

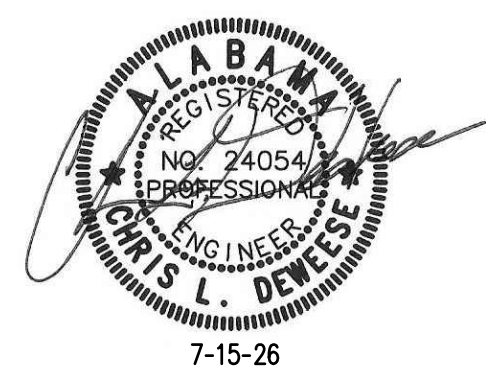
SHELBY COUNTY COMMISSION

PROPOSED WATER IMPROVEMENTS

SOUTHERN TRANSMISSION LINE CONTROL VALVE STATION

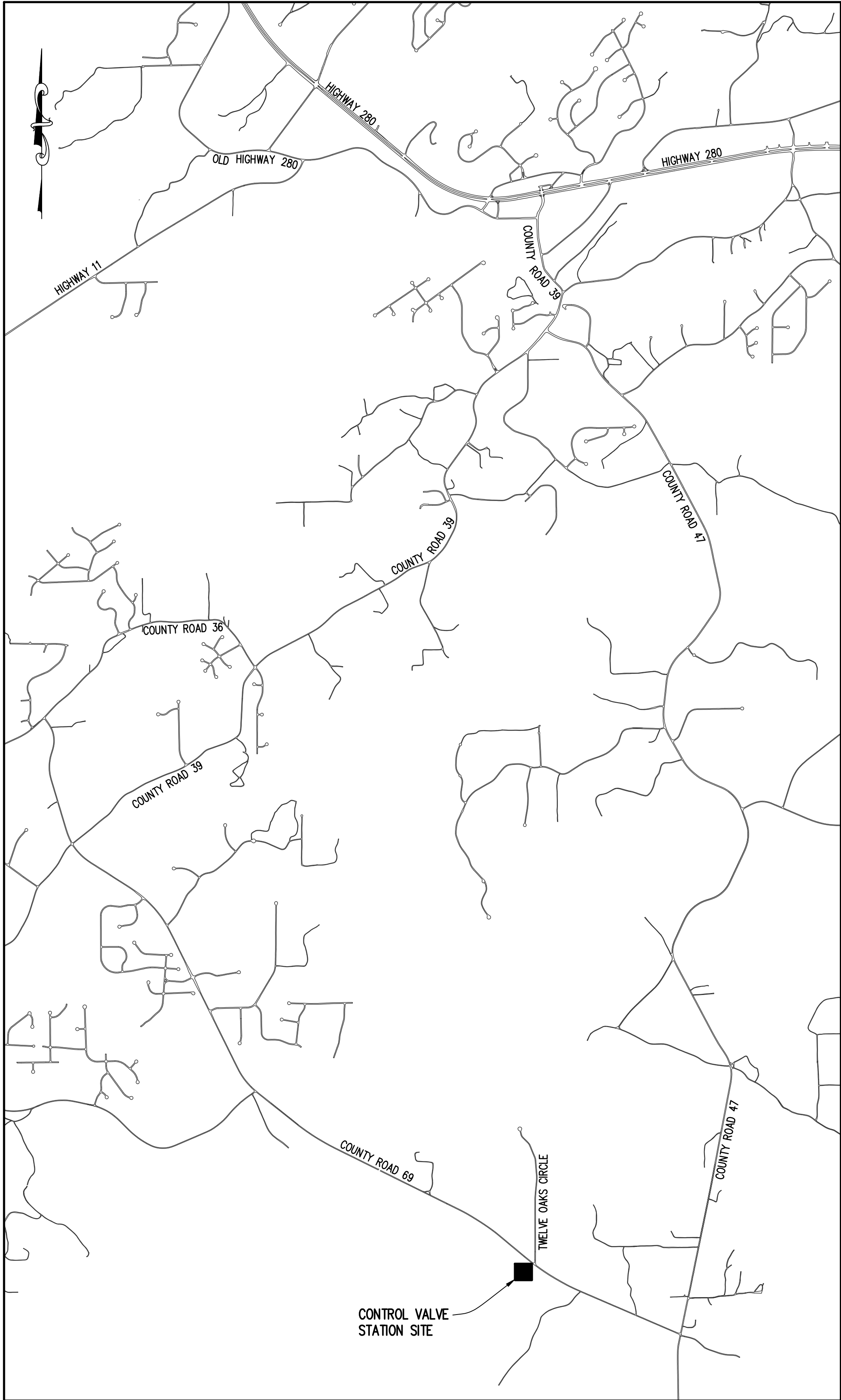
2026

Municipal
Consultants,
Inc. Birmingham, Alabama



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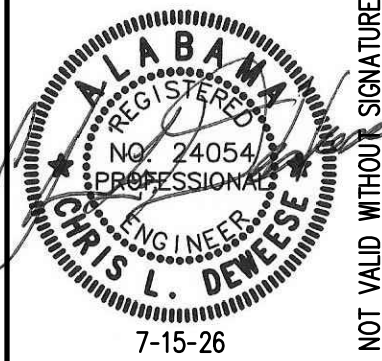
PROJECT LOCATION MAP

SCALE: 1"=2,000'



LEGEND			
WM	PROPOSED WATER MAIN	CONCRETE HEAD WALL	
	PROPOSED FIRE HYDRANT	EXISTING STORM SEWER INLET	
	PROPOSED VALVE	EXISTING TYPICAL INLET	
AR	PROPOSED AIR RELIEF ASSEMBLY, TYPE DENOTED	GUIDE WIRE ANCHOR	
F	PROPOSED FLUSHING ASSEMBLY, TYPE DENOTED	UTILITY POLE	
SS	EXISTING SANITARY SEWER	TELEPHONE PEDESTAL	
EWM	EXISTING WATER MAIN	SIGN	
FM	EXISTING SANITARY SEWER FORCE MAIN	RAILROAD CROSSING	
UE	EXIST. UNDERGROUND ELECTRICAL	EXISTING SEWER MANHOLE	
OHP	EXIST. OVERHEAD ELECTRICAL	EXISTING GAS VALVE (OR METER)	
FOC	EXIST. UNDERGROUND FIBER OPTIC CABLE	EXISTING WATER VALVE	
UT	EXIST. UNDERGROUND TELEPHONE	EXISTING FIRE HYDRANT	
GAS	EXIST. UNDERGROUND GAS MAIN	EXISTING WATER METER	
---	ACQUIRED EASEMENT	TREE OR SHRUB	
ROW	EXISTING RIGHT OF WAY	SURVEY CONTROL POINT, NUMBER	
	SLOPE INDICATOR	BENCH MARK	
	TREE LINE	MAILBOX	
X	FENCE TYPE VARIES		
	EXISTING STORM SEWER		
		11.25' BEND	
		22.5' BEND	
		45' BEND	
		90' BEND	
		TEE	
		WYE	
		CAP OR PLUG	
		REDUCER	
		PROPERTY PIN	
		ROW MONUMENT	
		MAILBOX	
		ASPHALT ROAD OR DRIVE	
		GRAVEL ROAD OR DRIVE	
		CONCRETE	
		RIP RAP	
		APPROXIMATE PROPERTY LINE	
		RAILROAD	

ABBREVIATIONS			
APPROX	AT	FIN GR	FIRE HYDRANT
ASPH	ASPHALT	FLG	FINISH GRADE
ASSY	ASSEMBLY	FT	FLANGED FOOT
BLDG	BUILDING	GV	GATE VALVE
BM	BENCHMARK	H, HGT, HT	HEIGHT
BOT, BTM	BOTTOM	HORIZ	HORIZONTAL
CI	CAST IRON	HWY	HIGHWAY
CIP	CAST IRON PIPE	ID	INSIDE DIAMETER
CL	CENTER LINE	IN	INCHES
CL	CLASS	INV	INVERT
CMP	CORRUGATED METAL PIPE	LIN	LINEAL, LINEAR
CONC	CONCRETE	LG	LONG
CONN	CONNECTION	LT	LEFT
CONT	CONTINUOUS	MANUF	MANUFACTURER
DIA	DIAMETER	MAX	MAXIMUM
DI	DUCTILE IRON	MH	MANHOLE
DIP	DUCTILE IRON PIPE	MIN	MINIMUM
DWN	DOWN	MISC	MISCELLANEOUS
DWG	DRAWING	MJ	MECHANICAL JOINT
EA	EACH	N	NORTH
ELEC	ELECTRICAL	NIC	NOT IN CONTRACT
EL, ELEV	ELEVATION	NO., #	NUMBER
EQ	EQUAL	NTS	NOT TO SCALE
EX, EXIST	EXISTING		
		OC	ON CENTER
		OD	OUTSIDE DIAMETER
		OHP	OVERHEAD POWER
		PE	PLAIN END
		PH	PHASE
		PL	PLATE, PROPERTY LINE
		PO	PUSH ON
		PP	POWER POLE
		PSI	POUNDS PER SQUARE INCH
		PVC	POLYVINYL CHLORIDE
		R, RAD	RADIUS
		RCP	REINFORCED CONC PIPE
		RED	REDUCER
		REINF	REINFORCING
		REQD	REQUIRED
		RJ	RESTRAINED JOINT
		ROW, R/W	RIGHT-OF-WAY
		RS	RESILIENT SEAT
		RT	RIGHT
		SF	SQUARE FEET
		SPECS	SPECIFICATIONS
		SQ	SQUARE
		SS	SANITARY SEWER
		STA	STATION
		ST STL, SS	STAINLESS STEEL
		SS	SANITARY SEWER
		TBM	TEMPORARY BENCHMARK
		TEMP	TEMPORARY, TEMPERED
		THK	THICKNESS
		TYP	TYPICAL
		V	VALVE, VENTILATOR, VOLTS
		VERT	VERTICAL
		W	WEST, WIDTH, WINDOW, WATER
		W/O	WITHOUT
		WWF	WELDED WIRE FABRIC
		WTP	WATER TREATMENT PLANT
		WWTP	WASTEWATER TREATMENT PLANT
		X	BY



BAR = 1"

Drawing	Title		
Project No.	LOCATION MAP AND LEGEND		
Date			
Scale			
Sheet	2	BID SET	

SHELBY COUNTY COMMISSION

SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

2026

Municipal Consultants, Inc.
200 Cahney Park South, Suite 212
Birmingham, Alabama 35226
(205) 822-0387

PROJECT NOTES:

1. KEEP PIPE CLEANED AND REMOVE ALL DEBRIS AND DIRT FROM INSIDE OF PIPE TO BE INSTALLED AND PREVIOUS PIPES INSTALLED DUE TO THE SHORTAGE OF FLUSHING WATER WHEN PIPE LINE IS COMPLETED. WHEN LAYING IS NOT IN PROGRESS, INCLUDING BREAK PERIODS, THE OPEN ENDS OF THE PIPE SHALL BE CLOSED BY PLUGS OR APPROVED MEANS.
2. FOR COORDINATION OF CONSTRUCTION, CONTRACTOR SHALL HIRE A LICENSED SURVEYOR FAMILIAR WITH SHELBY COUNTY WHO WILL IDENTIFY AND FLAG THE PROPERTY LINES AND EXISTING EASEMENTS, SURVEY THE WATER LINE ALIGNMENTS, SET THE CONTROL VALVE STATION CORNERS, SET ELEVATION CONTROL FOR THE PROJECT, AND ENSURE PROPER PLACEMENT OF THE CONTROL VALVE STATION AND WATER LINES. RESPONSIBILITY FOR THE SURVEY COORDINATION, ACCURACY AND TIMELINESS, SHALL REST WITH THE CONTRACTOR AND SURVEYOR.
3. PIPING TO AND FROM THE CONTROL VALVE STATION SHALL WILL BE LAYED ON RISING OR FALLING GRADES WITH SUFFICIENT DEPTH TO ELIMINATE AIR POCKETS AND FORCE ALL AIR TO MIGRATE TO THE AIR RELEASE VALVE ASSEMBLIES SHOWN INSIDE THE CONTROL VALVE STATION VAULTS.
4. ALL BELL HOLES SHALL HAVE EXCAVATED SOCKET SO ENTIRE PIPE BEARS EVENLY ITS ENTIRE LENGTH.
5. WATER TO TEST AND FLUSH LINES AND THE CONTROL VALVE STATION WILL BE PROVIDED SHELBY COUNTY VIA THE CONNECTION POINTS TO THE EXISTING WATER SYSTEM. CONTRACTOR SHALL PROPOSE, MODIFY AS REQUIRED, AND COORDINATE WITH THE ENGINEER AND OWNER TO DETERMINE ACCEPTABLE FLUSHING AND DISINFECTION OPERATIONS. CONTRACTOR SHALL ALSO ASSIST OWNER AND ENGINEER IN DETERMINING AND MINIMIZING WATER USAGE.
6. THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING WATER LINE CONNECTION POINTS TO DETERMINE FIELD CONDITIONS AND EXISTING PIPING CONDITIONS. REQUIREMENTS FOR CONNECTIONS SHALL BE CAREFULLY REVIEWED, DETERMINED, AND PLANNED FOR SUITABILITY AND SUCCESS WELL IN ADVANCE OF DISTURBING/CUTTING INTO THE EXISTING PIPING. CONTRACTOR IS RESPONSIBLE FOR INVESTIGATING ANY CROSSING LOCATIONS WITH OTHER UTILITIES TO DETERMINE EXISTING CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR CONDITIONS ENCOUNTERED SUCH AS ROCK, SOFT CONDITIONS, ETC.
7. TESTING OF LINES & APPURTENANCES WILL BE AS SPECIFIED. CONTRACTOR MAY USE CLOSED VALVES OR TEMPORARILY PLUGGED LINES AT HIS OPTION. CLOSED CLASS 150 BUTTERFLY VALVES CANNOT BE TESTED AGAINST UNLESS CONTRACTOR PUTS PRESSURE ON EACH SIDE OF VALVES SO DIFFERENCE IN PRESSURE DOES NOT EXCEED 150 PSI (SAME CONCEPT APPLIES TO 250 PSI RATED VALVES). DURING TEST, VALVES WITH SUFFICIENT PRESSURE RATINGS HAVE BEEN PLACED AT BEGINNING AND END OF PROJECT FOR TESTING LINE AGAINST A CLOSED VALVE.
8. ALL RESTRAINED JOINT PIPE SHALL BE FULLY EXTENDED FROM EACH ADJOINING PIPE BELL AND THE RESTRAINT MECHANISM MUST BE FULLY ENGAGED. NO FIELD WELDING OF D.I. ALLOWED.
9. ABIDE BY ALABAMA POWER COMPANY'S REQUIREMENTS FOR WORK ASSOCIATED WITH NEW ELECTRICAL SERVICE.
10. ALL MAIN LINE M.J. VALVES AND FITTINGS SHALL USE MEGA LUG OR EQUAL RESTRAINT GLANDS.
11. CONTRACTOR SHALL OBTAIN AND PAY FOR ANY NPDES PERMITS REQUIRED FOR PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE DRAINAGE, STORM WATER PERMITS (IF REQUIRED) AND COMPLIANCE WITH ALL GOVERNMENTAL STORM WATER REGULATIONS.
12. ALL YARD PIPE FITTINGS AND VALVES SHALL BE MECHANICAL JOINT, DUCTILE IRON WITH MEGA-LUG RESTRAINING GLANDS (BY EBAA FOUNDRY) UNLESS INDICATED OTHERWISE.
13. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR SAFETY NOR THE MEANS AND METHODS OF THE CONTRACTOR. THIS APPLIES THROUGHOUT THE PROJECT.
14. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL SHELBY COUNTY RULES AND REGULATIONS AND ALL APCO RULES AND REGULATIONS, AS APPLICABLE.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL EXCESS MATERIALS/DEBRIS RESULTING FROM THE WORK.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ANY ROW MONUMENTS AND/OR PROPERTY PINS DISTURBED DURING CONSTRUCTION.
17. UTILITIES ON PLANS AND PROFILES ARE SHOWN IN APPROXIMATE LOCATIONS AND MAY BE AT ASSUMED ELEVATIONS. CONTRACTOR TO VERIFY ALL POTENTIALLY CONFLICTING UTILITIES BEFORE PIPE IS LAID.
18. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE LOCATION, TYPE, AND SIZE OF ALL EXISTING UTILITIES, OBSTRUCTIONS, FENCING, DRAINAGE, ETC.
19. ALL ROCK SHALL BE UNDERCUT A MINIMUM OF 12" BELOW THE PIPE INVERT AND PIPE IS TO BE BEDDED IN STONE - SEE DETAILS. PIPE BEDDING MATERIAL SHALL BE #57 CRUSHED STONE COMPACTED TO 95% STANDARD PROCTOR DENSITY.
20. CONTRACTOR SHALL CONTINUALLY MAINTAIN TRAFFIC FLOW AND MINIMIZE DISRUPTION OF ACCESS TO ALL BUSINESSES AND RESIDENCES. CONTRACTOR SHALL COORDINATE AS REQUIRED TO ENSURE UNOBSTRUCTED TRAVEL/ACCESS DURING SPECIFIC/CRITICAL TIMES OF DAY AS REQUIRED.
21. ANY TRAFFIC CONTROL REQUIRED SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
22. ALL CONTRACTORS SHALL ADHERE TO OSHA STANDARDS.
23. CALL 811 BEFORE YOU DIG.
24. NO TRENCH OR EXCAVATION SHALL BE LEFT OPEN OVERNIGHT OR UNATTENDED UNLESS PROPERLY PROTECTED.
25. TRENCHES AND EXCAVATION MUST BE FILLED, FENCED, COVERED, OR BARRICADED WHEN UNATTENDED.
26. NO BLASTING ALLOWED. ANY ROCK ENCOUNTERED THAT MUST BE REMOVED SHALL BE BY ROCK HAMMER.
27. WALKWAYS/SIDEWALKS SHALL BE POURED WITH SLIGHT SLOPE AND NO LOW SPOTS SO THEY WILL DRAIN FREE.
28. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR STORMWATER RUNOFF, DRAINAGE, FINAL GRADING, FINAL GRAVEL PLACEMENT, FINAL GRASSING, ETC. OF THE CONTROL VALVE STATION SITE. THE OWNER SHALL ASSUME NO RESPONSIBILITY FOR THESE ITEMS.
29. UNACCEPTABLE FILL MATERIAL SHALL BE REMOVED AND REPLACED AT NO COST TO THE OWNER.
30. ALL FILL SHALL BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 98% SPD. EACH LIFT SHALL BE TESTED BY THE OWNER'S GEOTECHNICAL REPRESENTATIVE. EACH LIFT MUST PASS COMPACTION AND TESTING REQUIREMENTS BEFORE PLACEMENT OF SUCCESSIVE LIFTS.
31. TOPSOIL REMOVED FROM SUBGRADE SHALL BE STOCKPILED AND REUSED FOR GRASSING. IF NO TOPSOIL IS AVAILABLE, THE CONTRACTOR SHALL BRING IN TOPSOIL AS REQUIRED SUCH THAT THE FINAL TOPSOIL IS IN ACCORDANCE WITH THE PROJECT'S GRASSING SPECIFICATION.
32. FINAL GRADING SHALL BE HAND RAKED AND ALL STONES, BOULDERS, ETC. REMOVED TO ALLOW MOWING WITHOUT CAUSING DAMAGE TO TYPICAL MOWERS..
33. FINAL GRADING AS REQUIRED FOR PROPER SITE DRAINAGE.
34. SEE SPECIFICATIONS FOR ADDITIONAL SOIL REQUIREMENTS.
35. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO TEST DIG SITE IF DESIRED.
36. CONTRACTOR SHALL EMPLOY A PROFESSIONAL LAND SURVEYOR FOR LOCATING PROPERTY PINS AND/OR STAKING SITE PRIOR TO PERFORMING ANY WORK. CONTRACTOR SHALL MAINTAIN PINS/STAKES CONTINUOUSLY DURING CONSTRUCTION.
37. CONTRACTOR SHALL PROVIDE TOPSOIL, FERTILIZER, GRASSING, ETC. AS NECESSARY TO MAINTAIN AN EROSION FREE SURFACE CAPABLE OF MAINTAINING A COMPLETE STAND OF GRASS.
38. NO ROCK BACKFILL SHALL BE PLACED WITHIN ONE FOOT (1') OF PIPE.
39. ALL ROCK SHALL BE UNDERCUT A MINIMUM OF 12" AND PIPE BEDDED IN STONE.
40. ALL UNDERGROUND VALVES SHALL BE SUITABLE FOR BURIED SERVICE AND ENDS SHALL BE MECHANICAL JOINT WITH MEGA-LUG GLANDS UNLESS NOTED OTHERWISE. ALL VALVES SHALL BE RODDED TO THE NEAREST FITTING.
41. CONTRACTOR SHALL COORDINATE AS REQUIRED WITH APCO REGARDING THE ELECTRICAL SERVICE AND METERING REQUIREMENTS. ALL WORK ITEMS FOR THE ELECTRICAL SERVICE NOT SPECIFICALLY INDICATED TO BE PROVIDED BY SHELBY COUNTY IN THE PLANS, SHALL BE PROVIDED BY THE CONTRACTOR AND MEET ALL APCO REQUIREMENTS.
42. AFTER EXCAVATION TO SUBGRADE, THE OWNER MAY PERFORM INVESTIGATIONS ON SUBGRADE. SUBGRADE MUST BE APPROVED BY ENGINEER BEFORE PROCEEDING WITH WORK.
43. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH THE PROVISIONS OF ANY "NPDES" PERMIT NECESSARY FOR THE PROJECT AND FOR PROVIDING EROSION AND SEDIMENTATION CONTROL IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
44. CONTRACTOR SHALL MAINTAIN ALL "BMP's" DURING CONSTRUCTION AND REMOVE ALL SEDIMENT AND EROSION CONTROL DEVICES FOLLOWING STABILIZATION AND IN ACCORDANCE WITH ALL REGULATORY AUTHORITIES.

THE OWNER HAS PAID FOR AND OBTAINED THE BUILDING PERMIT FOR THIS PROJECT AND WILL PROVIDE IT TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL INCLUDE NO COSTS IN HIS BID FOR OBTAINING THE BUILDING PERMIT.

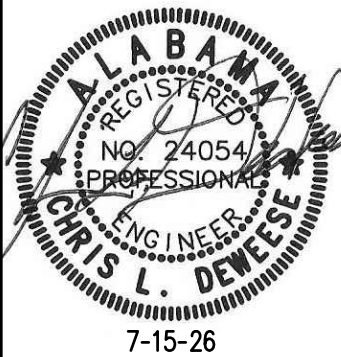
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SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

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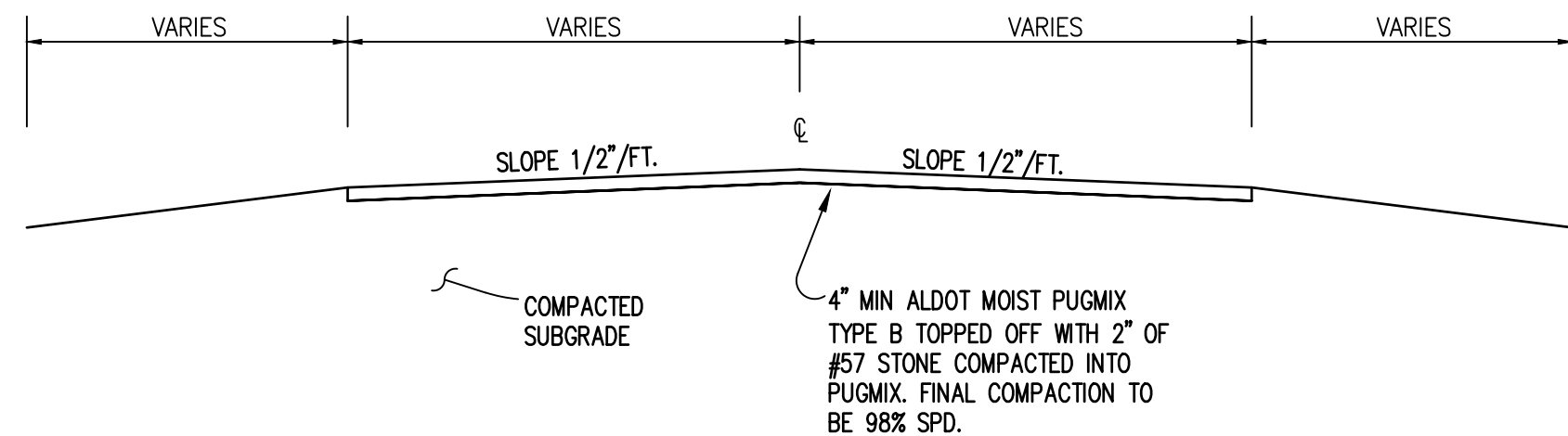
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BAR = 1"

Drawing Project No. Date Scale Sheet	Title	
	PROJECT NOTES	
	BID SET	

PERMITTING/EASEMENT - NOTE:
THE OWNER HAS OBTAINED THE PERMANENT EASEMENT AND GENERAL ACCESS FROM ALABAMA POWER COMPANY AND ALL PERMITS (E.G., POWER COMPANY, BUILDING PERMIT, ETC.) EXCEPT NPDES PERMIT IF REQUIRED. THE CONTRACTOR SHALL INCLUDE NO COSTS IN HIS BID FOR PERMITTING EXCEPT FOR NPDES PERMIT IF REQUIRED.

