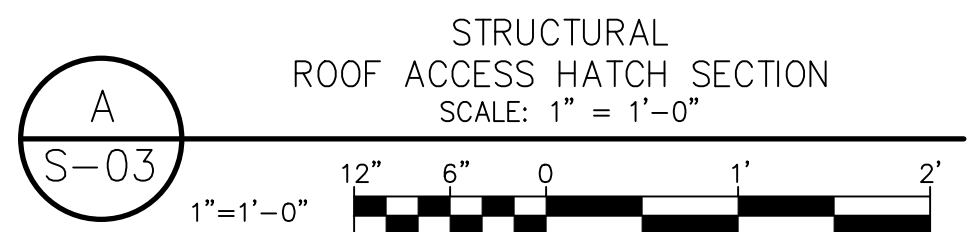
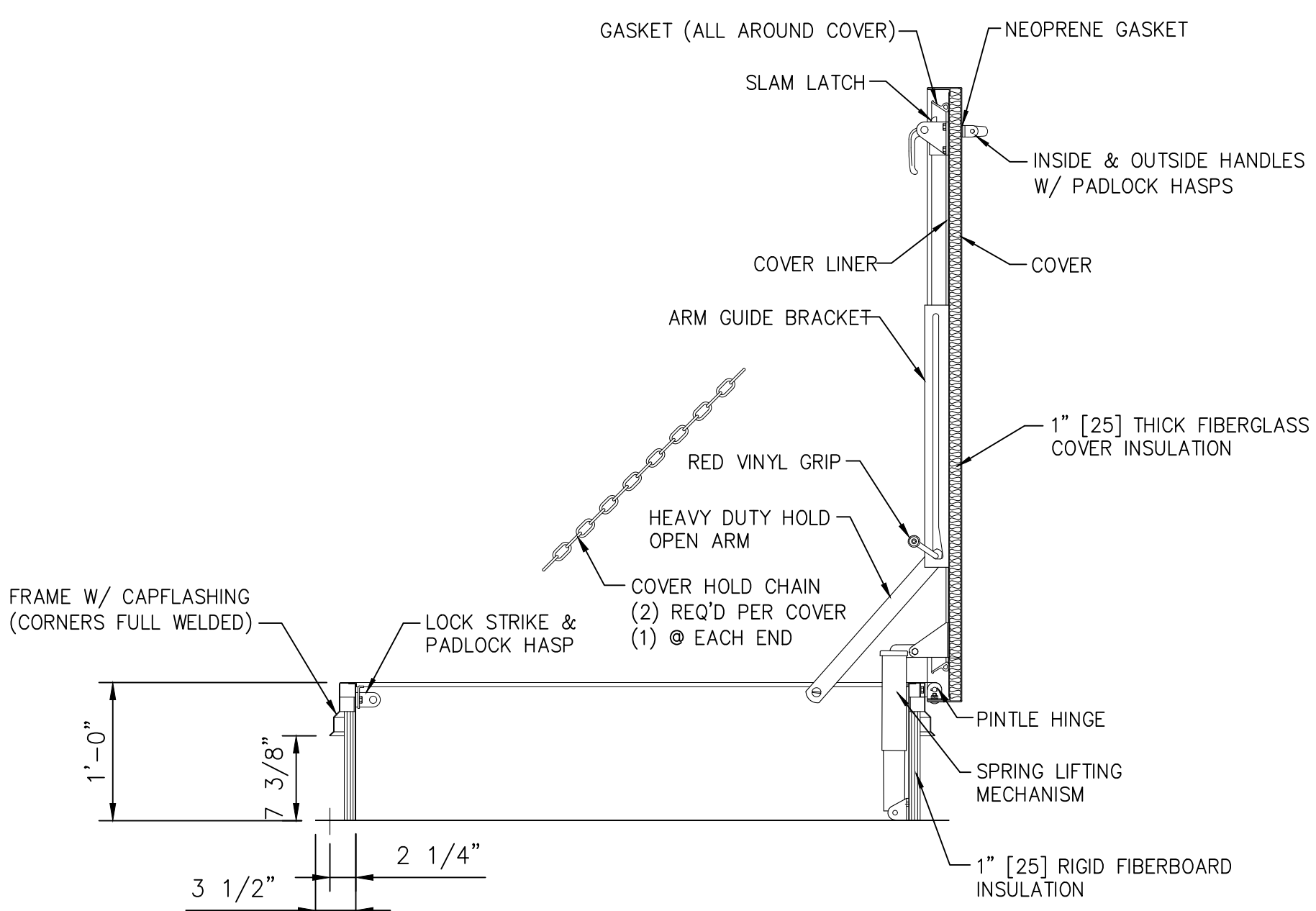
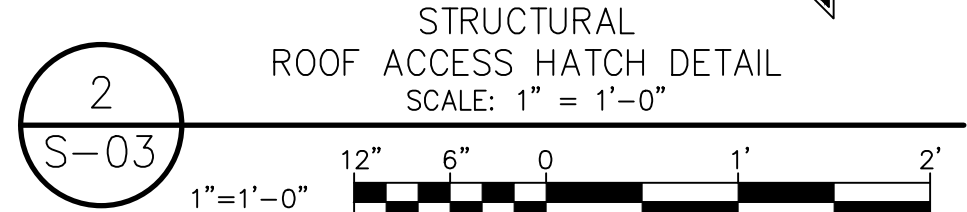
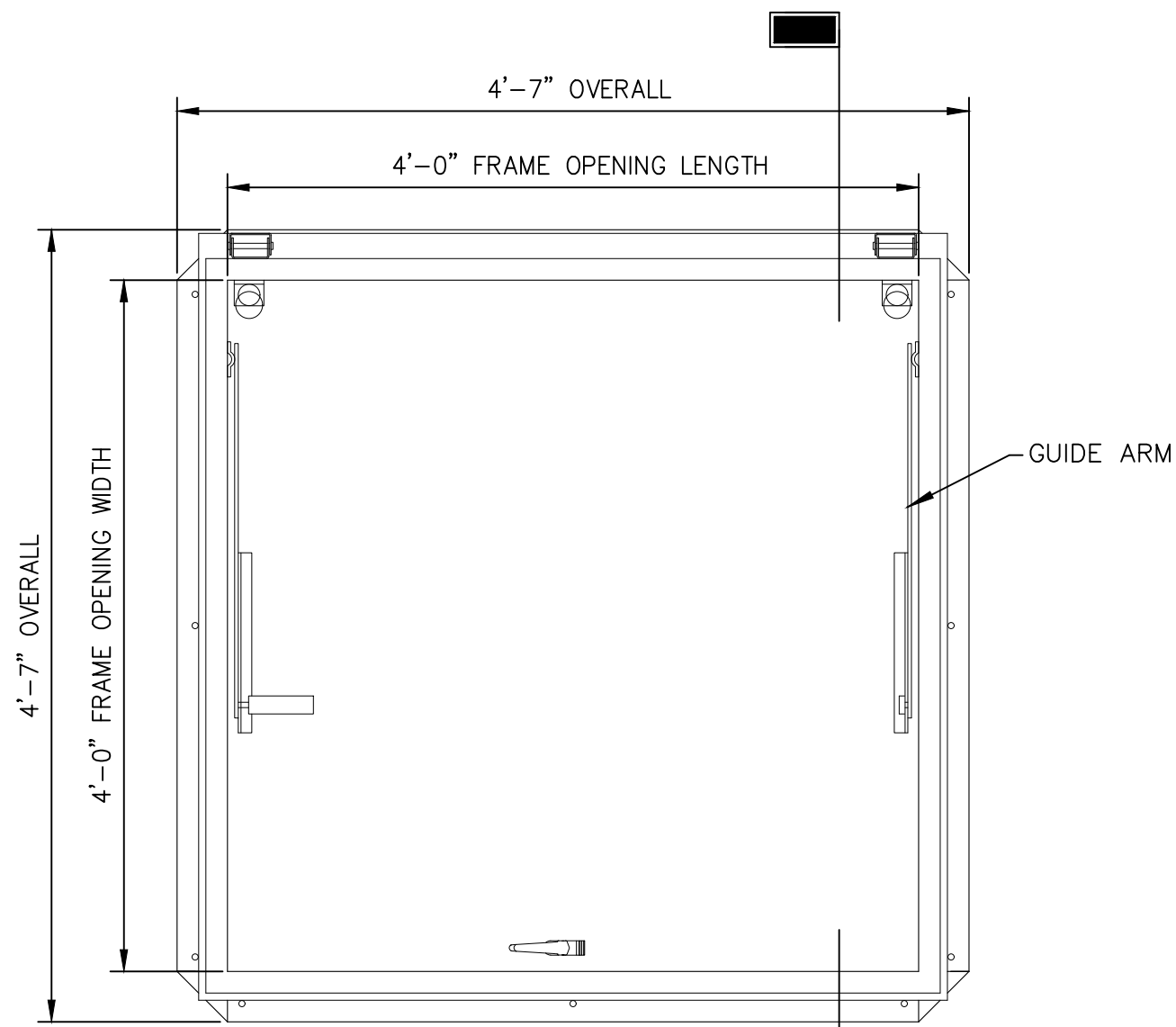
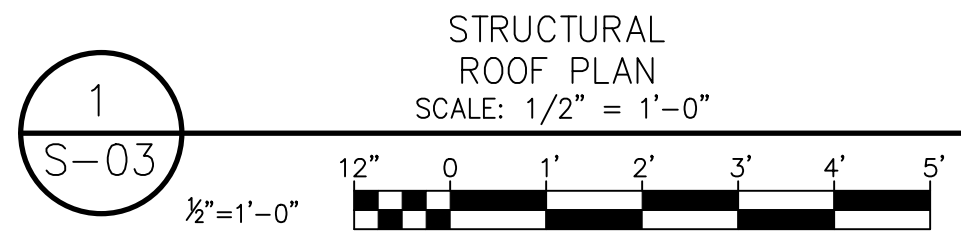
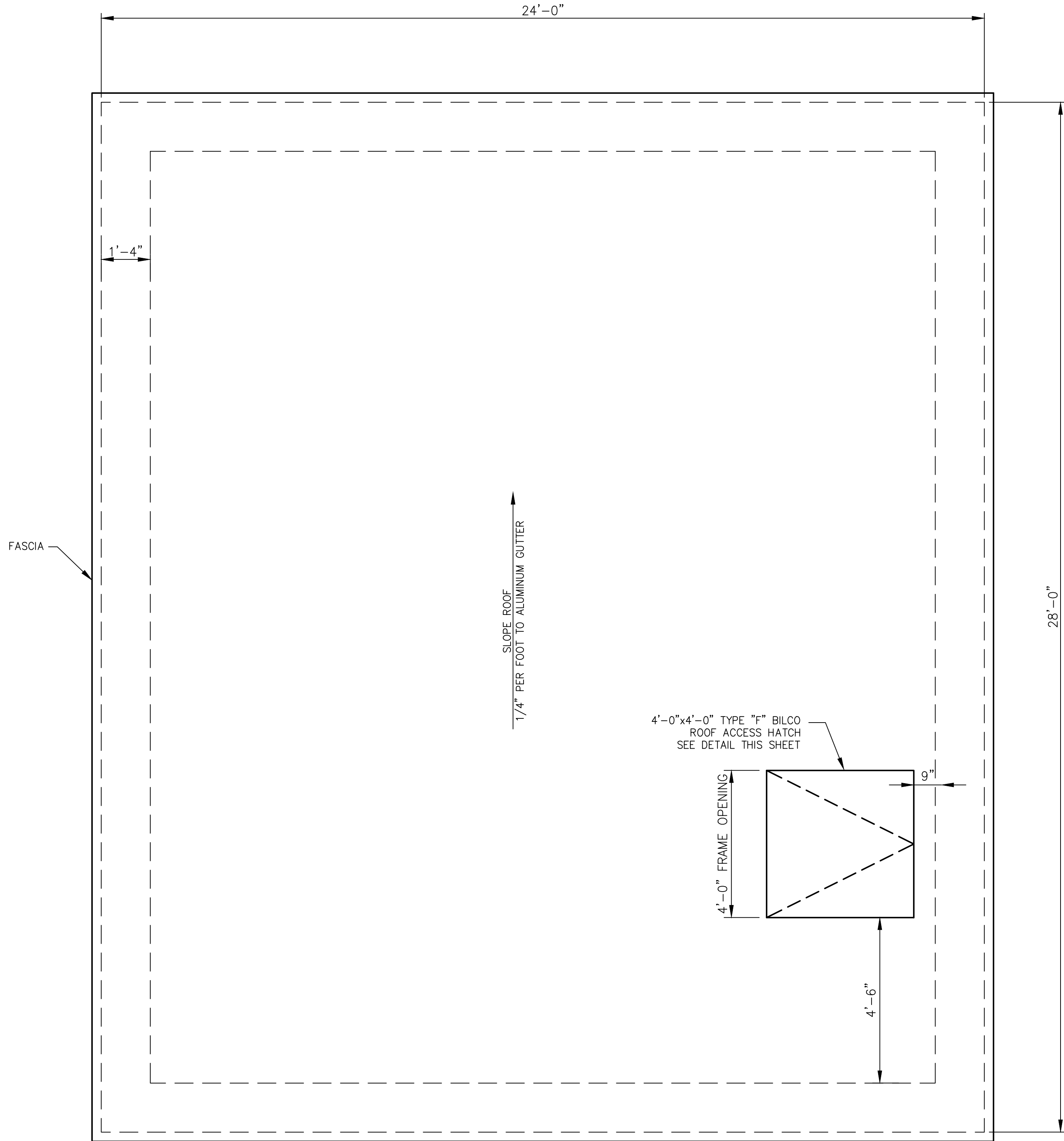
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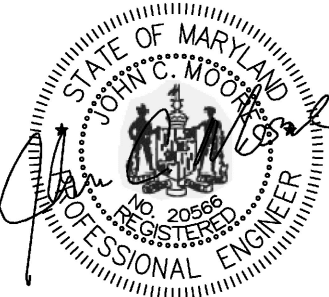
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\\od-rk.com\rs\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CAAD\Plans\S-02 Well House Elevation.dwg Jan 09, 2026 - 11:02am Plot By: rdixon Tab:S-02



\\od-rk.com\ra\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CAAD\Plans\S-03 Well House Roof Plan.dwg Jun 09, 2026 - 11:03am Plot By: rdixon Tab:S-03



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CONTRACT: #CD6915B20			
WESTERN BRANCH WRRF POTABLE WATER SYSTEM UPGRADES		S-03	
		NO 38 OF 62	

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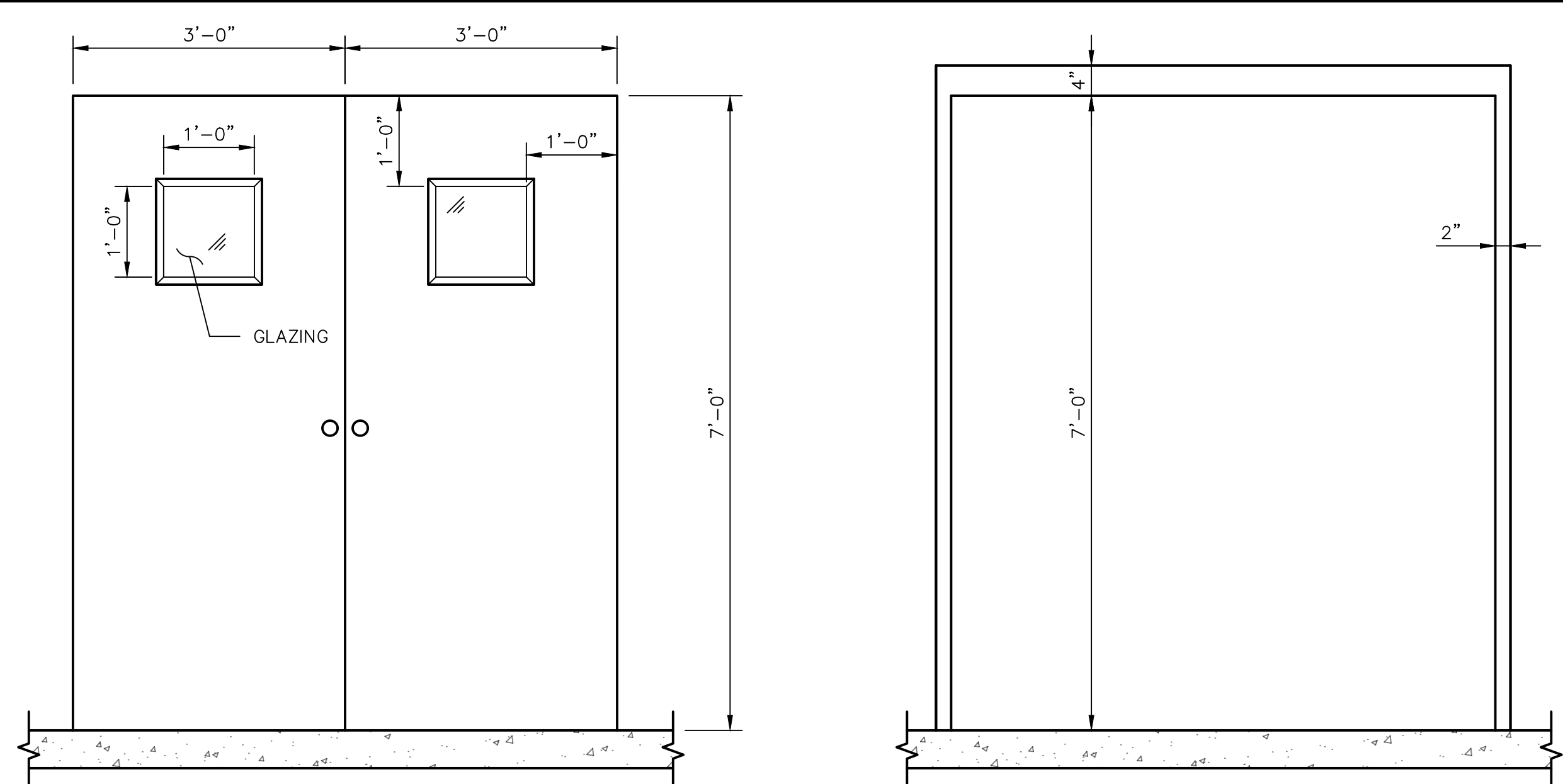
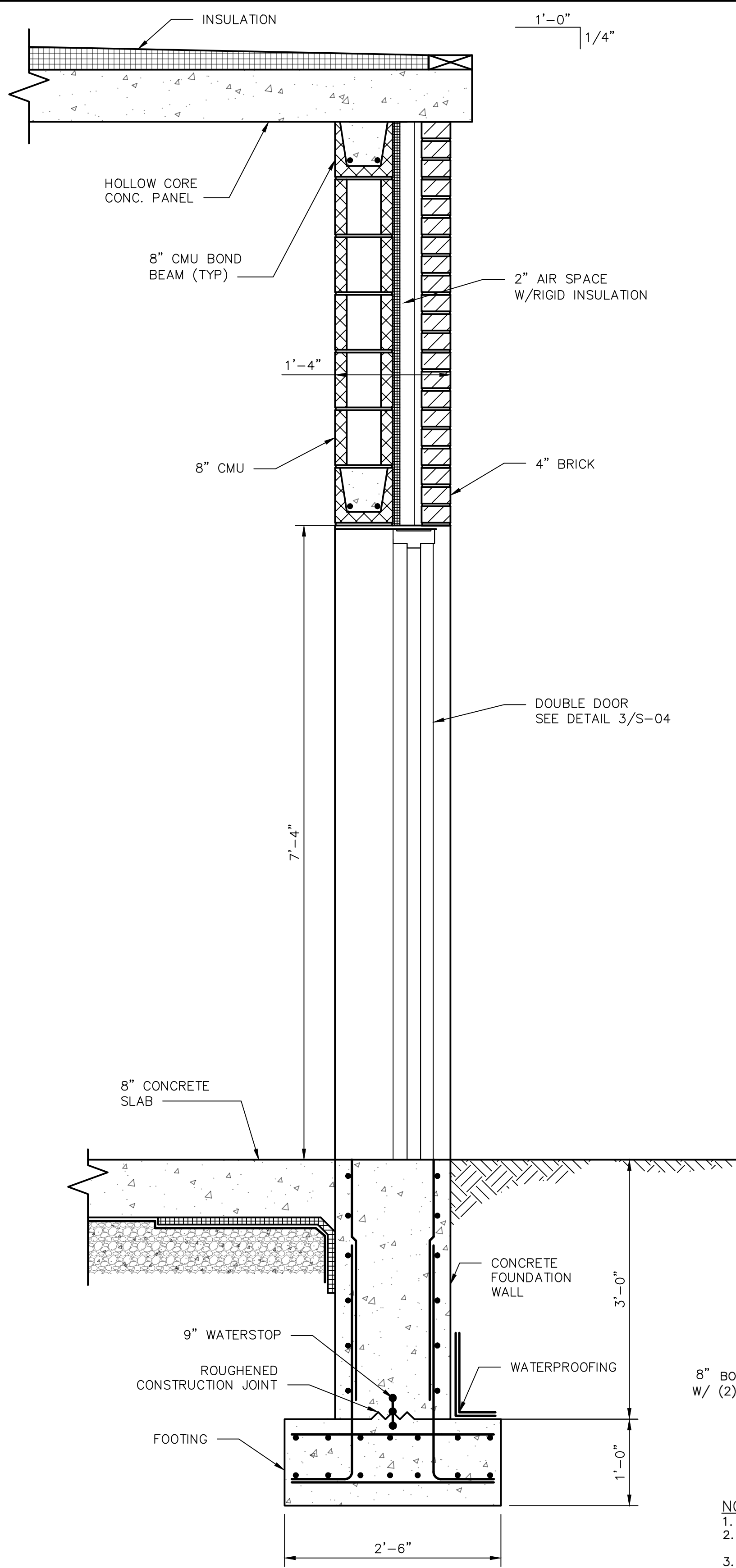
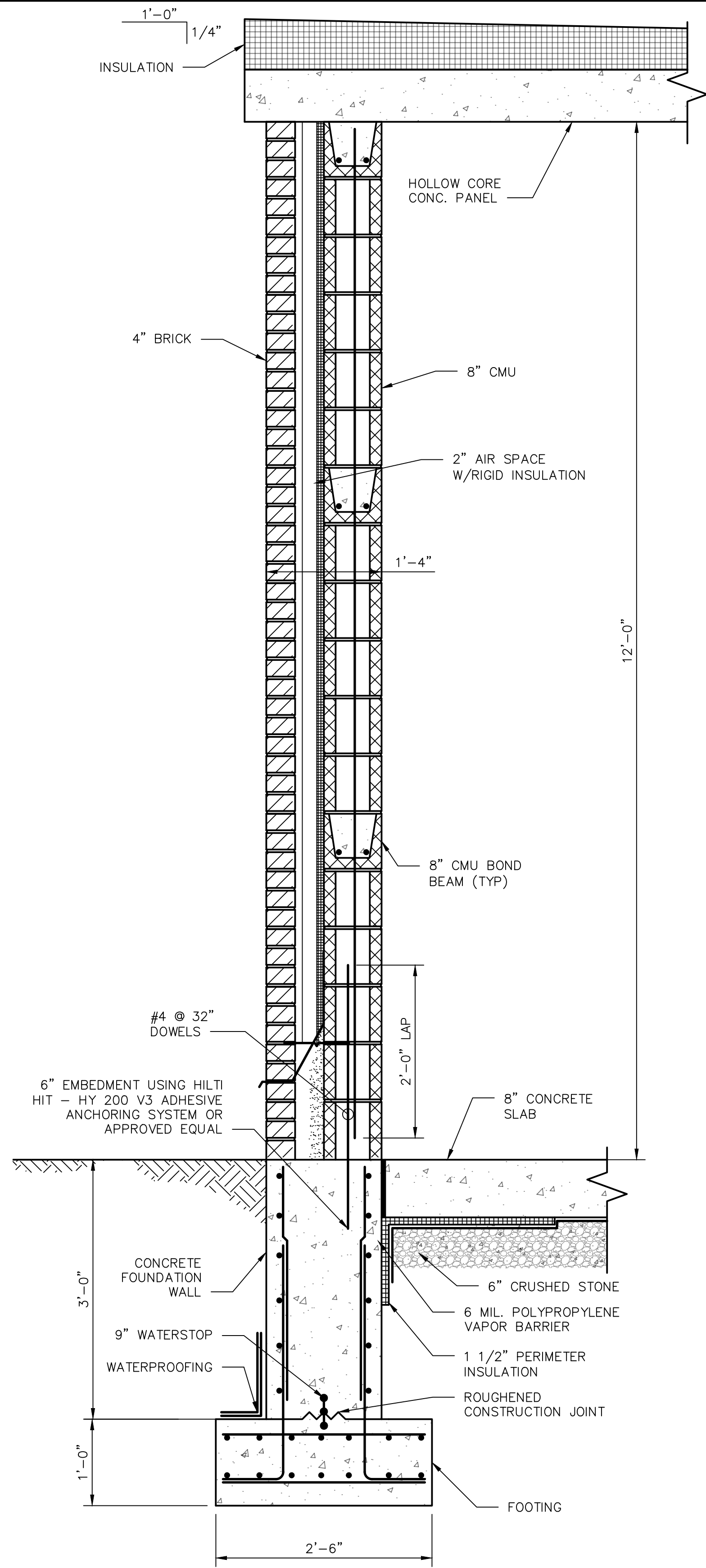


