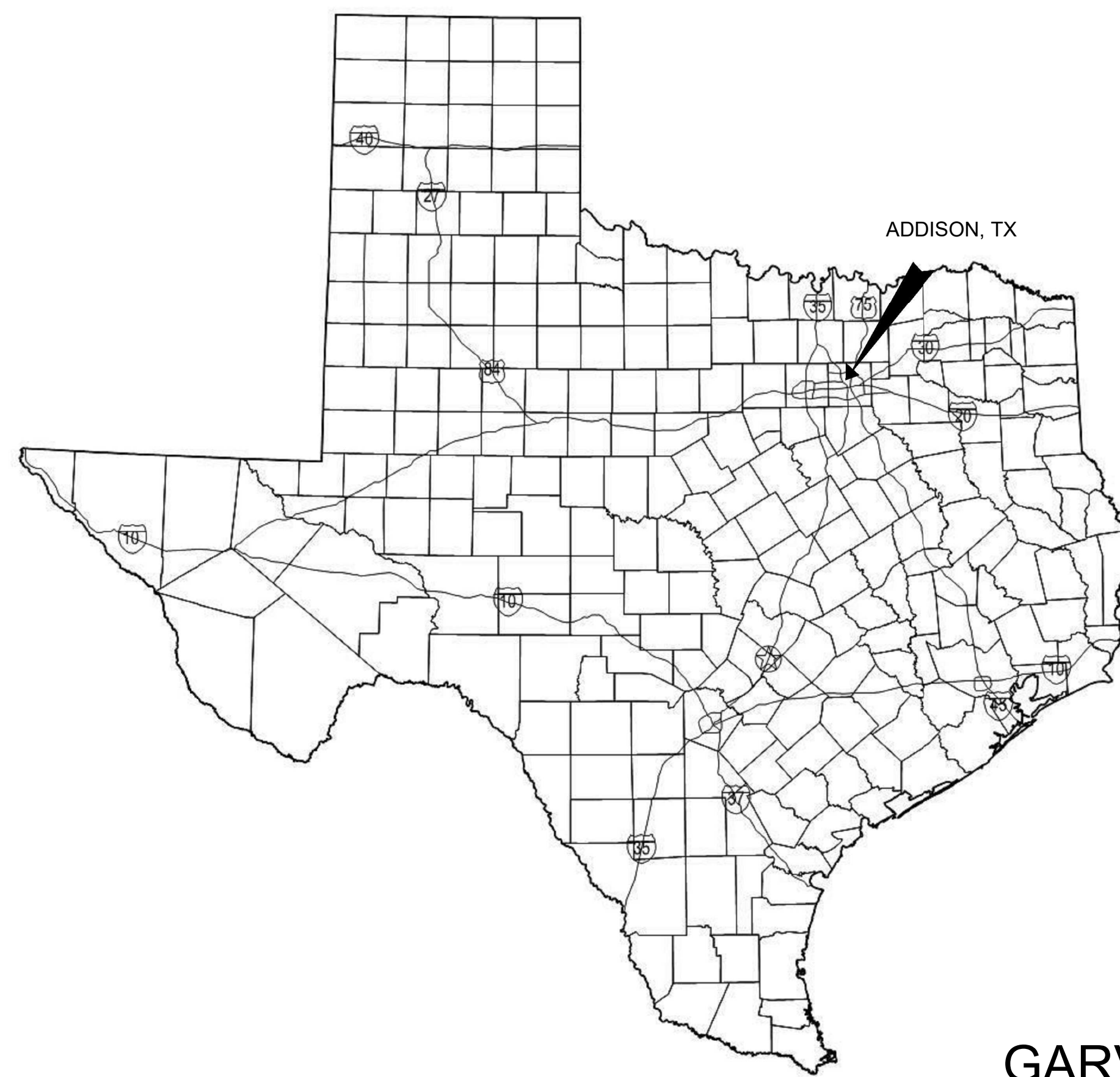


# FOR THE CONSTRUCTION OF SURVEYOR CHLORAMINE BOOSTER STATION IMPROVEMENTS



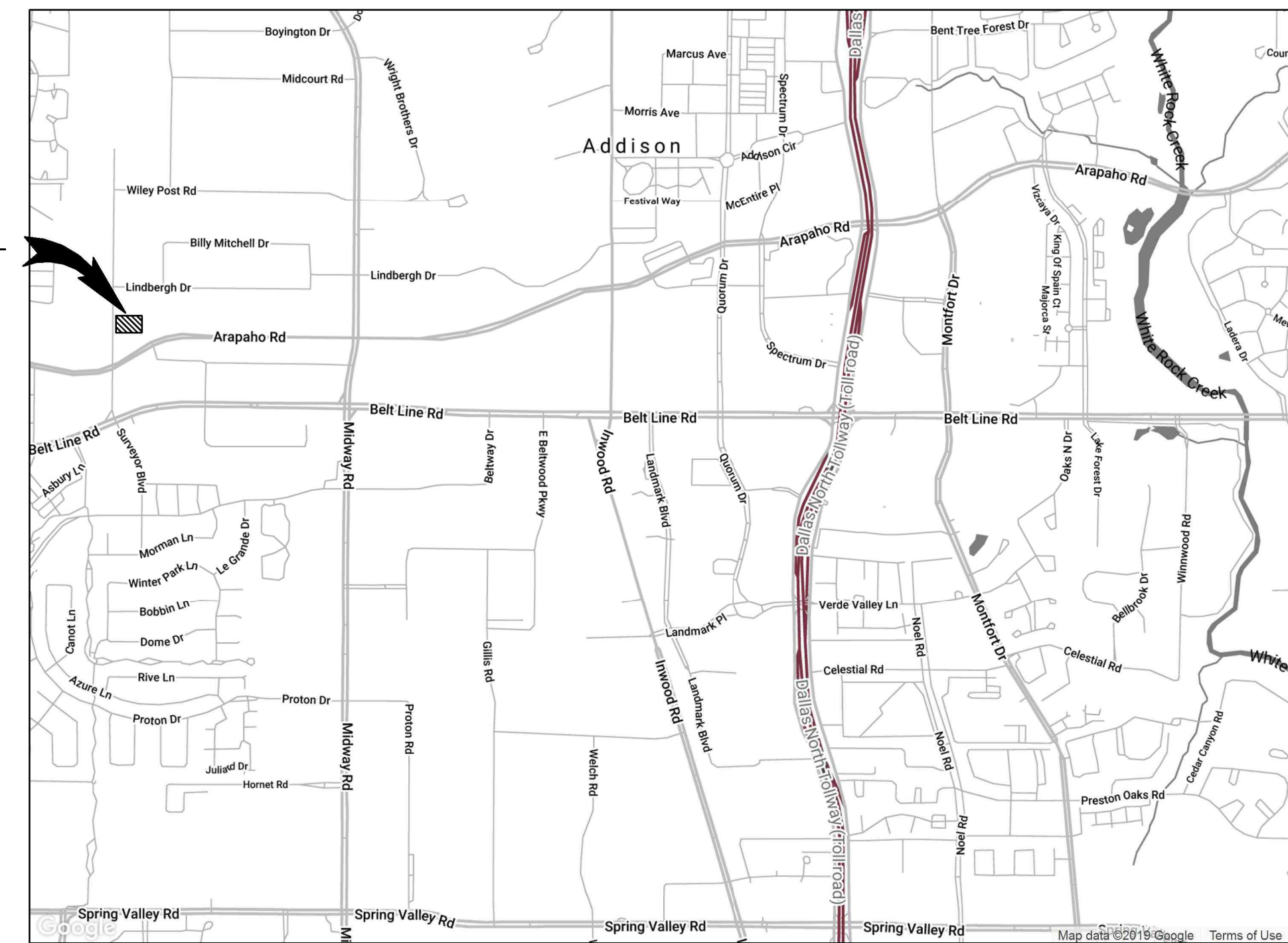
## TOWN OF ADDISON

PUBLIC WORKS AND ENGINEERING  
DEPARTMENT  
BID #21-172



AREA MAP  
NO SCALE

15150 SURVEYOR BLVD.  
ADDISON, TX 75001



VICINITY MAP  
NO SCALE

GARVER PROJECT NO. 17088170  
SEPTEMBER 2021



14160 N. DALLAS PARKWAY, SUITE 850  
DALLAS, TX 75254  
(214)451-2950



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REGISTRATION NO.  
F-5713



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REV	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER  
STATION IMPROVEMENTS