OVERHEAD ELECTRICAL SERVICE - NOTE:
THE OWNER WILL COVER ALL COSTS AND WORK ASSOCIATED WITH GETTING THE POWER COMPANY TO INSTALL THE OVERHEAD POWER TO THE SITE AS GENERALLY SHOWN ON THIS DRAWING -- AS SUCH, THE CONTRACTOR SHALL INCLUDE NO COSTS IN HIS BID FOR THIS. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE POWER COMPANY AS REQUIRED DURING THE BID PHASE (AND IMMEDIATELY AFTER AWARD OF THE CONTRACT) TO DETERMINE/FINALIZE THE SCHEDULE FOR OBTAINING TEMPORARY POWER (IF REQUIRED FOR THE CONTRACTOR'S CONSTRUCTION ACTIVITIES) AND PERMANENT POWER. THE CONTRACTOR SHALL ALSO COORDINATE ALL OF THIS INFORMATION WITH THE OWNER. CONTACT INFORMATION FOR ALABAMA POWER: LE'AUNDRA S. BAKER, PD - DISTRIBUTION ENGINEER, OFFICE: 205-226-1767, CELL: 205-396-0678. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE UNDERGROUND ELECTRICAL SERVICE FROM THE METER POLE TO THE ELECTRICAL RACK AND SHALL INCLUDE THOSE COSTS IN HIS BID.



SCALE: N.T.S.

NOTE:

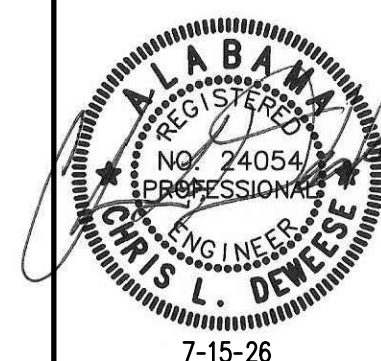
1. TYPICAL PAVING SECTIONS SHOWN WITH CROWN AND SLOPING SHOULDERS. PROVIDE DIFFERENT SLOPE ARRANGEMENTS WHERE REQ'D FOR DRAINAGE AND/OR BY GRADING PLANS

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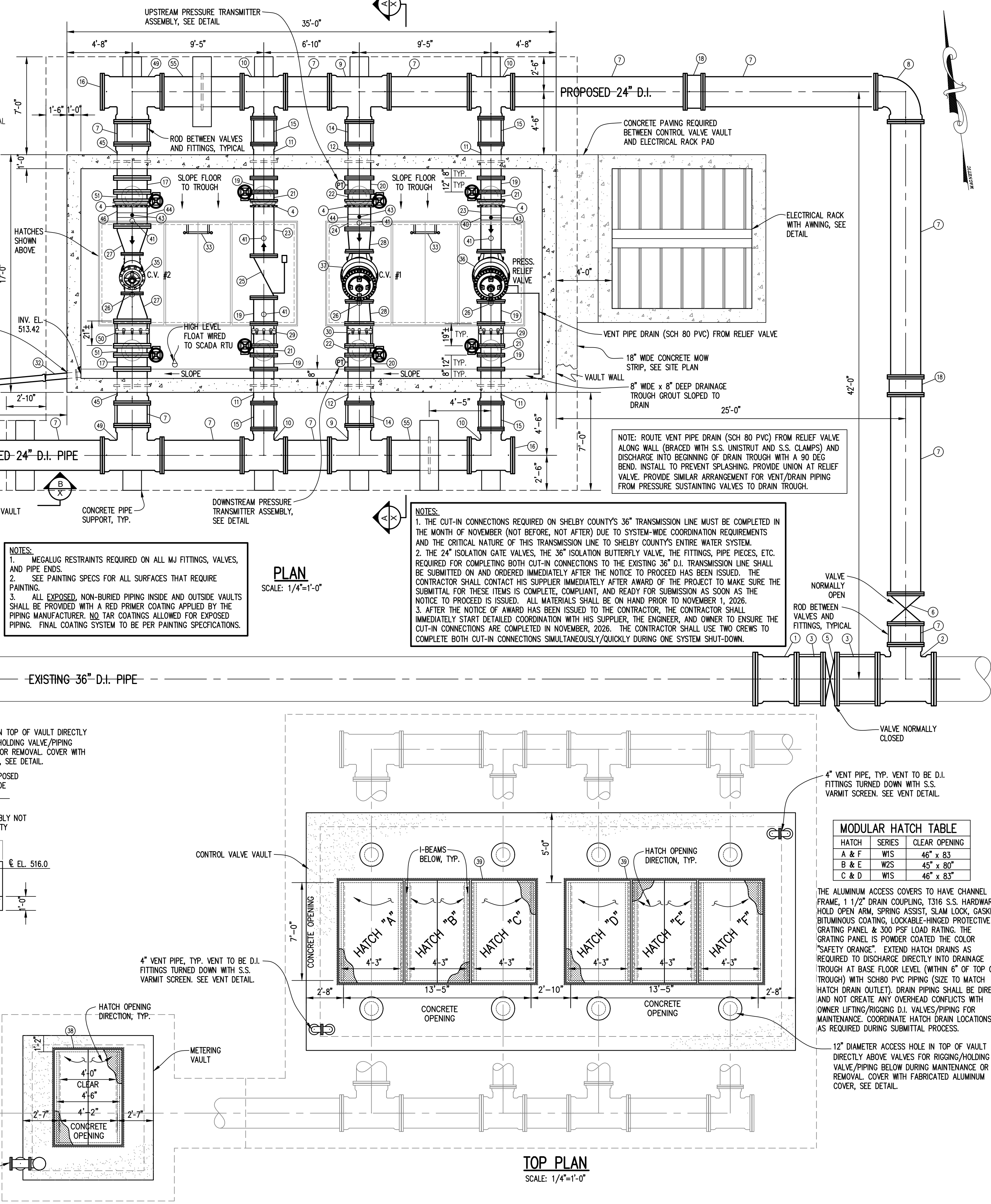
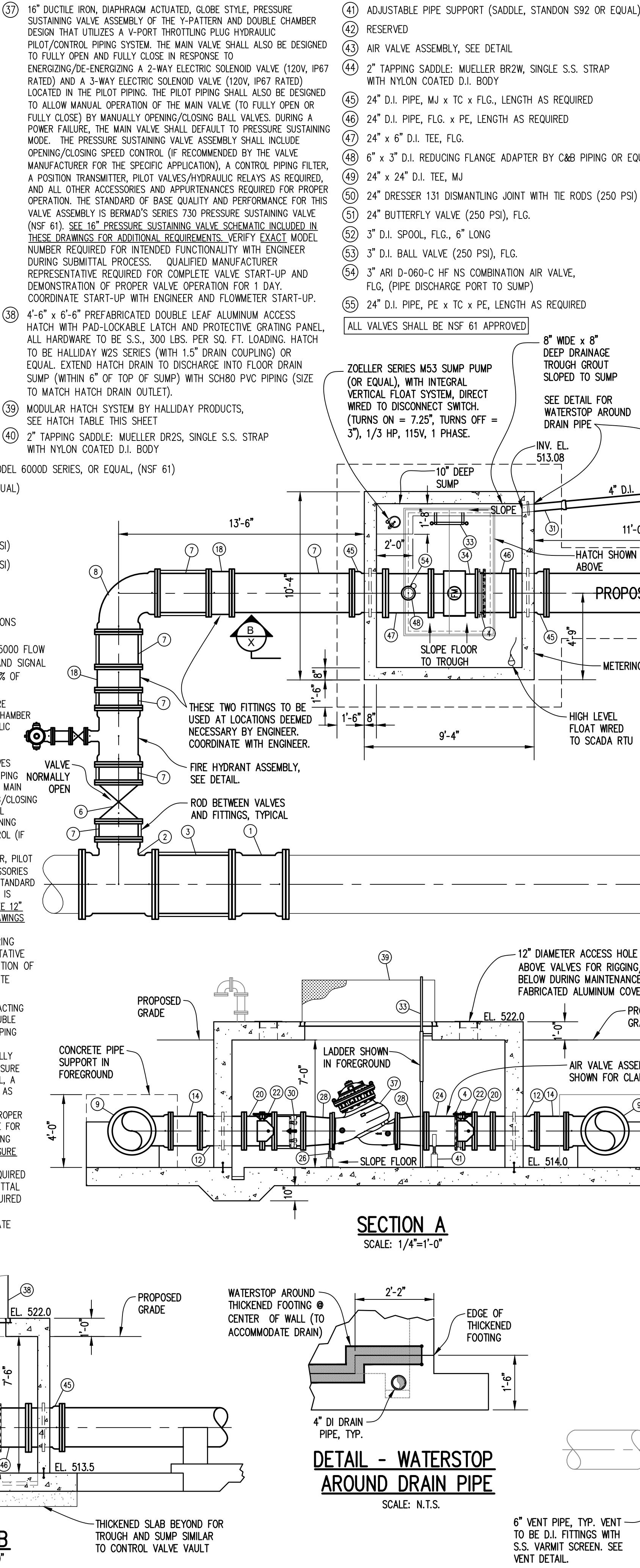


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- PARTIAL MATERIAL LIST**
- 1 36" D.I. SLEEVE, MJ
 - 2 36" x 24" D.I. TEE, MJ
 - 3 36" D.I. PIPE, PE x PE, LENGTH AS REQUIRED
 - 4 MEGAFLANGE BY EBAA IRON OR EQUAL, SIZE AS REQUIRED
 - 5 36" D.I. BUTTERFLY VALVE (250 PSI), MJ
 - 6 24" D.I. GATE VALVE, MJ
 - 7 24" D.I. PIPE, PE x PE, LENGTH AS REQUIRED
 - 8 24" D.I. 90° BEND, MJ
 - 9 24" x 18" D.I. TEE, MJ
 - 10 24" x 16" D.I. TEE, MJ
 - 11 16" D.I. PIPE, MJ x TC x FLG., LENGTH AS REQUIRED
 - 12 18" D.I. PIPE, MJ x TC x FLG., LENGTH AS REQUIRED
 - 13 24" D.I. PIPE, PE x TC x FLG., LENGTH AS REQUIRED
 - 14 18" D.I. PIPE, PE x PE, LENGTH AS REQUIRED
 - 15 16" D.I. PIPE, PE x PE, LENGTH AS REQUIRED
 - 16 24" D.I. PLUG, MJ
 - 17 24" D.I. PIPE, FLG x FLG., LENGTH AS REQUIRED
 - 18 24" D.I. SLEEVE OR VERTICAL BEND AS REQUIRED, MJ
 - 19 16" D.I. PIPE, FLG. x FLG., LENGTH AS REQUIRED
 - 20 18" D.I. PIPE, FLG. x FLG., LENGTH AS REQUIRED
 - 21 16" BUTTERFLY VALVE (250 PSI), FLG.
 - 22 18" BUTTERFLY VALVE (250 PSI), FLG.
 - 23 16" PIPE, PE x FLG., LENGTH AS REQUIRED
 - 24 18" PIPE, PE x FLG., LENGTH AS REQUIRED
 - 25 16" SWING CHECK VALVE (250 PSI), FLG., DEZURIK/APCO MODEL 6000D SERIES, OR EQUAL, (NSF 61)
 - 26 ADJUSTABLE PIPE SUPPORT (FLANGED, STANDON 589 OR EQUAL)
 - 27 24" x 12" D.I. CONCENTRIC REDUCER, FLG.
 - 28 18" x 16" D.I. CONCENTRIC REDUCER, FLG.
 - 29 16" DRESSER 131 DISMANTLING JOINT WITH TIE RODS (250 PSI)
 - 30 18" DRESSER 131 DISMANTLING JOINT WITH TIE RODS (250 PSI)
 - 31 4" D.I. PIPE, PE x TC x SJ, LENGTH AS REQUIRED
 - 32 4" D.I. PIPE, PE x TC x PE, LENGTH AS REQUIRED
 - 33 HEAVY DUTY ALUMINUM LADDER WITH DUAL SAFETY EXTENSIONS BY HALLIDAY PRODUCTS OR EQUAL
 - 34 24" MAGNETIC FLOW METER, FLG, McCrometer ULTRA MAG 5000 FLOW METER (NSF 61), 285 PSI RATING, WITH GROUNDING RINGS AND SIGNAL CONVERTER/TRANSMITTER, HIGH ACCURACY METER (+/- 0.2% OF MEASURED VALUE), SEE SPECS
 - 35 12" DUCTILE IRON, DIAPHRAGM ACTUATED, GLOBE STYLE, PRESSURE SUSTAINING VALVE ASSEMBLY OF THE Y-PATTERN AND DOUBLE CHAMBER DESIGN THAT UTILIZES A V-PORT THROTTLING PLUG AND HYDRAULIC PILOT/CONTROL PIPING SYSTEM. THE MAIN VALVE SHALL ALSO BE DESIGNED TO FULLY OPEN AND FULLY CLOSE IN RESPONSE TO ENERGIZING/DE-ENERGIZING A 2-WAY ELECTRIC SOLENOID VALVE (120V, IP67 RATED) AND A 3-WAY ELECTRIC SOLENOID VALVE (120V, IP67 RATED) LOCATED IN THE PILOT PIPING. THE PILOT PIPING SHALL ALSO BE DESIGNED TO ALLOW MANUAL OPERATION OF THE MAIN VALVE (TO FULLY OPEN OR FULLY CLOSE) BY MANUALLY OPENING/CLOSING BALL VALVES. DURING A POWER FAILURE, THE MAIN VALVE SHALL DEFAULT TO PRESSURE SUSTAINING MODE. THE PRESSURE SUSTAINING VALVE ASSEMBLY SHALL INCLUDE OPENING/CLOSING SPEED CONTROL (IF RECOMMENDED BY THE VALVE MANUFACTURER FOR THE SPECIFIC APPLICATION), A CONTROL PIPING FILTER, A POSITION TRANSMITTER, PILOT VALVES/HYDRAULIC RELAYS AS REQUIRED, AND ALL OTHER ACCESSORIES AND APPURTENANCES REQUIRED FOR PROPER OPERATION. THE STANDARD OF BASE QUALITY AND PERFORMANCE FOR THIS VALVE ASSEMBLY IS BERMAID'S SERIES 730 PRESSURE SUSTAINING VALVE (NSF 61). SEE 12" PRESSURE SUSTAINING VALVE SCHEMATIC INCLUDED IN THESE DRAWINGS FOR ADDITIONAL REQUIREMENTS. VERIFY EXACT MODEL NUMBER REQUIRED FOR INTENDED FUNCTIONALITY WITH ENGINEER DURING SUBMITTAL PROCESS. QUALIFIED MANUFACTURER REPRESENTATIVE REQUIRED FOR COMPLETE VALVE START-UP AND DEMONSTRATION OF PROPER VALVE OPERATION FOR 1 DAY (MINIMUM). COORDINATE START-UP WITH ENGINEER AND FLOWMETER START-UP.
 - 36 16" DUCTILE IRON, DIAPHRAGM ACTUATED, GLOBE STYLE, QUICK-ACTING PRESSURE RELIEF VALVE ASSEMBLY OF THE Y-PATTERN AND DOUBLE CHAMBER DESIGN THAT UTILIZES A HYDRAULIC PILOT/CONTROL PIPING SYSTEM. THE PILOT PIPING SHALL ALSO BE DESIGNED TO ALLOW MANUAL OPERATION OF THE MAIN VALVE (TO FULLY OPEN OR FULLY CLOSE) BY MANUALLY OPENING/CLOSING BALL VALVES. DURING A POWER FAILURE, THE MAIN VALVE SHALL DEFAULT TO PRESSURE SUSTAINING MODE. THE PRESSURE SUSTAINING VALVE ASSEMBLY SHALL INCLUDE OPENING/CLOSING SPEED CONTROL (IF RECOMMENDED BY THE VALVE MANUFACTURER FOR THE SPECIFIC APPLICATION), A CONTROL PIPING FILTER, A POSITION TRANSMITTER, PILOT VALVES/HYDRAULIC RELAYS AS REQUIRED, AND ALL OTHER ACCESSORIES AND APPURTENANCES REQUIRED FOR PROPER OPERATION. THE STANDARD OF BASE QUALITY AND PERFORMANCE FOR THIS VALVE ASSEMBLY IS BERMAID'S SERIES 700/705 QUICK-ACTING PRESSURE RELIEF VALVE (NSF 61). SEE 16" QUICK-ACTING PRESSURE RELIEF VALVE SCHEMATIC INCLUDED IN THESE DRAWINGS FOR ADDITIONAL REQUIREMENTS. VERIFY EXACT MODEL NUMBER REQUIRED FOR INTENDED FUNCTIONALITY WITH ENGINEER DURING SUBMITTAL PROCESS. QUALIFIED MANUFACTURER REPRESENTATIVE REQUIRED FOR COMPLETE VALVE START-UP AND DEMONSTRATION OF PROPER VALVE OPERATION FOR 1 DAY (MINIMUM). COORDINATE START-UP WITH ENGINEER AND FLOWMETER START-UP.
 - 37 16" DUCTILE IRON, DIAPHRAGM ACTUATED, GLOBE STYLE, PRESSURE SUSTAINING VALVE ASSEMBLY OF THE Y-PATTERN AND DOUBLE CHAMBER DESIGN THAT UTILIZES A V-PORT THROTTLING PLUG AND HYDRAULIC PILOT/CONTROL PIPING SYSTEM. THE MAIN VALVE SHALL ALSO BE DESIGNED TO FULLY OPEN AND FULLY CLOSE IN RESPONSE TO ENERGIZING/DE-ENERGIZING A 2-WAY ELECTRIC SOLENOID VALVE (120V, IP67 RATED) AND A 3-WAY ELECTRIC SOLENOID VALVE (120V, IP67 RATED) LOCATED IN THE PILOT PIPING. THE PILOT PIPING SHALL ALSO BE DESIGNED TO ALLOW MANUAL OPERATION OF THE MAIN VALVE (TO FULLY OPEN OR FULLY CLOSE) BY MANUALLY OPENING/CLOSING BALL VALVES. DURING A POWER FAILURE, THE MAIN VALVE SHALL DEFAULT TO PRESSURE SUSTAINING MODE. THE PRESSURE SUSTAINING VALVE ASSEMBLY SHALL INCLUDE OPENING/CLOSING SPEED CONTROL (IF RECOMMENDED BY THE VALVE MANUFACTURER FOR THE SPECIFIC APPLICATION), A CONTROL PIPING FILTER, A POSITION TRANSMITTER, PILOT VALVES/HYDRAULIC RELAYS AS REQUIRED, AND ALL OTHER ACCESSORIES AND APPURTENANCES REQUIRED FOR PROPER OPERATION. THE STANDARD OF BASE QUALITY AND PERFORMANCE FOR THIS VALVE ASSEMBLY IS BERMAID'S SERIES 730 PRESSURE SUSTAINING VALVE (NSF 61). SEE 12" PRESSURE SUSTAINING VALVE SCHEMATIC INCLUDED IN THESE DRAWINGS FOR ADDITIONAL REQUIREMENTS. VERIFY EXACT MODEL NUMBER REQUIRED FOR INTENDED FUNCTIONALITY WITH ENGINEER DURING SUBMITTAL PROCESS. QUALIFIED MANUFACTURER REPRESENTATIVE REQUIRED FOR COMPLETE VALVE START-UP AND DEMONSTRATION OF PROPER VALVE OPERATION FOR 1 DAY (MINIMUM). COORDINATE START-UP WITH ENGINEER AND FLOWMETER START-UP.
 - 38 4'-6" x 6'-6" PREFABRICATED DOUBLE LEAF ALUMINUM ACCESS HATCH WITH PAD-LOCKABLE LATCH AND PROTECTIVE GRATING PANEL, ALL HARDWARE TO BE S.S., 300 LBS. PER SQ. FT. LOADING. HATCH TO BE HALLIDAY W2S SERIES (WITH 1.5" DRAIN COUPLING) OR EQUAL, EXTEND HATCH DRAIN TO DISCHARGE INTO FLOOR DRAIN SUMP (WITHIN 6" OF TOP OF SUMP) WITH SCH80 PVC PIPING (SIZE TO MATCH HATCH DRAIN OUTLET).
 - 39 MODULAR HATCH SYSTEM BY HALLIDAY PRODUCTS, SEE HATCH TABLE THIS SHEET
 - 40 2" TAPPING SADDLE: MUELLER DR2S, SINGLE S.S. STRAP WITH NYLON COATED D.I. BODY
 - 41 ADJUSTABLE PIPE SUPPORT (SADDLE, STANDON S92 OR EQUAL)
 - 42 RESERVED
 - 43 AIR VALVE ASSEMBLY, SEE DETAIL
 - 44 2" TAPPING SADDLE: MUELLER BR2W, SINGLE S.S. STRAP WITH NYLON COATED D.I. BODY
 - 45 24" D.I. PIPE, MJ x TC x FLG., LENGTH AS REQUIRED
 - 46 24" D.I. PIPE, FLG. x PE, LENGTH AS REQUIRED
 - 47 24" x 6" D.I. TEE, FLG.
 - 48 6" x 3" D.I. REDUCING FLANGE ADAPTER BY C&B PIPING OR EQUAL
 - 49 24" x 24" D.I. TEE, MJ
 - 50 24" DRESSER 131 DISMANTLING JOINT WITH TIE RODS (250 PSI)
 - 51 24" BUTTERFLY VALVE (250 PSI), FLG.
 - 52 3" D.I. SPOOL, FLG., 6" LONG
 - 53 3" D.I. BALL VALVE (250 PSI), FLG.
 - 54 3" ARI D-060-C HF NS COMBINATION AIR VALVE, FLG, (PIPE DISCHARGE PORT TO SUMP)
 - 55 24" D.I. PIPE, PE x TC x PE, LENGTH AS REQUIRED



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SHELBY COUNTY COMMISSION

SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

2026

Title

CONTROL VALVE PIT

BID SET

5

Drawing

Project No.

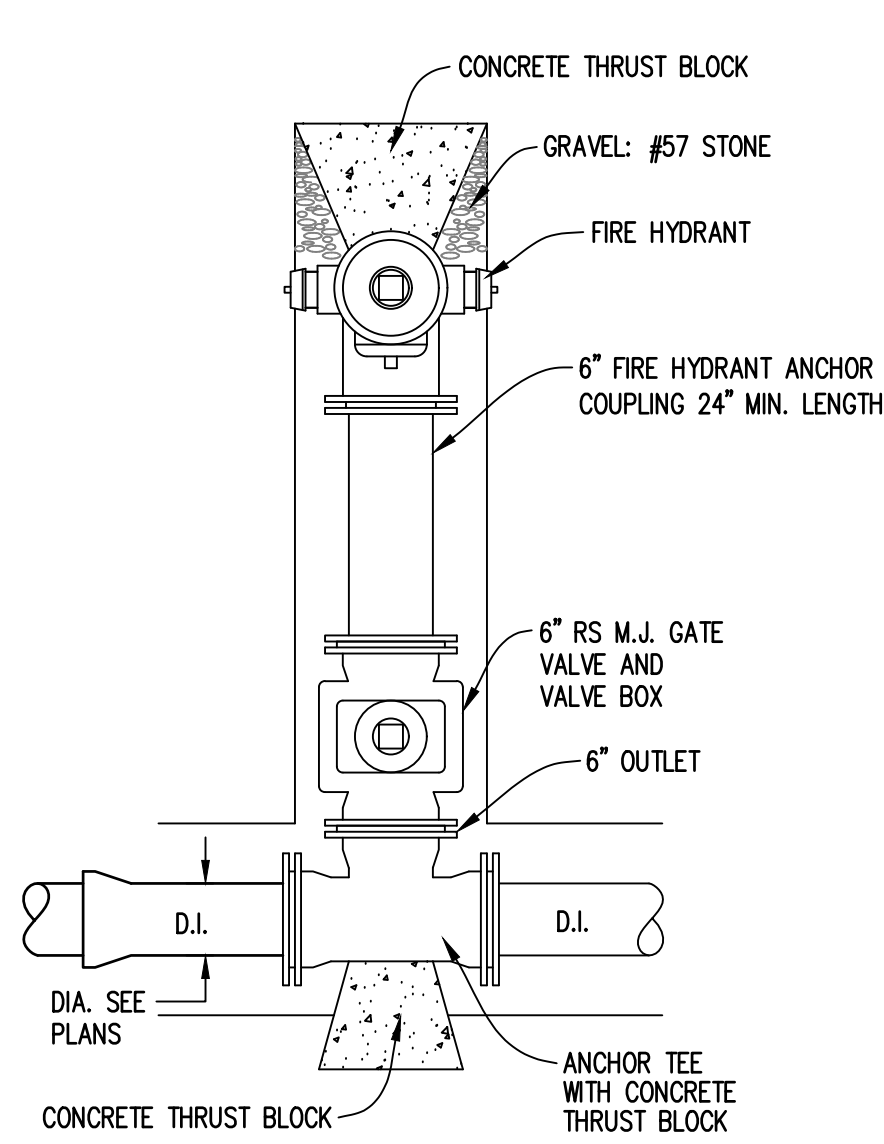
Date

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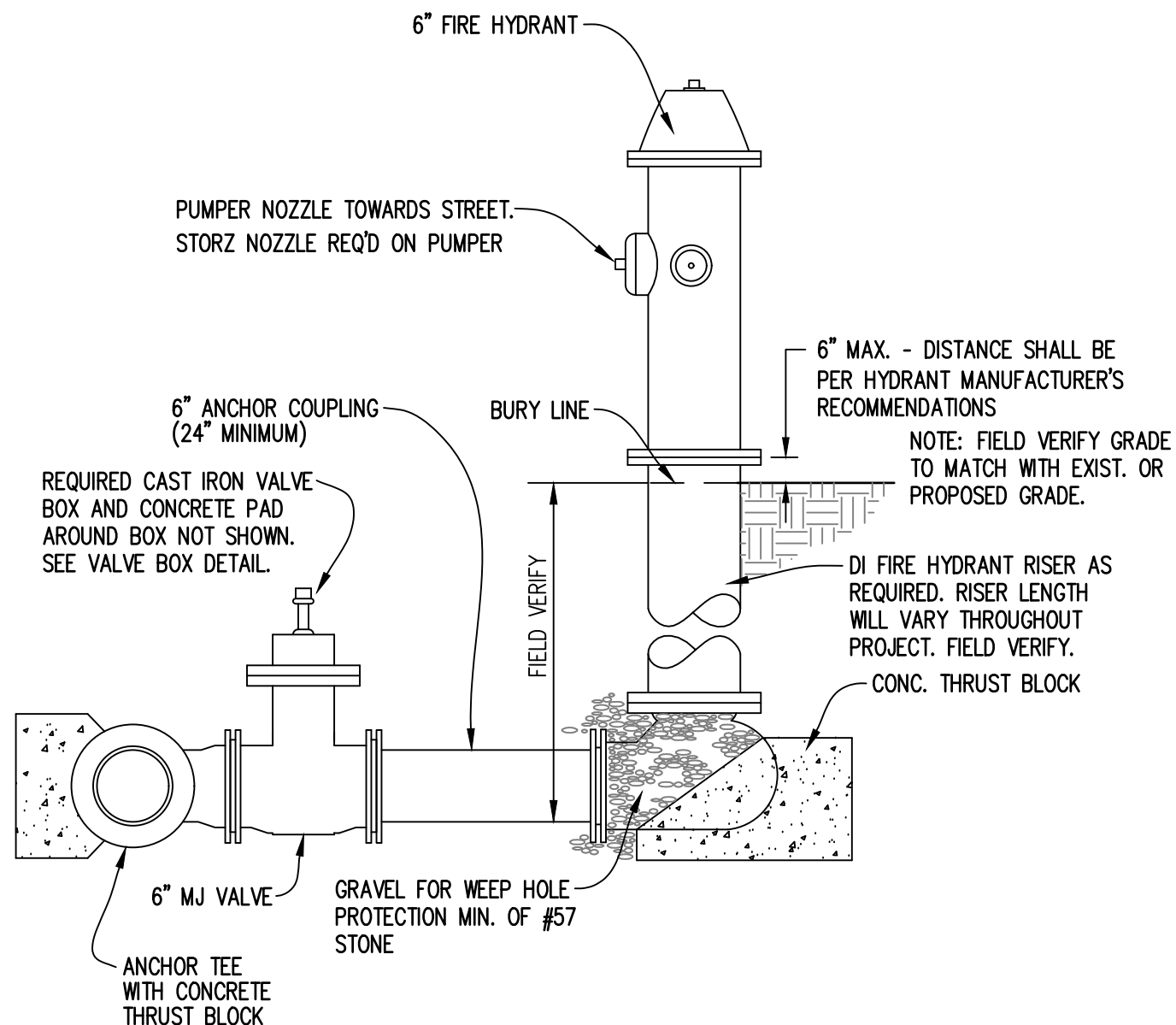
Sheet