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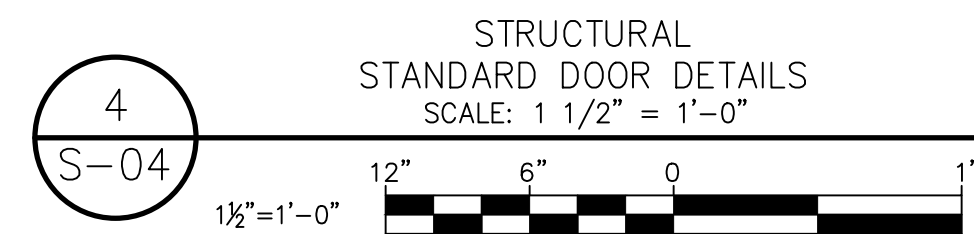
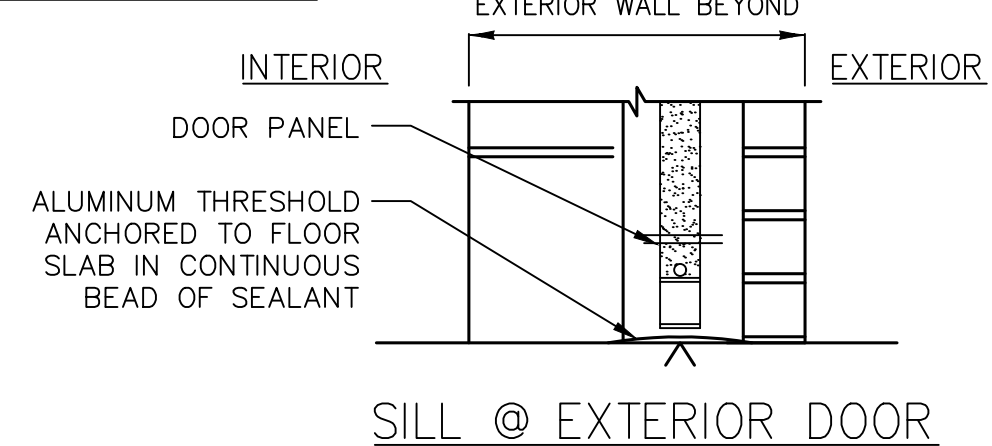
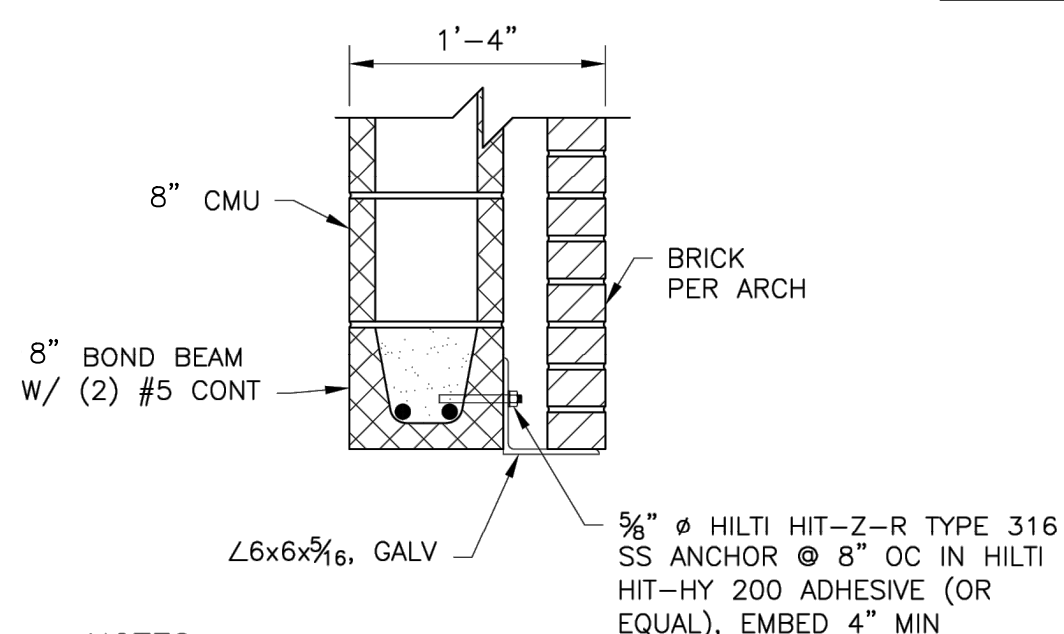
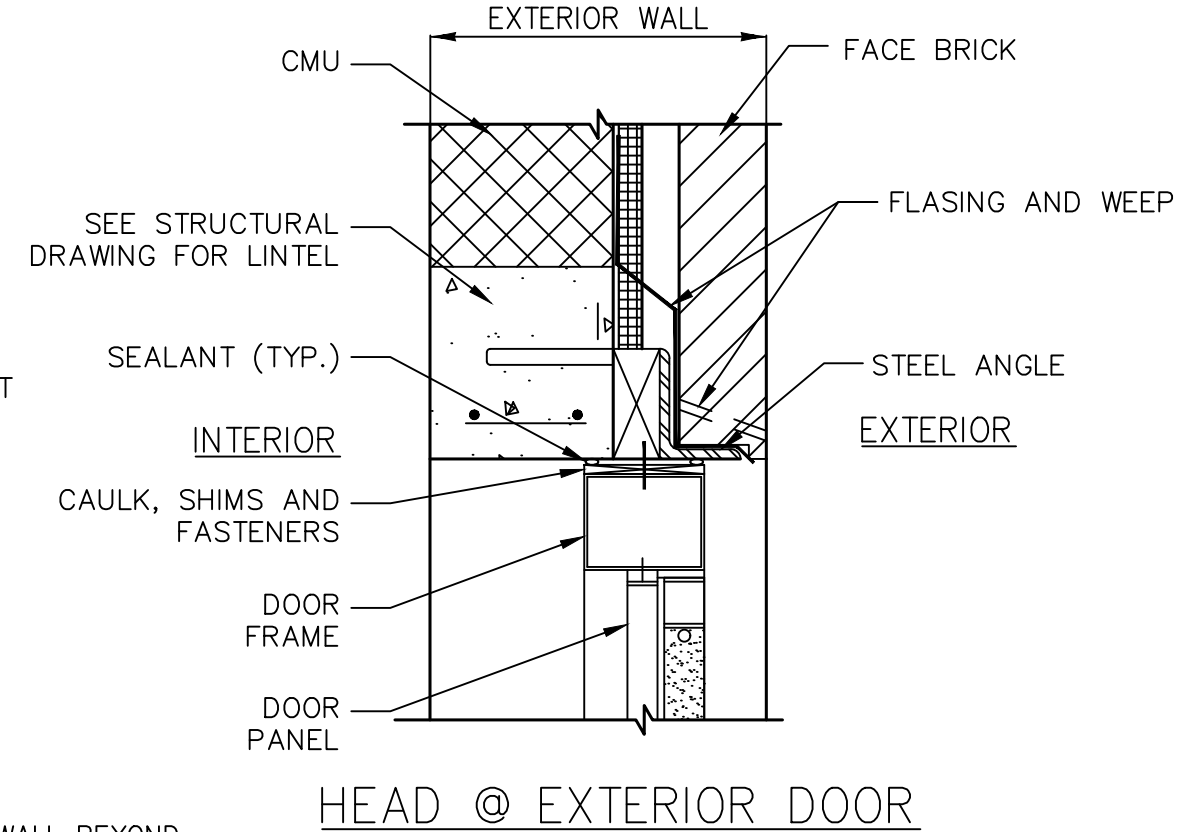
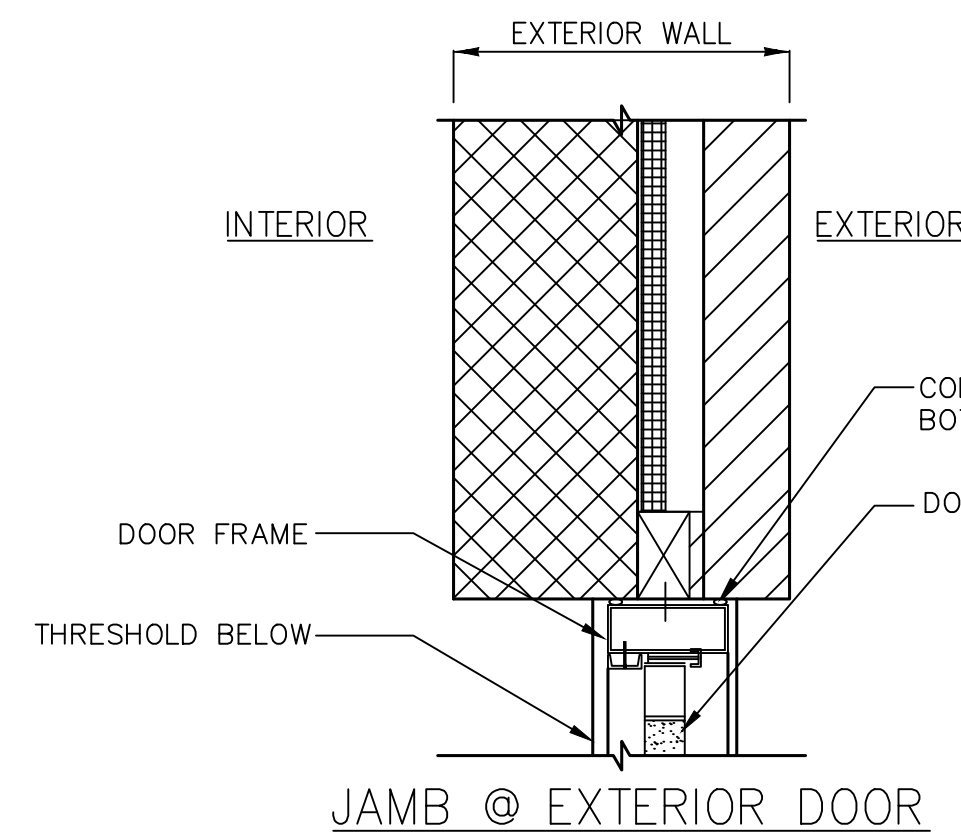
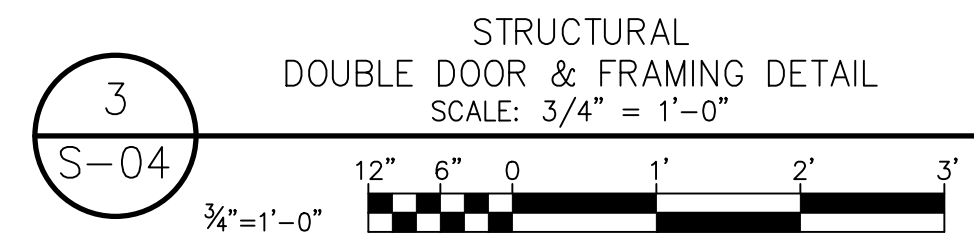
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE BUILDING
ROOF PLAN

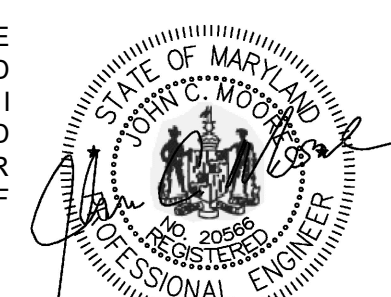
\\od-rk.com\fs\Cloud\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CADD\Plans\S-04 Well House Sections.dwg Jan 09, 2026 - 11:03am Plot By: rdixon Tab:S-04



NEW DOOR SCHEDULE							
NO.	FRAME		DOOR			FIRE LABEL	REMARKS
	MAT'L	MAT'L	WIDTH	HEIGHT	THICKNESS		
1	FRP	FRP	6'-0"	7'-0"	1 3/4"	-	-



- NOTES:
- PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS.
 - PRIOR TO FABRICATING LINTELS, VERIFY ALL MASONRY OPENING SIZES WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
 - ALL HORIZONTAL LINTEL ELEMENTS SUPPORTING EXTERIOR WYTHES OF MASONRY SHALL BE HOT-DIP GALVANIZED.
 - LOOSE LINTELS UP TO 4'-0" TO HAVE A 4" MINIMUM BEARING.
 - MASONRY LINTELS SHALL BE GROUTED SOLID.

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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CONTRACT: #CD6915B20			

WASHINGTON SUBURBAN SANITARY COMMISSION



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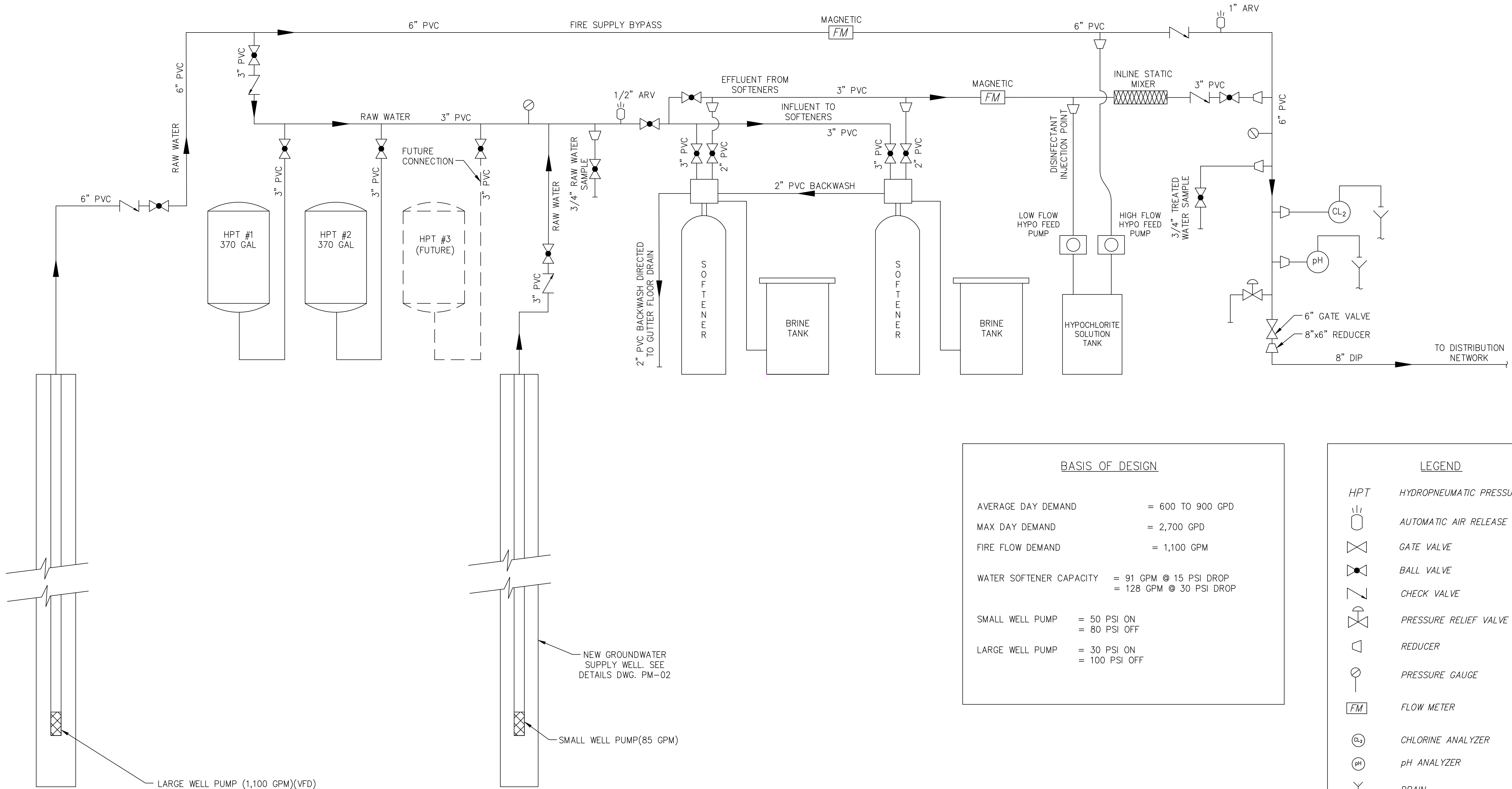
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE BUILDING
WALL SECTIONS & DETAILS

S-04

NO 39
OF 62

\\od-rk.com\Projects\2021\21170_WSSCPWStru\Task 2 - WB Potable Water System Design\CAAD\Plans\PM-01_Process Flow Diagram.dwg Jan 09, 2026 - 11:07am Plot By: rdixon Tab:PM-01



BASIS OF DESIGN

AVERAGE DAY DEMAND	= 600 TO 900 GPD
MAX DAY DEMAND	= 2,700 GPD
FIRE FLOW DEMAND	= 1,100 GPM
WATER SOFTENER CAPACITY	= 91 GPM @ 15 PSI DROP = 128 GPM @ 30 PSI DROP
SMALL WELL PUMP	= 50 PSI ON = 80 PSI OFF
LARGE WELL PUMP	= 30 PSI ON = 100 PSI OFF

LEGEND

HPT	HYDROPNEUMATIC PRESSURE TANK
	AUTOMATIC AIR RELEASE VALVE
	GATE VALVE
	BALL VALVE
	CHECK VALVE
	PRESSURE RELIEF VALVE
	REDUCER
	PRESSURE GAUGE
FM	FLOW METER
	CHLORINE ANALYZER
	pH ANALYZER
	DRAIN