7 - 26

1/4"=1'



PLAN VIEW



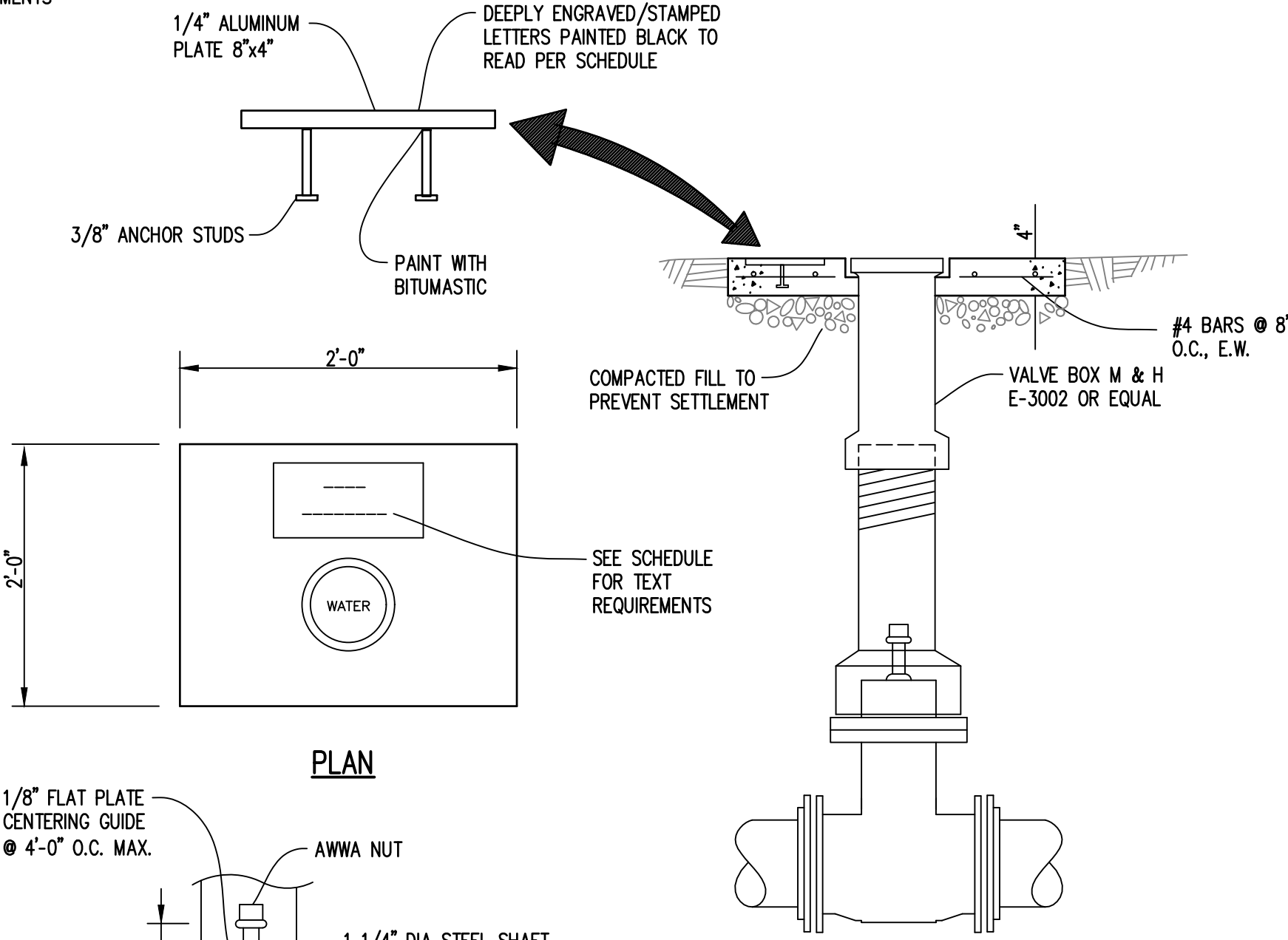
ELEVATION VIEW

NOTES:

1. ALL PIPE SHALL BE DUCTILE IRON.
2. NOZZLE SIZES AND THREADS SHALL MATCH LOCAL FIRE DEPARTMENT REQUIREMENTS UNLESS INDICATED OTHERWISE. PROVIDE WITH STORZ NOZZLE ON PUMPER.
3. PROVIDE HYDRANTS WITH DEPTH OF BURY HEIGHTS AS REQUIRED TO MAINTAIN ABOVE GROUND DIMENSIONS. FIRE HYDRANT EXTENSIONS WILL BE REQUIRED IF CORRECT HEIGHTS ARE NOT ACHIEVED. CONTRACTOR SHALL PLAN DEPTH OF BURY WITH OTHER CONSTRUCTION REQUIREMENTS AND ACTUAL PIPE INSTALL DEPTHS IN THE FIELD.
4. PROVIDE LONGER ANCHOR COUPLINGS AS REQUIRED TO AVOID CONFLICTS.
5. FIRE HYDRANTS TO BE PER OWNER STANDARDS.

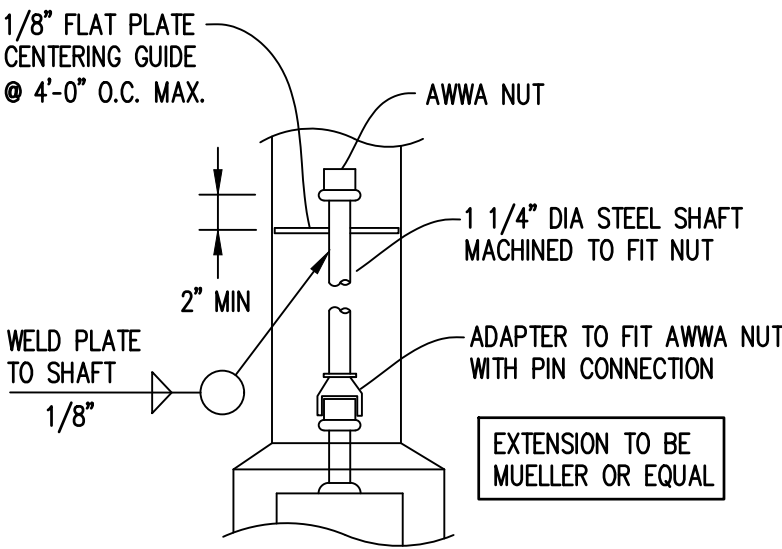
6" FIRE HYDRANT
INSTALLATION DETAIL

SCALE: N.T.S.



PLAN

SECTION



VALVE STEM
EXTENSION

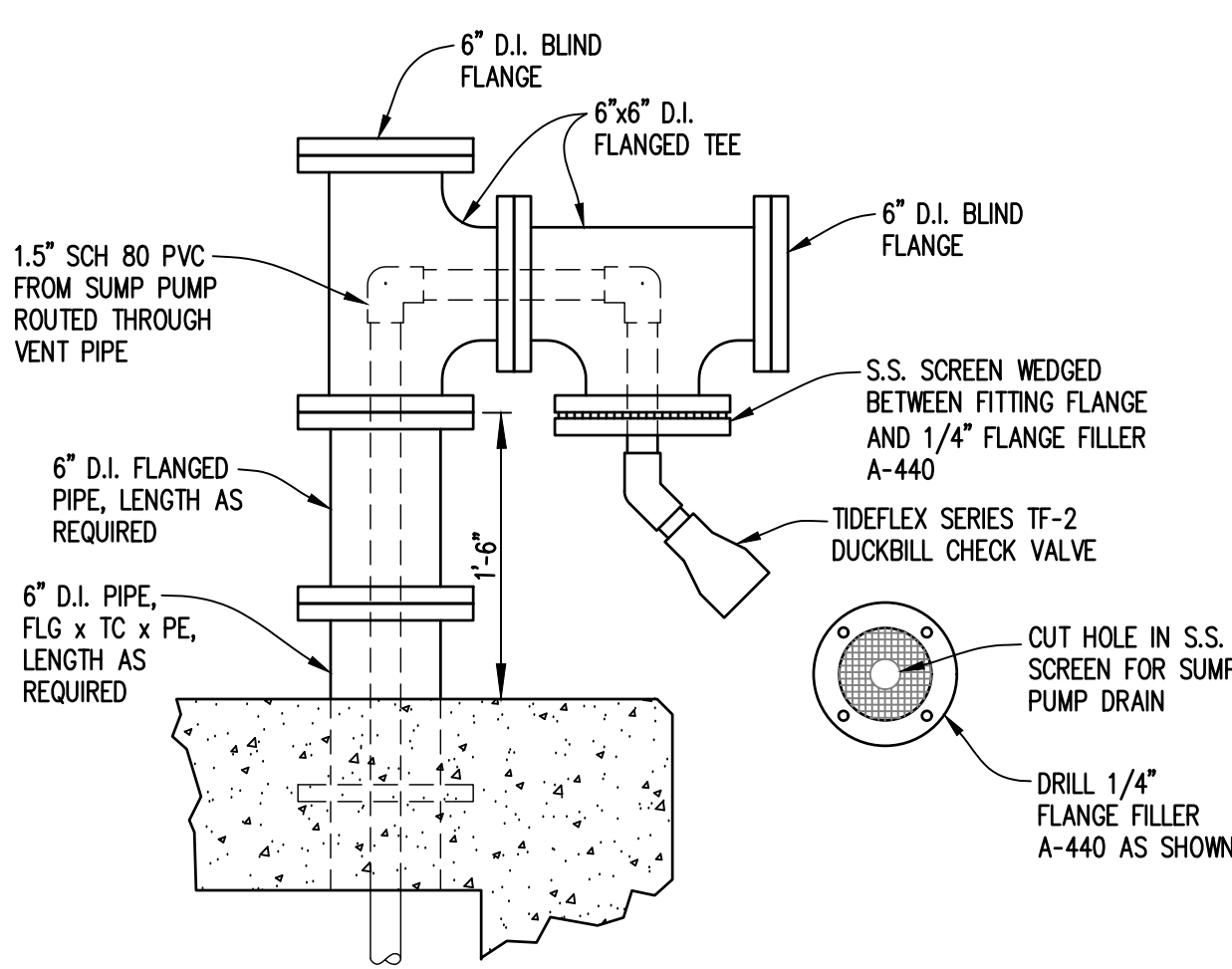
NOTES:

1. VALVE STEM EXTENSION REQUIRED WHERE DEPTH TO OPERATE EXCEEDS 4'-0". FINAL DEPTH OF OPERATOR NUT BELOW FINAL GRADE SHALL NOT EXCEED 4'-0".
2. VALVE NAMEPLATES REQ'D FOR ALL VALVES AND SHALL READ ACCORDING TO SCHEDULE.
3. PRECAST VALVE PADS (I.E. DONUT STYLE) MAY BE SUBMITTED AS ALTERNATIVE FOR 6" FIRE HYDRANT VALVES. PRECAST VALVE PADS SHALL BE PROVIDED BY CROSS CONNECTION OF LEEDS, ALABAMA OR EQUAL.

VALVE BOX DETAIL

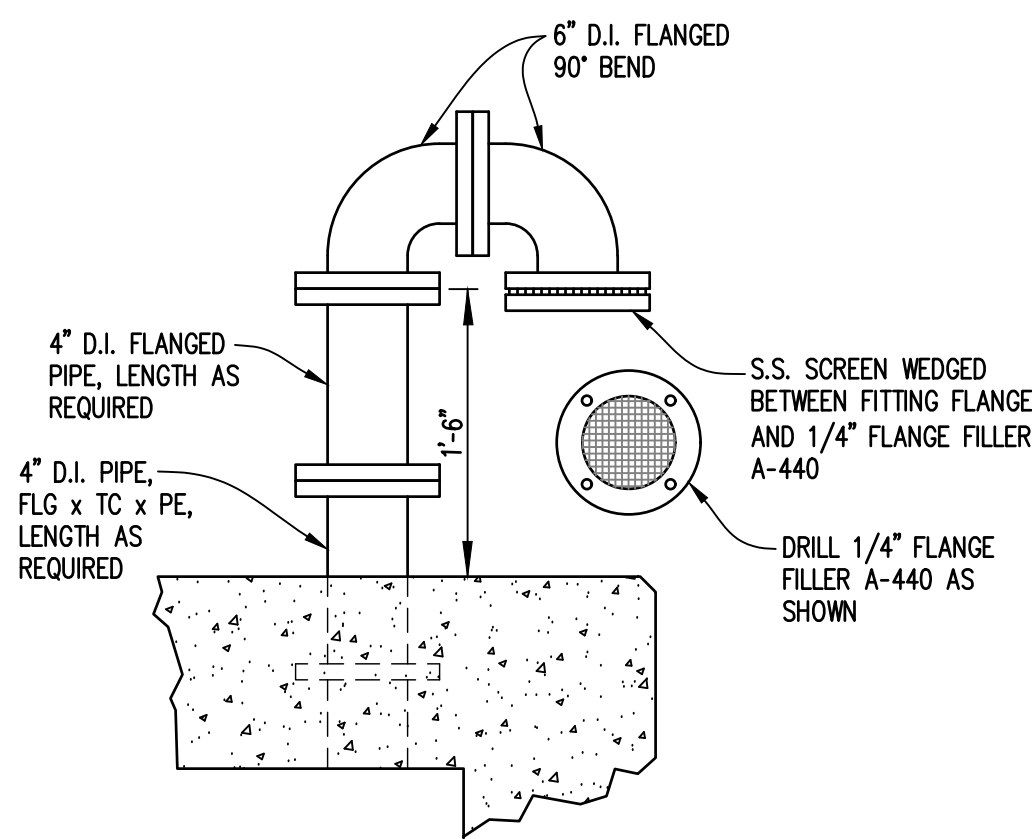
SCALE: N.T.S.

ENGRAVING SCHEDULE	
LINE VALVES	ENGRAVING TO READ
36" LINE VALVES	SCWS 36" * - **
24" LINE VALVES	SCWS 24" * - **
* VALVE DESCRIPTION TO BE PROVIDED BY ENGINEER	
** NUMBER OF TURNS TO OPEN/CLOSE VALVE	
ENGRAVING NOTES:	
1. COORDINATE VALVE DESCRIPTIONS WITH ENGINEER IN SUBMITTAL PROCESS.	
2. COORDINATE THE NUMBER FOR TURNS TO OPEN/CLOSE A VALVE WITH SUBMITTALS AND SPECIFIC LOCATION/VALVE. COORDINATE WITH ENGINEER DURING SUBMITTAL PROCESS. PROVIDE SUBMITTAL OF NUMBERING PLAN.	



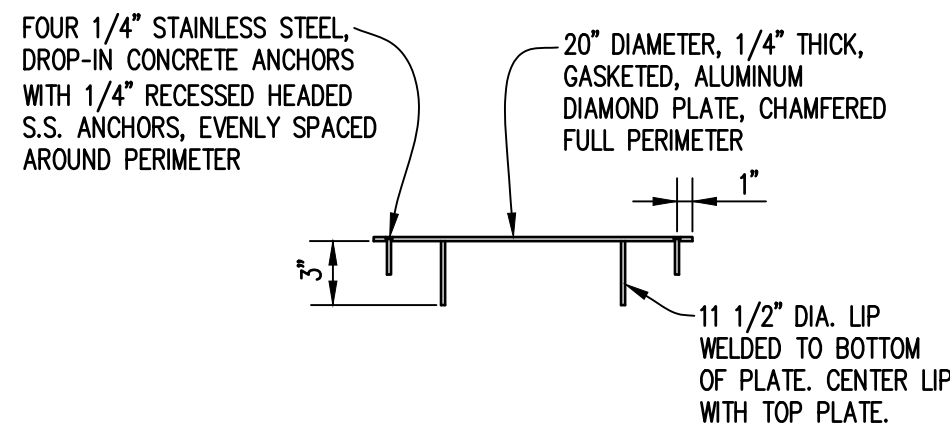
6" VENT DETAIL

SCALE: NONE



4" VENT DETAIL

SCALE: NONE



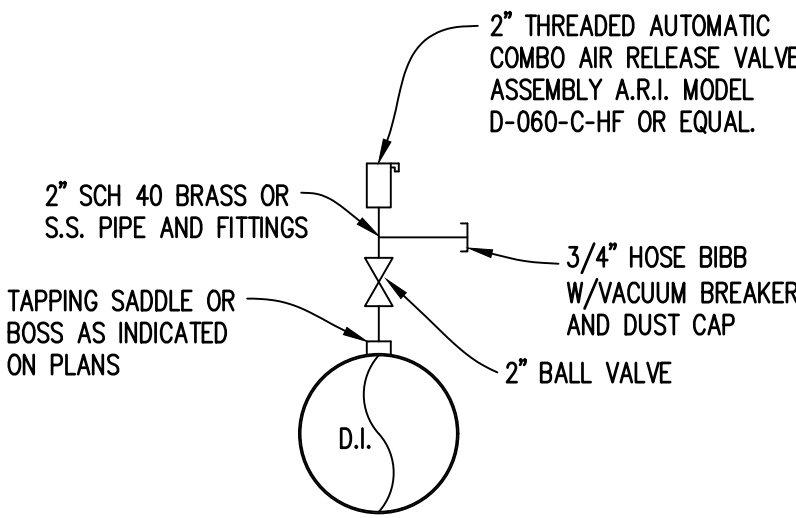
CIRCULAR ALUMINUM
COVER DETAIL

SCALE: NONE

TIE ROD SCHEDULE		
PIPE DIA. (IN.)	TEST PRESSURE	
	250 PSI OR LESS	TIE RODS
6	3/4	2
8	3/4	2
10	3/4	4
12	3/4	4
14	3/4	4
16	3/4	4
18	3/4	4
20	3/4	5
24	3/4	7
30	1	7
36	1	10
42	1-1/4	10
48	1-1/4	12

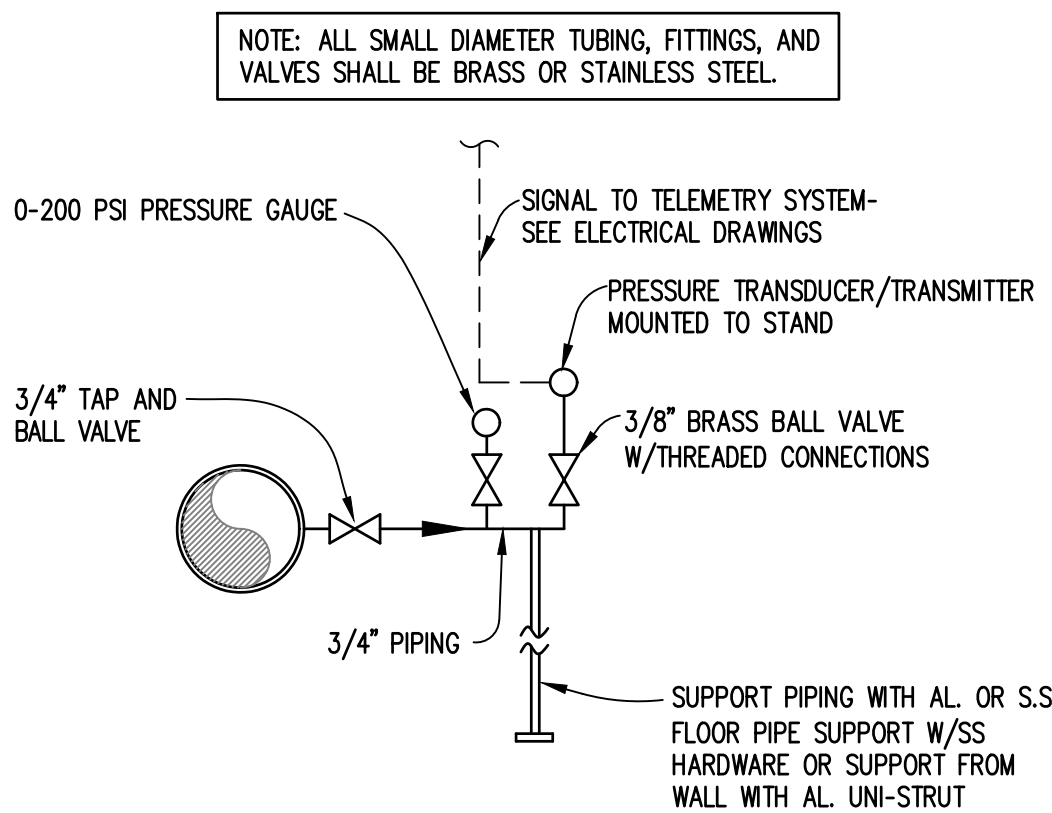
NOTES:

1. TIE RODS SHALL CONFORM TO ASTM A193 GRADE B7 AND NUTS SHALL CONFORM TO ASTM A194 GRADE 2H.



AIR RELEASE DETAIL

SCALE: NONE

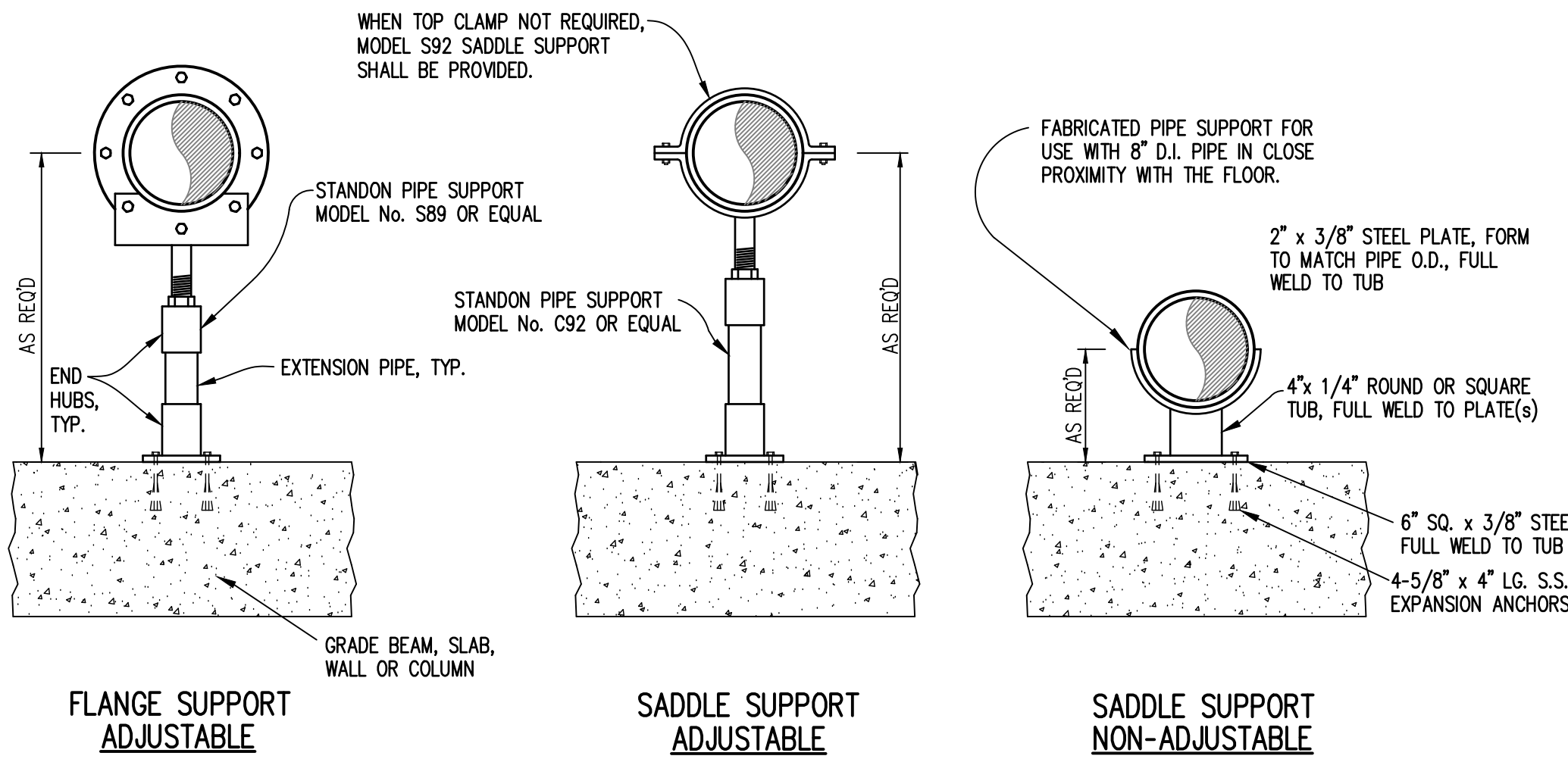


PRESSURE TRANSDUCER DETAIL

SCALE: NONE

NOTES:

1. PIPE SUPPORT ASSEMBLIES INTERIOR TO A BUILDING SHALL BE STEEL, HOT DIPPED GALVANIZED AFTER FABRICATION, UNLESS INDICATED OTHERWISE ON THE DRAWINGS. THE COMPLETE ASSEMBLY SHALL BE HOT DIPPED GALVANIZED AFTER ALL WELDING OF THE END HUBS TO THE EXTENSION PIPE HAS BEEN COMPLETED. ADJUSTABLE PIPE SUPPORTS SHALL BE FIELD ADJUSTED AFTER INSTALLATION USING THE THREADED ROD PORTION OF THE ASSEMBLY. ONCE FINAL ADJUSTMENT IS MADE IN THE FIELD, PROVIDE DOUBLE LOCKNUT ON THREADED ROD. ANY FIELD MODIFICATIONS REQUIRED IN THE FIELD WHICH DAMAGE THE GALVANIZING SHALL BE FIELD GALVANIZED IMMEDIATELY.
2. PIPE SUPPORT ASSEMBLIES LOCATED OUTSIDE SHALL BE STAINLESS STEEL UNLESS INDICATED OTHERWISE. PIPE SUPPORTS IN SEWAGE LIFT STATIONS, VAULTS, OR PITS (I.E., WET/HUMID & CORROSIVE CONDITIONS) SHALL BE STAINLESS STEEL UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
3. FOR SUPPORTS RESISTING ONLY DEAD WEIGHT, WELDING OF THE EXTENSION PIPE TO THE END HUBS SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS AND GENERALLY CONSIST OF TACK WELDS. FOR PIPE SUPPORTS RESISTING UPLIFT, PROVIDE FULL PERIMETER FILLET WELDS AROUND THE FULL PERIMETER OF THE EXTENSION PIPING AT BOTH END HUBS. ALL WELDING SHALL UTILIZE COMPATIBLE WELDING RODS AND BE PER THE PIPE SUPPORT MANUFACTURER'S RECOMMENDATIONS.
4. EXTENSION PIPE MATERIAL AND WALL THICKNESS SHALL BE PER THE MANUFACTURER'S RECOMMENDATIONS TO EQUAL THE LOAD CAPACITY OF THE SUPPORT ASSEMBLIES.
5. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS FOR SUPPORTS PRIOR TO ORDERING MATERIALS/FABRICATION.



FLANGE SUPPORT
ADJUSTABLE

SADDLE SUPPORT
ADJUSTABLE

SADDLE SUPPORT
NON-ADJUSTABLE

FLOOR MOUNTED PIPE SUPPORT DETAIL

SCALE: N.T.S.

GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE BETWEEN ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DRAWINGS:

A. ANY DISCREPANCIES OR CONFLICTS BETWEEN DRAWINGS OF DIFFERENT DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCH/ENG.
CONTRACTOR SHALL NOT PROCEED WITH SHOP DRAWING PREPARATION OR ANY CONSTRUCTION UNTIL THE ARCHITECT/ENGINEER HAS GIVEN DIRECTION OF RESOLUTION FOR THE DISCREPANCY OR CONFLICT.
- B. NOT ALL OPENINGS AND OTHER COMPONENTS THAT ARE REQUIRED HAVE BEEN SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE AND VERIFY THE LOCATIONS AND SIZES OF CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS AT FLOORS, WALLS, AND ROOFS BETWEEN DRAWINGS OF DIFFERENT DISCIPLINES.
2. IN THE CASE OF INCONSISTENCIES BETWEEN DRAWINGS AND SPECIFICATIONS OR WITHIN EITHER DOCUMENT, A BIDDER WILL BE DEEMED TO HAVE INCLUDED IN ITS BID THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK INVOLVED UNLESS THE BIDDER ASKED FOR AND OBTAINED THE ARCHITECT/ENGINEER'S WRITTEN CLARIFICATION OF THE REQUIREMENTS BEFORE SUBMISSION OF BID.
3. ALL DIMENSIONS SHOWN TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS, AND DETAILS. DO NOT SCALE THE DRAWINGS.
4. THE DETAILS PROVIDED ON SHEETS LABELED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS, UNLESS NOTED OTHERWISE.
5. ALL OF THE CONTRACTOR'S PROPOSED SUBSTITUTIONS ARE CONSIDERED CHANGE ORDERS AND SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND/OR APPROVAL PRIOR TO ANY PERTINENT WORK OR FABRICATION.
6. CONSTRUCTION METHODS, PROCEDURES AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL TAKE ALL THE NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION, NEW AND EXISTING, AT ALL STAGES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

A. BRACE ALL STRUCTURE WALLS RETAINING EARTH UNTIL RESTRAINING SLABS/FLOORS HAVE BEEN INSTALLED AND REACHED REQUIRED DESIGN STRENGTH.

B. BRACE/ShORE ALL WALLS AND REMOVE WATER AS REQUIRED TO MAINTAIN STRUCTURAL STABILITY AND PREVENT FLOTATION AT ALL TIMES DURING CONSTRUCTION.

C. SHORE EXISTING FLOORS, WALLS, AND/OR ROOFS AS REQUIRED DURING DEMOLITION OF ANY PORTION OF EXISTING STRUCTURE UNTIL NEW SUPPORT FRAMING HAS BEEN INSTALLED.
7. ALL STRUCTURAL MEMBERS, AS SHOWN, HAVE BEEN DESIGNED TO CARRY IN PLACE DESIGN LOADS ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT OF ANY LOADS AND FORCES IMPOSED DURING CONSTRUCTION(INCLUDING FLOTATION/UPLIFT PRESSURES), TRANSPORTATION, ERECTION, AND HANDLING. THE CONTRACTOR SHALL INSURE THAT CONSTRUCTION LOADS DO NOT EXCEED THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS AND THAT THESE LOADS ARE NOT IMPOSED ON THE STRUCTURAL MEMBERS PRIOR TO THE TIME THAT CONCRETE REACHES THE FULL SPECIFIED DESIGN STRENGTH. STEEL MEMBERS AND THEIR CONNECTIONS ARE FULLY BOLTED AND / OR WELDED AND ALL OTHER FRAMING MEMBERS AND THEIR CONNECTIONS ARE IN PLACE.
8. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ANY PERTINENT WORK OR FABRICATION. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE NOTED ON THE SHOP DRAWINGS.
9. ALL CONSTRUCTION/CONTROL JOINTS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE. ADDITIONAL CONSTRUCTION JOINTS TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON THE SHOP DRAWINGS FOR REVIEW.
10. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED.

SHOP DRAWINGS/SUBMITTALS:

1. SHOP DRAWING SUBMITTAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE PROJECT CONTRACT DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SHALL FOLLOW INDUSTRY GUIDELINES AND STANDARDS.
2. ALL QUESTIONS, CLARIFICATIONS, OR MODIFICATIONS OF THE CONTRACT DOCUMENTS SHALL BE CLEARLY DOCUMENTED AND INDICATED ON THE SHOP DRAWING TRANSMITTAL OR COVER SHEET. ITEMS SUCH AS THESE SHALL NOT BE CONSIDERED APPROVED UNLESS SPECIFICALLY ADDRESSED BY MBA IN THE REVIEW COMMENTS.
3. ALL SHOP DRAWINGS ARE TO BE NEWLY PREPARED. REPRODUCTIONS OF CONTRACT STRUCTURAL DRAWINGS FOR USE AS ERECTION DRAWINGS WILL NOT BE PERMITTED. SHOULD SHOP DRAWING SUBMITTALS CONTAIN ANY REPRODUCTIONS OF CONTRACT STRUCTURAL DRAWINGS, THEY WILL BE REJECTED AND RETURNED WITHOUT ENGINEER REVIEW.
- A. MBA MAY CONSIDER TRANSFERRING COMPUTER FILES, IN THE FORMAT CREATED, OF THE PLAN SHEETS TO PROJECT SUBCONTRACTORS TO ASSIST IN DEVELOPING SHOP DRAWINGS ON A CASE BY CASE BASIS. A SIGNED FILE TRANSFER AGREEMENT WILL BE REQUIRED PRIOR TO RELEASE OF MBA FILES.
4. CONTRACTOR TO REVIEW ALL SHOP DRAWING SUBMITTALS AND STAMP WITH APPROVAL PRIOR TO SUBMISSION TO ARCHITECT/ ENGINEER. **SHOP DRAWINGS RECEIVED BY ARCHITECT/ENGINEER THAT HAVE NOT BEEN REVIEWED AND COORDINATED BY THE CONTRACTOR WILL BE RETURNED WITHOUT ARCHITECT/ENGINEER'S REVIEW.** THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRECTING DIMENSIONS WHICH PERTAIN TO FABRICATION PROCESSES OR CONSTRUCTION TECHNIQUES PRIOR TO SUBMITTAL AND FOR COORDINATION OF WORK OF ALL TRADES.
5. CONTRACTOR MAY PROVIDE REVIEWED AND APPROVED SUBMITTALS IN AN ELECTRONIC .PDF FORMAT FOR ENGINEER REVIEW AND APPROVAL. IN LIEU OF ELECTRONIC SUBMITTALS, CONTRACTOR MAY PROVIDE NO MORE THAN FOUR PAPER COPIES OF EACH STRUCTURAL SHOP DRAWING SUBMITTAL TO THE ENGINEER. THE STRUCTURAL ENGINEER WILL REVIEW AND RETURN TWO OF THE COPIES TO THE ARCHITECT/ENGINEER. ADDITIONAL COPIES REQUIRED BY THE CONTRACTOR SHALL BE MADE BY THE CONTRACTOR AFTER THE REVIEW PROCESS. MBA REVIEW OF SHOP DRAWING SUBMITTALS IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW AND/OR APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS OR FOR ERRORS/ OMISSIONS IN THE SHOP DRAWINGS.
7. RESUBMITTED SHOP DRAWINGS SHALL HAVE CHANGES AND/OR ADDITIONS CLEARLY INDICATED. REVIEW OF RESUBMITTED SHOP DRAWINGS IS LIMITED TO THE ITEMS REQUIRING CORRECTION ON THE PREVIOUS SUBMITTAL.

EQUIPMENT NOTES:

1. CONTRACTOR SHALL COORDINATE BETWEEN DRAWINGS TO VERIFY ALL EQUIPMENT WEIGHTS, LOCATIONS, AND/OR PENETRATIONS. THIS INFORMATION SHALL BE PROVIDED TO SUBCONTRACTORS PERFORMING DELEGATED DESIGN AND SHALL BE IDENTIFIED ON THE CORRESPONDING SUBMITTAL.
2. CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S CERTIFIED DRAWINGS, SPECIFICATIONS AND/OR OTHER REQUIREMENTS FOR ATTACHING THE EQUIPMENT TO THE STRUCTURE. IF STRUCTURAL MEMBERS CONFLICT WITH ATTACHMENT, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED AND ALLOWED TO MODIFY THE DESIGN AS REQUIRED TO ACCOMMODATE THE MANUFACTURER'S REQUIREMENTS.

STRUCTURAL STEEL:

1. DESIGN, CONSTRUCTION, QUALITY ASSURANCE, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CURRENT AISC STANDARDS.
2. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992.
3. ALL STRUCTURAL STEEL PLATES, ANGLES AND CHANNELS SHALL CONFORM TO ASTM A36.
4. ALL STRUCTURAL STEEL SQUARE, RECTANGULAR AND ROUND HSS SECTIONS SHALL CONFORM TO ASTM A500, GRADE B.
5. ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B.
6. FABRICATION AND ERECTION SHALL CONFORM TO AISC CODE OF STANDARD PRACTICE.
7. ALL WELDING SHALL CONFORM TO AWS STANDARDS. THICKNESS OF WELDS ARE AS SHOWN, SPECIFIED OR REQUIRED.
8. ALL BOLTED CONNECTIONS SHALL BE MINIMUM 3/4" DIAMETER, A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE.
9. ALL EXTERIOR EXPOSED STEEL SHALL BE HOT DIPPED GALVANIZED.

SITE AND FOUNDATION:

1. ALLOWABLE SOIL BEARING PRESSURES (PSF):

ISOLATED FOOTINGS 2000

CONTINUOUS FOOTINGS 2000
2. EXCAVATE, WHERE REQUIRED, TO BUILDING AND STRUCTURE SUBGRADE.
3. PROOF-ROLL THE AREA UNDER THE BUILDING, PLUS 5'-0" ON ALL SIDES, WITH A LOADED DUMP TRUCK TO LOCATE ANY SOFT AREAS. A GEOTECHNICAL ENGINEER IS TO BE PRESENT DURING THIS OPERATION. ANY SOFT AREAS DETECTED ARE TO BE UNDERCUT AND REPLACED WITH ENGINEERED FILL.
4. ACCEPTABLE FILL MATERIAL SHALL BE FREE OF ORGANICS, AND HAVE A P.I. OF LESS THAN 30, L.L. OF LESS THAN 50 AND A MAXIMUM DRY DENSITY OF GREATER THAN 100 PCF. CRUSHED STONE BACKFILL TO MEET REQUIREMENTS OF A.H.D. No. 57 STONE. DRAINAGE FILL SUPPORTING SLABS SHALL MEET THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
5. FILL, WHERE REQUIRED, IS TO BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 98% STANDARD PROCTOR (ASTM D-698), WITHIN ±2% OF OPTIMUM MOISTURE CONTENT.
6. OWNER SHALL ENGAGE A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION TO PROVIDE REQUIREMENTS FOR ALL SUBGRADES, FILLS AND BACKFILLS PRIOR TO PLACEMENT OF CONCRETE. THE GEOTECHNICAL ENGINEER IS TO PROVIDE ASSURANCE THAT THE REQUIREMENTS WILL ACHIEVE THE ALLOWABLE SOIL BEARING CAPACITIES NOTED.
7. PROVIDE 6" OF COMPACTED CRUSHED STONE BELOW ALL MAT FOUNDATIONS.

CONCRETE:

1. CONCRETE CONSTRUCTION AND QUALITY ASSURANCE SHALL BE IN ACCORDANCE WITH CURRENT ACI STANDARDS.
2. CONCRETE SCHEDULES

ITEM	28 DAY COMPRESSIVE STRENGTH
A. ALL CONCRETE	4000 PSI NORMAL WEIGHT MAX. W/CM RATIO 0.45
3. CONCRETE COVER OVER REINFORCING (UNO)

A. UNFORMED SURFACE IN CONTACT WITH EARTH: 3 IN.

B. UNFORMED SURFACE OVER VAPOR BARRIER: 2 IN.

C. FORMED SURFACES EXPOSED TO EARTH, WEATHER OR LIQUID INCLUDING TOP OF SLAB REINFORCING 2 IN.
4. CONCRETE AT SLABS ON GRADE SHALL HAVE A NOMINAL MAXIMUM COARSE AGGREGATE SIZE OF 3/4 INCH. ADJUST PORTIONS OF COMBINED COARSE, INTERMEDIATE AND FINE AGGREGATES TO PROVIDE A COARSENESS FACTOR OF 60 TO 75%.
5. ALL REINFORCING SHALL CONFORM TO THE LATEST REVISION OF ASTM SPECIFICATION A615, GRADE 60 AND BE DETAILED IN ACCORDANCE WITH THE LATEST REVISION OF ACI STANDARD 315.
6. NO REINFORCING BAR SHALL BE WELDED IN ANY MANNER, UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS.
7. CONTINUOUS FOOTING REINFORCING BARS SHALL BE LAPPED 30 BAR DIAMETERS, BUT NOT LESS THAN 1'-0".
8. GRADE BEAM, ELEVATED BEAM, AND ELEVATED SLAB REINFORCING BARS SHALL BE SPLICED ONLY AS SHOWN ON THE DRAWINGS, EXCEPT THE REINFORCING DESIGNATED AS "CONTINUOUS" SHALL HAVE A CLASS "B" LAP SPlice (PER ACI 318). LAP SPLICES OF CONTINUOUS REINFORCING SHALL BE MADE OVER SUPPORTS FOR BOTTOM BARS AND FOR INTERMEDIATE BARS AND AT MID-SPAN FOR TOP BARS. AT EXTERIOR SUPPORTS, TOP AND BOTTOM BARS SHALL BE HOOKED AND INTERMEDIATE BARS SHALL EXTEND TO WITHIN 2" OF EXTERIOR FACE. MAT FOUNDATION SLAB REINF. SHALL BE SPLICED WITH CLASS "B" SPLICES.
9. COLUMN AND WALL VERTICAL REINFORCING BARS SHALL BE LAPPED WITH A CLASS "B" SPlice. WALL HORIZONTAL REINFORCING BARS SHALL BE LAPPED WITH A CLASS "B" TOP BAR SPlice AT SPlice POINTS. PROVIDE CORNER BARS FOR WALL CORNERS AND INTERSECTING WALLS.
10. PROVIDE FULL EMBEDMENT FOR ALL DOWELS. IF NOT OTHERWISE SPECIFIED, DOWEL SIZE AND SPACING SHALL BE THE SAME AS MAIN REINFORCING.
11. CONSTRUCTION JOINTS IN CONCRETE BEAMS AND SLABS SHALL BE AT OR NEAR MIDSPAN. ALL CONSTRUCTION JOINTS TO BE KEVED.
12. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN WALLS AND BEAMS, UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
13. CONDUIT, PIPES, AND SLEEVES SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER, NOT HAVE AN OUTSIDE DIAMETER GREATER THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL, OR BEAM IN WHICH THEY ARE EMBEDDED, AND SHALL HAVE A MINIMUM COVER OF 1 1/2 INCH FOR CONCRETE EXPOSED TO EARTH OR WEATHER AND 3/4 INCH FOR CONCRETE NOT EXPOSED TO EARTH OR WEATHER.
14. PIPING AND CONDUIT SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.
15. THE CONTRACTOR SHALL SUBMIT, FOR REVIEW, SHOP DRAWINGS FOR ALL REINFORCING BARS INCLUDING DETAILS AT ALL OPENINGS AND ASSOCIATED ADDED REINFORCEMENT AS SHOWN ON TYPICAL DETAILS.
16. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED AND CONTRACTOR SHALL PROVIDE NOTCHES AT TOP OF WALL AND EDGE OF SLAB WHERE GRATING SUPPORT IS REQUIRED. COORD. LOCATIONS WITH ENGINEER/ARCHITECT DRAWINGS.

TENSION LAP SPlice LENGTH							
BAR SIZE	f'c = 3000 PSI				f'c = 4000 PSI		
	TOP BARS	OTHER BARS			TOP BARS	OTHER BARS	
#3	22"	28"	17"	22"	19"	24"	15"
#4	29"	37"	22"	29"	25"	32"	19"
#5	36"	47"	28"	36"	31"	40"	24"
#6	43"	56"	33"	43"	37"	48"	29"
#7	63"	81"	48"	63"	54"	70"	42"
#8	72"	93"	55"	72"	62"	80"	48"
#9	81"	105"	62"	81"	70"	91"	54"
#10	91"	118"	70"	91"	79"	102"	61"
#11	101"	131"	78"	101"	87"	113"	67"

DESIGN CRITERIA:

1. GOVERNING CODE:

A. INTERNATIONAL BUILDING CODE, I.B.C. 2021
2. GRAVITY DESIGN LOADS:

A. DEAD

1. DESIGN DEAD LOADS ARE BASED ON THE SELF WEIGHT OF CONSTRUCTION MATERIALS SHOWN IN THE CIVIL/ARCHITECTURAL AND STRUCTURAL DRAWINGS. ANY ALTERNATE MATERIALS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER TO REVIEW.

B. LIVE:

1. ROOF HATCHES 300 PSF

C. SNOW

1. GROUND SNOW LOAD (Pg) = 5 PSF

2. FLAT ROOF SNOW LOAD (Pf) = 5 PSF

3. SNOW EXPOSURE FACTOR (Ce) = 1.0

4. SNOW LOAD IMPORTANCE FACTOR (Is) = 1.1

5. THERMAL FACTOR (Ct) = 1.0
3. LATERAL DESIGN LOADS:

A. WIND

1. DESIGNED PER ASCE 7-16

2. ULTIMATE WIND SPEED = 115 MPH

3. RISK CATEGORY = III

4. BUILDING CATEGORY = ENCLOSED

5. EXPOSURE CATEGORY = C

6. INTERNAL PRESSURE COEFFICIENT (GCpi) = ±0.18

7. COMPONENTS & CLADDING WIND PRESSURES SEE CHART

B. EARTHQUAKE

1. SEISMIC RISK CATEGORY = III

2. SEISMIC IMPORTANCE FACTOR (Ie) = 1.25

3. MAPPED SPECTRAL RESPONSE ACCELERATIONS

A. Ss = 0.278

B. S1 = 0.096

4. SOIL SITE CLASS = D

5. DESIGN SPECTRAL RESPONSE ACCELERATIONS

A. Sds = 0.292

B. Sd1 = 0.153

SPECIAL INSPECTIONS:

1. THE OWNER SHALL EMPLOY A QUALIFIED TESTING AGENT/ENGINEER TO PROVIDE SPECIAL INSPECTIONS. SPECIAL INSPECTORS SHALL SUBMIT RESUME OF EXPERIENCE AND QUALIFICATIONS OF ALL INDIVIDUALS PERFORMING WORK TO THE STRUCTURAL ENGINEER OF RECORD FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED. SPECIAL INSPECTIONS SHOULD BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2021 ED. AND AS INDICATED IN THE SPECIFICATIONS.



BAR = 1"

Title

GENERAL NOTES STRUCTURAL

BID SET

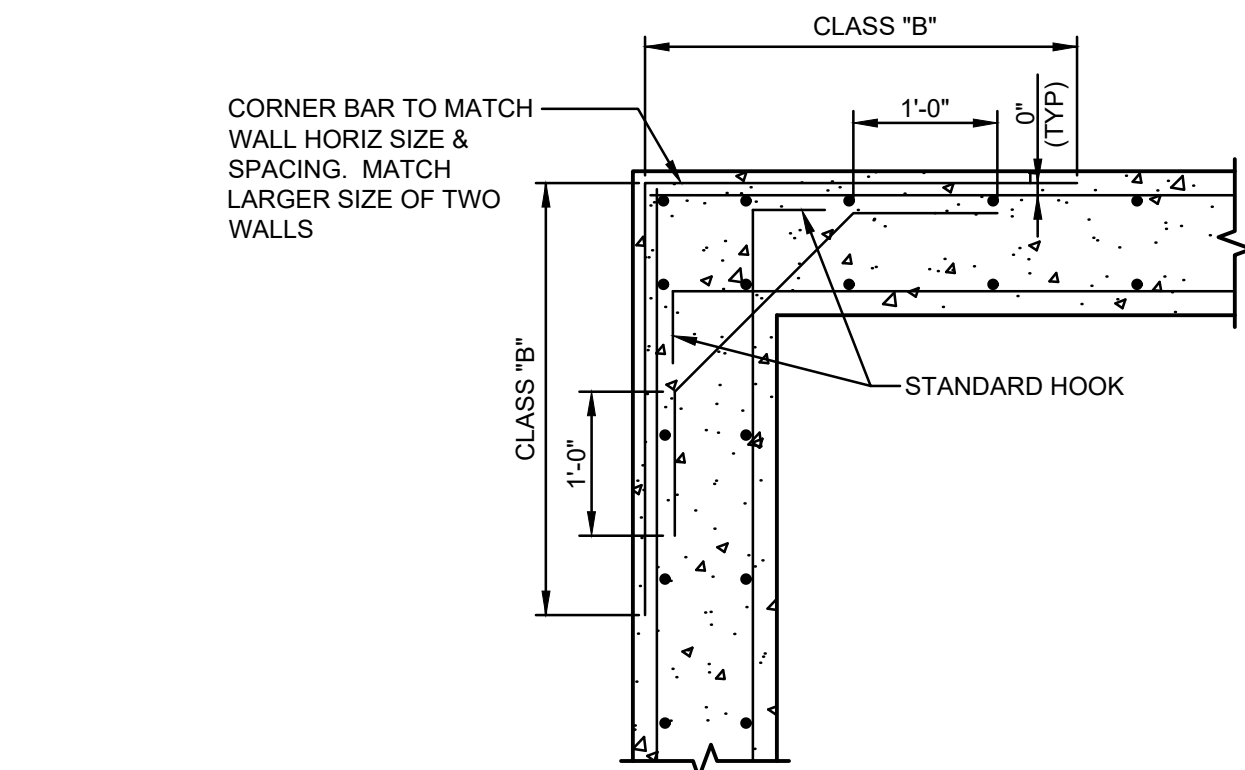
GNS01

Project No.