1
PM-01
PROCESS FLOW DIAGRAM
N.T.S.

PROFESSIONAL CERTIFICATION

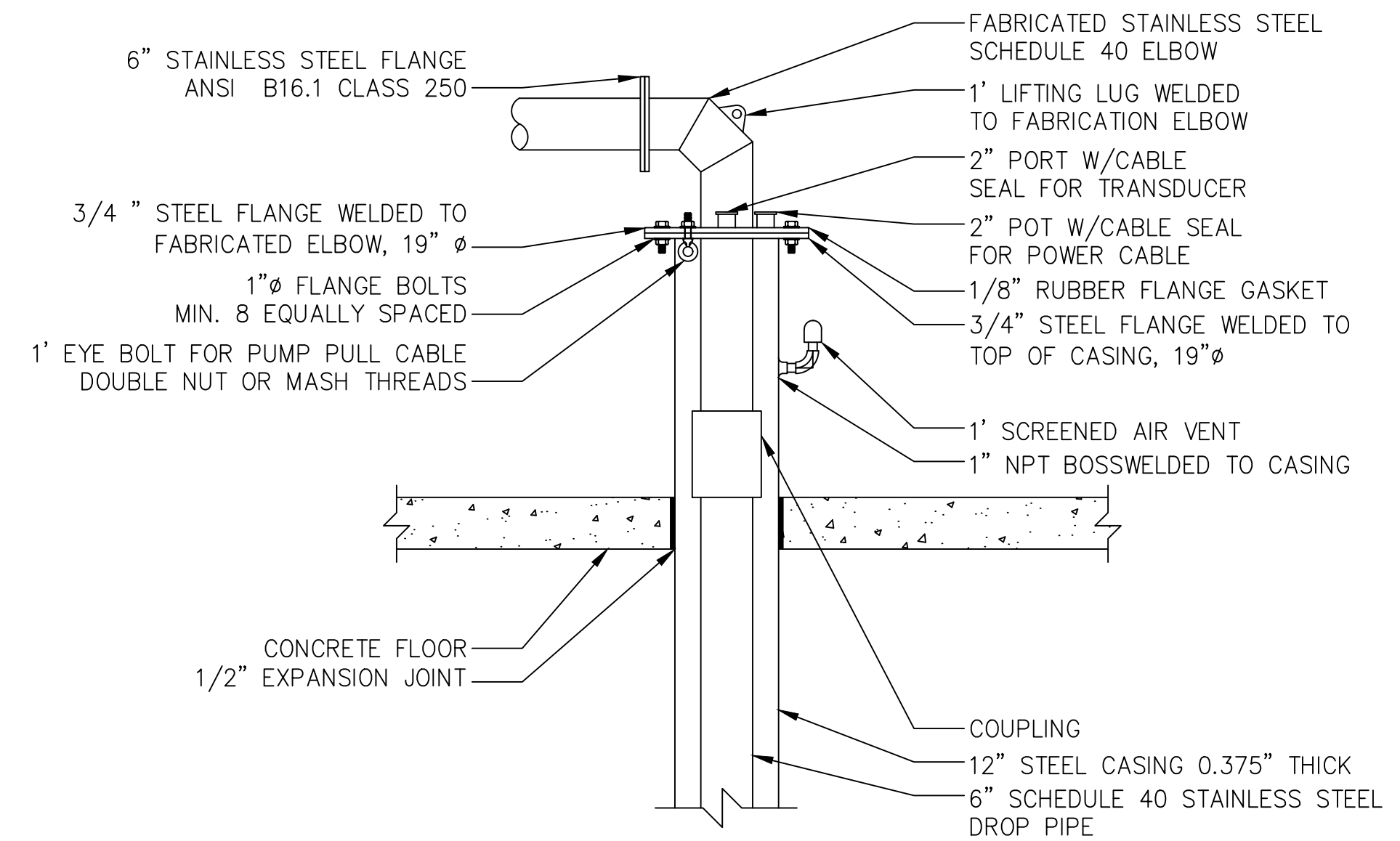
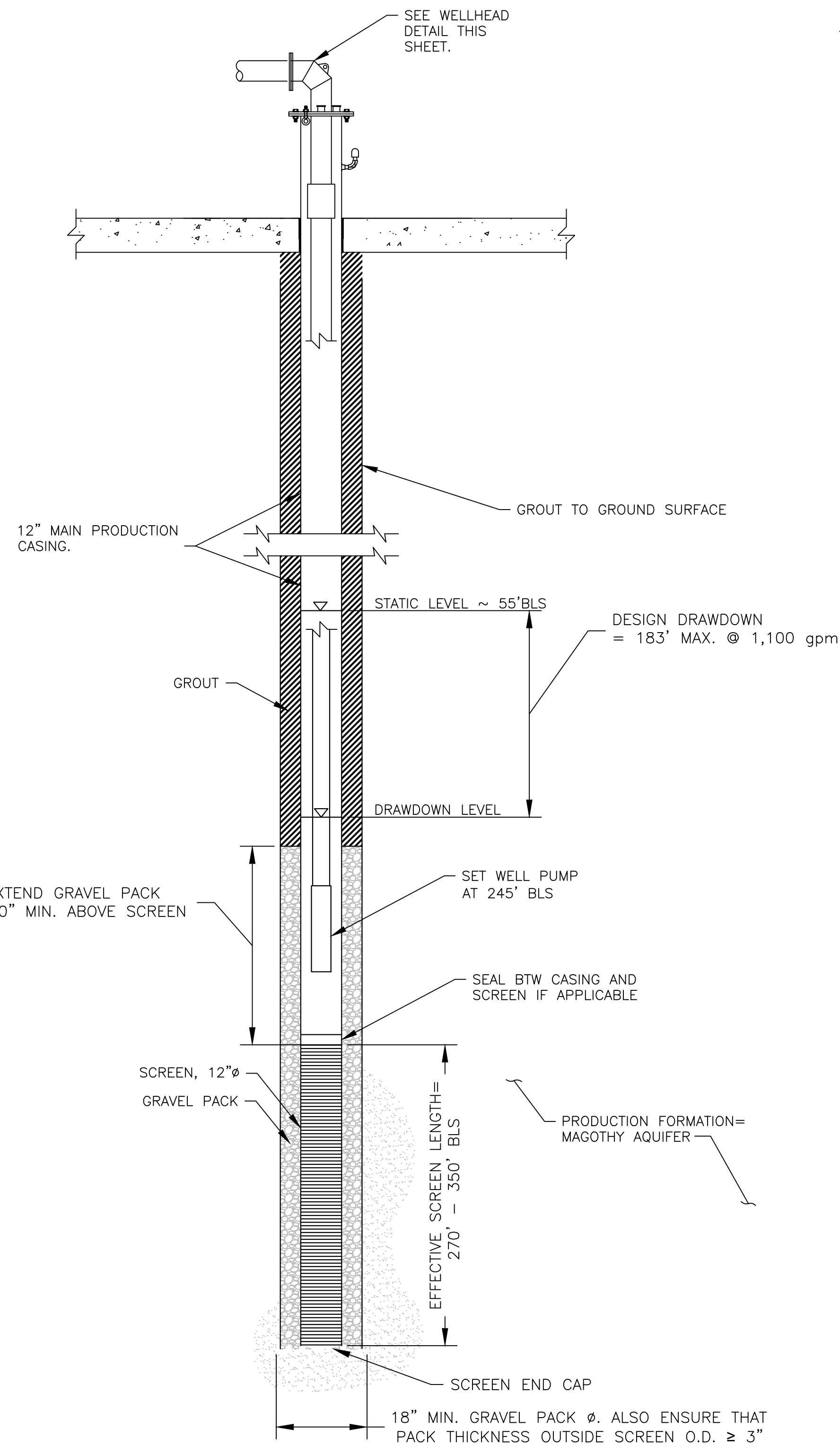
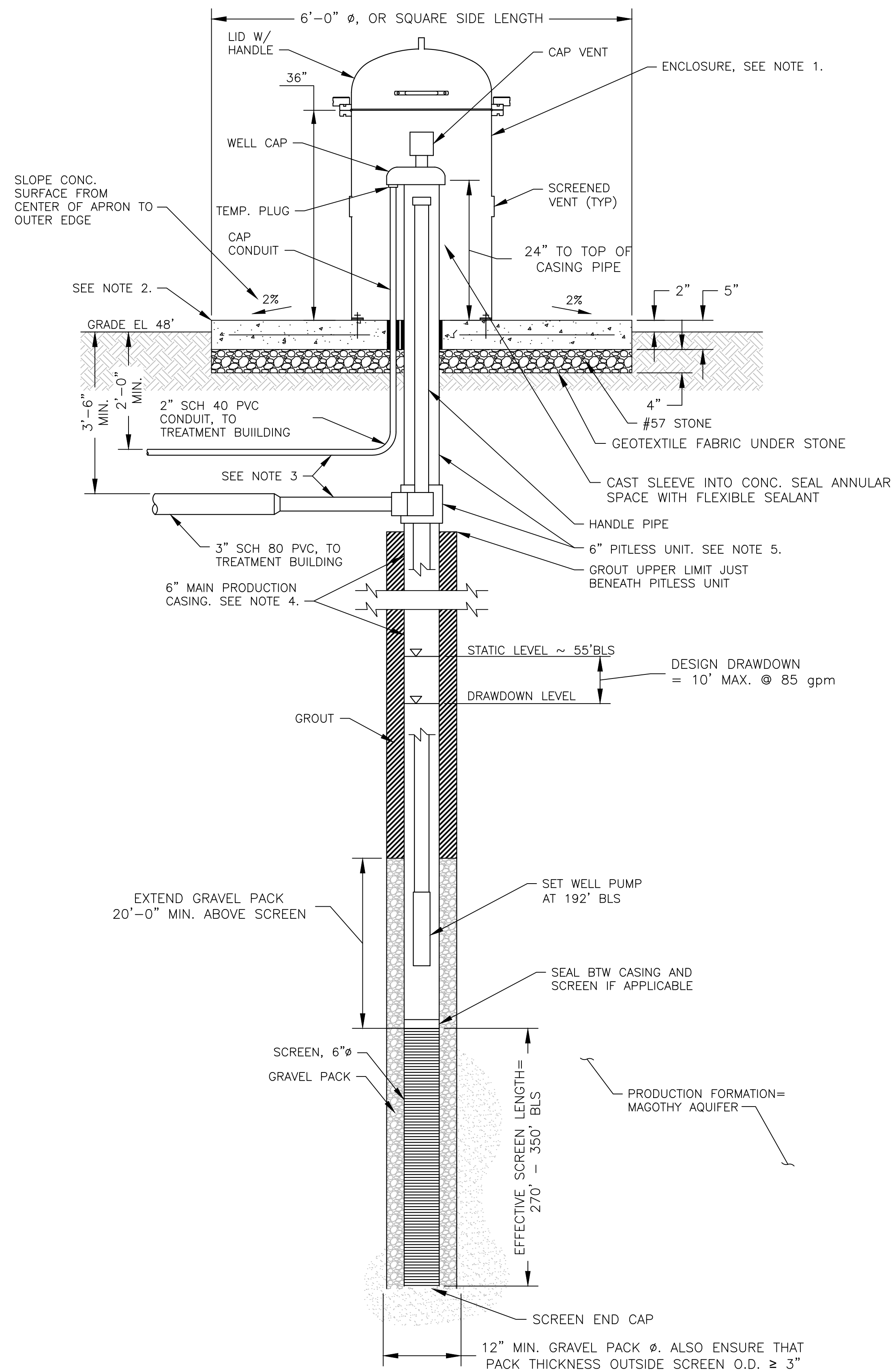
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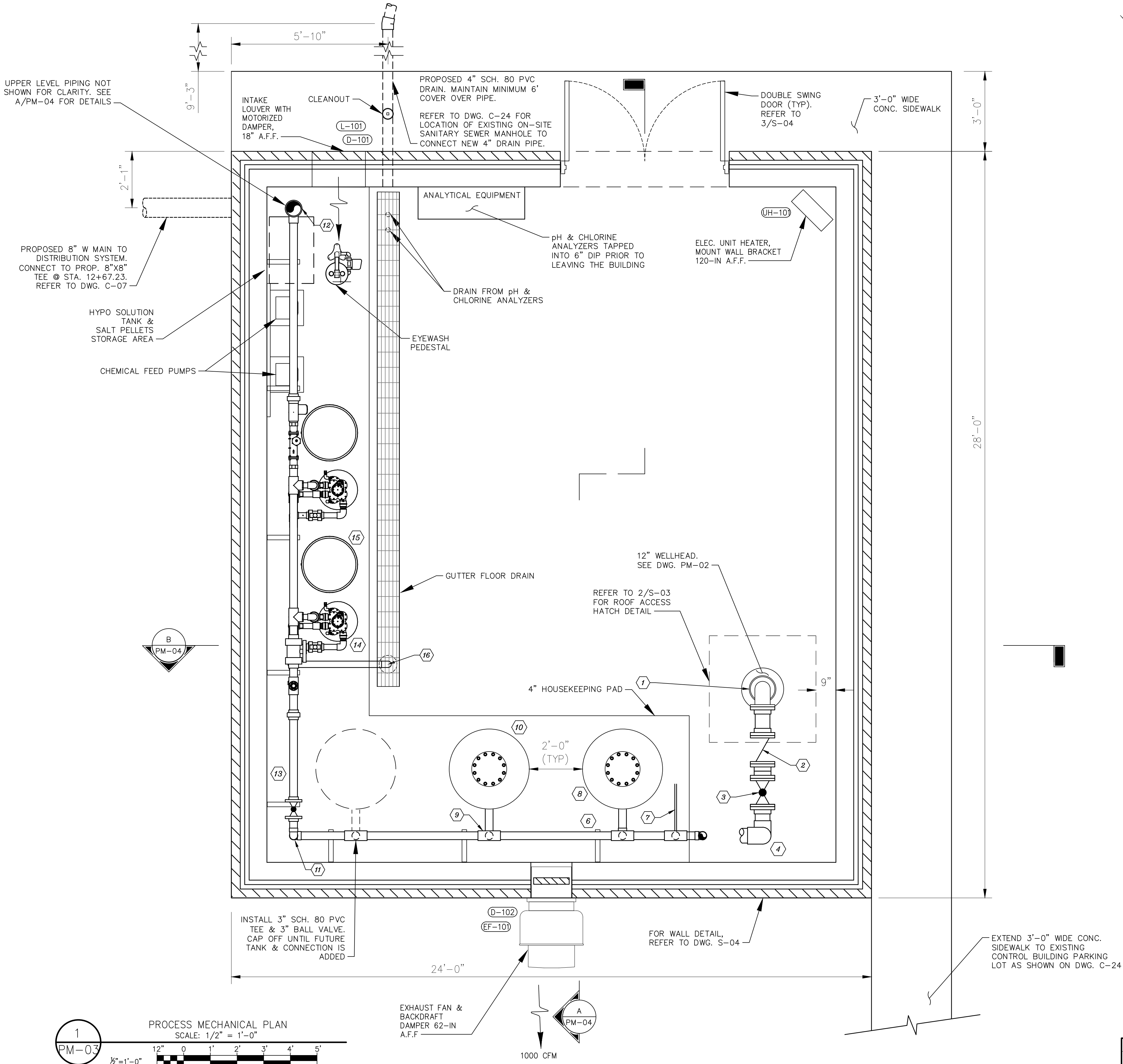
WELL	DESIGN FLOWRATE (GPM)	TDH (')	OPERATING CONDITIONS
SMALL PUMP	85	170'	STATIC WL= 55'BLS, 50 psi SYS.PRESS
SMALL PUMP	82	180'	MAX. DRAWDOWN WL= 65'BLS, 50 psi SYS.PRESS
SMALL PUMP	50	249'	MAX. DRAWDOWN WL= 65'BLS, 80 psi SYS.PRESS
LARGE PUMP(VFD)	1,100	124'	STATIC WL= 55'BLS, 30 psi SYS.PRESS, 75% SPD
LARGE PUMP(VFD)	1,100	252'	MAX. DRAWDOWN WL= 183'BLS, 30 psi SYS.PRESS, 94% SPD
LARGE PUMP(VFD)	425	413'	MAX. DRAWDOWN WL= 183'BLS, 100 psi SYS. PRESS, 100% SPD

WELL DETAIL NOTES

1. 2'-0" I.D. CIRCULAR STEEL PROTECTIVE ENCLOSURE W/ LOCKABLE HINGED LID AND INTEGRAL SCREENED VENTS BUILT INTO SIDE WALL. ANCHOR TO CONC. APRON PER MANUFACTURER'S RECOMMENDATIONS. SHALL BE REMOVABLE BY REMOVING PINS OR BOLT NUTS. ALL STEEL, INTERIOR AND EXTERIOR SHALL BE POWDER COAT PAINTED. UNIT SHALL BE MONITOR PROTECTIVE WELL ENCLOSURE BY BAKER MANUFACTURING COMPANY. NO OTHER SUBSTITUTES WILL BE ALLOWED.
2. CONC. APRON, CIRCULAR OR SQUARE, CENTERED WITH CENTER OF WELL CASING. CONC. TO BE 3,500 PSI STRENGTH MIN. PROVIDE 6x6, W1.4xW1.4 W.W.F. REINFORCEMENT.
3. PROVIDE 3" MIN. OF #57 STONE BEDDING AND COVER AROUND CONDUIT AND PIPE. PROVIDE GEOTEXTILE FABRIC BETWEEN STONE AND SOIL. COMPACT BACKFILL IN 6" LIFTS TO 92% MIN. DENSITY AT A MOISTURE CONTENT WITHIN 3% OF OPTIMUM MOISTURE CONTENT PER AASHTO T180.
4. ADDITIONAL CASINGS MAY BE INSTALLED AT THE CONTRACTOR'S OPTION AND EXPENSE, SUBJECT TO APPROVAL.
5. PROVIDE NSF-61 CERTIFIED PITLESS "UNIT" WHICH INCLUDES DISCHARGE BODY, UPPER CASING COATED IN EPOXY, HANDLE PIPE, AND WELL CAP SUPPLIED BY ONE MANUFACTURER. DO NOT PROVIDE PITLESS ADAPTER AS ISOLATED PRODUCT. SHALL HAVE A VERTICAL LOAD RATING (FOR COLUMN PIPE ATTACHMENT) OF AT LEAST 5,000 LBS. BOTTOM CONNECTION FOR COLUMN PIPE SHALL BE 2" NOMINAL SIZE. UNIT SHALL BE MONITOR STANDARD INDUSTRIAL PITLESS UNIT BY BAKER MANUFACTURING COMPANY. NO SUBSTITUTES WILL BE ALLOWED.

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		<p>DATE</p> <p>REVISIONS</p>	

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PLAN HEX NOTES

- 6" S.S. FLG. 90° SS. FABRICATED ELBOW
- 6" PVC TRUE UNION CHECK VALVE
- 6" PVC TRUE UNION BALL VALVE
- 6" SCH. 80 PVC 90° ELBOW
- NOT USED
- 3" SCH. 80 PVC PIPE (SMALL WELL WATER LINE)
- 1/2" HOSE BIBB W/3/4" MHT OUTLET
- 3" SCH. 80 PVC PIPE (HYDROPNEUMATIC TANK FILL LINE)
- 3" SCH. 80 PVC TEE ROTATED 90° DOWNWARDS (TYP 3)
- 370 GAL. HYDROPNEUMATIC STORAGE TANK (TYP 2)
- 3" SCH. 80 PVC 90° ELBOW (TYP)
- 6"X3" SCH. 80 PVC TEE
- 3" SCH. 80 PVC PIPE (INFLUENT LINE TO SOFTENERS)
- 90 GPM TREATMENT CAPACITY SOFTENER (TYP 2)
- BRINE TANK (TYP 2)
- 2" SCH. 80 PVC PIPE (DRAIN LINE FROM SOFTENERS)
- 3" PVC TRUE UNION CHECK VALVE
- 3" PVC TRUE UNION BALL VALVE

* PIPING WILL BE SUPPORTED 5' OC USING METAL PIPE SUPPORTS.

ELECTRIC UNIT HEATER (UH) SCHEDULE

NO.	KW	MIN. HEATING CAPACITY (BTU/HR)	VOLTS/PHASE	CFM	HEIGHT (BOTOM OF UNIT)	MFGR/MODEL	REMARKS
UH-101	10	34	208 V/1PH	650	120" A.F.F.	QMARK MODEL MUH108	1

- UH THERMOSTATS SET TO 55°F ADJUSTABLE

EXHAUST FAN (EF) SCHEDULE

NO.	TYPE	AIR FLOW (CFM)	DRIVE	S.P. (WC)	HP	RPM	VOLTS/PHASE	MFGR/MODEL	REMARKS
EF-101	CRNTRIFUGAL	1,000	DIRECT	0.2"	0.25	716	208V/1PH	GREENHECK MODEL CUE -40-VG	1

- COOLING THERMOSTATS FOR EF-101 SET TO 80°F ADJUSTABLE
- WALL MOUNT

LOUVER (L) DAMPER (D) SCHEDULE

NO.	WIDTH	HEIGHT	CFM	FREE AREA	MAX PRESS LOSS	STYLE	DUTY	MFGR/MODEL	REMARKS
L-101	24"	24"	1,100	1.8 SF	0.6"	FIXED	INLET	GREENHECK MODEL ESD-635	1,2,3
D-101	24"	24"	1,100	1.7 SF	1.0"	MOTORIZED DAMPER	INLET	GREENHECK MODEL WD-210	1,2
D-102	16"	16"	1,000	1.5SF	2.0"	BACKDRAFT DAMPER	EXHAUST	GREENHECK MODEL WD-300	2

- SEE ELECTRICAL DRAWINGS FOR CONNECTION REQUIREMENTS
- PARALLEL BLADES
- INSECT SCREEN

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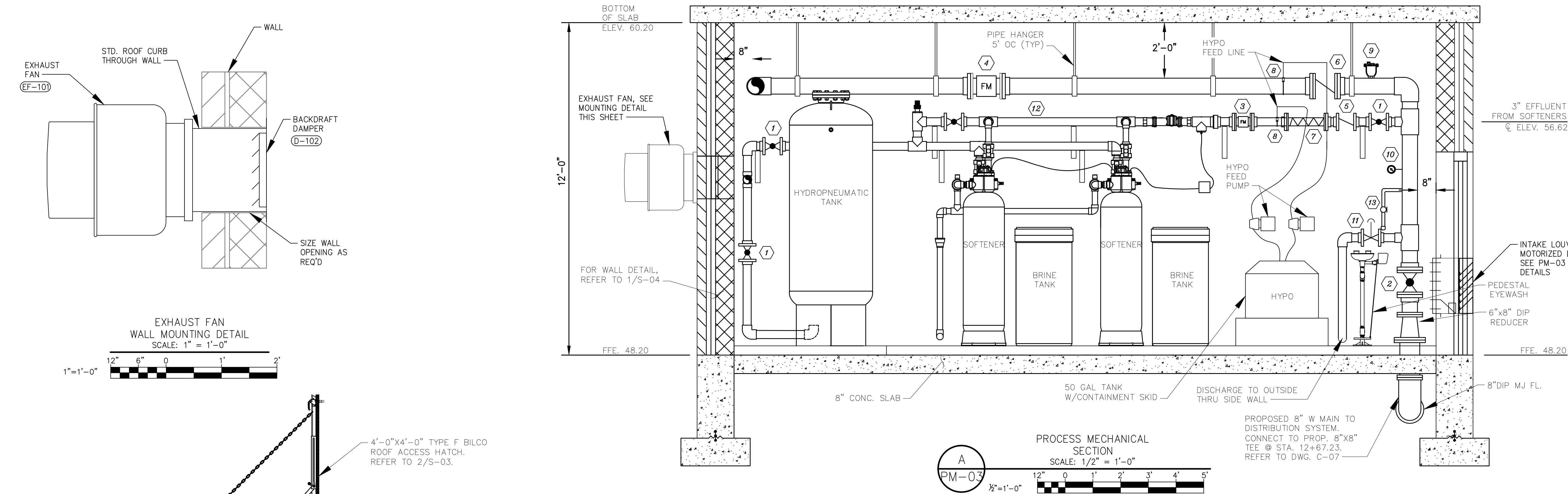
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE BUILDING
FLOOR PLAN

PM-03

NO 42
OF 62

\\od-rk.com\Projects\2021\21170_WSSCPM-04 Sections.dwg, Jan. 09, 2026 - 11:07am Plot By: rdken Tab:PM-04

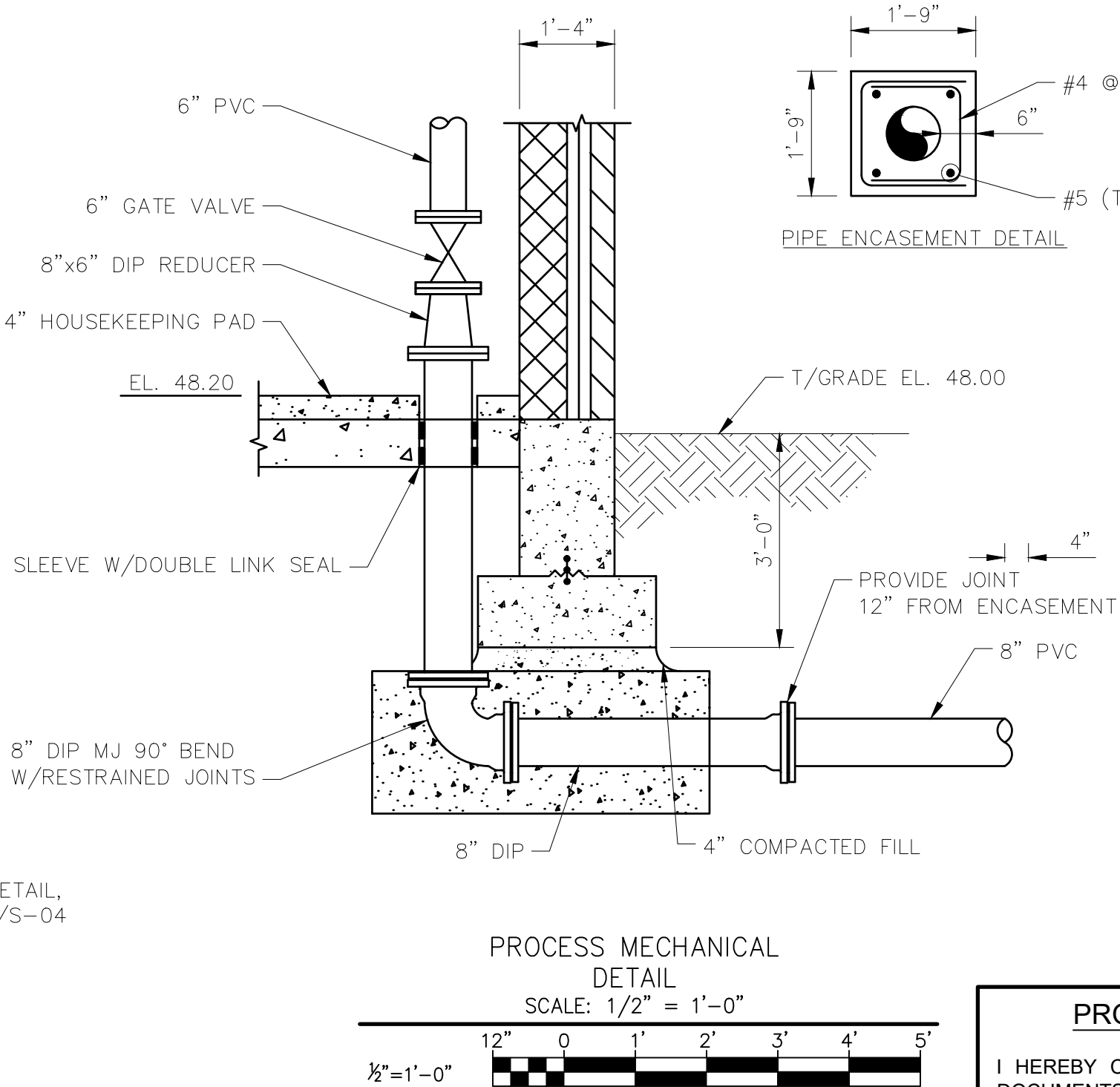
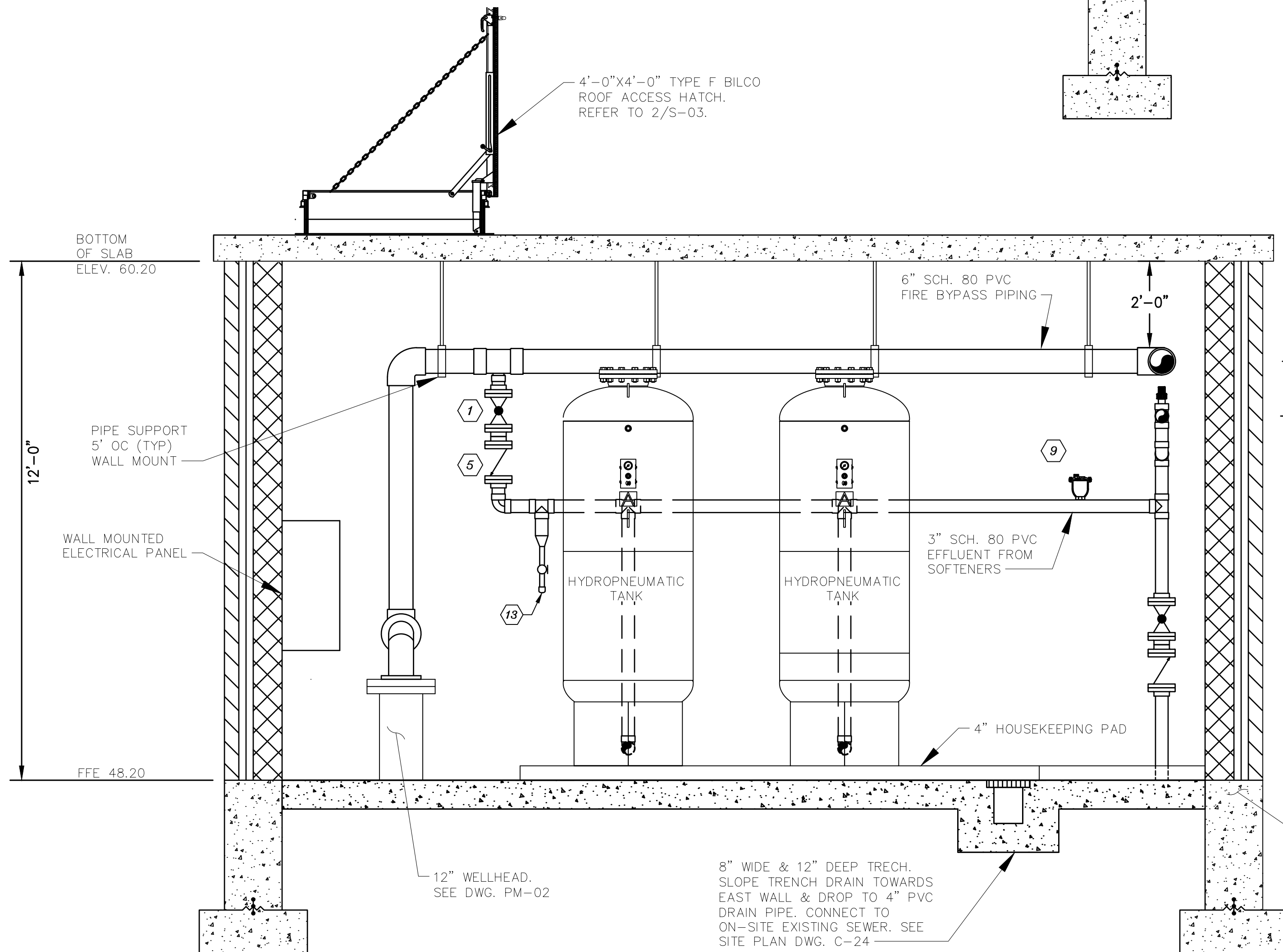


GENERAL NOTES

- ALL PIPING SHALL BE SCH 80 PVC UNLESS OTHERWISE NOTED.
- PLUMB SUPPLY WATER TO PEDESTAL EYEWASH FROM 6" PVC DISCHARGE PIPE.