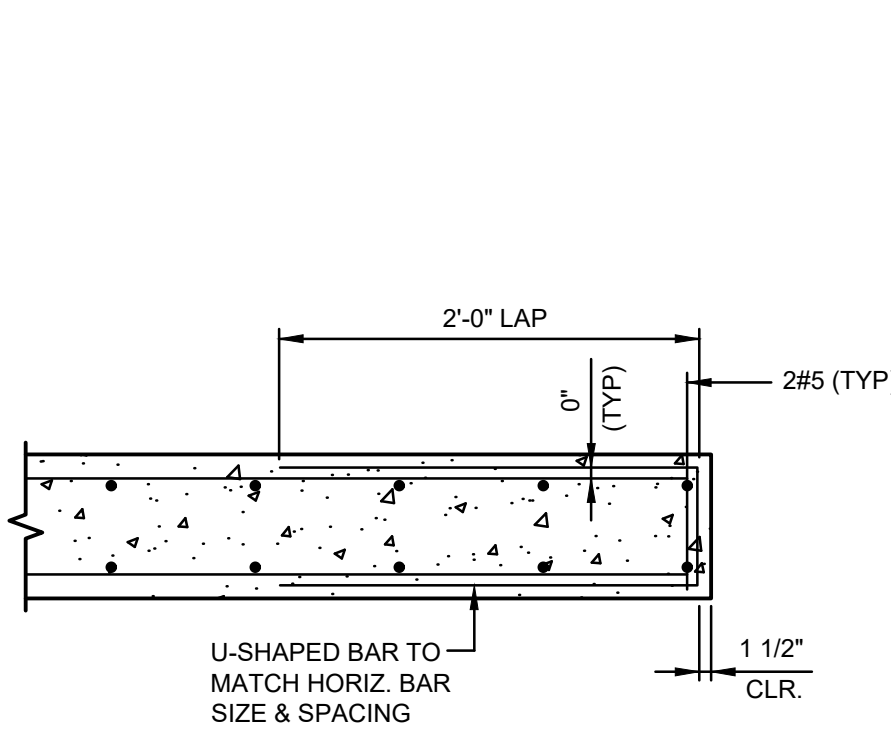
Date 7 – 2026

Scale AS NOTED

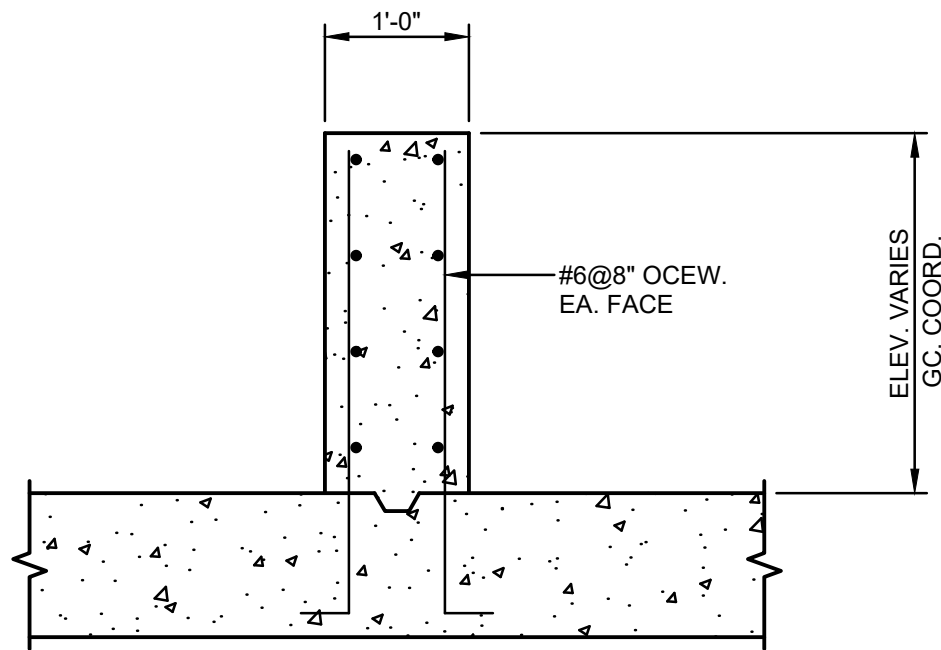
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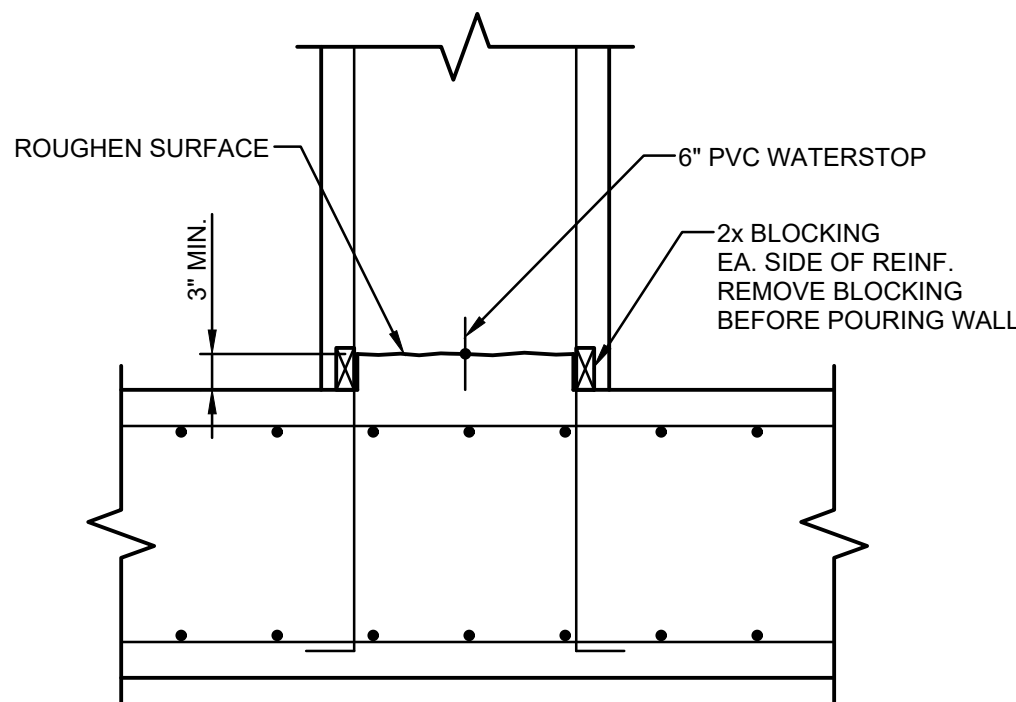
**TYPICAL 90° CORNER DETAIL
@ CONCRETE WALL**



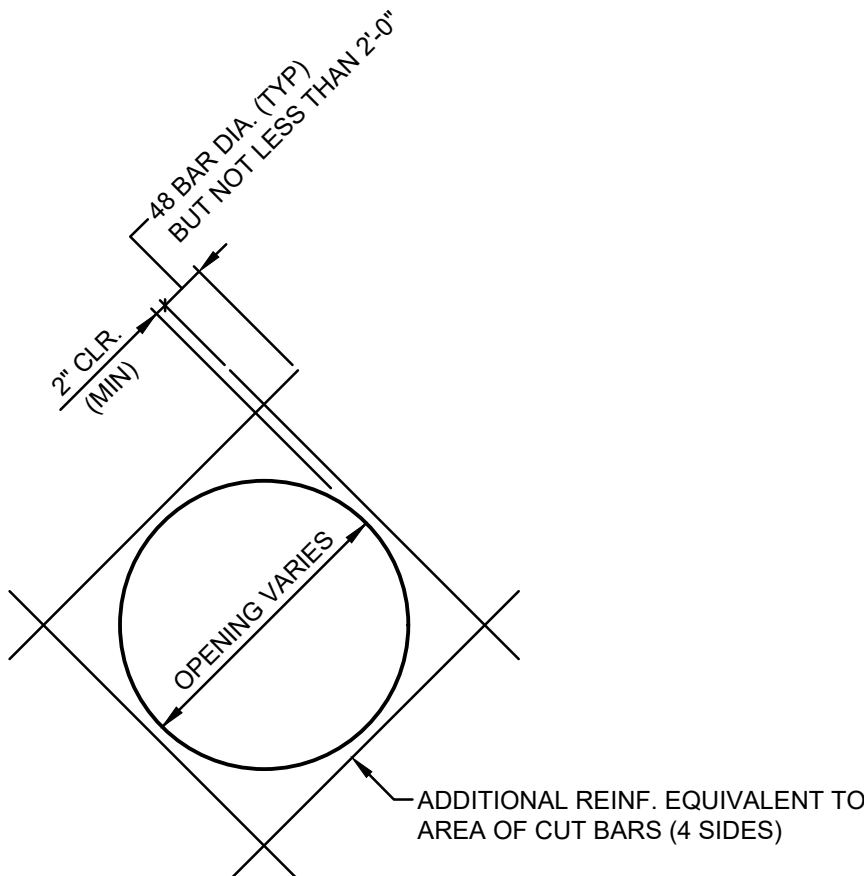
**TYPICAL EDGE DETAIL @
CONCRETE WALL**



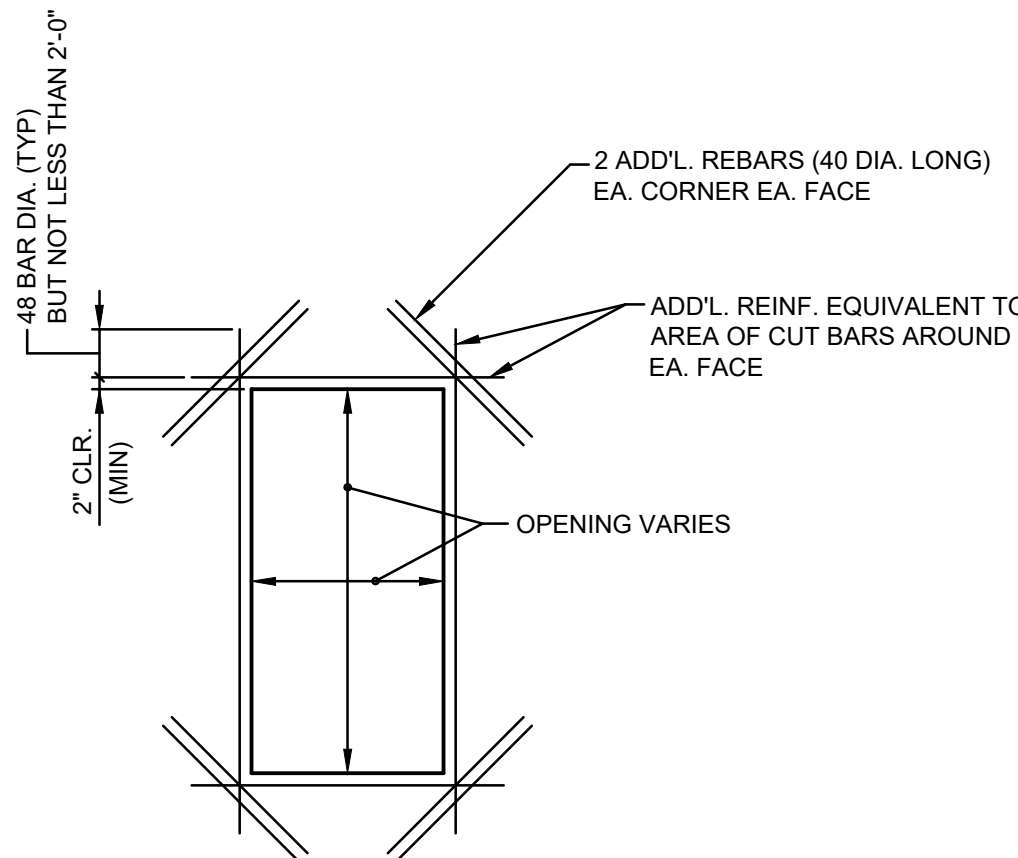
TYPICAL CONCRETE PIPE SUPPORT DETAIL
NOTE: COORD. LENGTH OF SUPPORT W/ CIVIL DWGS.



TYPICAL WATERSTOP DETAIL
3/4" = 1'-0"



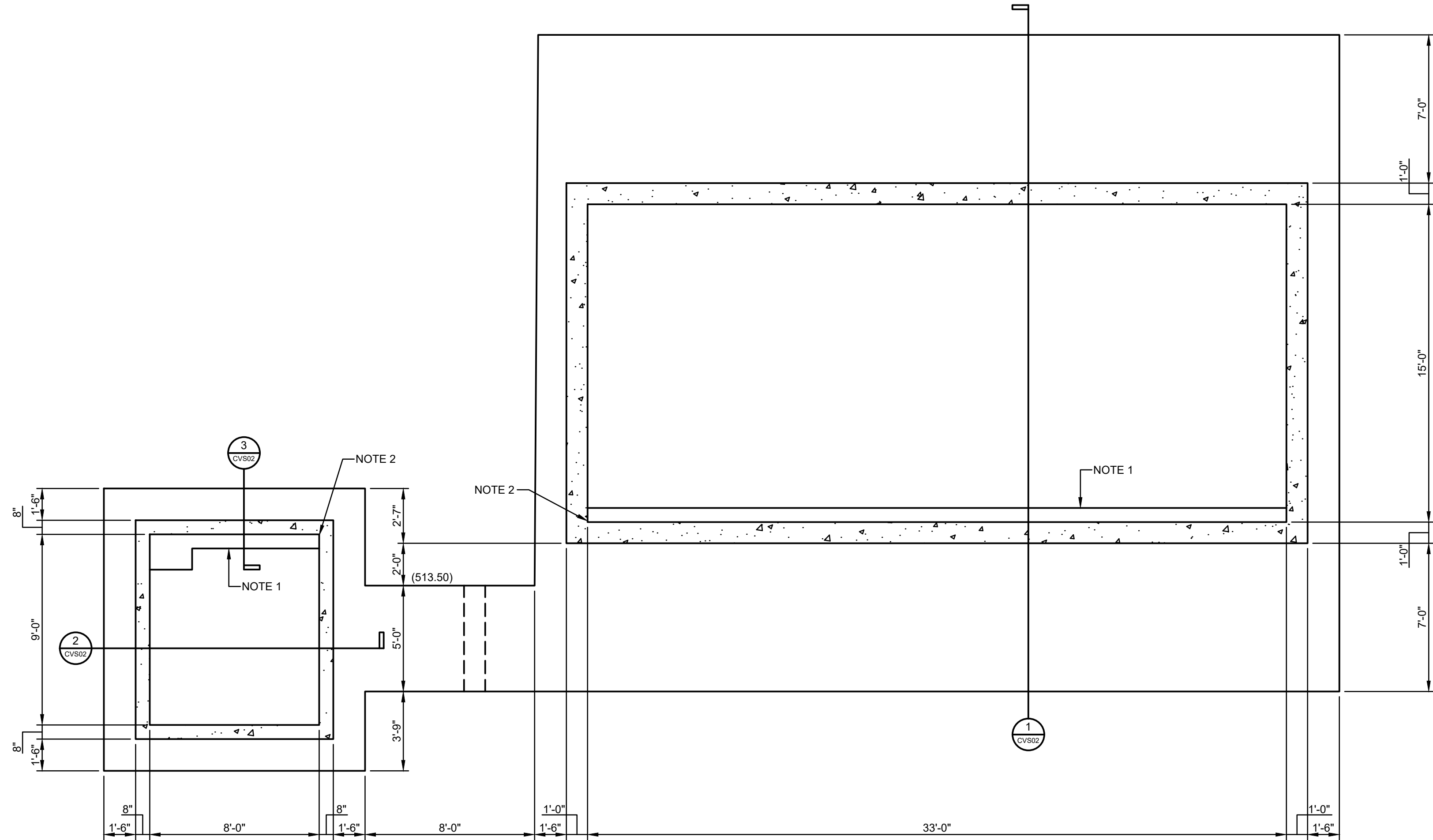
CIRCULAR OPENING
NOTE:
MAX. OPENING SIZE
36" DIA.



RECTANGULAR OPENING
NOTE:
MAX. OPENING SIZE
36" DIA.

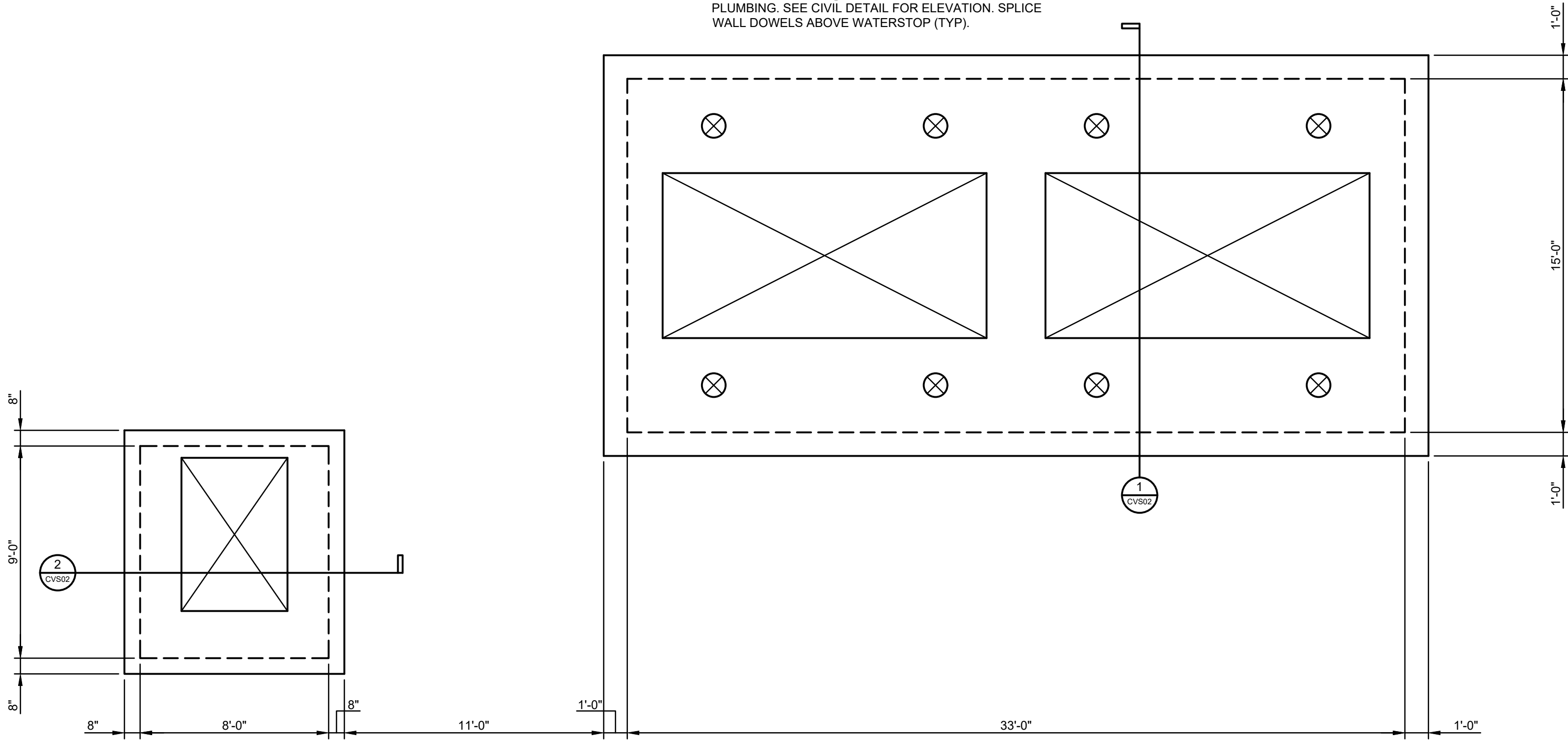
**TYPICAL DETAILS OF ADDITIONAL REINFORCING AROUND
OPENINGS IN CONC. SLABS & WALLS**

Drawing Project No.	GNS02	Title	
		TYPICAL DETAILS	STRUCTURAL
Date	7 - 2026		
Scale	AS NOTED		
Sheet	8	BID SET	



FOUNDATION & LOWER LEVEL PLAN
1/4" = 1'-0" TOP OF SLAB ELEV. 514.00 U.N.O.

FLOOR CONSTRUCTION:
12" CONC. SLAB ON DRAINAGE FILL.
REINF. W/ #6@8" OCEW. TOP & BOTTOM.
NOTES:
1. 8" DEEP TRENCH DRAIN.
2. STEP WATERSTOP @ DRAIN PIPE, COORD. W/
PLUMBING. SEE CIVIL DETAIL FOR ELEVATION. SPLICE
WALL DOWELS ABOVE WATERSTOP (TYP).



UPPER LEVEL PLAN
1/4" = 1'-0" TOP OF SLAB ELEV. 522.00 U.N.O.

SLAB CONSTRUCTION:
12" CONC. SLAB.
REINF. W/ #6@8" OCEW. TOP & BOTTOM.



Drawing	CVS01	Title	
Project No.	7 - 2026	VALVE PIT STRUCTURAL FOUNDATION & LOWER LEVEL, & UPPER LEVEL PLANS	
Date	7 - 2026		
Scale	AS NOTED		
Sheet	9	BID SET	



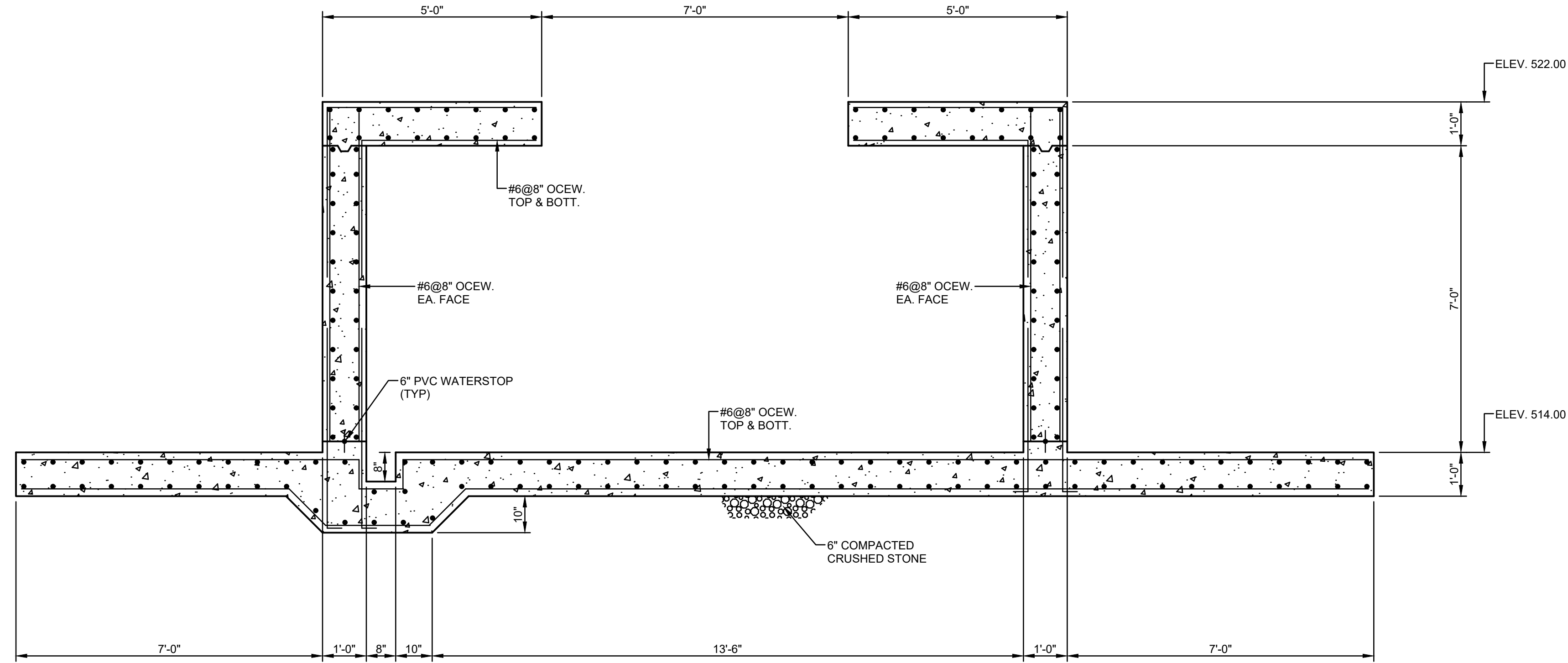
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SHELBY COUNTY COMMISSION
SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

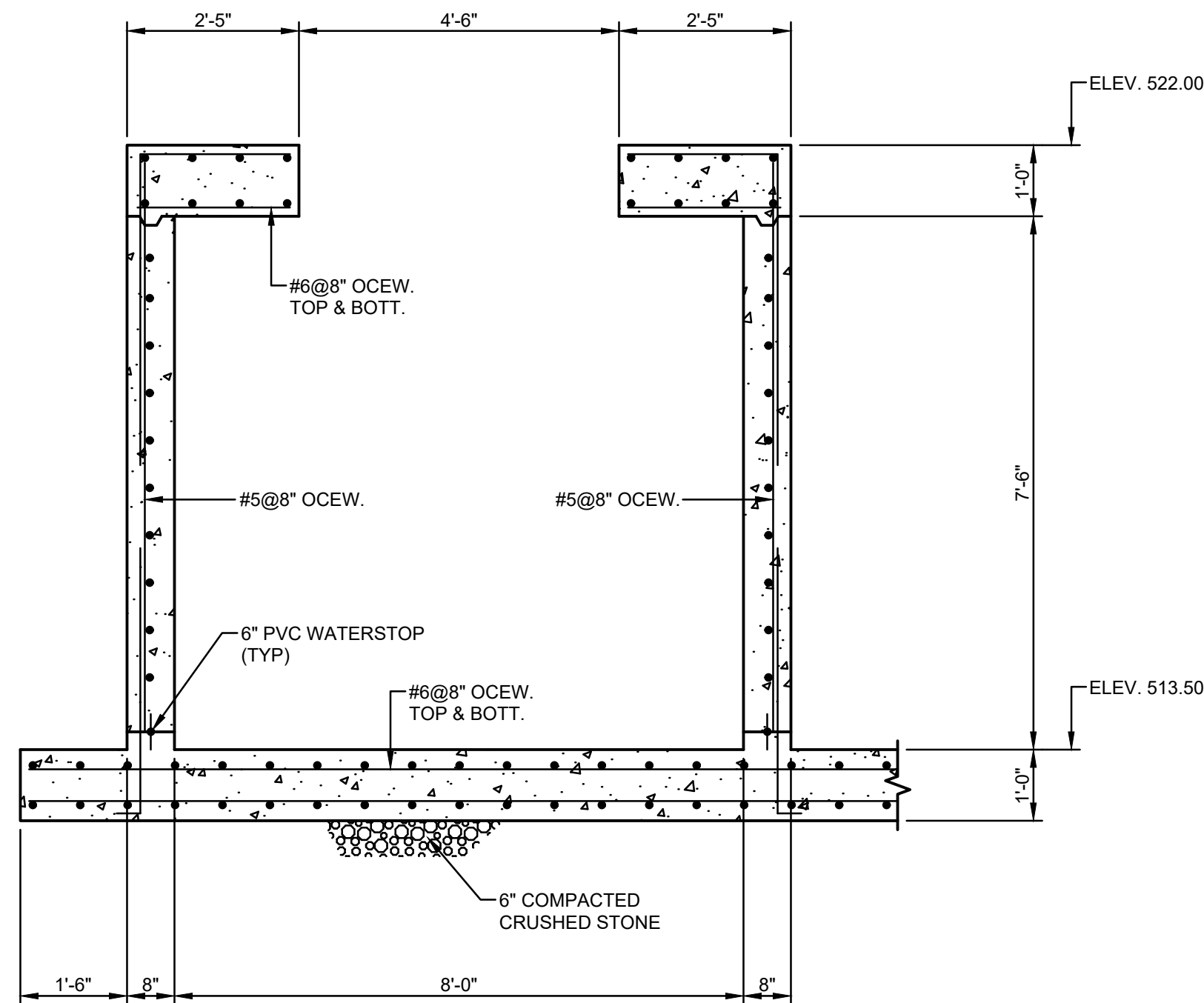
Municipal
Consultants,
Inc.