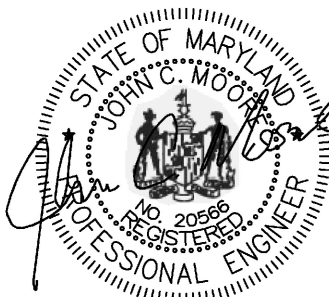
PLAN NOTES

- 3" PVC TRUE UNION BALL VALVE
- 6" PVC TRUE UNION BALL VALVE
- 3" MAGNETIC FLOW METER
- 6" MAGNETIC FLOW METER
- 3" PVC TRUE UNION BALL CHECK VALVE
- 6" PVC TRUE UNION BALL CHECK VALVE
- 3" IN-LINE STATIC MIXER
- CHEMICAL INJECTION QUILL W/SADDLE
- 1" AUTOMATIC AIR RELEASE VALVE W/SADDLE
- PRESSURE GAGE (0-150 PSI)
- 3" PRESS RELIEF VALVE SET TO 120 PSI
- WATER SOFTENER ASSEMBLY
- 1/2" HOSE BIBB WITH 3/4" MHT OUTLET



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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE BUILDING
SECTIONS

PM-04

NO 43
OF 62

ELECTRICAL ABBREVIATIONS

A	—	AMPERES	MCC	—	MOTOR CONTROL CENTER
AC	—	ALTERNATING CURRENT	MCP	—	MOTOR CIRCUIT PROTECTOR
A.F.F.	—	ABOVE FINISHED FLOOR	M.O.D.	—	MOTOR OPERATED DAMPER
A.F.G.	—	ABOVE FINISHED GRADE	N.C.	—	NORMALLY CLOSED
AIC	—	AMPERE INTERRUPTING CAPACITY	N.O.	—	NORMALLY OPEN
ALUM.	—	ALUMINUM	NO.	—	NUMBER
ATS	—	AUTOMATIC TRANSFER SWITCH	P	—	POLE
C	—	CONDUIT	PCS	—	PROCESS CONTROL SYSTEM
CP	—	CONTROL PANEL	PLC	—	PROGRAMMABLE LOGIC CONTROLLER
CT	—	CURRENT TRANSFORMER, CONSTANT TORQUE	PH	—	PHASE
D	—	DEEP	PR.	—	PAIR
DC	—	DIRECT CURRENT	SCH.	—	SCHEDULE
DISC.	—	DISCONNECT	SHLD.	—	SHIELDED
DWG.	—	DRAWING	SN	—	SOLID NEUTRAL
EF	—	EXHAUST FAN	SPD	—	SURGE PROTECTIVE DEVICE
FODP	—	FIBER OPTIC DISTRIBUTION PANEL	S.S.	—	STAINLESS STEEL
G.F.I.	—	GROUND FAULT INTERRUPTER	T–M	—	THERMAL MAGNETIC
GRD.	—	GROUND	TYP.	—	TYPICAL
GRS	—	GALVANIZED RIGID STEEL	V	—	VOLTS
H	—	HIGH	VT	—	VARIABLE TORQUE
H/O/A	—	HAND/OFF/AUTO	VFD	—	VARIABLE FREQUENCY DRIVE
HP	—	HORSEPOWER	W	—	WIRE, WATT, WIDE
IPS	—	INFLUENT PUMP STATION	WP	—	WEATHERPROOF
I/O	—	INPUT/OUTPUT	XFMR	—	TRANSFORMER
KV	—	KILOVOLT			
KW	—	KILOWATT			

ELECTRICAL SYMBOL SCHEDULE

	—	LED LIGHT FIXTURE
	—	EMERGENCY LIGHT FIXTURE
	—	COMBINATION EMERGENCY/EXIT FIXTURE
	—	EMERGENCY LIGHT FIXTURE REMOTE HEAD
	—	EXIT FIXTURE
	—	20A–120V DUPLEX RECEPTACLE
	—	MOTOR (NUMBER INDICATES HP)
	—	DISCONNECT SWITCH
	—	EMERGENCY STOP PUSH BUTTON
	—	PRESSURE SWITCH
	—	PRESSURE TRANSMITTER
	—	TEMPERATURE TRANSMITTER
	—	JUNCTION BOX
	—	THERMOSTAT
	—	TRANSFORMER
	—	SINGLE POLE SWITCH
	—	THREE–WAY SWITCH
	—	WEATHER–PROOF SWITCH
	—	MANUAL STARTER SWITCH WITH THERMAL OVERLOAD
	—	HOME RUN TO PANEL
	—	TICKS INDICATE NUMBER OF WIRES – NOT INCLUDING GROUND CONDUCTOR
	—	WIRING CONCEALED IN CONDUIT
	—	CONDUIT CONCEALED IN FLOOR OR SLAB
	—	CIRCUIT BREAKER
	—	MOTOR STARTER
	—	THERMAL OVERLOAD
	—	CONCRETE ENCASED ELECTRICAL DUCT BANK
	—	DUCT BANK CROSS SECTION
	—	DETAIL IDENTIFICATION
	—	DETAIL IDENTIFICATION SYMBOL
	—	DRAWING NUMBER WHERE DETAIL CAN BE FOUND

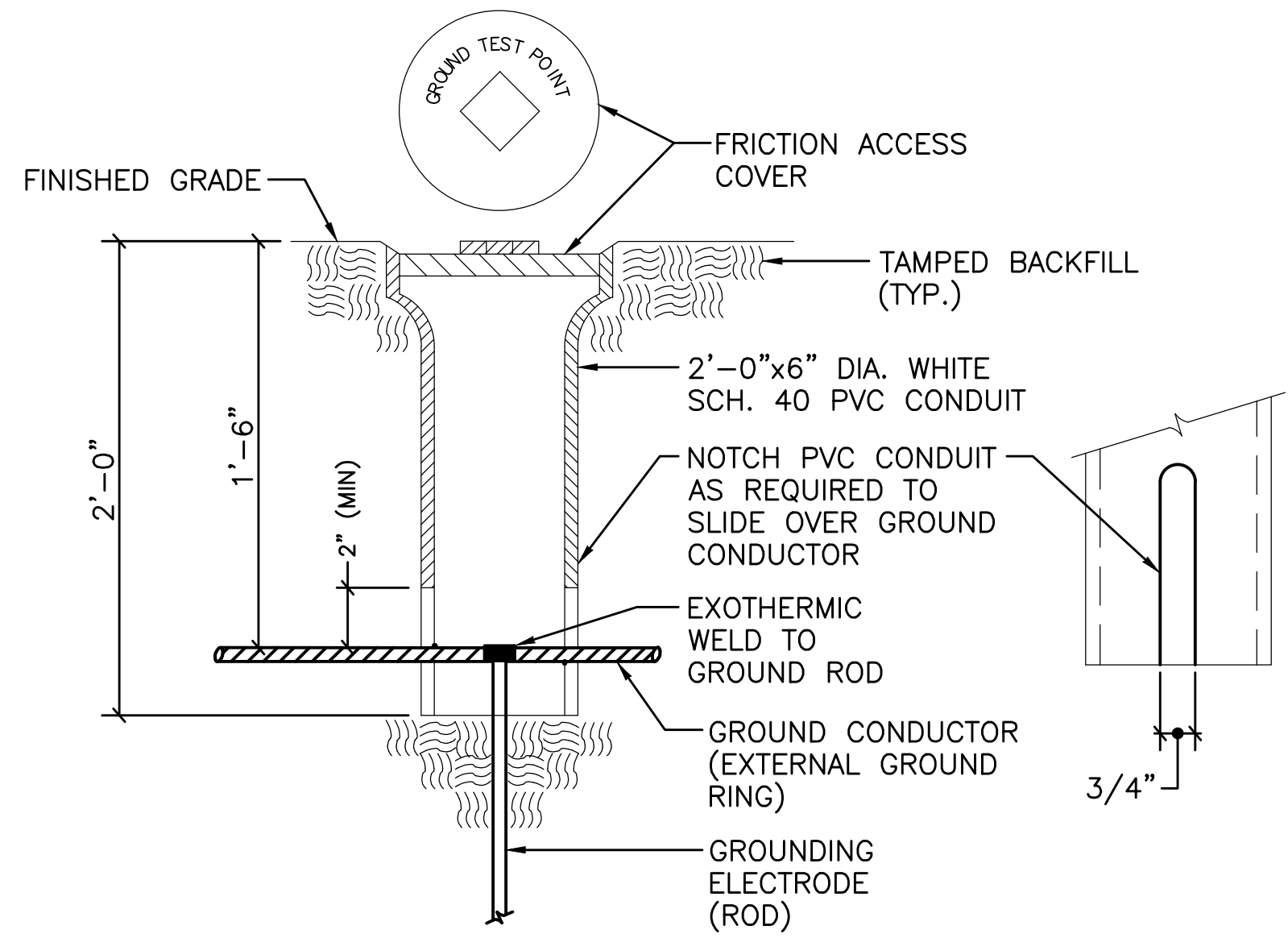
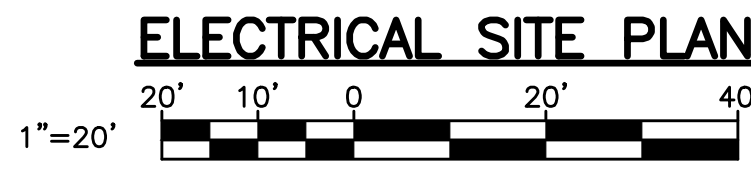
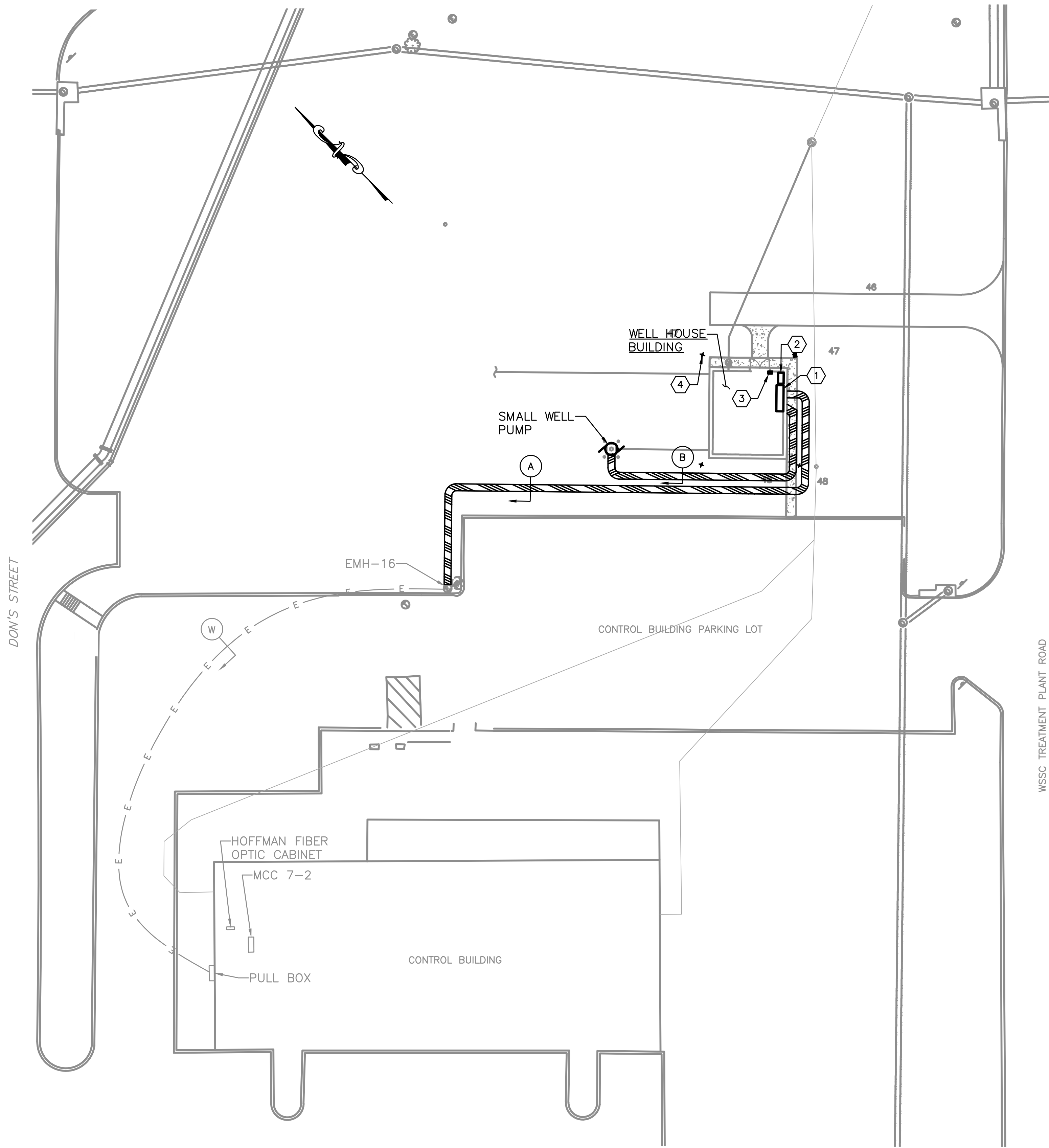
GENERAL ELECTRICAL NOTES (APPLICABLE TO ALL DRAWINGS)

- EXISTING EQUIPMENT IS SHOWN IN A LIGHT WEIGHT AND IDENTIFIED WITH SLANTED TEXT. NEW EQUIPMENT AND WIRING IS SHOWN BOLD.
- ALL FASTENERS AND MOUNTING HARDWARE USED FOR THE INSTALLATION OF ALL ELECTRICAL ITEMS SHALL BE 316 STAINLESS STEEL.
- ALL ALUMINUM BACKBOARDS SHALL BE 3/16 INCH THICK, AND SIZED AS REQUIRED TO ACCOMMODATE EQUIPMENT. EDGES OF BACKBOARDS SHALL BE BEVELED SO THEY ARE SMOOTH.
- ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE COATED WITH TWO COATS OF ZINC CHROMATE PRIMER OR BITUMINOUS PAINT TO PREVENT A REACTION BETWEEN THE ALUMINUM AND CONCRETE.
- WHERE ELECTRICAL EQUIPMENT IS SHOWN MOUNTED ON A CONCRETE PAD, THE PAD SHALL BE 3" HIGH WITH CHAMFERED EDGES. THE PAD SHALL EXTEND 2" BEYOND THE EDGES OF THE EQUIPMENT.
- CONTRACTOR SHALL FURNISH AND INSTALL A SEPARATE INSULATED GROUND CONDUCTOR IN ALL CONDUITS. ALL GROUND CONDUCTORS SHALL BE #12 UNLESS NOTED OTHERWISE ON DRAWINGS.
- CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL UNDERGROUND CONDUITS AND DUCT BANKS TO AVOID INTERFERENCES WITH UNDERGROUND PIPING.
- ALL DUCT BANKS THAT PENETRATE BUILDING WALLS SHALL BE DOWELED INTO THE WALL USING #4 REBAR.
- ALL DUCT BANKS AND CONDUITS SHALL BE SLOPED AWAY FROM BUILDINGS AND STRUCTURES.
- WHERE A WIRING LEGEND IS SHOWN ON A DRAWING, IT ONLY PERTAINS TO THAT DRAWING.
- WIRING SHOWN TO MOTOR DISCONNECT SWITCHES SHALL CONTINUE TO THE MOTOR.
- ALL CONDUITS SHALL BE LABELED INDICATING THE VOLTAGE OF THE WIRING IN THE CONDUIT.
- PROVIDE AN ENGRAVED YELLOW NAMEPLATE ON ALL NEW PANELS INDICATING WHERE THE PANEL IS FED FROM.
- PROVIDE AN ENGRAVED NAMEPLATE ON ALL NEW ELECTRICAL EQUIPMENT INDICATING THE AIC RATING OF THE EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.16 AND 110.24 OF THE NATIONAL ELECTRICAL CODE.

DESIGN:	DLCF	12/19/2025
DRAWN:	CMB	12/19/2025
CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
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.: 63295 EXPIRATION DATE: 07/22/2026				
		CONTRACT: #CD6915B20		
ELECTRICAL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES			E-01	NO 44
				OF 62

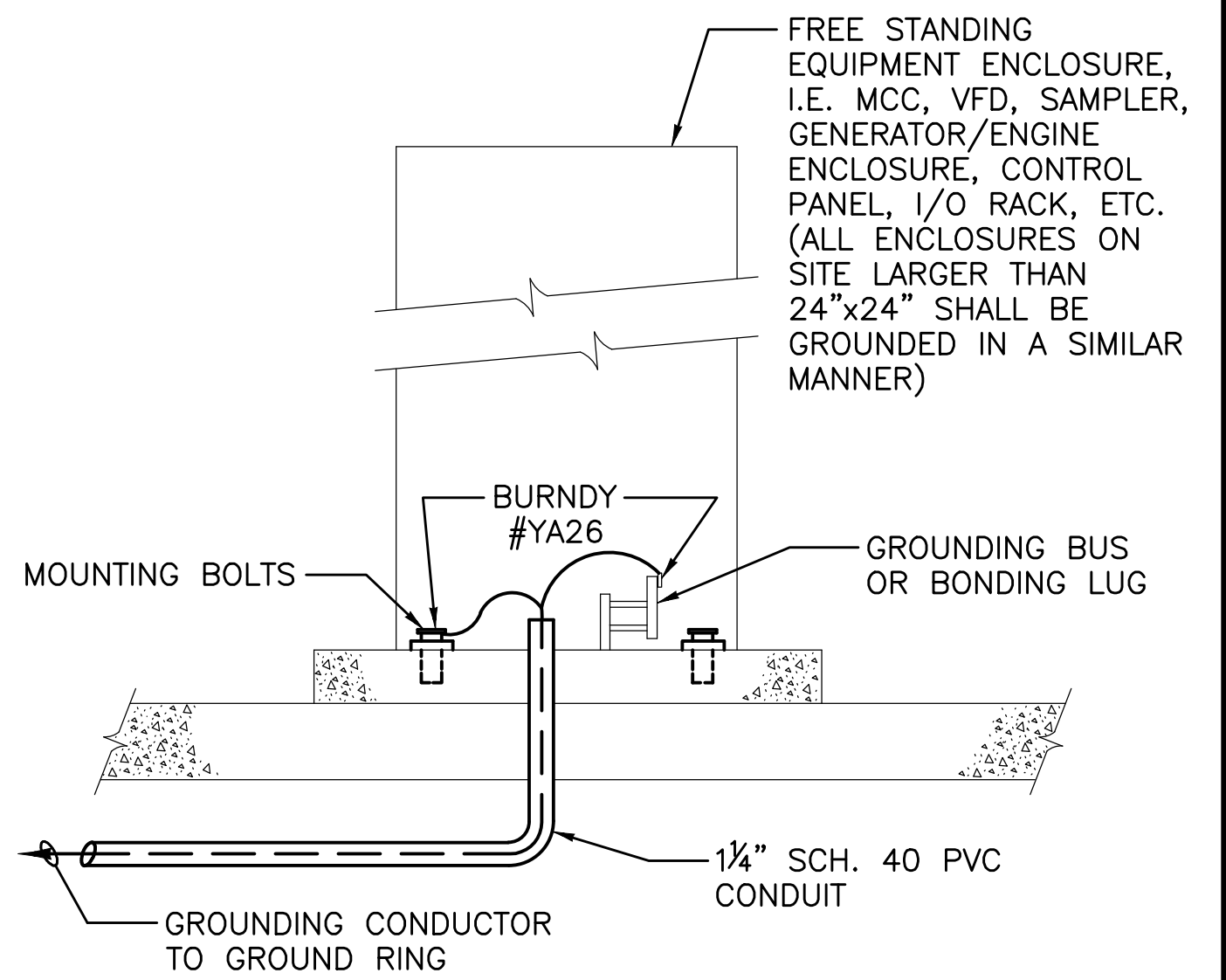
PATH: \\ADIRK\COM\FS\CL\PROJECTS\2021\170\WSSC\PM\STRUTASK2 - WB POTABLE WATER SYSTEM DESIGN\08 DEC. 18\CD\ELECTRICAL\02DWG\02CH04 Brodbeck



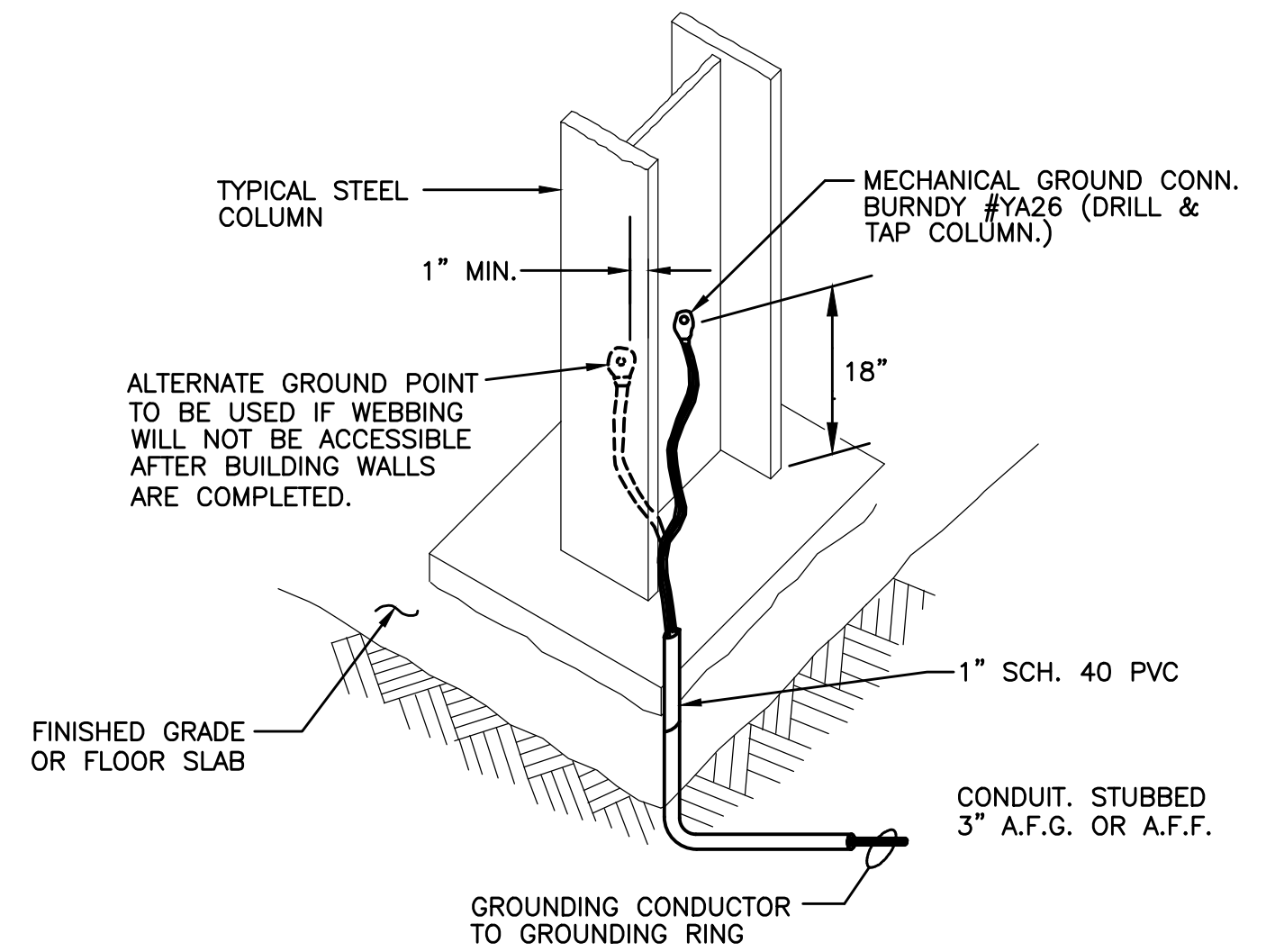
GROUND TEST POINT DETAIL
NO SCALE

PLAN NOTES

- 1 MCC-WH.
- 2 WELL HOUSE CONTROL PANEL.
- 3 WELL HOUSE FODP. SEE DWG. PCS-02 FOR WIRING.
- 4 GROUND ROD (TYP.) SEE GROUND DETAILS ON THIS DWG. AND E-8 FOR GROUND RING.



MCC GROUNDING DETAIL
NO SCALE



GROUNDING CONNECTION TO INDIVIDUAL COLUMN
NO SCALE

DESIGN:	DLCF	12/19/2025
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LICENSE NO : 63295 EXPIRATION DATE: 07/22/2026			CONTRACT: #CD6915B20	
WESTERN BRANCH WRRF POTABLE WATER SYSTEM UPGRADES		WELL HOUSE ELECTRICAL SITE PLAN		NO 45
				OF 62

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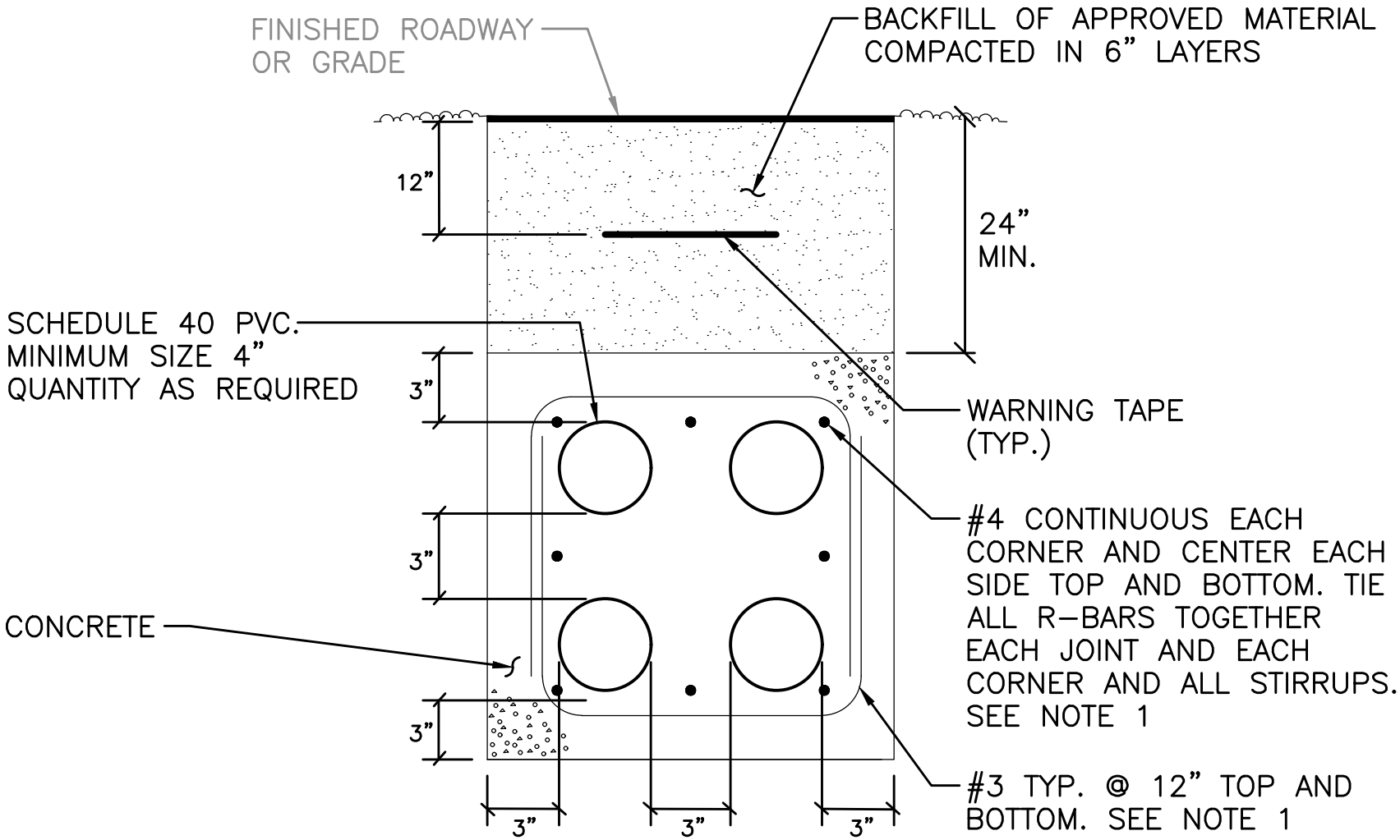


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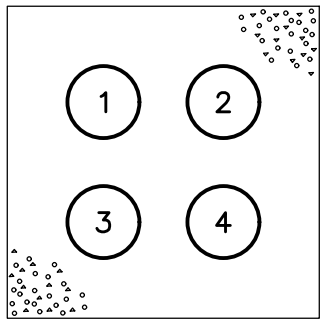
DUCT BANK SCHEDULE					
CONDUIT NO.	CONDUIT SIZE	FROM	TO	CONDUCTORS	CIRCUIT
DUCT BANK A					
1	4"	MCC 7-2, CONTROL BUILDING	MCC-WH, WELL HOUSE	3#250MCM, #4 GRD	MCC-WH FEEDER
2	4"	CONTROL PANEL, WELL HOUSE	PROCESS CONTROL CABINET, NORTH COMMUNICATION ROOM, CONTROL BUILDING	12 PAIR OM3 FIBER OPTIC CABLE	PCS NETWORK
3	4"	N/A	N/A	N/A	SPARE
4	4"	N/A	N/A	N/A	SPARE
DUCT BANK B					
5	2"	WELL PUMP NO. 1 J-BOX	WELL PUMP NO. 1	3#12, #12 GRD.	WELL PUMP NO. 1 FEEDER
6	2"	WELL PUMP NO. 1 J-BOX	N/A	N/A	SPARE
DUCT BANK W					
7	4"	MCC 7-2, CONTROL BUILDING	MCC-WH, WELL HOUSE	3#250MCM, #4 GRD	MCC-WH FEEDER
8	4"	CONTROL PANEL, WELL HOUSE	PROCESS CONTROL CABINET, NORTH COMMUNICATION ROOM, CONTROL BUILDING	12 PAIR OM3 FIBER OPTIC CABLE	PCS NETWORK
9	4"	N/A	N/A	N/A	SPARE



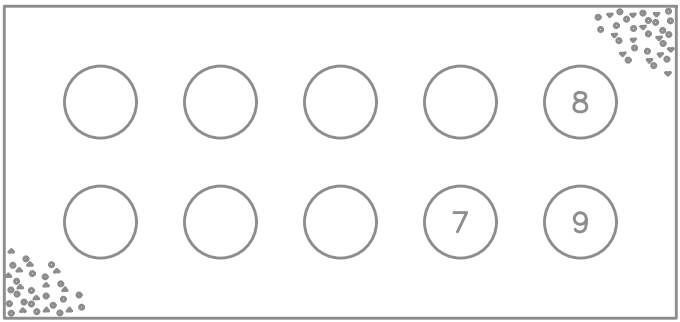
TYPICAL CONCRETE ENCASED DUCT BANK
NO SCALE

NOTES

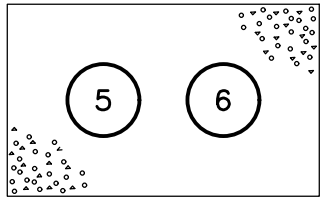
1. PROVIDE REINFORCING R-BARS WHEN CROSSING ROADWAYS AND WHEN ENTERING BUILDINGS OR MANHOLES TO BRIDGE DISTURBED EARTH DURING EXCAVATION. ANCHOR DUCT BANK TO STRUCTURES USING R-BAR DOWELS EPOXIED INTO STRUCTURE.
2. 3,500 PSI CONCRETE AT 28 DAYS MINIMUM.
3. PROVIDE SPACERS AND TIE-DOWNS APPROXIMATELY 6 1/2 TO 7 FEET APART.



DUCT BANK A
NO SCALE



DUCT BANK W
NO SCALE



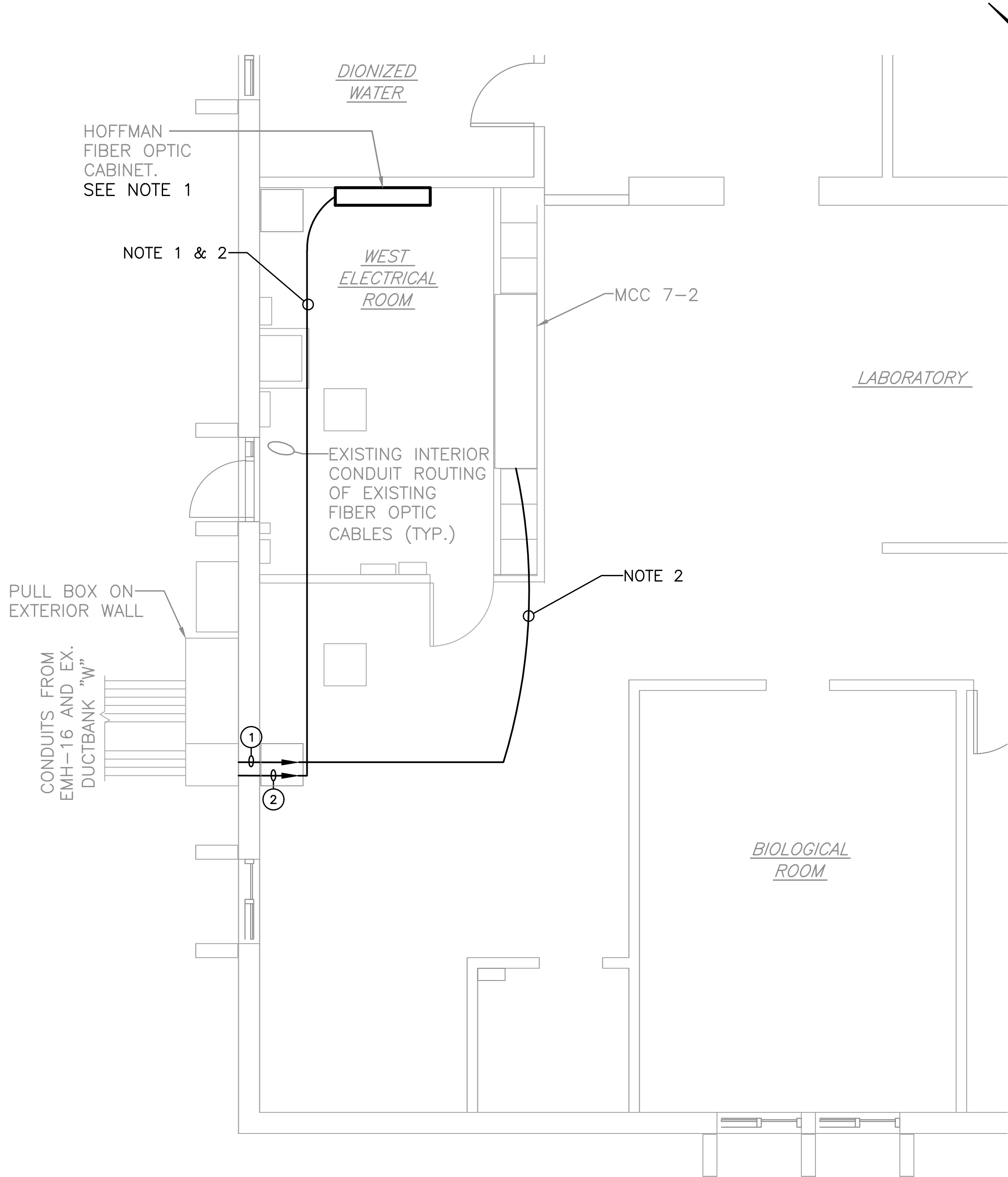
DUCT BANK B
NO SCALE

Well House		MCC-WH					VOLTS
Total Qty.	Qty. Running	Description	Control	KW	HP	FLA	277/480V Total FLA
1	0	POTABLE WELL PUMP	MS		5	7.6	0
1	1	HIGH FLOW WELL PUMP	VFD		125	156	156
1	1	UNIT HEATER	CB	10		12	12
1	1	EXHAUST FAN	MS		2	3.4	3.4
1	1	9 KVA TRANSFORMER for 120/208 volt loads		9		10.8	10.8

LOAD CALCULATIONS

DESIGN:	DLCF	12/19/2025
DRAWN:	CMB	12/19/2025
CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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. STATE OF MARYLAND REGISTERED PROFESSIONAL ENGINEER No. 63295 01/09/2026			
LICENSE NO.: 63295 EXPIRATION DATE: 07/22/2026		CONTRACT: #CD6915B20	



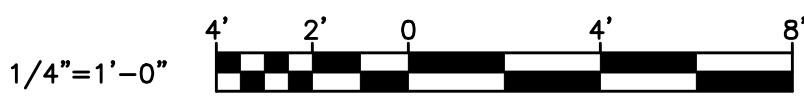
PLAN NOTES

- 1. THE CONTRACTOR SHALL TEST AND TERMINATE THE FIBER OPTIC CABLES AT THE TERMINATION POINTS. WSSC WILL BE RESPONSIBLE FOR FINAL CONNECTIONS BETWEEN THE FODP AND RIO/PLC.
- 2. ROUTE CONDUIT ABOVE DROP CEILING. SUPPORT CONDUIT WITH GALVANIZED STRUTS ATTACHED TO TREADED RODS CONNECTED WITH BEAM CLAMPS TO ROOF SUPPORTS.

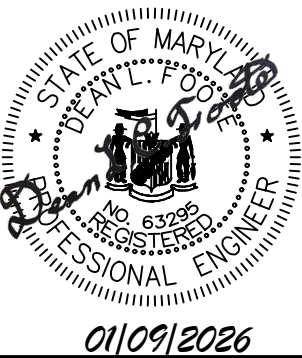
WIRING LEGEND

- ① 3#250, #4 GRD.-4"C TO MCC 7-2
- ② 12 STRAND ARMORED FIBER OPTIC CABLE IN 3/4"C TO HOFFMAN FIBER OPTIC CABINET

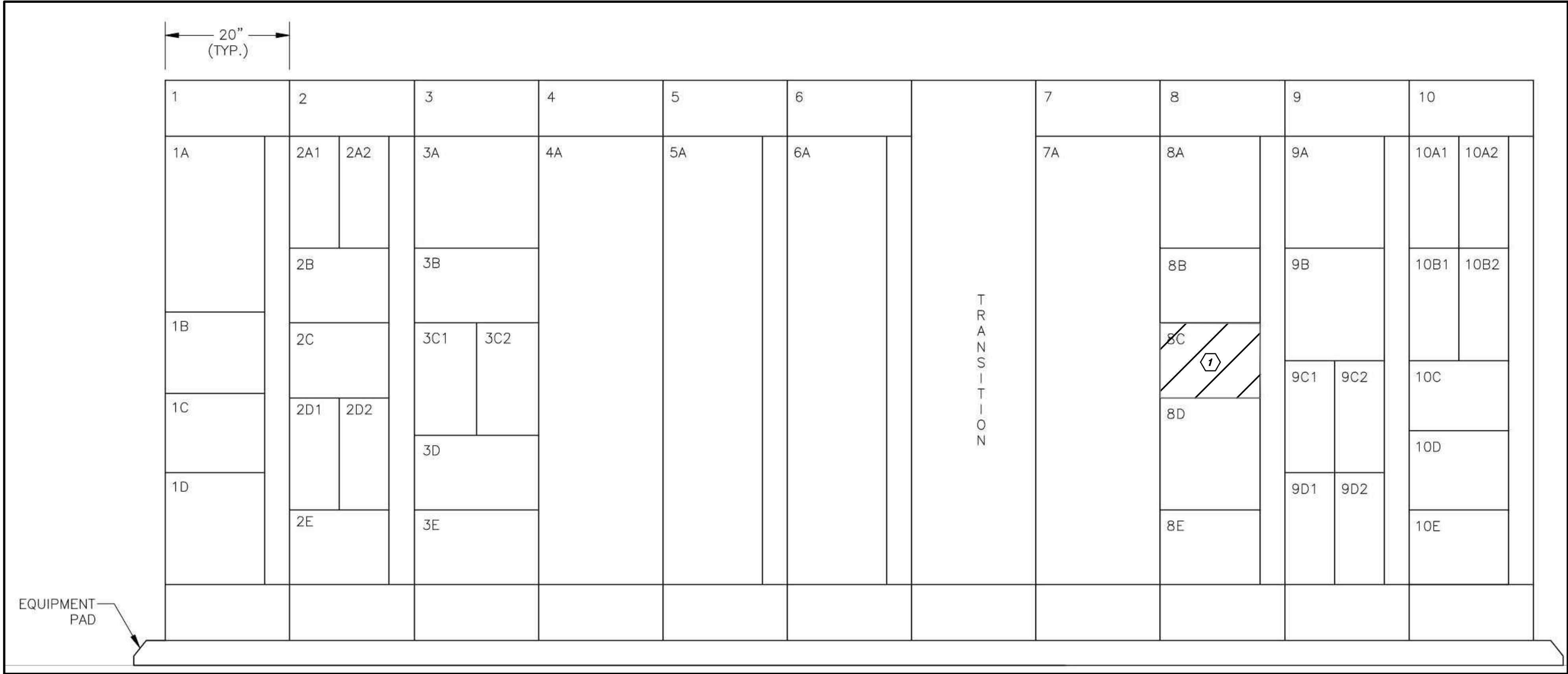
CONTROL BUILDING ELECTRICAL PLAN



DESIGN:	DLCF	12/19/2025
DRAWN:	CMB	12/19/2025
CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS
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LICENSE NO.: 63295 EXPIRATION DATE: 07/22/2026		CONTRACT: #CD6915B20	

PATH: I:\0 RK\COM\FS\G\LOUD\PROJECTS\2021\2170_WSSCP\INSTRUTASK2 - WB POTABLE WATER SYSTEM DESIGN\06 ICELE - 1A CELESTROCALE 06 MCC72 ELEV\DWG\6E-MCHad Brodbeck



EXISTING MCC 7-2 ELEVATION

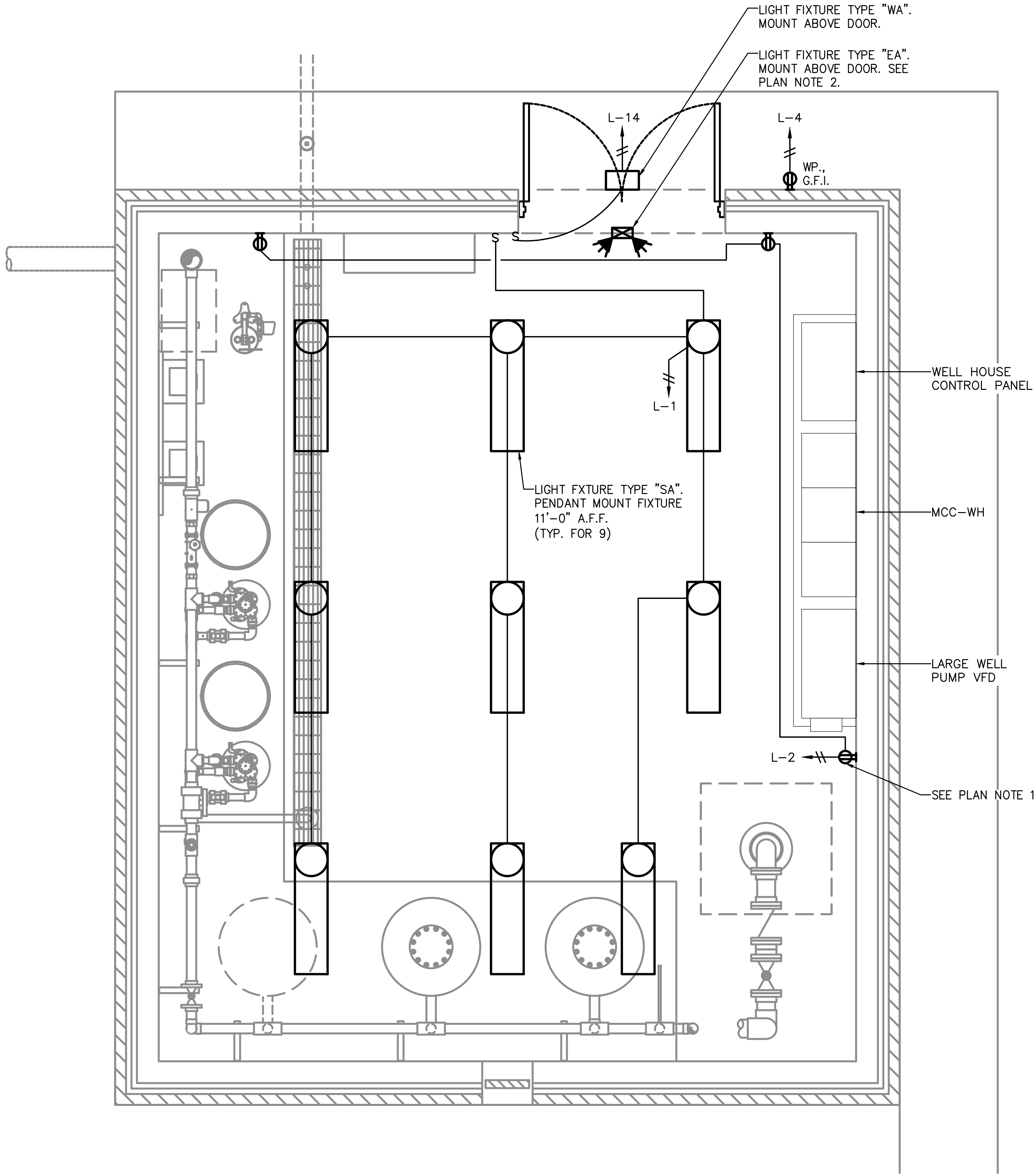
MCC MODIFICATIONS

- 1 INSTALL A NEW 250A-3P CIRCUIT BREAKER ON EXISTING SPACE TO FEED NEW MCC-WH IN THE WELL HOUSE BUILDING. PROVIDE AN ENGRAVED NAMEPLATE ON THE DOOR FOR THE NEW CIRCUIT BREAKER.

DESIGN:	DLCF	12/19/2025
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CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
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LICENSE NO.: 63295 EXPIRATION DATE: 07/22/2026		CONTRACT: #CD6915B20		
EXISTING MCC 7-2 MODIFICATIONS		E-05		NO 48
				OF 62

PATH: I:\00 RK\COMFIS\GLOID\PROJECTS\2021\2170_WSSC\PISTR\TASK2 - WB POTABLE WATER SYSTEM DESIGN\06 CELE - EA CELECTRICAL\07 LIGHTING PLAN\DWG-E-07\Chad Brodbeck



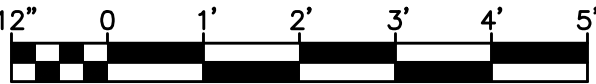
PLAN NOTES

1. DUPLEX RECEPTACLE. MOUNT AT 48" A.F.F. (TYP. FOR 3).
2. WIRE EMERGENCY LIGHTING FIXTURE TO LOCAL LIGHTING CIRCUIT AHEAD OF SWITCH.

LIGHTING FIXTURE SCHEDULE							
TYPE	CERTS	LAMPS				MOUNTING	REMARKS
		LUMENS	TYPE	COLOR TEMP.	VOLTS		
SA	WET	6000	48" LEDS	40K	120	SUSPENDED	SUSPEND MOUNTED 1'X4'
EA	WET	600	LED	NA	120	CEILING	COMBINATION EXIT/EMERGENCY FIXTURE
WA	WET	8500	LED	40K	120	WALL MOUNT	OUTDOORWALLPACK

WELL HOUSE LIGHTING AND RECEPTACLE PLAN

SCALE: 1/2"=1'-0"



WASHINGTON SUBURBAN SANITARY COMMISSION



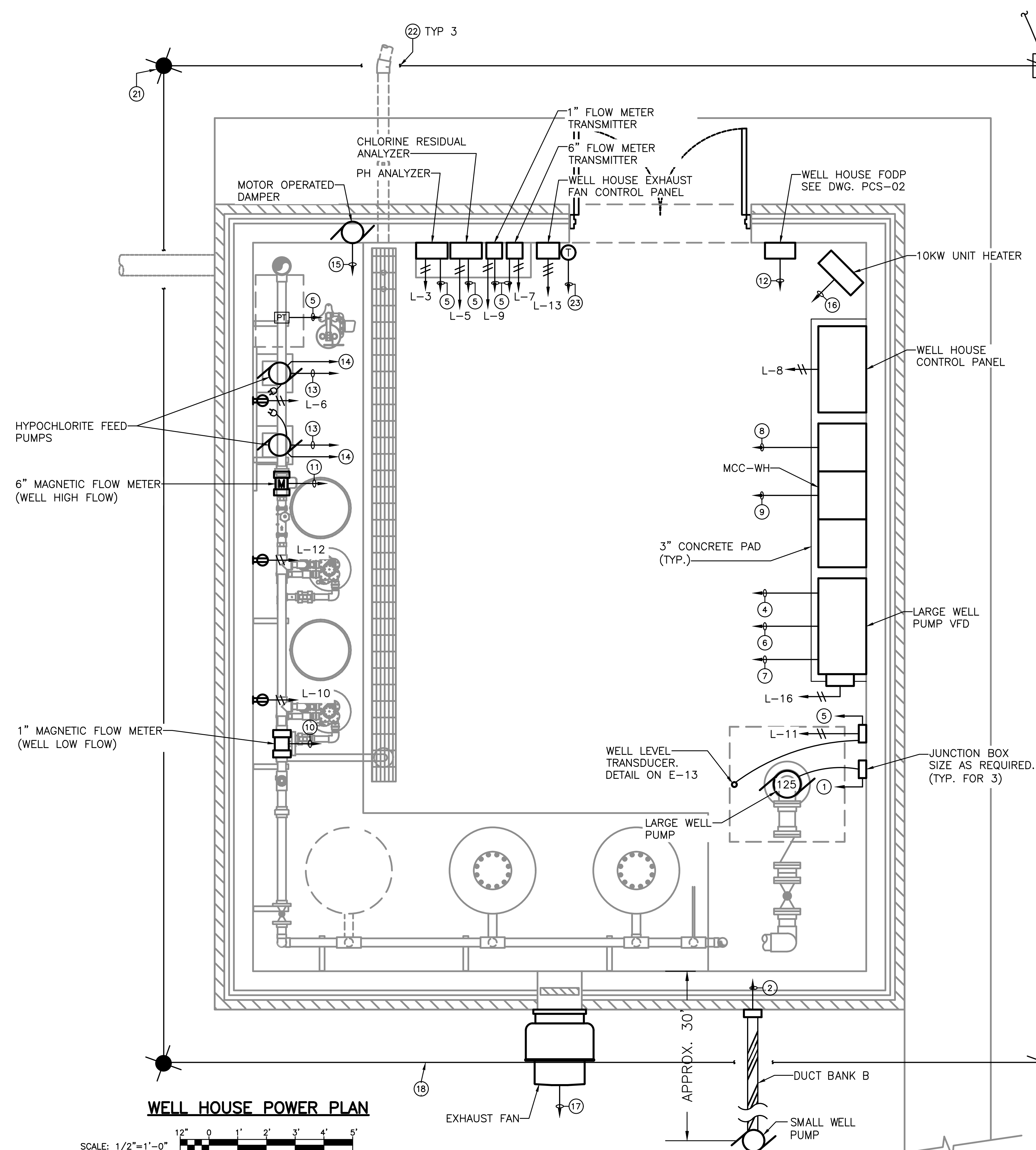
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WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
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CONTRACT: #CD6915B20				
WELL HOUSE LIGHTING AND RECEPTACLE PLAN		E-07		NO 50
				OF 62