200 Century Park, South, Suite 212
Birmingham, Alabama 35226
(205) 822-0387

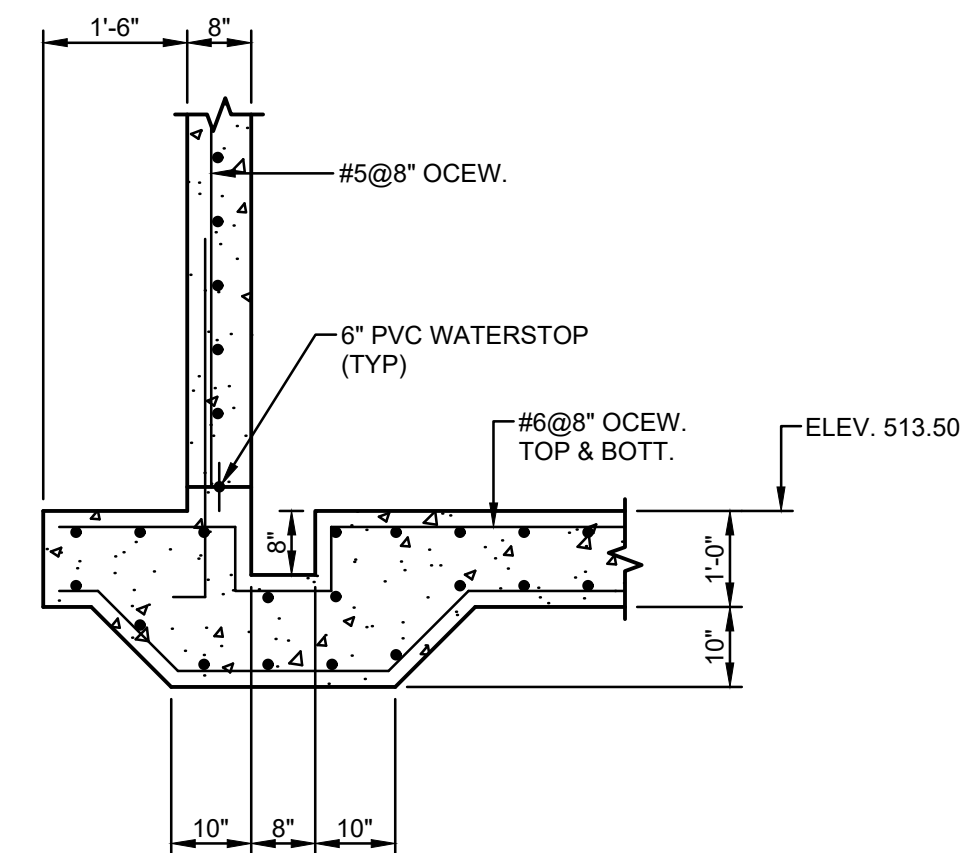
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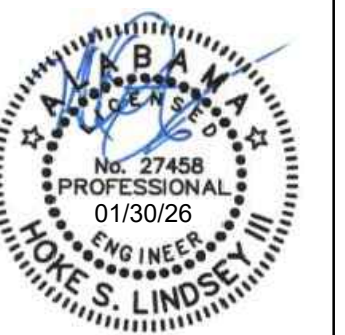
1 SECTION
CVS02 1/2" = 1'-0"



2 SECTION
CVS02 1/2" = 1'-0"



3 SECTION
CVS02 1/2" = 1'-0"



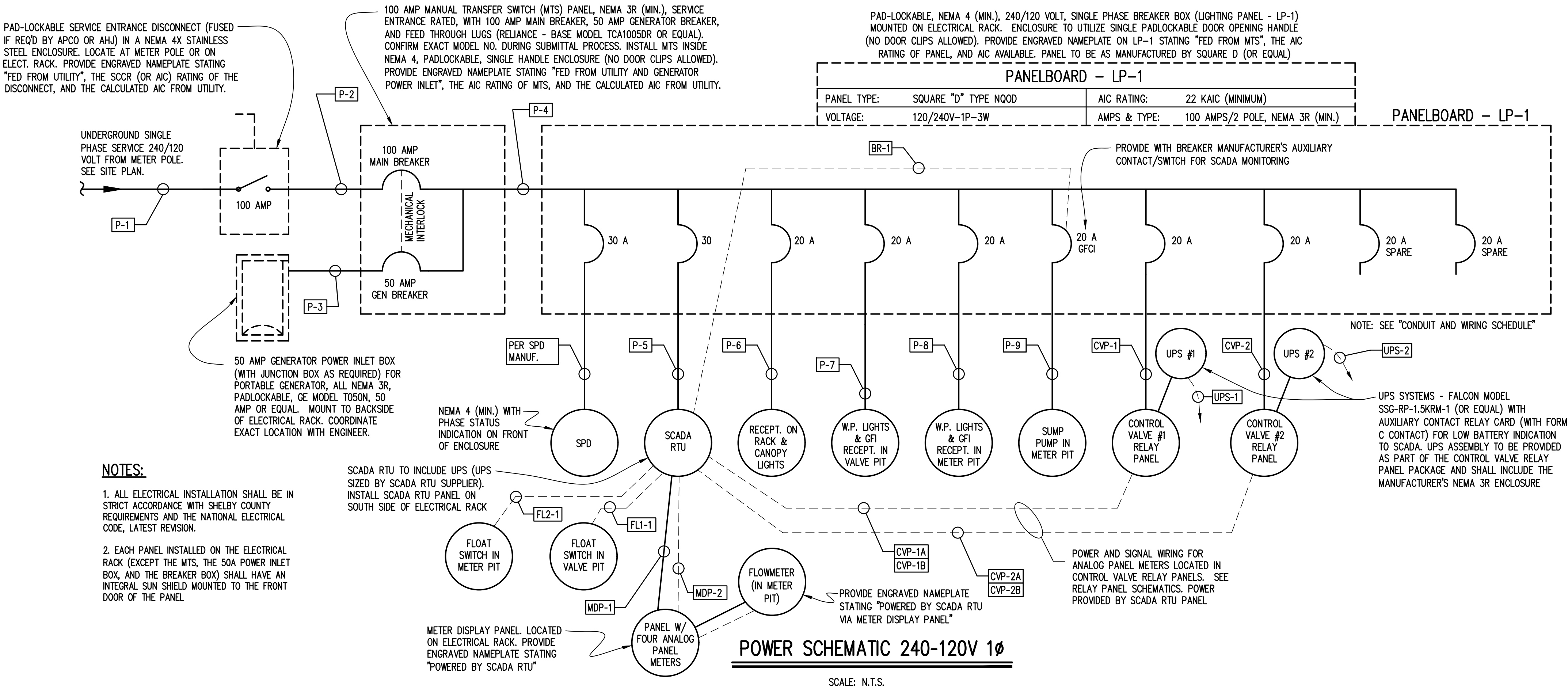
BAR = 1"

Drawing	CVS02	Title		BID SET	
Project No.	7 - 2026	VALVE PIT STRUCTURAL SECTIONS			
Date	7 - 2026				
Scale	AS NOTED				
Sheet	10				

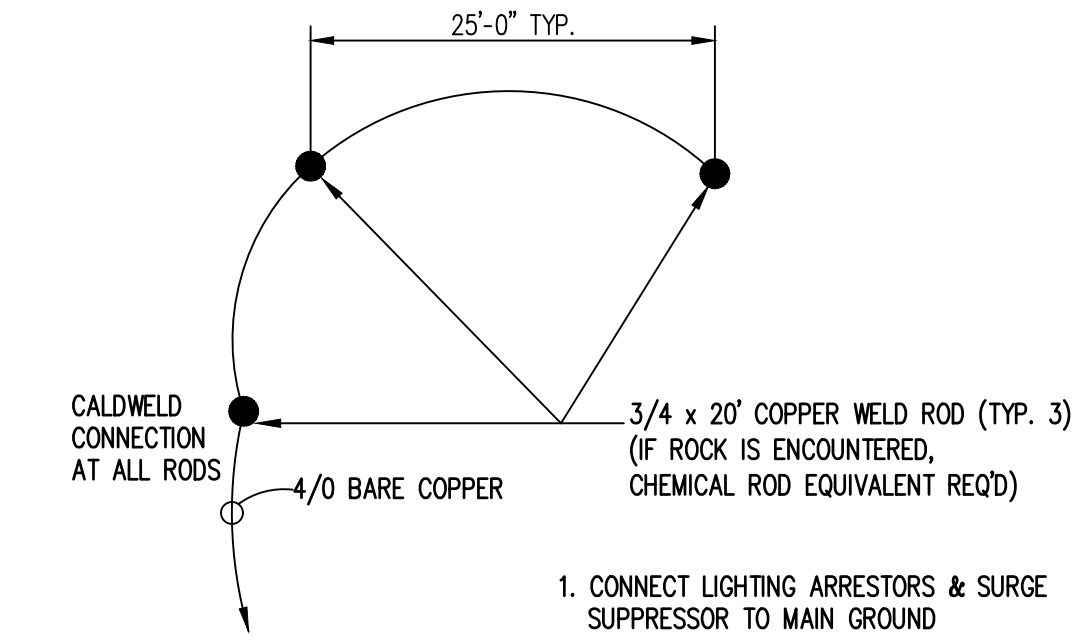
SHELBY COUNTY COMMISSION
SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

Municipal Consultants, Inc.
200 Century Park South, Suite 212
Birmingham, Alabama 35226
(205) 822-0387

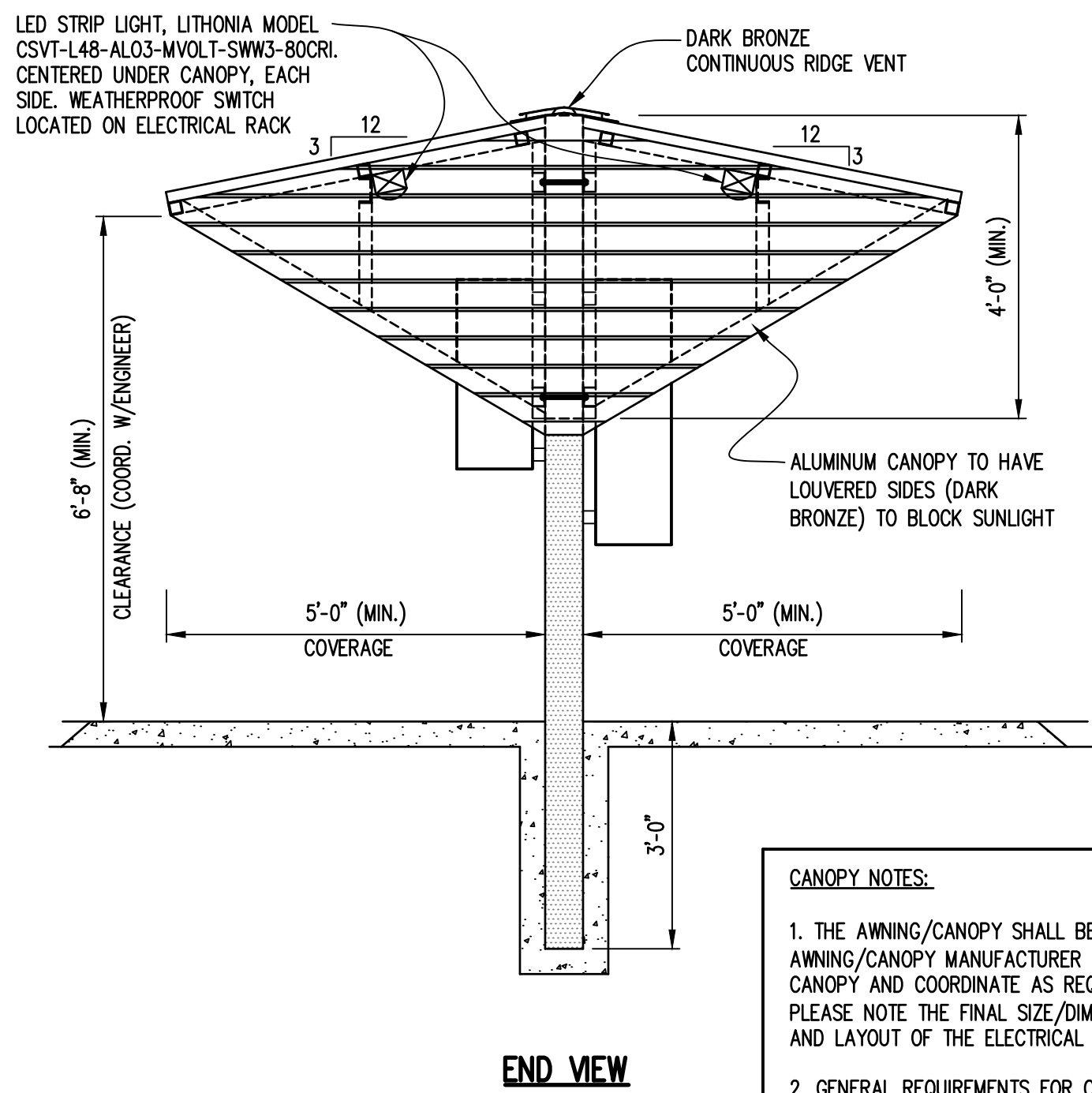
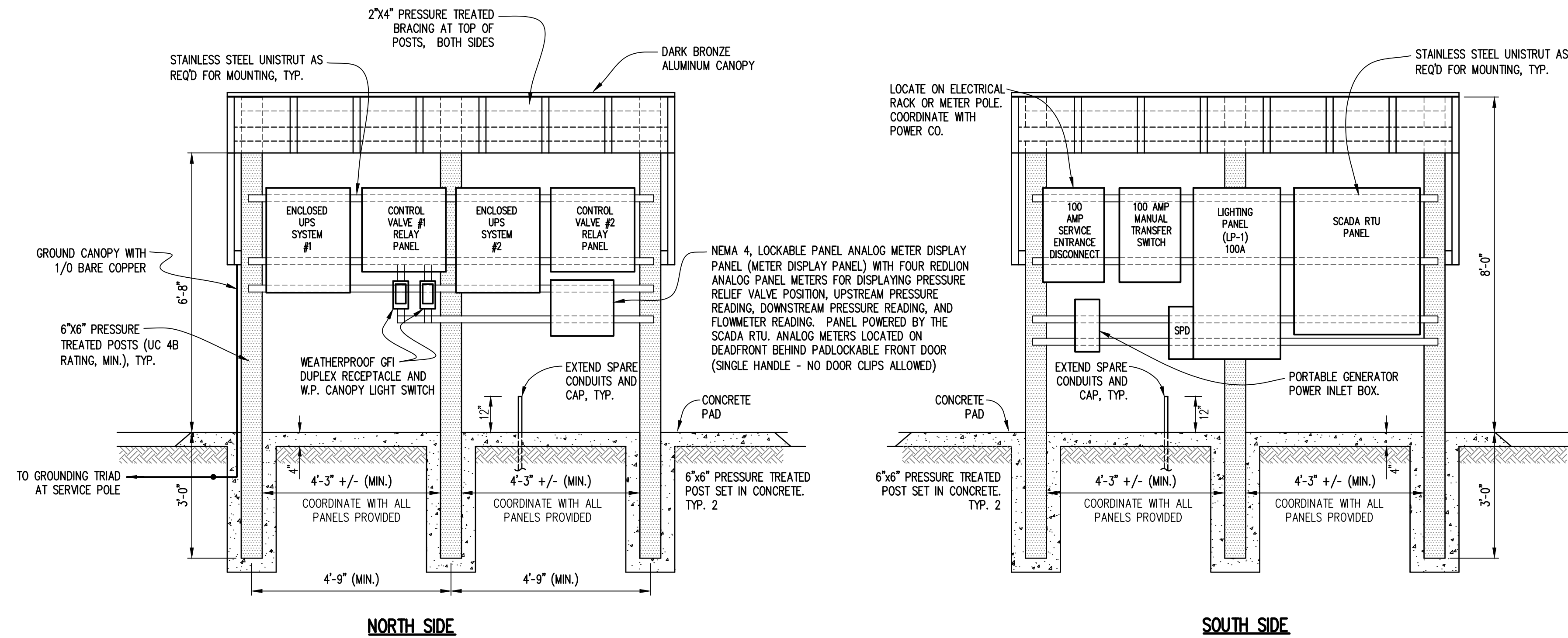
2026



OVERHEAD ELECTRICAL SERVICE - NOTE:
THE OWNER WILL COVER ALL COSTS AND WORK ASSOCIATED WITH GETTING THE POWER COMPANY TO INSTALL THE OVERHEAD POWER TO THE SITE AS GENERALLY SHOWN ON THIS DRAWING -- AS SUCH, THE CONTRACTOR SHALL INCLUDE NO COSTS IN HIS BID FOR THIS. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE POWER COMPANY AS REQUIRED DURING THE BID PHASE (AND IMMEDIATELY AFTER AWARD OF THE CONTRACT) TO DETERMINE/FINALIZE THE SCHEDULE FOR OBTAINING TEMPORARY POWER (IF REQUIRED FOR THE CONTRACTOR'S CONSTRUCTION ACTIVITIES) AND PERMANENT POWER. THE CONTRACTOR SHALL ALSO COORDINATE ALL OF THIS INFORMATION WITH THE OWNER. CONTACT INFORMATION FOR ALABAMA POWER: LE'AUNDRA S. BAKER, PD - DISTRIBUTION ENGINEER, OFFICE: 205-226-1767, CELL: 205-396-0678. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE UNDERGROUND ELECTRICAL SERVICE FROM THE METER POLE TO THE ELECTRICAL RACK AND SHALL INCLUDE THOSE COSTS IN HIS BID.



GROUNDING DETAIL AT SERVICE POLE



CANOPY NOTES:

1. THE AWNING/CANOPY SHALL BE PROVIDED BY THE ELECTRICAL SUBCONTRACTOR. THE AWNING/CANOPY MANUFACTURER SHALL THOROUGHLY REVIEW THE DESIGN REQUIREMENTS FOR THE CANOPY AND COORDINATE AS REQUIRED WITH THE ELECTRICAL SUBCONTRACTORS DURING BID TIME. PLEASE NOTE THE FINAL SIZE/DIMENSIONS OF THE CANOPY WILL BE DETERMINED BY THE FINAL SIZE AND LAYOUT OF THE ELECTRICAL PANELS TO BE PROVIDED.
2. GENERAL REQUIREMENTS FOR CANOPY ARE SHOWN. CANOPY DESIGN IS THE SOLE RESPONSIBILITY OF THE CANOPY MANUFACTURER. CANOPY MANUFACTURER TO DESIGN CANOPY SYSTEM AND SUBMIT WITH ALABAMA REGISTERED ENGINEER'S STAMP.
3. THIS DRAWING INDICATES GENERAL REQUIREMENTS FOR THE CANOPY ASSEMBLY. COORDINATE ALL REQUIREMENTS DURING BID TIME AND SUBMITTALS WITH CANOPY MANUFACTURER. CANOPY MANUFACTURER AND CONTRACTOR SHALL COORDINATE CANOPY SUBMITTAL WITH ALL EQUIPMENT AND ELECTRICAL PANELS TO BE INSTALLED UNDER/NEAR THE CANOPY. ALTERNATE CANOPY DESIGNS PROPOSED BY THE MANUFACTURER WILL BE CONSIDERED IF EQUAL (OR BETTER) RAIN/SUN/WIND PROTECTION CAN BE ACHIEVED AND IS CONSIDERED ACCEPTABLE BY THE ENGINEER, OWNER, & APCO.
4. MANUFACTURER TO DESIGN ALL ASPECTS OF CANOPY INCLUDING ATTACHMENT HARDWARE.
5. ALL ATTACHMENT HARDWARE SHALL BE STAINLESS STEEL OR ALUMINUM.
6. ALL COLORS OF CANOPY, COLUMNS, ETC., SHALL BE SELECTED BY THE OWNER. DARK BRONZE IS THE PRELIMINARY SELECTION AND SHALL BE CONSIDERED A STANDARD COLOR.
7. CONTRACTOR SHALL COORDINATE ALL MOUNTING REQUIREMENTS FOR LIGHTING FIXTURES WITH CANOPY MANUFACTURER DURING THE SUBMITTAL PROCESS.

ELECTRICAL RACK DETAIL - CONCEPTUAL LAYOUT

SCALE: N.T.S.

NOTES:

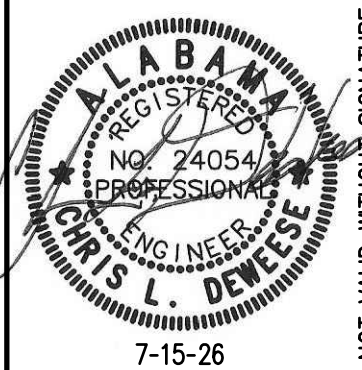
1. SEE CONTROL VALVE/METER PIT SITE PLAN FOR APPROXIMATE LOCATION FOR ELECTRICAL RACK AND SERVICE POLE
2. LAY-OUT OF RACK IS CONCEPTUAL LAY-OUT TO BE FINALIZED DURING SUBMITTAL PROCESS AFTER ALL PANELS HAVE BEEN SUBMITTED AND APPROVED BY THE ENGINEER. INCREASE SIZE OF RACK AS REQUIRED BASED ON FINAL PANEL SIZES, PROPER CLEARANCES REQUIRED, AND CONSIDERING DOOR SWINGS.
3. ALL UNISTRUT AND HARDWARE USED SHALL BE 316 STAINLESS STEEL.
4. ELECTRICAL PANELS SHALL BE DESIGNED TO ACHIEVE THEIR NEMA RATING WITHOUT THE USE OF DOOR CLIPS (I.E., USE SINGLE HANDLE DESIGN)

Municipal Consultants, Inc.

200 Oakley Park South, Suite 212
Birmingham, Alabama 35208
(205) 822-0387

SHELBY COUNTY COMMISSION
SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

2026



BAR = 1"

Title
VALVE AND METER PITS
ELECTRICAL

Drawing
Project No.