WIRING LEGEND

- ① 3#3/0, #4 GRD.-2°C TO LARGE WELL PUMP VFD
- ② 3#12, #12 GRD.-3/4°C TO MCC-WH
- ③ NOT USED
- ④ 3#250, #4 GRD.-2°C TO MCC-WH
- ⑤ (1) PR. #18 SHLD.-3/4°C TO WELL HOUSE CONTROL PANEL
- ⑥ 12#14-1°C TO WELL HOUSE CONTROL PANEL
- ⑦ (2) PR. #18 SHLD.-3/4°C TO WELL HOUSE CONTROL PANEL
- ⑧ 16#14-1°C TO WELL HOUSE CONTROL PANEL
- ⑨ (3) 1 PR. #18 SHLD.-3/4°C TO WELL HOUSE CONTROL PANEL
- ⑩ MFG. SUPPLIED CABLE IN (2) 3/4°C TO RESPECTIVE TRANSMITTER
- ⑪ MFG. SUPPLIED CABLE IN (2) 3/4°C TO RESPECTIVE TRANSMITTER
- ⑫ 6-STRAND FIBER OPTIC CABLE TO WELL HOUSE CONTROL PANEL
- ⑬ (2) PR. #18 SHLD.-3/4°C TO WELL HOUSE CONTROL PANEL
- ⑭ 4#14-3/4°C TO WELL HOUSE CONTROL PANEL
- ⑮ 2#12, #12 GRD.-3/4°C TO WELL HOUSE EXHAUST FAN CONTROL PANEL
- ⑯ 3#12, #12 GRD.-3/4°C TO MCC-WH
- ⑰ 2#12, #12 GRD.-3/4°C TO WELL HOUSE EXHAUST FAN CONTROL PANEL
- ⑱ BARE COPPER GROUNDING CONDUCTOR, DIRECT BURIED 30" UG.
- ⑲ GROUNDING TEST WELL. REFER TO DRAWING E-02 FOR DETAILS.
- ⑳ #2 BARE COPPER GROUNDING CONDUCTOR TO MCC-WH
- ㉑ GROUND ROD
- ㉒ PLACE GROUND WIRE IN PVC CONDUIT WHERE GROUND WIRE CROSSES PIPING TO PREVENT CONTACT.
- ㉓ 2#14 TO WELL HOUSE EXHAUST FAN CONTROL PANEL

WELL HOUSE POWER PLAN

SCALE: 1/2"=1'-0"

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(F) 410 728-2834**


WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

DESIGN:	DLCF	12/19/2025
DRAWN:	CMB	12/19/2025
CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION

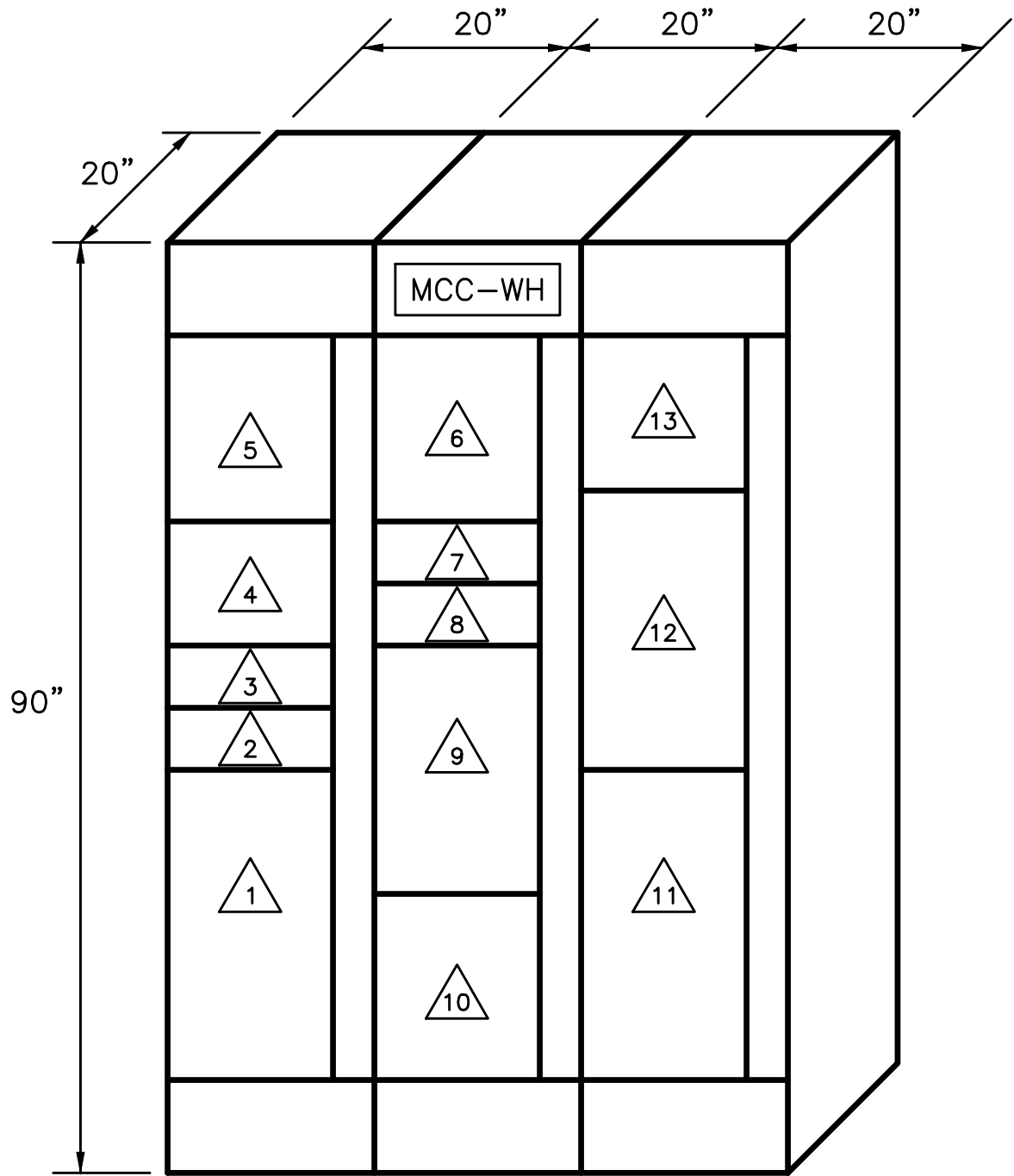
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LICENSE NO.: 63295
EXPIRATION DATE: 07/22/2026

The seal of the Professional Engineer for the State of Maryland. It is a circular emblem. The outer ring contains the text "STATE OF MARYLAND" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. The center of the seal features a shield with a landscape scene, including a ship on water and a building. Below the shield, the words "NO EXCISE" are inscribed.

011091

DATE	REVISIONS	
CONTRACT: #CD6915B20		
E-08	NO	51
	OF	62



MCC-WH ELEVATION
NO SCALE

UNIT LOCATION	DESCRIPTION
	250A MAIN BREAKER
	POWER MONITOR
	SURGE PROTECTIVE DEVICE
	SPACE
	SMALL WELL PUMP
	SPACE
	UNIT HEATER UH-1
	20A-3P SPARE
	LARGE WELL PUMP VFD

UNIT LOCATION	DESCRIPTION
	SPACE
	PANEL "L" TRANSFORMER WITH CIRCUIT BREAKER
	PANEL BOARD "L"
	SPACE

DESIGN:	DLCF	12/19/2025
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DATE

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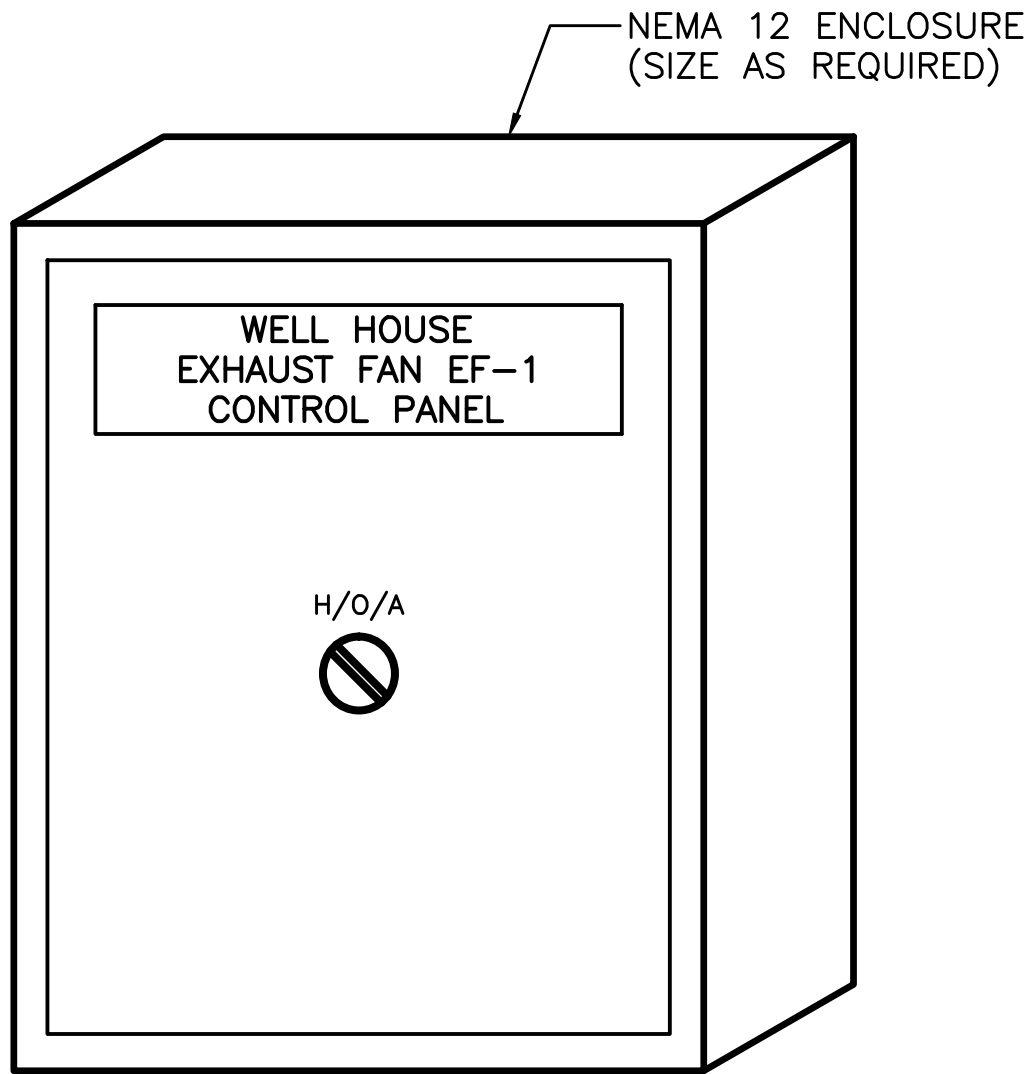
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

MCC-WH ELEVATION
AND SCHEDULE

E-09

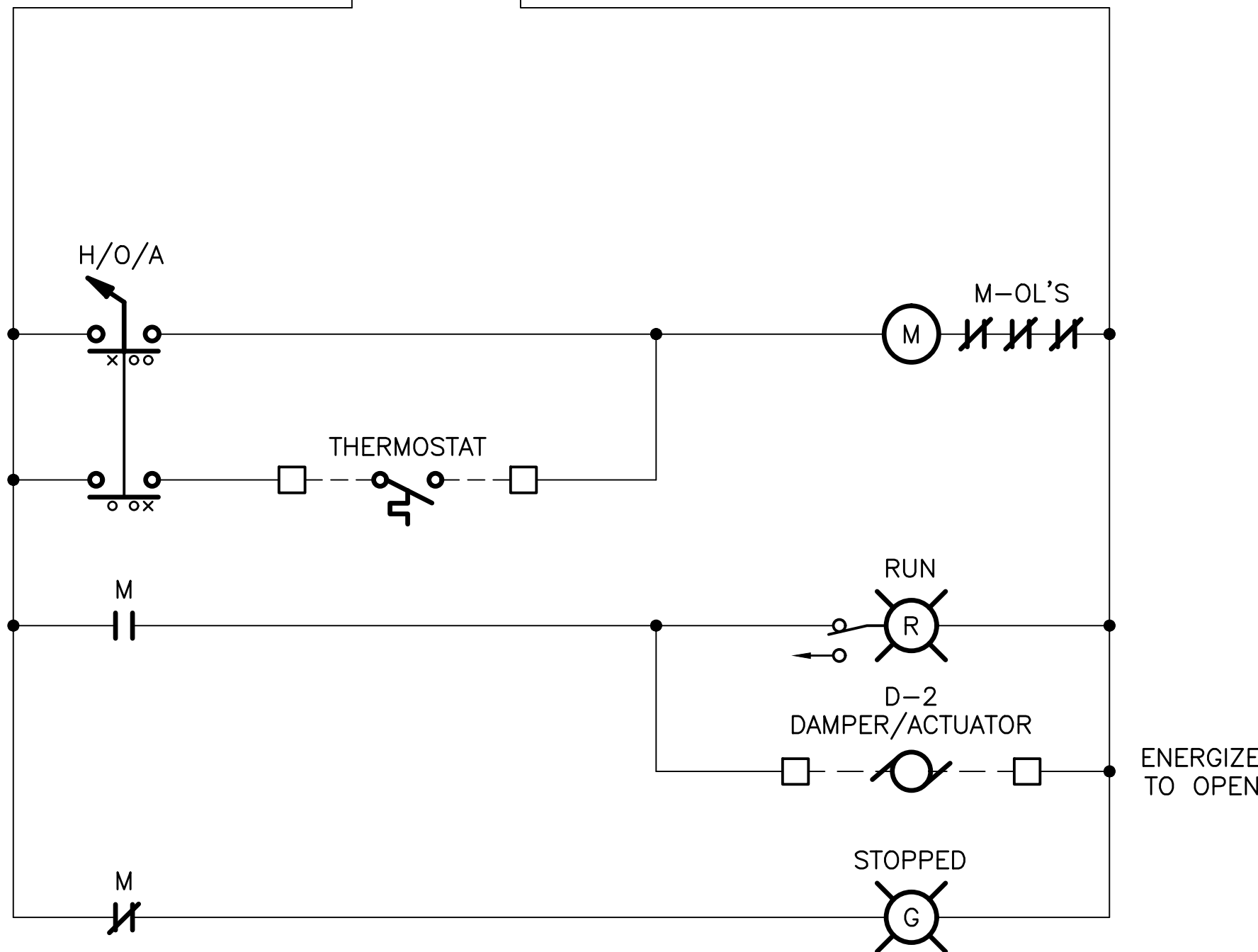
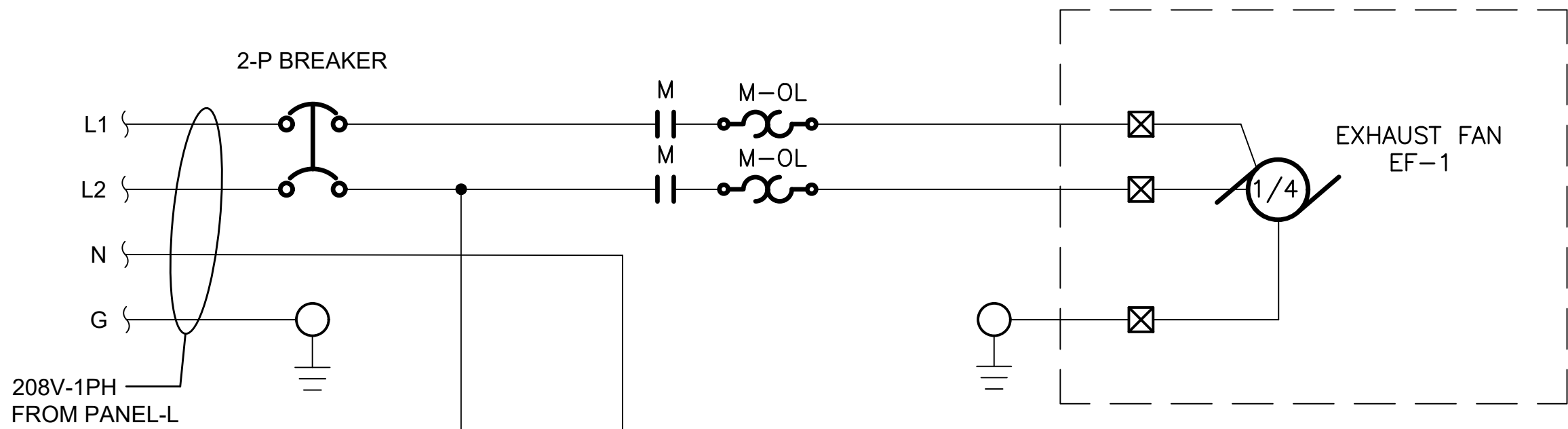
NO 52
OF 62

PATH: I:\0 RK&K\COMF\G\0\PROJECTS\2021\2170_WSSC\PISTRUTASK2 - WB POTABLE WATER SYSTEM DESIGN\06 CELE. 1A ELECTRICAL\1 MCC WH WIRING.DWG-11Chad Brobeck

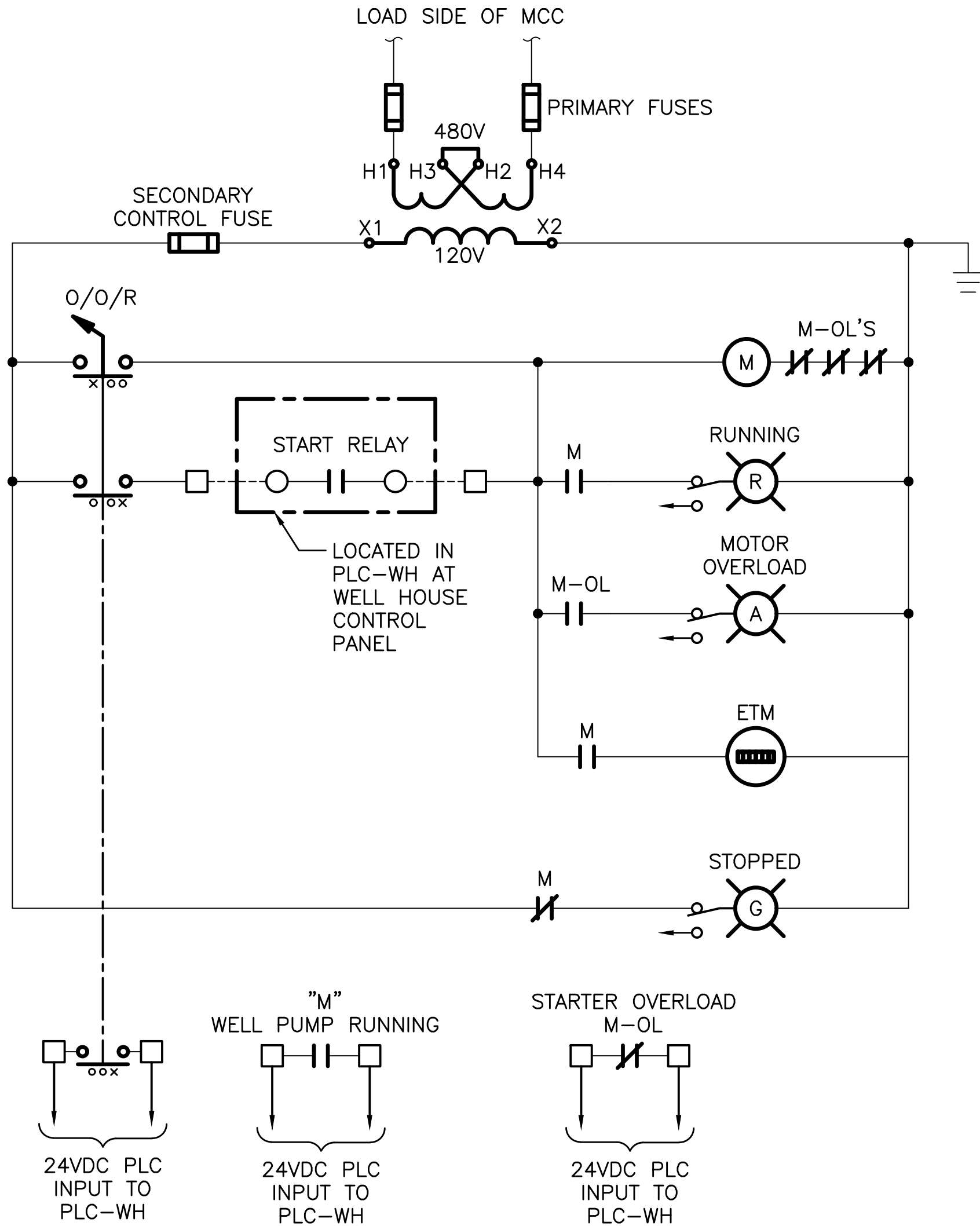


NOTES

1. CONTROL PANEL MAIN NAMEPLATE SHALL BE ENGRAVED WITH 1/2" HIGH LETTERS.



EXHAUST FAN EF-1
CONTROL WIRING DIAGRAM

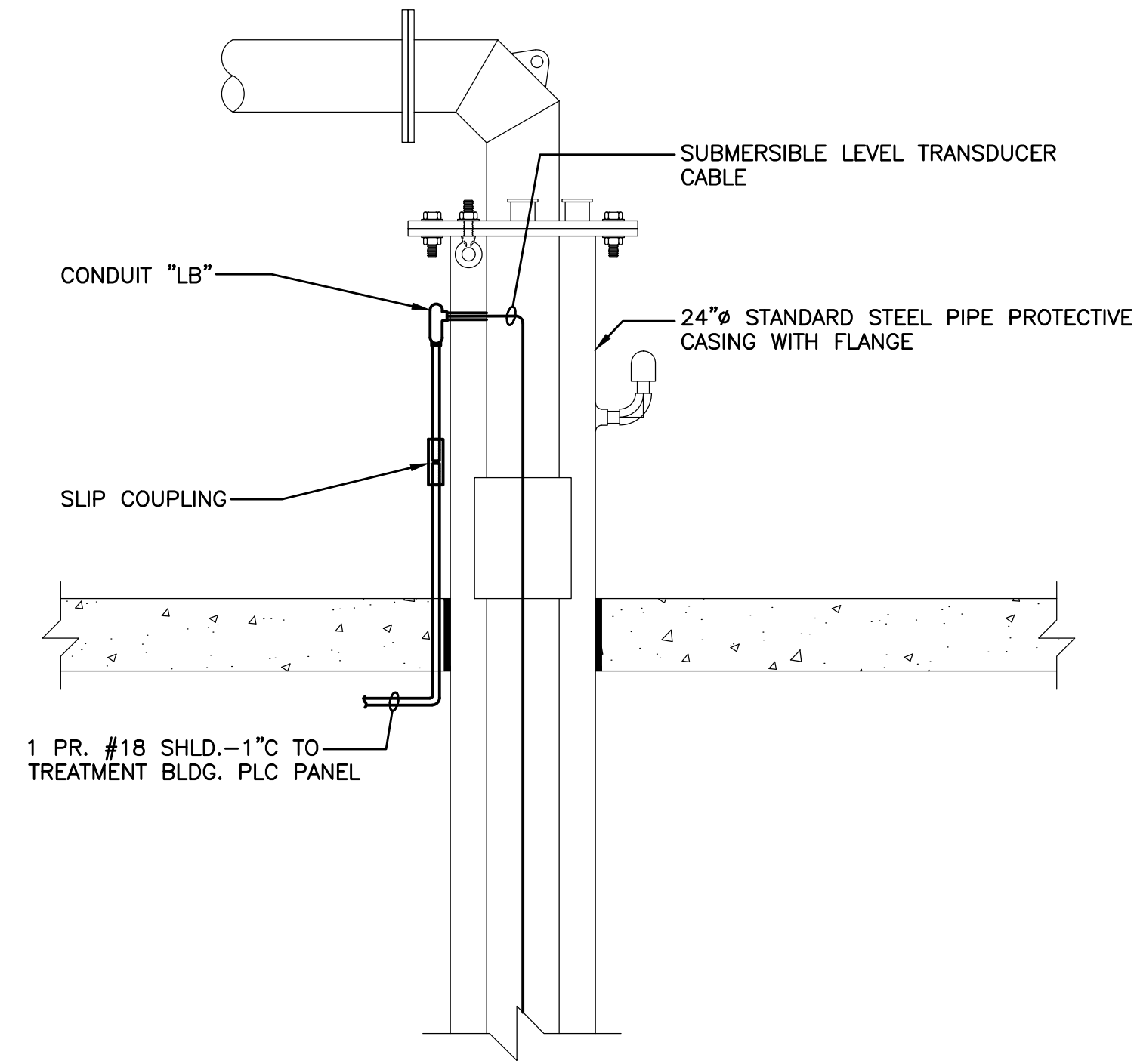


SMALL WELL PUMP
CONTROL WIRING DIAGRAM

DESIGN:	DLCF	12/19/2025
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CONTRACT: #CD6915B20			