Date
7 - 26

Scale
AS SHOWN

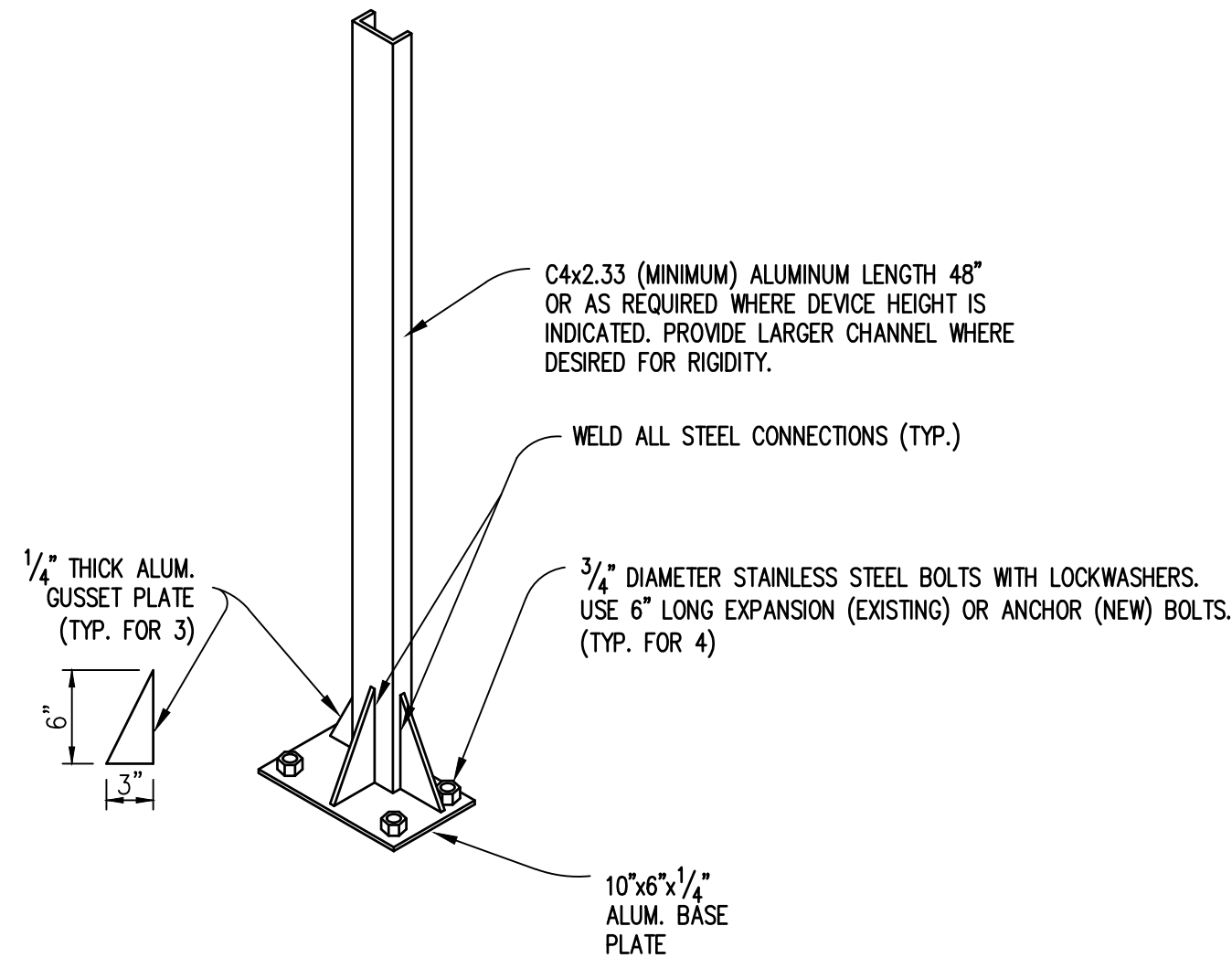
Sheet
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BID SET

GENERAL NOTES:

1. ALL ELECTRICAL DEVICES AND ELECTRICAL CONNECTIONS SHALL BE WEATHERPROOF/WATERPROOF.
2. ALL WIRING AND COMPONENTS SHALL MEET THE NATIONAL ELECTRIC CODE AND INDUSTRY STANDARDS.
3. PROVIDE GROUNDING AS REQUIRED BY CODE.
4. ALL PANELS AND COMPONENTS TO BE UL LISTED
5. ALL CONDUIT SHALL BE PER THE SPECIFICATIONS. COORDINATE LOCATIONS AND PLACEMENT OF CONDUITS THROUGH BOX WALLS WITH FIELD ENGINEER.
6. ALL ELECTRICAL ENCLOSURES, BOXES, ETC. INSIDE VAULTS SHALL BE NEMA 4X STAINLESS STEEL. EACH ENCLOSURE SHALL BE BOLDLY AND DURABLY LABELED AND HAVE A SINGLE, LOCKABLE DOOR HANDLE FOR EASY ACCESS.
7. DRAWINGS REFLECT GENERAL ELECTRICAL REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR SUPPLYING, GROUNDING, AND INSULATING ALL CONDUITS, WIRING, AND APPURTENANCES NECESSARY FOR A COMPLETELY OPERATIONAL SYSTEM, MEETING ALL CODE REQUIREMENTS.
8. COORDINATE LOCATIONS/ROUTES FOR ALL CONDUITS WITH FIELD ENGINEER DURING CONSTRUCTION.
9. PROVIDE TVSS (SPD) PER SPECIFICATIONS (WITH 30 AMP BREAKER) FOR PROTECTING ELECTRICAL EQUIPMENT. MOUNT TVSS EITHER INSIDE BREAKER BOX ENCLOSURE OR IN SEPARATE NEMA 4X ENCLOSURE ADJACENT TO BREAKER BOX WITH SHORT LEAD LENGTH.

CONDUIT AND WIRING SCHEDULE					
MARK	FROM	TO	CONDUIT	WIRING	REMARKS
P-1	UTILITY METER	SERVICE ENTRANCE DISCONNECT	TWO-1 1/2"	3-#2 & 1-#2G	UNDERGROUND SERVICE ENTRANCE. ONE CONDUIT IS SPARE
P-2	SERVICE ENTRANCE DISCONNECT	MANUAL TRANSFER SWITCH	TWO-1 1/2"	3-#2 & 1-#2G	MAIN POWER. ONE CONDUIT IS SPARE
P-3	GENERATOR POWER INLET BOX	MANUAL TRANSFER SWITCH	1"	3-#6 & 1-#6G	BACK-UP POWER FROM GENERATOR
P-4	MANUAL TRANSFER SWITCH	LIGHTING PANEL (LP-1)	1 1/2"	3-#2 & 1-#2G	POWER
P-5	LIGHTING PANEL (LP-1)	SCADA RTU PANEL	3/4"	2-#10 & 1-#10G	POWER
P-6	LIGHTING PANEL (LP-1)	W.P. GFCI RECEPTACLE ON ELECT. RACK & CANOPY LIGHTS	3/4"	2-#12 & 1-#12G	POWER
P-7	LIGHTING PANEL (LP-1)	W.P. LIGHTS AND GFCI RECEPT. IN VALVE PIT	3/4"	2-#12 & 1-#12G	POWER
P-8	LIGHTING PANEL (LP-1)	W.P. LIGHTS AND GFCI RECEPT. IN METER PIT	3/4"	2-#12 & 1-#12G	POWER
P-9	LIGHTING PANEL (LP-1)	SUMP PUMP IN METER PIT	3/4"	2-#12 & 1-#12G	POWER
CVP-1	LIGHTING PANEL (LP-1)	CONTROL VALVE #1 RELAY PANEL	3/4"	2-#10 & 1-#10G	PANEL POWER
CVP-1A	CONTROL VALVE #1 RELAY PANEL	SCADA RTU	THREE-3/4"	2-#12 & 1-#12G, 30#14	ANALOG PANEL METER POWER (120VAC OR 24VDC), SIGNAL WIRING
CVP-1B	CONTROL VALVE #1 RELAY PANEL	SCADA RTU	3/4"	#16 STP (SHIELDED)	ANALOG PANEL METER - VALVE POSITION SIGNAL (4-20 MADC)
CVP-2	LIGHTING PANEL (LP-1)	CONTROL VALVE #2 RELAY PANEL	3/4"	2-#10 & 1-#10G	PANEL POWER
CVP-2A	CONTROL VALVE #2 RELAY PANEL	SCADA RTU	THREE-3/4"	2-#12 & 1-#12G, 30#14	ANALOG PANEL METER POWER (120VAC OR 24VDC), SIGNAL WIRING
CVP-2B	CONTROL VALVE #2 RELAY PANEL	SCADA RTU	3/4"	#16 STP (SHIELDED)	ANALOG PANEL METER - VALVE POSITION SIGNAL (4-20 MADC)
MDP-1	SCADA RTU	ANALOG METER DISPLAY PANEL	3/4"	2-#12 & 1-#12G	POWER
MDP-2	ANALOG METER DISPLAY PANEL	SCADA RTU	AS REQ'D	WIRING AS REQ'D	WIRING TO 4 ANALOG PANEL METERS (SEGREGATE POWER & SIGNAL WIRING (#16STP) INTO SEPARATE CONDUITS)
L-1	VALVE PIT LIGHTS & RECEPTACLES	LP-1	3/4"	2-#12 & 1-#12G	POWER
L-2	METER PIT LIGHTS & RECEPTACLES	LP-1	3/4"	2-#12 & 1-#12G	POWER
CV1-1	CONTROL VALVE #1 SOLENOID VALVES	CONTROL VALVE #1 RELAY PANEL	1"	6#14 & 3#14G	120 VAC POWER SUPPLY
CV1-2	CONTROL VALVE #1 POTENTIOMETER	CONTROL VALVE #1 RELAY PANEL	3/4"	#16 STP (SHIELDED), & 1#14G	POWER & VALVE POSITION SIGNAL (4-20 MADC) - POWERED BY SCADA RTU VIA ANALOG METER LOCATED IN CONTROL VALVE #1 PANEL
CV2-1	CONTROL VALVE #2 SOLENOID VALVES	CONTROL VALVE #2 RELAY PANEL	1"	6#14 & 3#14G	120 VAC POWER SUPPLY
CV2-2	CONTROL VALVE #2 POTENTIOMETER	CONTROL VALVE #2 RELAY PANEL	3/4"	#16 STP, & 1#14G	POWER & VALVE POSITION SIGNAL (4-20 MADC) - POWERED BY SCADA RTU VIA ANALOG METER LOCATED IN CONTROL VALVE #2 PANEL
PRV-1	PRESS. RELIEF VALVE POTENTIOMETER	ANALOG METER DISPLAY PANEL	3/4"	#16 STP, & 1#14G	POWER & VALVE POSITION SIGNAL (4-20 MADC) - POWERED BY SCADA RTU VIA ANALOG METER LOCATED IN ANALOG METER DISPLAY PANEL
UPT-1	UPSTREAM PRESSURE TRANSMITTER	ANALOG METER DISPLAY PANEL	3/4"	#16 STP (SHIELDED), & 1#14G	POWER & PRESSURE SIGNAL (4-20 MADC) - POWERED BY SCADA RTU VIA ANALOG METER LOCATED IN ANALOG METER DISPLAY PANEL
DPT-1	DOWNSTREAM PRESS. TRANSMITTER #1	ANALOG METER DISPLAY PANEL	3/4"	#16 STP (SHIELDED), & 1#14G	POWER & PRESSURE SIGNAL (4-20 MADC) - POWERED BY SCADA RTU VIA ANALOG METER LOCATED IN ANALOG METER DISPLAY PANEL
FM1-1	MAGNETIC FLOWMETER DISPLAY PANEL	ANALOG METER DISPLAY PANEL	3/4"	2-#12 & 1-#12G	POWER (120 VAC) - POWERED BY SCADA RTU VIA ANALOG METER DISPLAY PANEL
FM1-2	MAGNETIC FLOWMETER DISPLAY PANEL	ANALOG METER DISPLAY PANEL	3/4"	#16 STP (SHIELDED)	FLOWMETER SIGNAL (4-20 MADC) TO ANALOG METER
FL1-1	HIGH LEVEL FLOAT SWITCH IN VALVE PIT	SCADA RTU	3/4"	2#14	HIGH LEVEL ALARM
FL2-1	HIGH LEVEL FLOAT SWITCH IN METER PIT	SCADA RTU	3/4"	2#14	HIGH LEVEL ALARM
SP-1	VALVE PIT	ELECTRICAL RACK	TWO - 1"	N/A	SPARE CONDUITS
SP-2	METER PIT	ELECTRICAL RACK	TWO - 1"	N/A	SPARE CONDUITS
BR-1	GFCI BREAKER (FOR SUMP PUMP) IN LP-1	SCADA RTU	3/4"	2#14	GFCI BREAKER TRIPPED SIGNAL
UPS-1	UPS SYSTEM #1	SCADA RTU	3/4"	2#14	LOW BATTERY INDICATION SIGNAL
UPS-2	UPS SYSTEM #2	SCADA RTU	3/4"	2#14	LOW BATTERY INDICATION SIGNAL

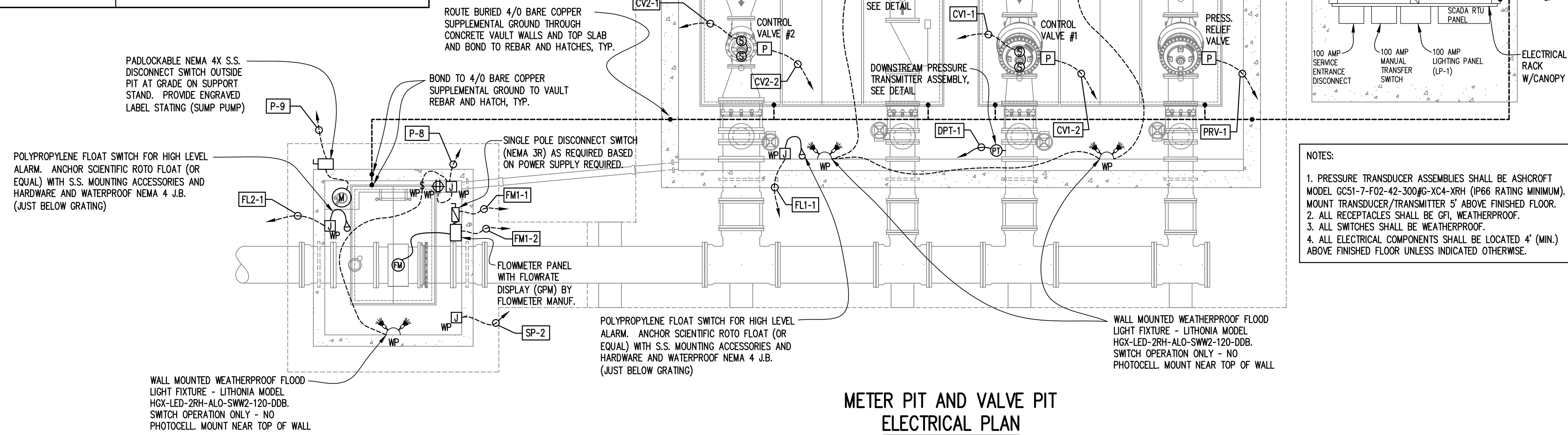


NOTE:

1. DETAIL FOR LOCAL OPERATOR STATIONS, FLOWMETERS, SMALL DISCONNECT SWITCHES, AND OTHER SIMILAR SMALL DEVICES.
2. PROVIDE DUAL SUPPORT STANDS WITH FRAME FOR INSTRUMENTS WHERE LARGER PANELS OR TWO OR MORE DEVICES OR COMPONENTS ARE MOUNTED AT A SINGLE LOCATION, OR WHERE DESIRED FOR RIGIDITY.
3. COORDINATE AND INSTALL CONDUITS AND STANDS, ETC., SUCH THAT NO POTENTIAL TRIPPING HAZARD IS CREATED.
4. NEATLY GRIND SHARP EDGES AND CORNERS OF STANDS AND FRAMES, ETC.

SUPPORT STAND DETAIL

SCALE: N.T.S.



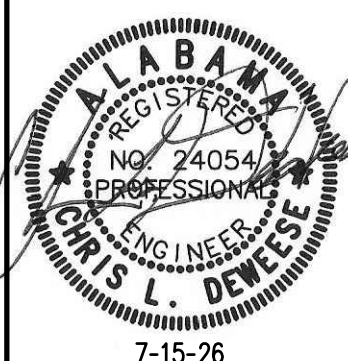
METER PIT AND VALVE PIT
ELECTRICAL PLAN

Municipal
Consultants,
Inc.

200 Oakley Park South, Suite 212
Birmingham, Alabama 35206
(205) 822-0387

SHELBY COUNTY COMMISSION
SOUTHERN TRANSMISSION LINE
CONTROL VALVE STATION

2026



NOT VALID WITHOUT SIGNATURE

BAR = 1"

Title

VALVE AND METER PITS
ELECTRICAL

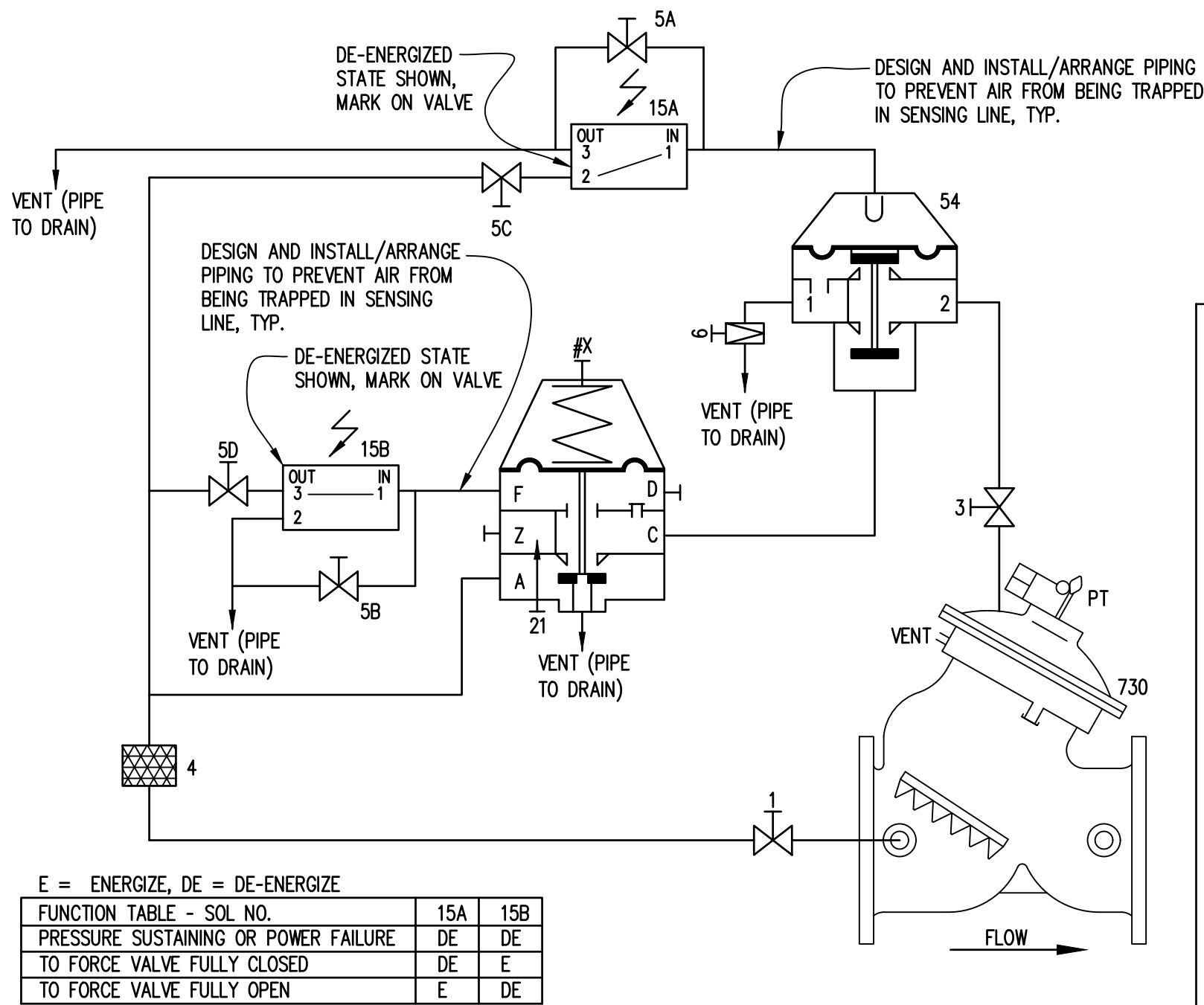
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Drawing
Project No.

Date
7 - 26

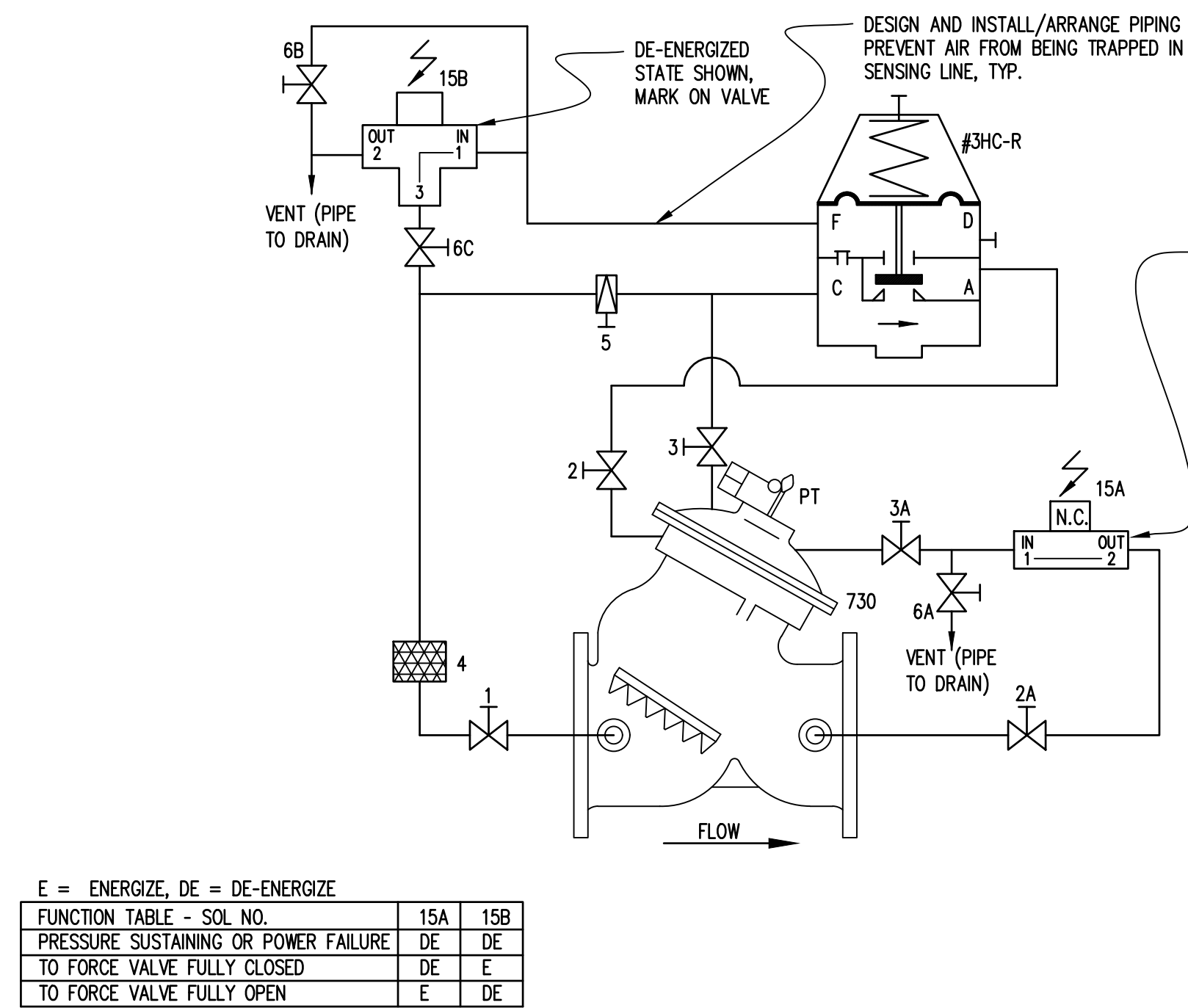
Scale
AS SHOWN

Sheet
12



12" PRESSURE SUSTAINING/FLOW CONTROL VALVE SCHEMATIC

SCALE: N.T.S.

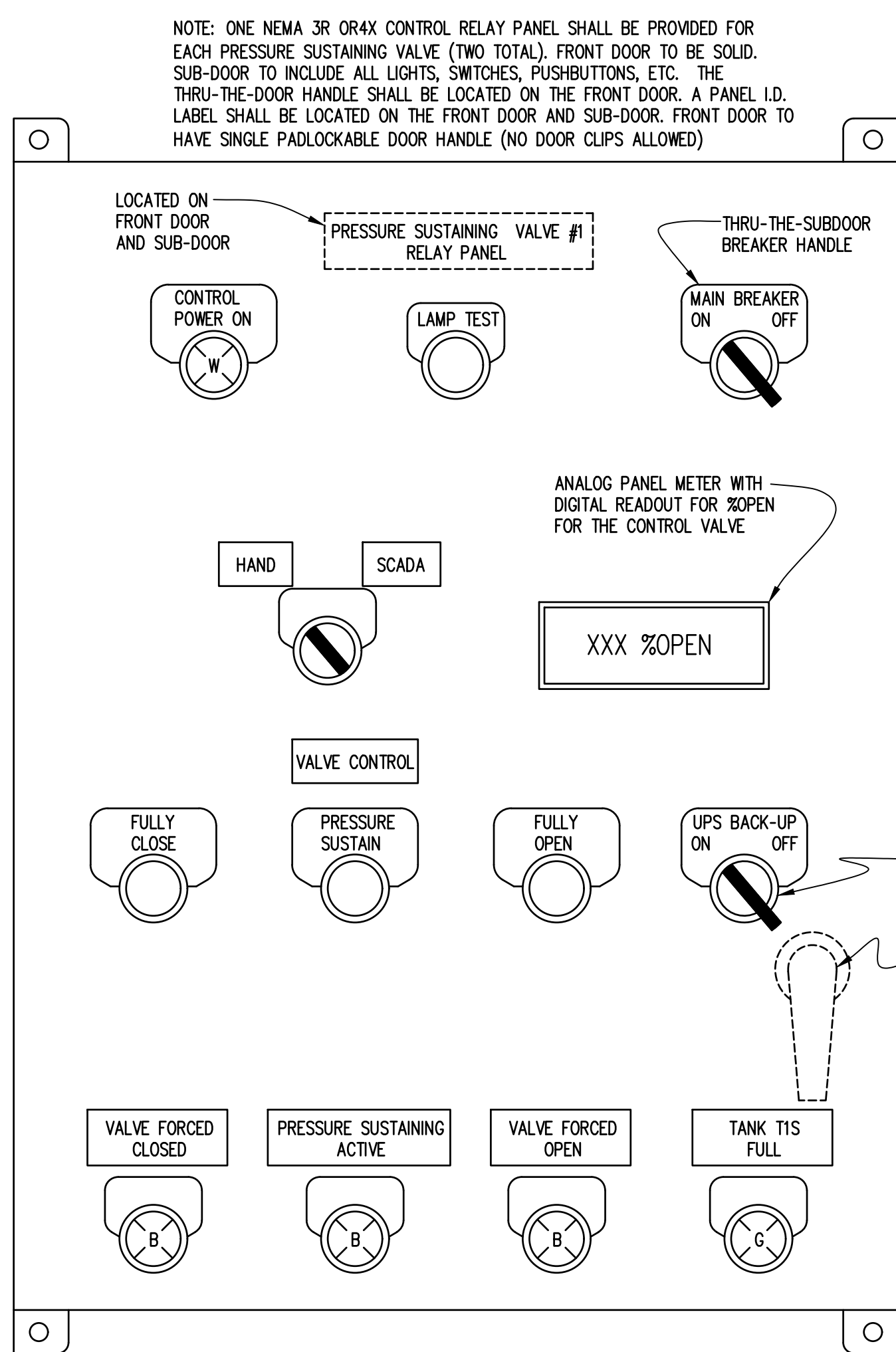


16" PRESSURE SUSTAINING/FLOW CONTROL VALVE SCHEMATIC

SCALE: N.T.S.

- NOTES:
1. VALVE TO BE DESIGNED TO ALLOW EASY RETROFIT WITH A MECHANICAL STOP IN LIEU OF A POSITION TRANSMITTER.
 2. CONTRACTOR SHALL PROVIDE ALL WORK AND COORDINATION NECESSARY TO PROPERLY INSTALL AND SUCCESSFULLY START-UP THE PRESSURE SUSTAINING VALVE ASSEMBLY. THE ELECTRICAL WIRING/INSTALLATION FOR POWERING THE PILOT SOLENOID VALVES AND POSITION TRANSMITTER SHALL BE WATERPROOF/IMMERSIBLE (IP67 RATED, MIN.). DURING START-UP, THE CONTRACTOR SHALL DEMONSTRATE PROPER OPERATION OF THE VALVE UNDER ALL MODES OF OPERATION (AUTOMATIC AND MANUAL).
 3. THE 12" PRESSURE SUSTAINING VALVE SHALL HAVE THE CAPABILITY TO ACCURATELY SUSTAIN AN UPSTREAM HGL/PRESSURE SETPOINT WHICH SHALL BE ABLE TO BE SET ANYWHERE BETWEEN EL. 786 AND EL. 870. THE INITIAL UPSTREAM HGL SETPOINT SHALL BE HGL EL. 815 (129 PSI) AS MEASURED BY THE UPSTREAM PRESSURE GAUGE LOCATED IN THE VALVE PIT. THE MANUFACTURER'S DESIGN OF THE 12" VALVE SHALL NOT REQUIRE MORE THAN 1 PSI DIFFERENTIAL ACROSS THE MAIN VALVE TO OPEN AND ALLOW IT TO PROPERLY OPERATE AS A PRESSURE SUSTAINING VALVE TO ACHIEVE THE PRESSURE SUSTAINING SETPOINT.
 4. ALL VALVE COMPONENTS (INCLUDING HYDRAULIC CONTROL COMPONENTS) SHALL HAVE PRESSURE RATINGS OF AT LEAST 250 PSI. SOLENOID VALVES TO BE RATED FOR 0 TO 230 PSI DIFFERENTIAL.
 5. ALL VALVE I.D. PLATES AND VALVE PAINTING (I.E., COLOR CODING) DISCUSSED BELOW SHALL BE DONE BY THE MAIN VALVE MANUFACTURER TO ENSURE FACTORY FINISH QUALITY AND DURABILITY.
 6. EACH SOLENOID VALVE AND BALL VALVE ON THE PILOT PIPING SHALL HAVE A DEEPLY ENGRAVED (WITH LARGE BLACK LETTERING), DURABLE S.S. TAG WITH THE VALVE I.D.# (E.G., 5A) ATTACHED WITH S.S. CHAIN TO EACH OF THE VALVES. VALVES 5A AND 5B SHALL BE PAINTED BRIGHT RED AND HAVE BRIGHT RED PLASTIC HANDLE COVERS. THESE ARE THE ONLY TWO BALL VALVES THAT NORMALLY REMAIN CLOSED. VALVES 5C AND 5D SHALL BE PAINTED BRIGHT GREEN AND HAVE BRIGHT GREEN HANDLE COVERS - VALVE 5C AND 5D SHALL NORMALLY REMAIN OPEN. THERE SHALL BE A LARGE, DEEPLY ENGRAVED (WITH LARGE BLACK LETTERING), DURABLE, S.S. TAG ATTACHED WITH S.S. CHAIN TO THE MAIN VALVE THAT READS: "C.V.#2 - UNPAINTED BALL VALVES ALWAYS OPEN. THE TWO RED BALL VALVES (5A AND 5B) ARE THE ONLY BALL VALVES TO REMAIN CLOSED FOR THE MAIN VALVE TO AUTOMATICALLY FUNCTION AS A PRESSURE SUSTAINING VALVE. TO FORCE MAIN VALVE FULLY CLOSED, OPEN BALL VALVE 5B AND CLOSE 5D. TO FORCE MAIN VALVE FULLY OPEN, OPEN VALVE 5A AND CLOSE VALVE 5C."

- NOTES:
1. VALVE TO BE DESIGNED TO ALLOW EASY RETROFIT WITH A MECHANICAL STOP IN LIEU OF A POSITION TRANSMITTER.
 2. CONTRACTOR SHALL PROVIDE ALL WORK AND COORDINATION NECESSARY TO PROPERLY INSTALL AND SUCCESSFULLY START-UP THE PRESSURE SUSTAINING VALVE ASSEMBLY. THE ELECTRICAL WIRING/INSTALLATION FOR POWERING THE PILOT SOLENOID VALVES AND POSITION TRANSMITTER SHALL BE WATERPROOF/IMMERSIBLE (IP67 RATED, MIN.). DURING START-UP, THE CONTRACTOR SHALL DEMONSTRATE PROPER OPERATION OF THE VALVE UNDER ALL MODES OF OPERATION (AUTOMATIC AND MANUAL).
 3. THE 16" PRESSURE SUSTAINING VALVE SHALL HAVE THE CAPABILITY TO ACCURATELY SUSTAIN AN UPSTREAM HGL/PRESSURE SETPOINT WHICH SHALL BE ABLE TO BE SET ANYWHERE BETWEEN EL. 786 AND EL. 870. THE INITIAL UPSTREAM HGL SETPOINT SHALL BE HGL EL. 815 (129 PSI) AS MEASURED BY THE UPSTREAM PRESSURE GAUGE LOCATED IN THE VALVE PIT. THE CONTRACTOR SHALL DEMONSTRATE IN THE FIELD THAT THE PRESSURE SUSTAINING SETTINGS FOR THE 12" AND 16" PRESSURE SUSTAINING VALVES MATCH BY OPERATING EACH VALVE INDEPENDENTLY (WHILE THE OTHER VALVE IS ISOLATED OFF) AND TOGETHER. THE MANUFACTURER'S DESIGN OF THE 16" VALVE SHALL NOT REQUIRE MORE THAN 6 PSI DIFFERENTIAL ACROSS THE MAIN VALVE TO ALLOW IT TO OPEN AND PROPERLY OPERATE AS A PRESSURE SUSTAINING VALVE TO ACHIEVE THE PRESSURE SUSTAINING SETPOINT.
 4. ALL VALVE COMPONENTS (INCLUDING HYDRAULIC CONTROL COMPONENTS) SHALL HAVE PRESSURE RATINGS OF AT LEAST 250 PSI. SOLENOID VALVES TO BE RATED FOR 0 TO 230 PSI DIFFERENTIAL.
 5. ALL VALVE I.D. PLATES AND VALVE PAINTING (I.E., COLOR CODING) DISCUSSED BELOW SHALL BE DONE BY THE MAIN VALVE MANUFACTURER TO ENSURE FACTORY FINISH QUALITY AND DURABILITY.
 6. EACH SOLENOID VALVE AND BALL VALVE ON THE PILOT PIPING SHALL HAVE A DEEPLY ENGRAVED (WITH LARGE BLACK LETTERING), DURABLE S.S. TAG WITH THE VALVE I.D.# (E.G., 6A) ATTACHED WITH S.S. CHAIN TO EACH OF THE VALVES. VALVES 6A AND 6B SHALL BE PAINTED BRIGHT RED AND HAVE BRIGHT RED PLASTIC HANDLE COVERS. THESE ARE THE ONLY TWO BALL VALVES THAT NORMALLY REMAIN CLOSED. VALVES 6C AND 2A SHALL BE PAINTED BRIGHT GREEN AND HAVE BRIGHT GREEN HANDLE COVERS - VALVES 6C AND 2A SHALL NORMALLY REMAIN OPEN. THERE SHALL BE A LARGE, DEEPLY ENGRAVED (WITH LARGE BLACK LETTERING), DURABLE, S.S. TAG ATTACHED WITH S.S. CHAIN TO THE MAIN VALVE THAT READS: "C.V.#1 - UNPAINTED BALL VALVES ALWAYS OPEN. THE TWO RED BALL VALVES (6A AND 6B) ARE THE ONLY BALL VALVES TO REMAIN CLOSED FOR THE MAIN VALVE TO AUTOMATICALLY FUNCTION AS A PRESSURE SUSTAINING VALVE. TO FORCE MAIN VALVE FULLY CLOSED, OPEN BALL VALVE 6B AND CLOSE 6C. TO FORCE MAIN VALVE FULLY OPEN, OPEN VALVE 6A AND CLOSE VALVE 2A."

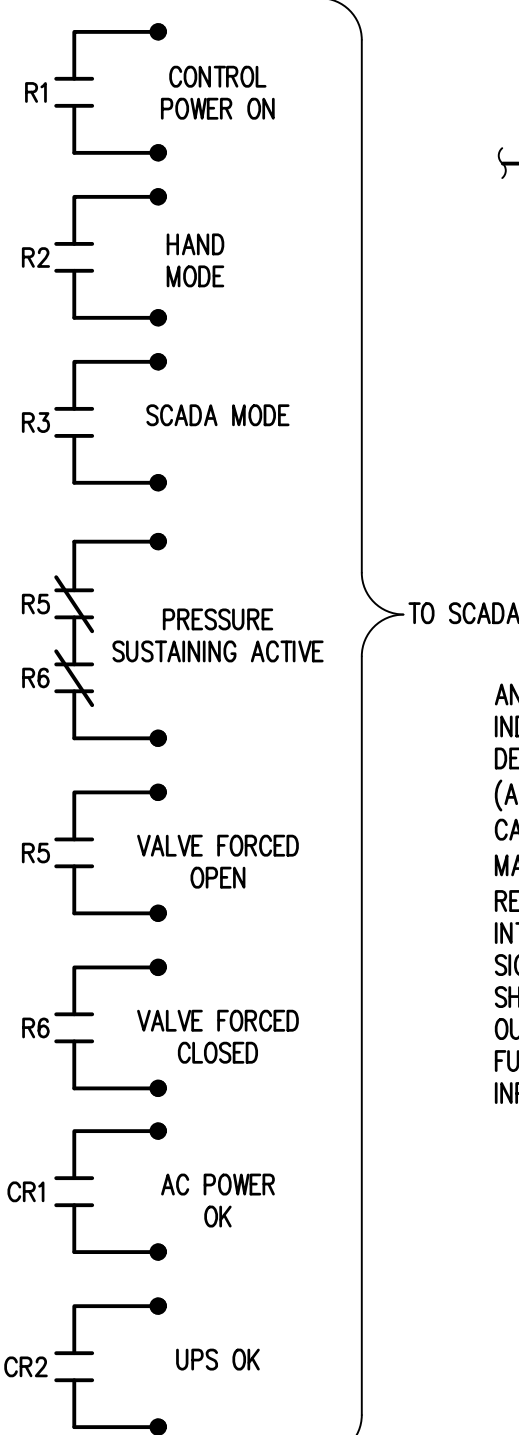


PRESSURE SUSTAINING VALVE - CONTROL RELAY PANEL SUB-DOOR DETAIL

SCALE: N.T.S.

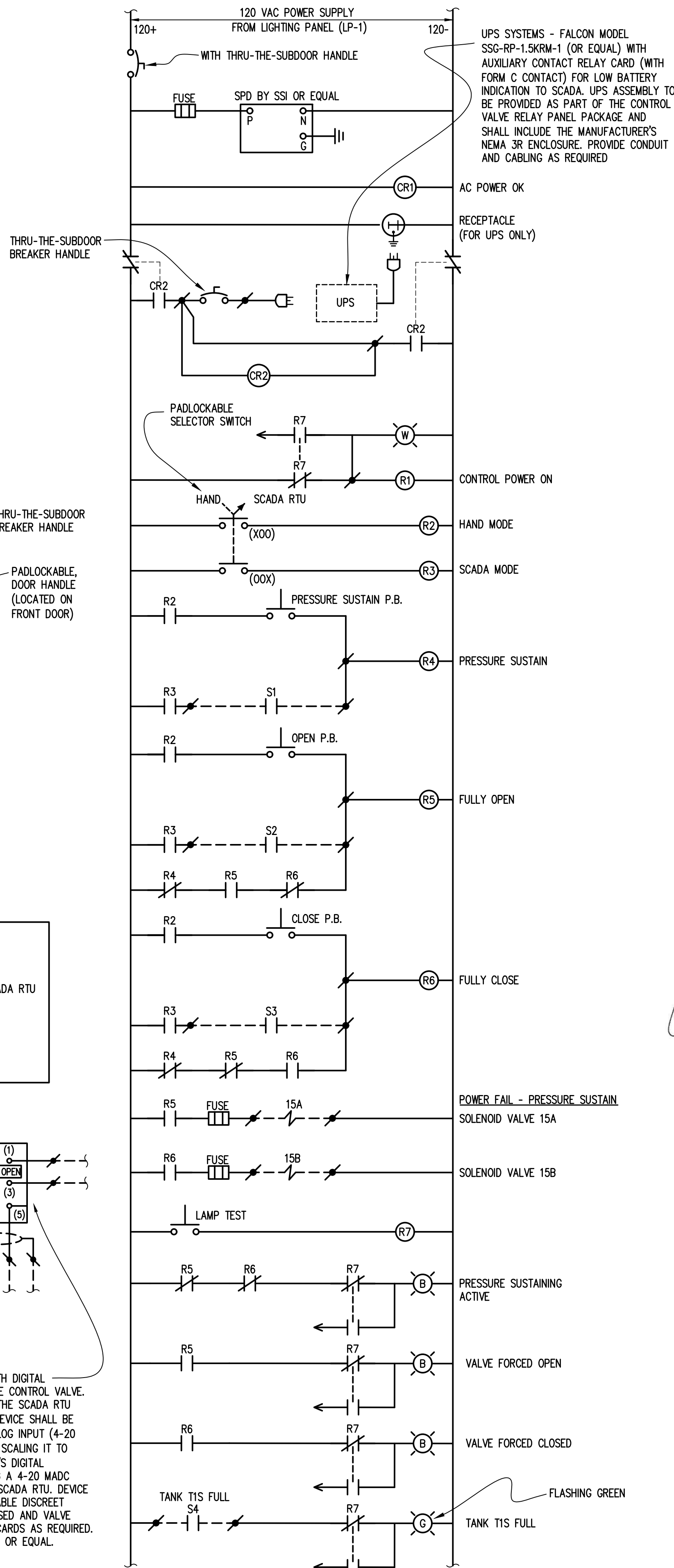
REMOTE CONTACT LEGEND

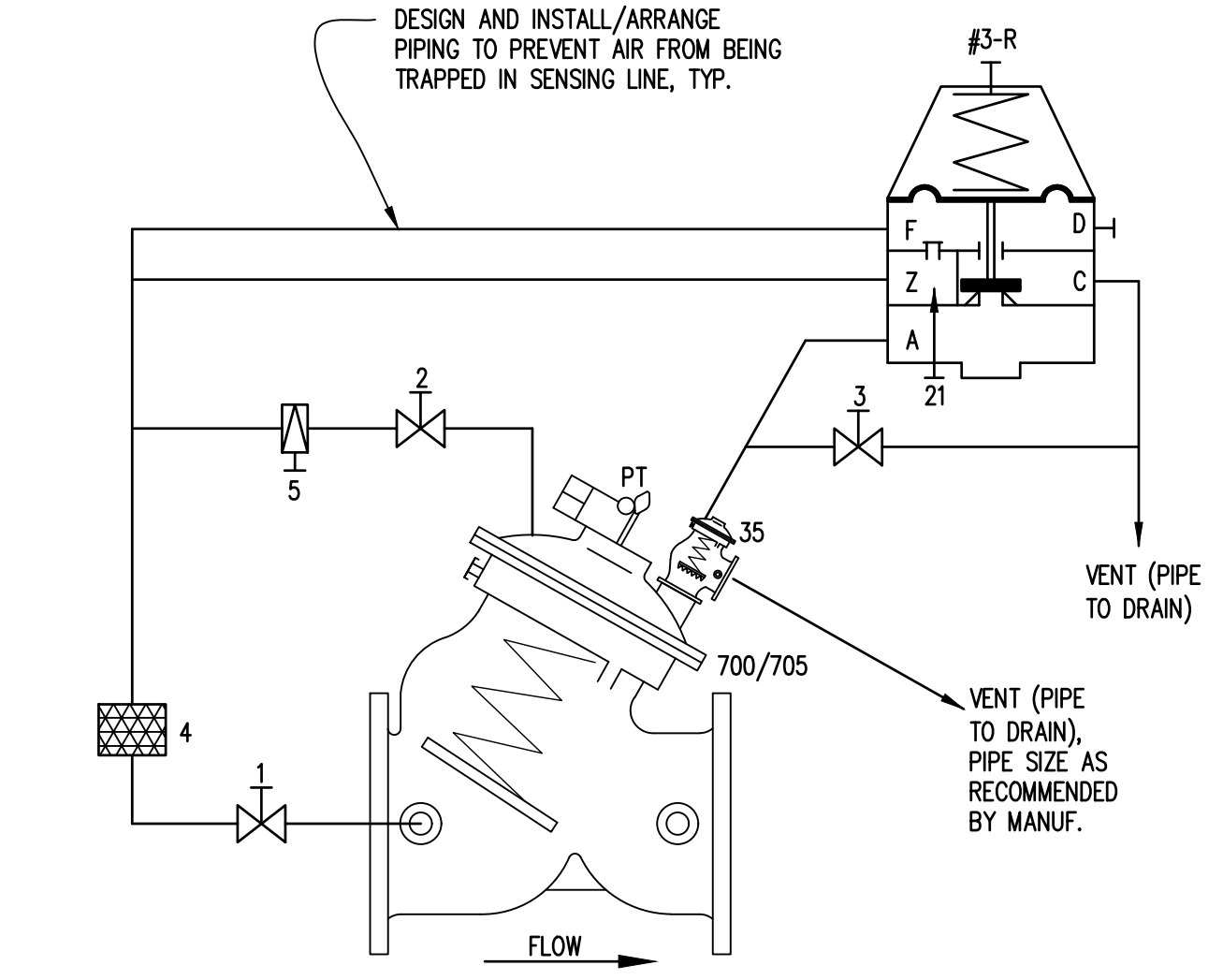
- CONTACTS LOCATED AT SCADA RTU
- S1 = SCADA PRESSURE SUSTAIN COMMAND. CONTACT LOCATED AT SCADA RTU
 - S2 = SCADA OPEN COMMAND. CONTACT LOCATED AT SCADA RTU
 - S3 = SCADA CLOSE COMMAND. CONTACT LOCATED AT SCADA RTU
 - S4 = TANK TIS FULL. CONTACT LOCATED AT SCADA RTU



PRESSURE SUSTAINING VALVE - CONTROL RELAY PANEL CONCEPTUAL SCHEMATIC, TYP. 2

SCALE: N.T.S.



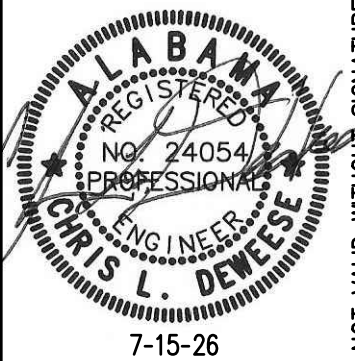


PARTIAL PARTS LIST - ALL VALVE COMPONENTS TO BE PROVIDED BY THE VALVE MANUFACTURER	
1	INLET BALL VALVE, ALWAYS OPEN (ONLY CLOSED FOR MAINTENANCE)
2	COVER BALL VALVE, NORMALLY OPEN
3	BYPASS BALL VALVE, NORMALLY CLOSED
4	CONTROL FILTER
5	NEEDLE VALVE, CLOSING SPEED CONTROL
#3-R	PRESSURE RELIEF PILOT, REMOTE SENSING
35	OPENING ACCELERATOR VALVE
PT	POSITION TRANSMITTER (IP67 RATED, MIN.)
700/705	BERMAD SERIES 700/705 MAIN VALVE - DOUBLE CHAMBERED WITH DIAPHRAGM

- NOTES:
1. VALVE TO BE DESIGNED TO ALLOW EASY RETROFIT WITH A MECHANICAL STOP IN LIEU OF A POSITION TRANSMITTER.
 2. CONTRACTOR SHALL PROVIDE ALL WORK AND COORDINATION NECESSARY TO SUCCESSFULLY START-UP THE QUICK-ACTING PRESSURE RELIEF VALVE ASSEMBLY. THE ELECTRICAL WIRING/INSTALLATION FOR POWERING THE POSITION TRANSMITTER SHALL BE WATERPROOF/IMMERSIBLE (IP67 RATED, MIN.). DURING START-UP, THE CONTRACTOR SHALL DEMONSTRATE PROPER OPERATION OF THE VALVE UNDER ALL MODES OF OPERATION (AUTOMATIC AND MANUAL).
 3. THE 16" QUICK PRESSURE RELIEF VALVE SHALL HAVE THE CAPABILITY TO REACT QUICKLY AND ACCURATELY TO RELIEVE PRESSURE WITHIN THE SYSTEM IF THE UPSTREAM SYSTEM PRESSURE EXCEEDS A CERTAIN PRESSURE/HGL. THE VALVE SHALL HAVE A MINIMUM ADJUSTABLE RELIEF SETTING RANGE OF 125 PSI TO 200 PSI. THE INITIAL SETTING SHALL BE 150 PSI (HGL EL. 863.00 +/-) AS MEASURED BY THE UPSTREAM PRESSURE GAUGE LOCATED IN THE VALVE PIT. THE CONTRACTOR SHALL DEMONSTRATE IN THE FIELD THAT THE RELIEF VALVE SETTING OPERATES AS INTENDED.
 4. ALL VALVE COMPONENTS (INCLUDING HYDRAULIC CONTROL COMPONENTS) SHALL HAVE PRESSURE RATINGS OF AT LEAST 250 PSI.
 5. ALL VALVE I.D. PLATES AND VALVE PAINTING (I.E., COLOR CODING) DISCUSSED BELOW SHALL BE DONE BY THE MAIN VALVE MANUFACTURER TO ENSURE FACTORY FINISH QUALITY AND DURABILITY.
 6. EACH BALL VALVE ON THE PILOT PIPING SHALL HAVE A DEEPLY ENGRAVED (WITH LARGE BLACK LETTERING), DURABLE S.S. TAG WITH THE VALVE I.D.# (E.G., 2) ATTACHED WITH S.S. CHAIN TO EACH OF THE VALVES. VALVE 2 SHALL BE PAINTED BRIGHT GREEN AND HAVE A BRIGHT GREEN PLASTIC HANDLE COVER. VALVE 2 SHALL NORMALLY REMAIN OPEN. VALVE 3 SHALL BE PAINTED BRIGHT RED AND HAVE A BRIGHT RED HANDLE. VALVE 3 SHALL NORMALLY REMAIN CLOSED. THERE SHALL BE A LARGE, DEEPLY ENGRAVED (WITH LARGE BLACK LETTERING), DURABLE, S.S. TAG ATTACHED WITH S.S. CHAIN TO THE MAIN VALVE THAT READS: "P.R.V. - VALVE 1 ALWAYS OPEN. TO FORCE MAIN VALVE FULLY OPEN, OPEN VALVE 3 AND CLOSE VALVE 2".

16" QUICK-ACTING PRESSURE RELIEF VALVE SCHEMATIC

SCALE: N.T.S.



NOT VALID WITHOUT SIGNATURE

BAR = 1"

Drawing	Title	
Project No.	CONTROL VALVE AND RELAY PANEL SCHEMATICS	
Date	7 - 26	
Scale	AS SHOWN	
Sheet	14	BID SET