PANEL DESIGNATION		TYPE:	INDUSTRIAL			LOCATION:			MCC-WH		
"L"		NUMBER OF POLES:	18			VOLTAGE:			208Y/120V, 3Ø , 4W		
		MAIN BUS RATING:	100 Amp			PANEL MOUNTING:			INSIDE MCC		
		MAIN RATING:	50 Amp			PANEL ENCLOSURE			NEMA 1		
						PANEL MIN. A.I.C.			14,000		
CIR. NO.	CIR. BKR.	DESCRIPTION	LOAD — KVA			LOAD — KVA			DESCRIPTION	CFR. BKR.	CIR. No.
			AØ	BØ	CØ						
1	20/1	LIGHTS	0.68			0.6			RECEPTACLES	20/1	2
3	20/1	Ph ANALYZER		0.24			0.2		RECEPTACLES	20/1	4
5	20/1	CHLORINE ANALYZER			0.24			0.48	SODIUM HYPOCHLORITE FEED PUMPS RECEPTACLE	20/1	6
7	20/1	6" HIGH FLOW TRANSMITTER	0.24			1.2			WELL HOUSE CONTROL PANEL	20/1	8
9	20/1	1" LOW FLOW METER		0.24			0.3		WATER SOFTNER 1	20/1	10
11	20/1	POTABLE WATER PRESSURE TRANSMITTER			0.24			0.3	WATER SOFTNER 2	20/1	12
13	20/2	WELL HOUSE EX. FAN CONTROL PANEL	0.2			0.1			EXTERIOR LIGHTING	20/1	14
15				0.2			1.5		AC UNIT	20/2	16
17	20/1	SPARE						1.5			18
			TOTAL	1.115	0.68	0.48	1.9	2	2.28	TOTAL	
PANEL CONNECTED LOAD											
AØ 3.015			X SOLID NEUTROL BUS								
BØ 2.68			X EQUIPMENT GROUND BUS								
CØ 2.76											
8.455 TOTAL			DEMAND LOAD: 4.3								

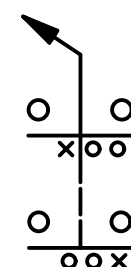


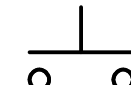
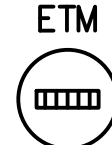

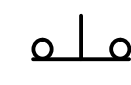
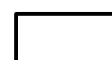

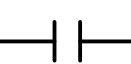
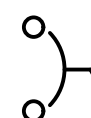










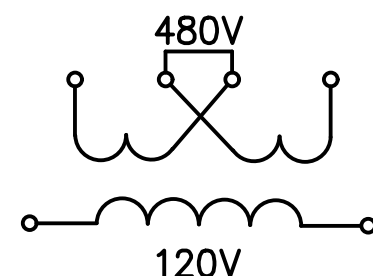
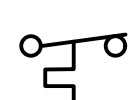

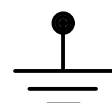
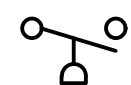

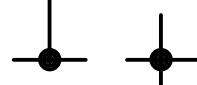
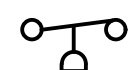
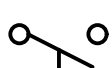

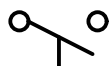


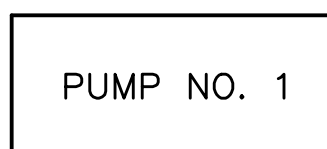

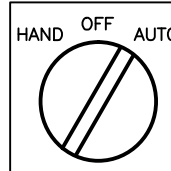

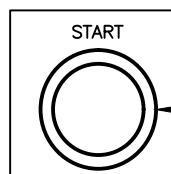

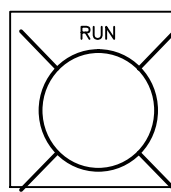


LARGE WELLHEAD ELECTRICAL DETAIL
NO SCALE

DESIGN:	DLCF	12/19/2025
DRAWN:	CMB	12/19/2025
CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION		DATE	REVISIONS	
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. 				
CONTRACT: #CD6915B20				
PANEL SCHEDULE		E-13		NO 56
				OF 62

PATH: I:\0 RK&K\COMPS\GOLD\PROJECTS\2021\2170_WSSCP\INSTRUTASK2 - WB POTABLE WATER SYSTEM DESIGN\06 ICELE - 1A ELECTRICAL\PCS-01\Chad Brobeck

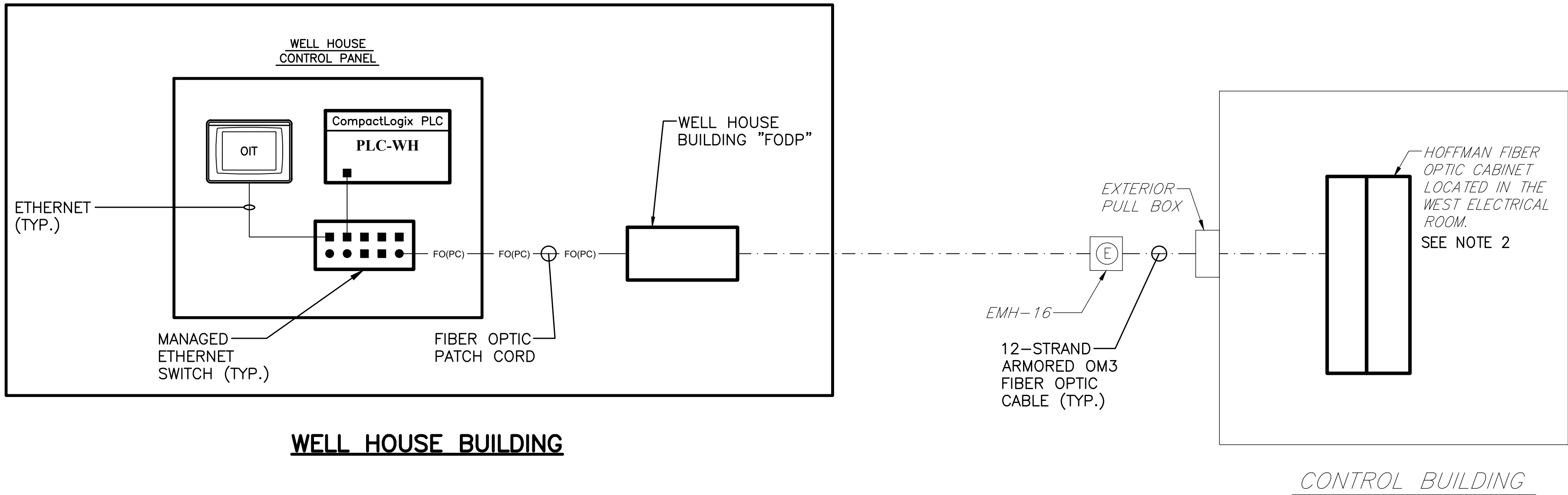
ABBREVIATIONS				SYMBOLS				LEGEND			
A	—	AMPS	MCC	—	MOTOR CONTROL CENTER		3 POSITION SELECTOR SWITCH (X INDICATES CLOSED POSITION)		PUSH BUTTON – BUTTON COLOR IS INDICATED BY LETTER INSIDE B – BLUE G – GREEN R – RED O – ORANGE W – WHITE Y – YELLOW BLANK – BLACK		TERMINAL IN MCC FOR FIELD WIRING
AC	—	ALTERNATING CURRENT	MCP	—	MOTOR CIRCUIT PROTECTOR		NORMALLY OPEN PUSH BUTTON		ELAPSED TIME METER		TERMINAL IN VFD FOR FIELD WIRING
ATS	—	AUTOMATIC TRANSFER SWITCH	M.O.D.	—	MOTOR OPERATED DAMPER		NORMALLY CLOSED PUSH BUTTON		ENGRAVED NAMEPLATE		TERMINAL IN MOTOR STARTER FOR FIELD WIRING
AUX.	—	AUXILIARY	M–OL’S	—	MOTOR OVERLOADS		NORMALLY OPEN CONTACT		CONTROL PANEL CIRCUIT BREAKER		TERMINAL IN PLC PANEL FOR FIELD WIRING
BLDG.	—	BUILDING	MS.	—	MOTOR STARTER		NORMALLY CLOSED CONTACT		MOTOR (NUMBER INDICATES HP)		TERMINAL IN CONTROL PANEL FOR FIELD WIRING
C	—	CONDUIT	N	—	NEUTRAL		MOTOR STARTER COIL		SOLENOID VALVE		TERMINAL IN VALVE OR GATE ACTUATOR FOR FIELD WIRING
CT	—	CONSTANT TORQUE	NO.	—	NUMBER		CONTACTOR COIL		INTRINSICALLY SAFE RELAY	—	INDICATES WIRING IN CONTROL PANEL
D	—	DEEP	O/C/A	—	OPEN/CLOSE/AUTO		CONTROL RELAY		CONTROL TRANSFORMER	—	INDICATES FIELD WIRING
DC	—	DIRECT CURRENT	P	—	POLE		MOTOR THERMAL SWITCH		FUSE		GROUND
DISC.	—	DISCONNECT	PCS	—	PROCESS CONTROL SYSTEM		PRESSURE SWITCH–NORMALLY OPEN		THERMOSTAT		CONNECTING WIRES
DWG.	—	DRAWING	PH	—	PHASE		PRESSURE SWITCH–NORMALLY CLOSED		FLOAT SWITCH		
EXIST.	—	EXISTING	PLC	—	PROGRAMMABLE LOGIC CONTROLLER		SELECTOR SWITCH		FLOW SWITCH		
FODP	—	FIBER OPTIC DISTRIBUTION PANEL	SHLD.	—	SHIELDED		PUSH–TO–TEST PILOT LIGHT– LENS COLOR IS INDICATED BY LETTER INSIDE A – AMBER B – BLUE G – GREEN R – RED W – WHITE		KIRK KEY INTERLOCK		
G.F.I.	—	GROUND FAULT INTERRUPTER	SPD	—	SURGE PROTECTIVE DEVICE		PUMP NO. 1 NAMEPLATE WITH 1/4” MINIMUM TEXT		THERMAL OVERLOAD		
GRD.	—	GROUND	S.S.	—	STAINLESS STEEL		LEGEND PLATE (TYP.)		CIRCUIT BREAKER		
H	—	HIGH	SSRV	—	SOLID STATE REDUCED VOLTAGE		PILOT DEVICE (TYP.)		DISCONNECT SWITCH		
H/O/A	—	HAND/OFF/AUTO	T–M	—	THERMAL MAGNETIC						
HP	—	HORSEPOWER	TVSS	—	TRANSIENT VOLTAGE SURGE SUPRESSOR						
IC	—	ISOLATION CONTACTOR	TYP.	—	TYPICAL						
I/O	—	INPUT/OUTPUT	V	—	VOLTS						
KV	—	KILOVOLT	VFD	—	VARIABLE FREQUENCY DRIVE						
KW	—	KILOWATT	VT	—	VARIABLE TORQUE						
L	—	LOW, LINE	W	—	WIDE, WIRE						
L/O/R	—	LOCAL/OFF/REMOTE	WRF	—	WATER RECLAMATION FACILITY						
mA	—	MILLIAMP									
ALLEN–BRADLEY ControlLogix LEGEND											
1756–L81E	—	PROGRAMMABLE CONTROLLER									
1756–PA72	—	POWER SUPPLY									
1756–EN2T	—	ETHERNET COMMUNICATIONS MODULE									
1756–IB16	—	16 POINT 24VDC INPUT MODULE									
1756–OB16E	—	8 POINT 24VDC RELAY OUTPUT MODULE									
1756–IF16	—	8 POINT ANALOG INPUT MODULE									
1756–OF8	—	8 POINT ANALOG OUTPUT MODULE									
TYPICAL PILOT DEVICE LAYOUT											

FIBER OPTIC NOTES

1. THE CONTRACTOR SHALL TEST AND TERMINATE THE FIBER OPTIC CABLES AT THE TERMINATION POINTS. THE WSSC PROCESS CONTROL DIVISION (PCD) WILL MAKE THE FINAL I/O CONNECTIONS.
2. THE HOFFMAN FIBER OPTIC CABINET IS LOCATED IN THE CONTROL BUILDING WEST ELECTRICAL ROOM. SEE DRAWING E-04 FOR A PLAN OF THE CONTROL BUILDING.

NOTES

1. THE EXACT MOUNTING LOCATION OF THE NEW "FODP" IS TO BE COORDINATED WITH WSSC (PCD) BEFORE INSTALLATION.



DESIGN:	DLCF	12/19/2025
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CHECKED:	KRG	12/19/2025

PROFESSIONAL CERTIFICATION

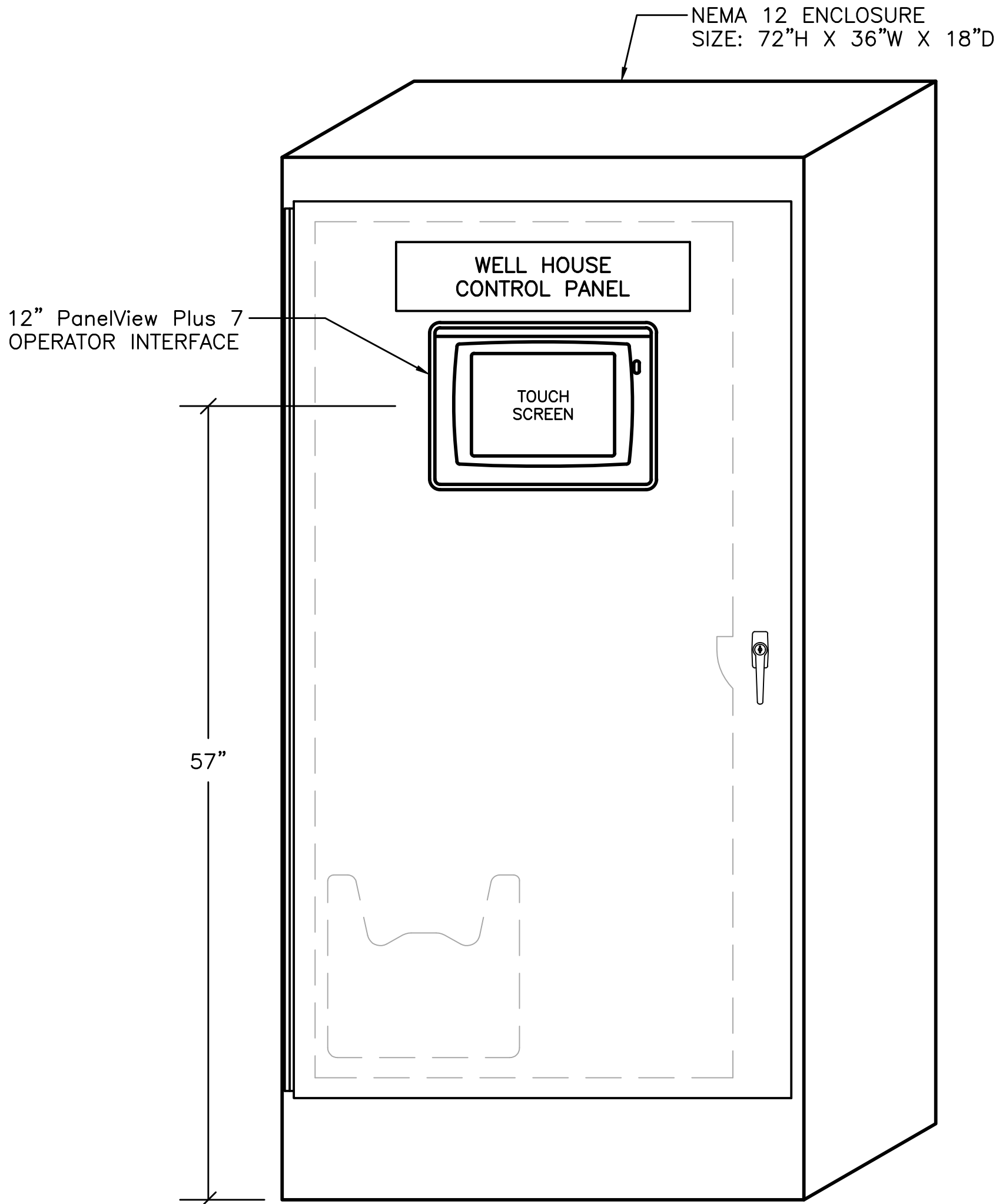
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO.: 63295
EXPIRATION DATE: 07/22/2026

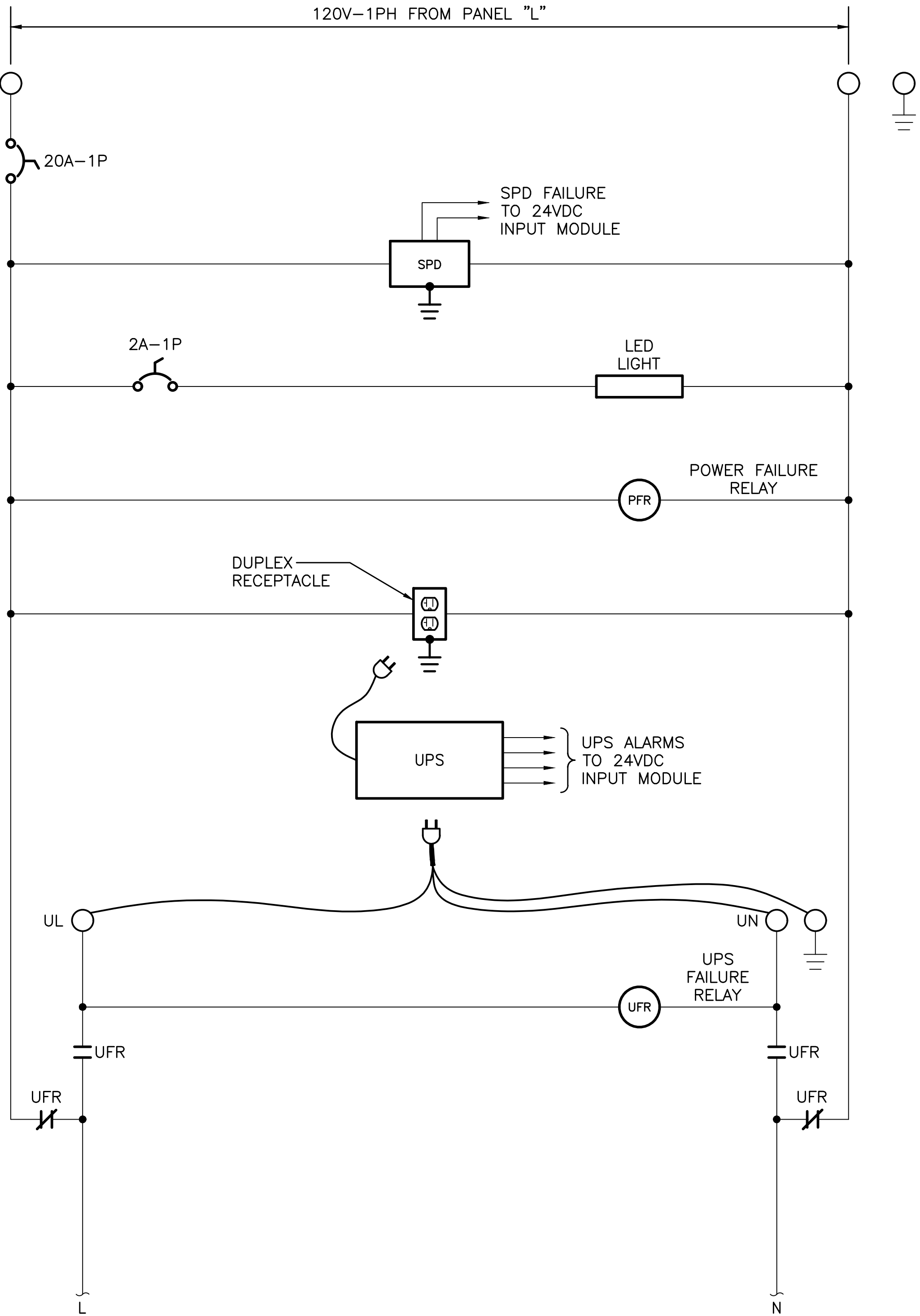
DATE	REVISIONS
CONTRACT: #CD6915B20	

NOTES

1. CONTROL PANEL NAMEPLATE SHALL BE ENGRAVED WITH 1" HIGH LETTERS.



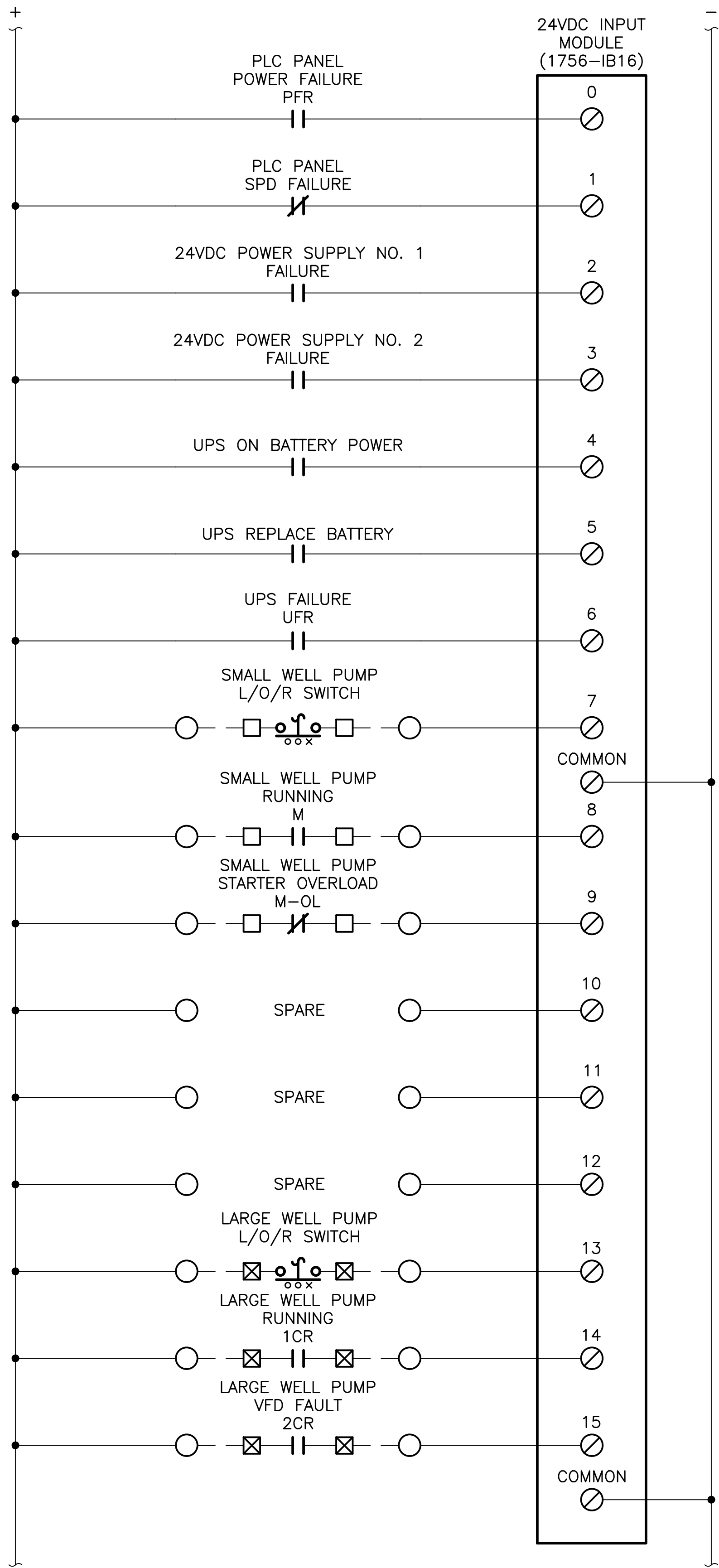
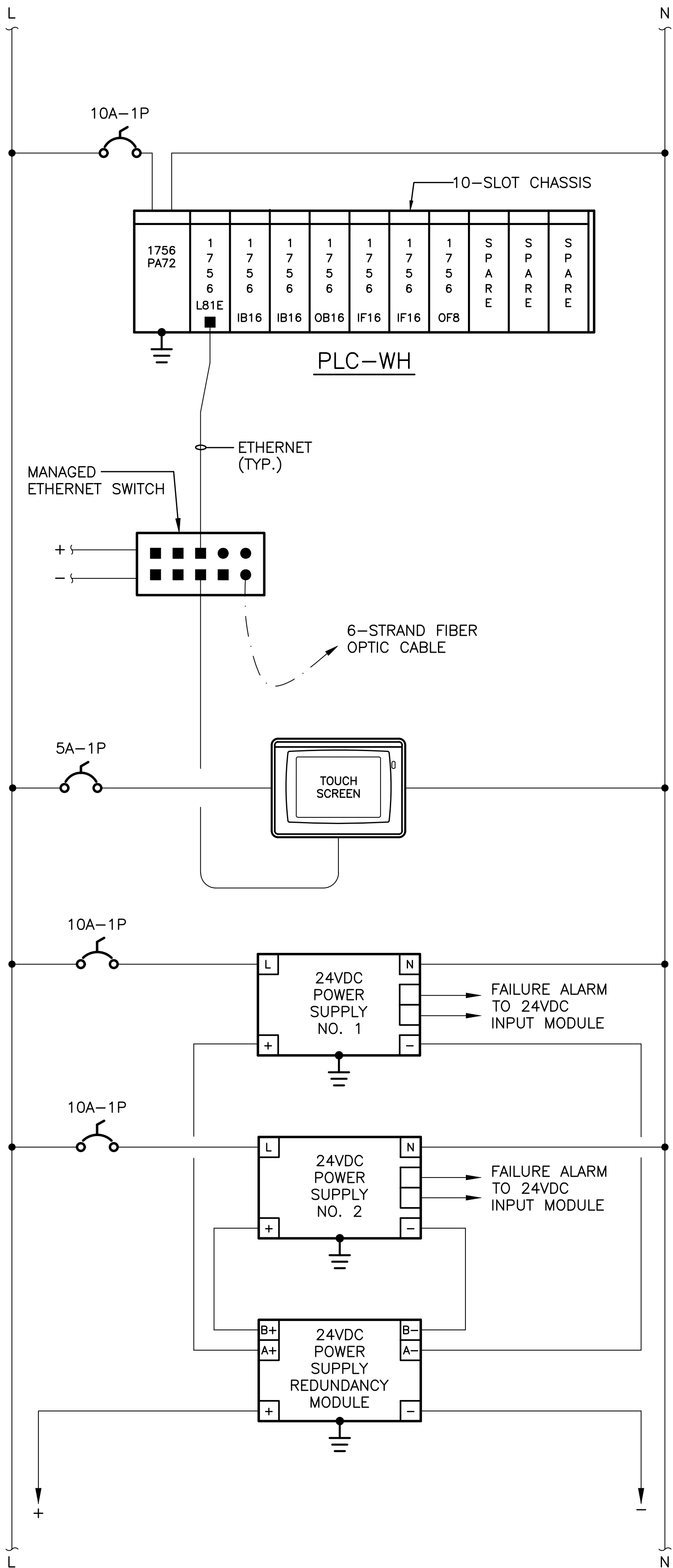
WELL HOUSE CONTROL PANEL
PANEL LAYOUT



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PATH: I:\04 RK&K\COMFES\GOLD\PROJECTS\2021\2170_WSSCP\INSTRUMENTATION\PCS-04\PCS-04.DWG\Layout1\Chad Brodbeck



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(F) 410 728-2854

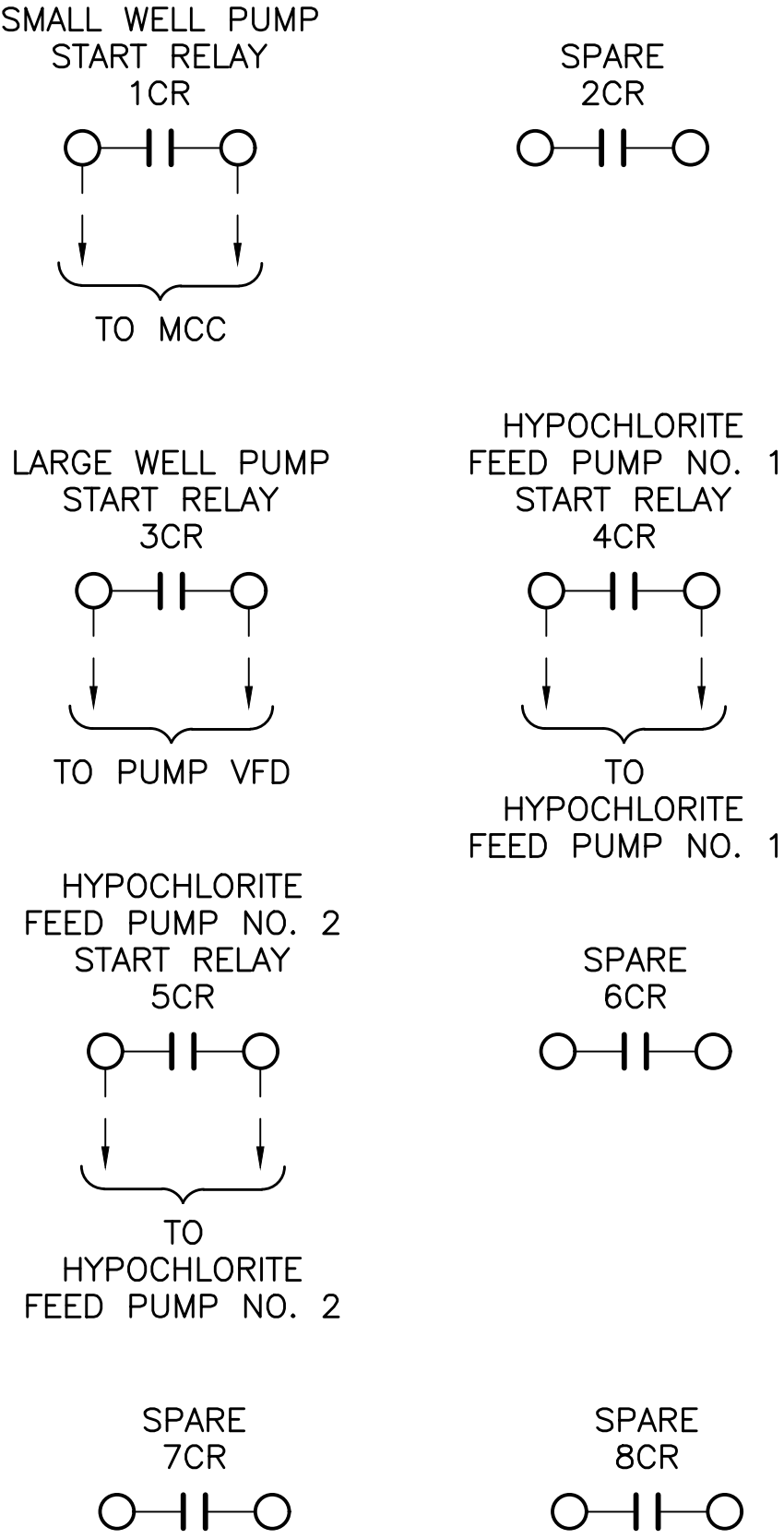
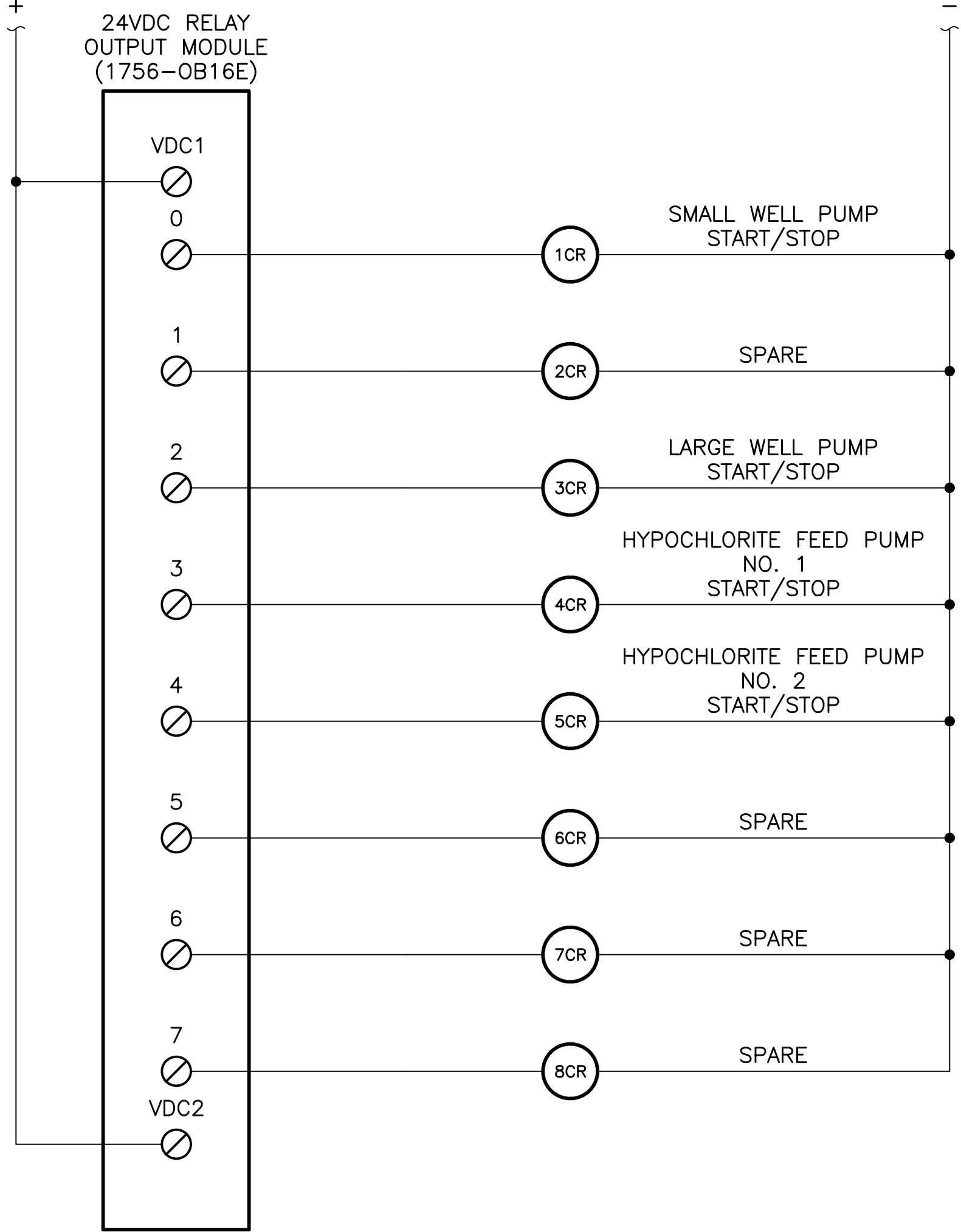
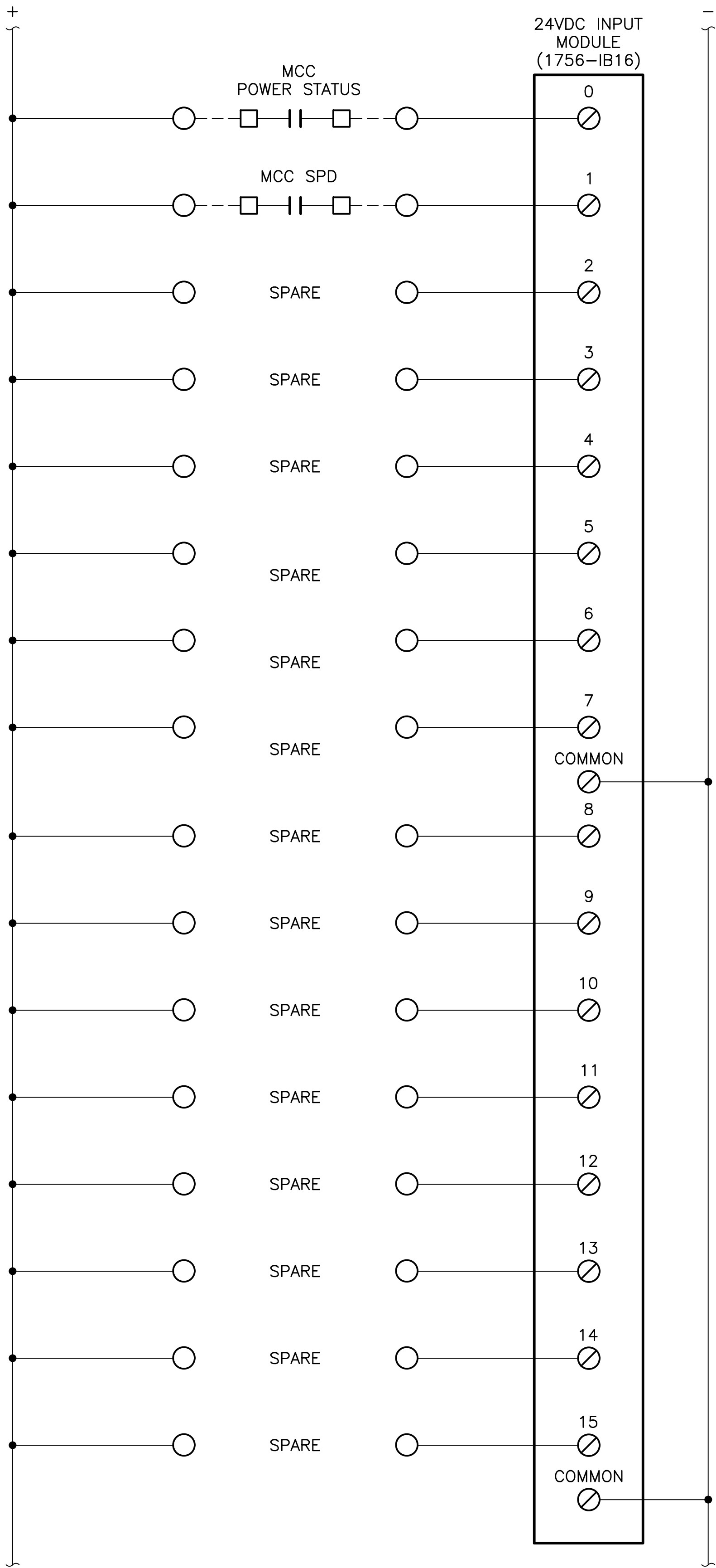
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE
CONTROL PANEL WIRING

PCS-04

NO 60
OF 62

PATH: I:\0 RK\COMF5\GOLD\PROJECTS\2021\2170_WSSCP\INSTRUTASK2 - WB POTABLE WATER SYSTEM DESIGN\06 ICE.E - 1A.CE\ELECTRICAL\PCS-05.DWG\Layout1\Chad Brodbeck



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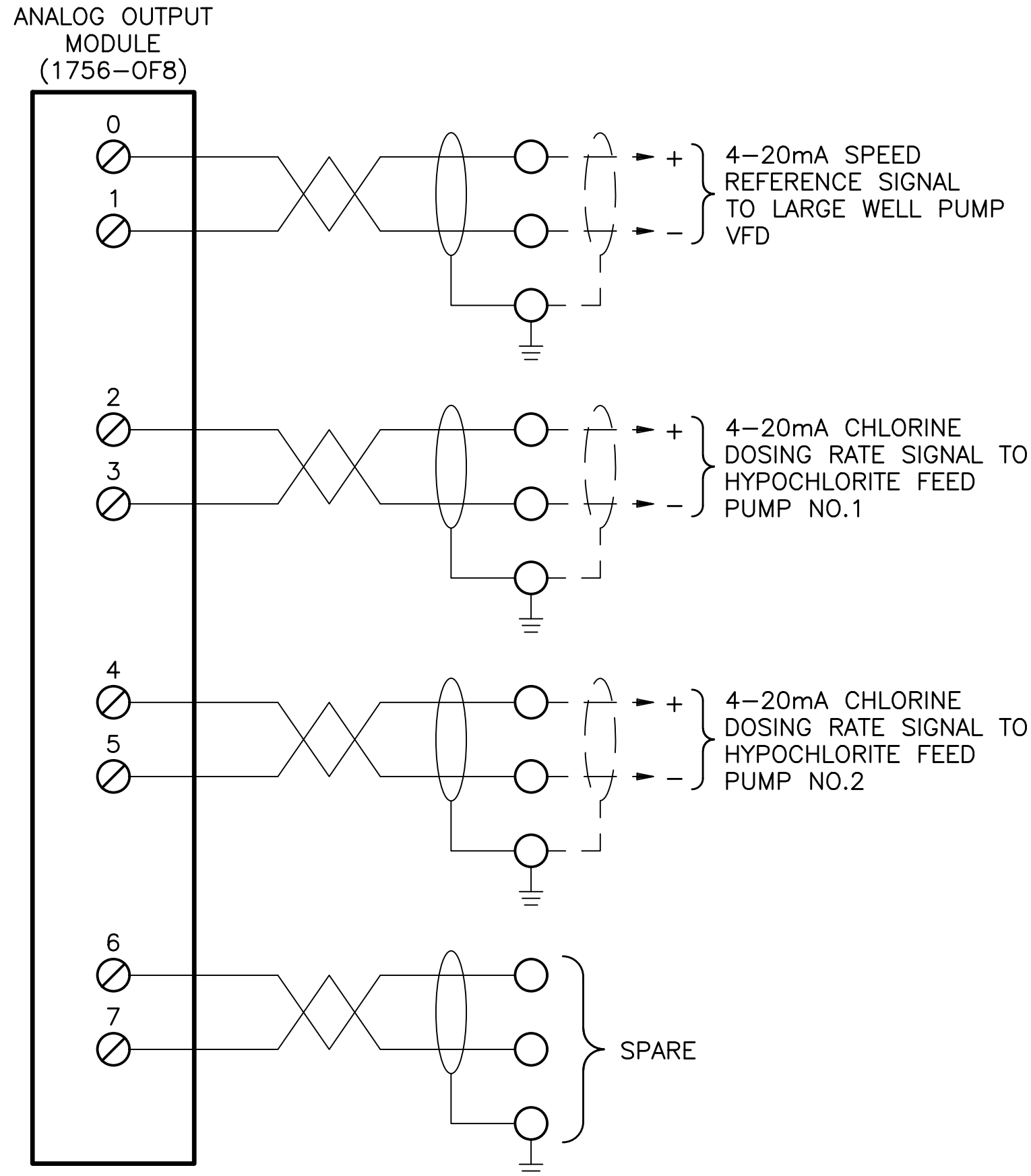
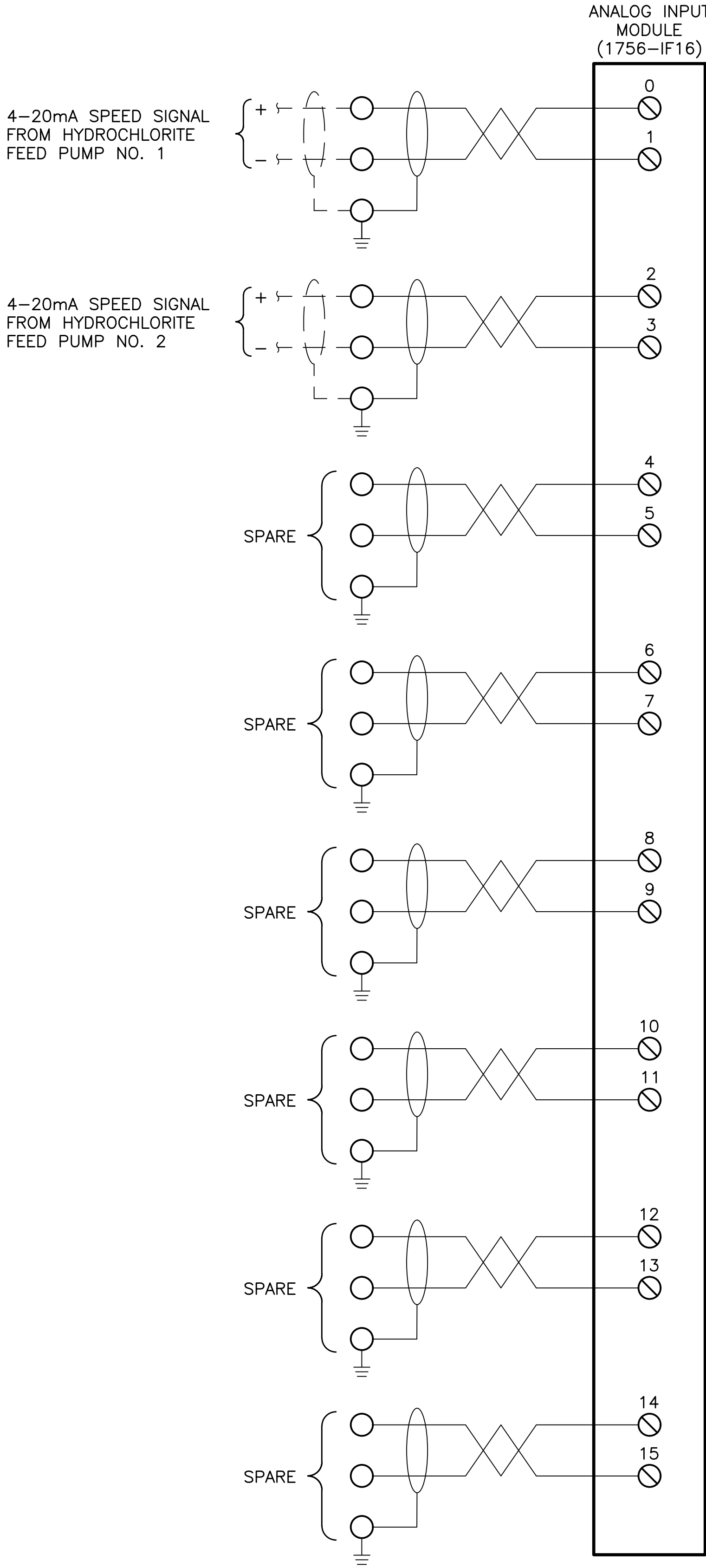
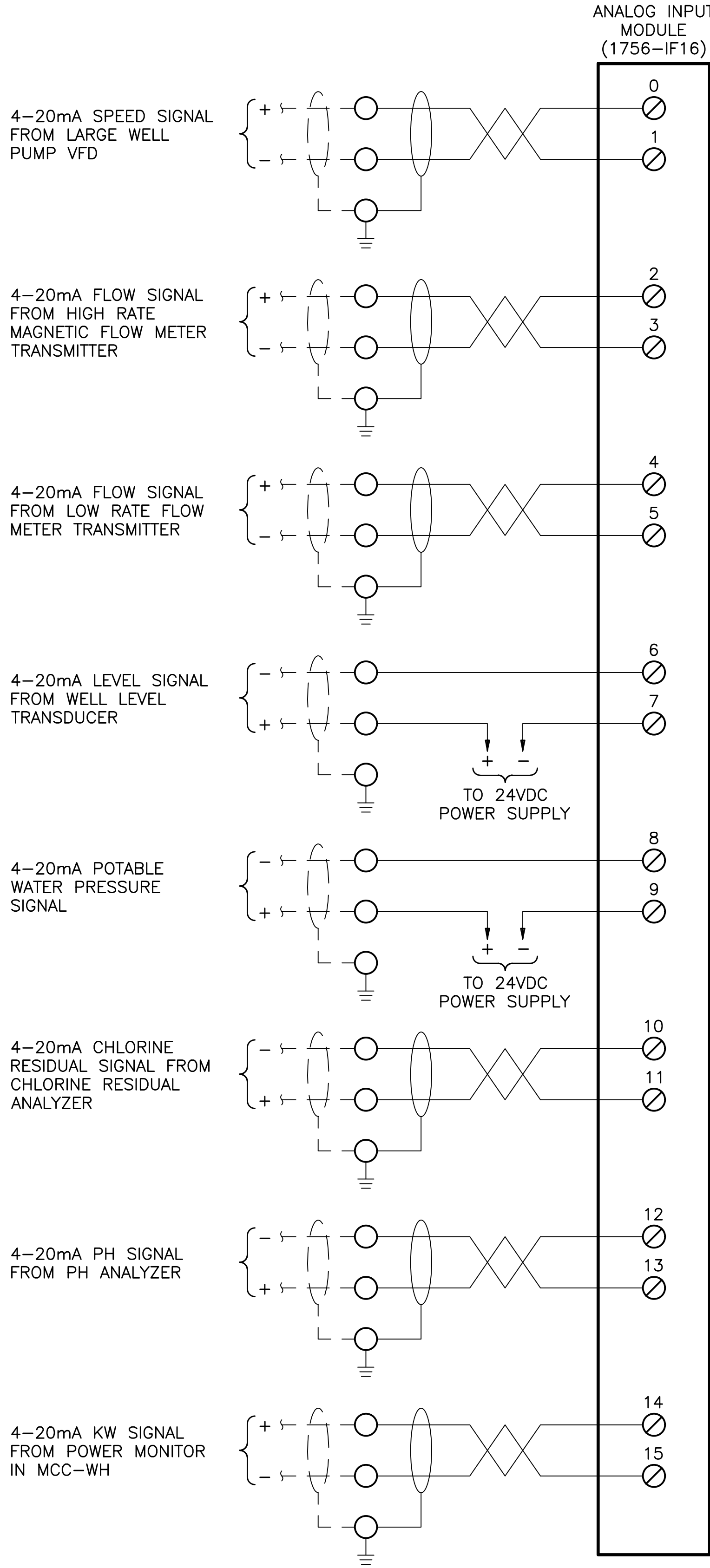
WESTERN BRANCH WRRF
POTABLE WATER SYSTEM UPGRADES

WELL HOUSE
CONTROL PANEL WIRING

PCS-05

NO 61
OF 62

PATH: I:\04 RK&K\COMF5\GOLD\PROJECTS\2021\2170_WSSC\PMSTRUTASK2 - WB POTABLE WATER SYSTEM DESIGN\06 ICE.E - 1A.CELELECTRICAL\PCS-06.DWG\Layout1\Chad Brodbeck



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LICENSE NO.: 63295 EXPIRATION DATE: 07/22/2026		CONTRACT: #CD6915B20

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WELL HOUSE
CONTROL PANEL WIRING

PCS-06

NO 62
OF 62