COVER

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: LPK  
DRAWN BY: JAS

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DRAWING NUMBER  
**01-G001**

SHEET  
NUMBER **01**





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GENERAL - 01		
SHT NO.	DWG NO.	DESCRIPTION
01	01-G001	COVER
02	01-G002	INDEX OF DRAWINGS
03	01-G003	ABBREVIATIONS
04	01-G004	CIVIL ABBREVIATIONS AND NOTES LEGEND
05	01-G005	PROCESS & INSTRUMENTATION DIAGRAM LEGEND AND SYMBOLS
06	01-G006	STRUCTURAL GENERAL NOTES
07	01-G007	PROCESS MECHANICAL NOTES AND LEGENDS
08	01-G008	ELECTRICAL GENERAL NOTES

PROCESS & INSTRUMENTATION CONTROLS DIAGRAMS - 08		
SHT NO.	DWG NO.	DESCRIPTION
09	08-101	SURVEYOR PUMP STATION PROCESS & INSTRUMENTATION DIAGRAM

SURVEYOR PUMP STATION - 20		
SHT NO.	DWG NO.	DESCRIPTION
10	20-C101	EXISTING SITE PLAN
11	20-C102	PROPOSED SITE PLAN
12	20-C301	PIPING PLAN
13	20-S101	PROCESS FOUNDATION PLAN & FOUNDATION SECTION
14	20-M101	PROCESS MECHANICAL PLAN
15	20-M301	PROCESS MECHANICAL SECTIONS
16	20-M302	PROCESS PLUMBING PLAN
17	20-M501	MECHANICAL SCHEDULES
18	20-E101	ELECTRICAL SITE PLAN
19	20-E131	CHEMICAL BUILDING ELECTRICAL POWER AND LIGHTING PLAN
20	20-E501	ONE-LINE DIAGRAM
21	20-E601	ELECTRICAL SCHEDULES
22	20-E801	CHEMICAL INJECTION SCADA INTERCONNECTION DIAGRAM

STANDARD DETAILS - 99		
SHT NO.	DWG NO.	DESCRIPTION
23	99-C101	CIVIL STANDARD DETAILS I
24	99-C102	CIVIL STANDARD DETAILS II
25	99-C103	CIVIL STANDARD DETAILS III
26	99-C104	CIVIL STANDARD DETAILS IV
27	99-S101	STRUCTURAL STANDARD DETAILS I
28	99-M101	MECHANICAL STANDARD DETAILS I
29	99-E101	ELECTRICAL STANDARD DETAILS I
30	99-E102	ELECTRICAL STANDARD DETAILS II
31	99-E103	ELECTRICAL STANDARD DETAILS III

REV	DATE	DESCRIPTION	BY

  
 TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

INDEX OF DRAWINGS

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: JAP  
 DRAWN BY: EGB

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DRAWING NUMBER  
**01-G002**  
 SHEET NUMBER  
**02**

DRAWING NUMBER	DRAWING NUMBER LEGEND			
EXAMPLE: FACILITY AREA CODE — 70-M201 — PREDOMINATE VIEW OR ELEMENT — DISCIPLINE	G - GENERAL	S - STRUCTURAL	120 - LOWER BASEMENT LEVEL	200 - ELEVATIONS
	C - CIVIL	M - MECHANICAL	130 - GROUND LEVEL	300 - SECTIONS
	X - DEMOLITION	E - ELECTRICAL	140 - SECOND OR UPPER LEVEL	400 - DETAILS
	I - INSTRUMENTATION & CONTROL	T - TELECOMMUNICATIONS	150 - ROOF LEVEL	500 - DIAGRAMS OR SCHED
	F - FIRE & LIFE SAFETY		160 - ADDITIONAL UPPER LEVELS	
	A - ARCHITECTURAL			
	(CIVIL EX. 100 - SITE PLANS    200 - GRADING & PAVING    300 - PIPING & PROFILES)			



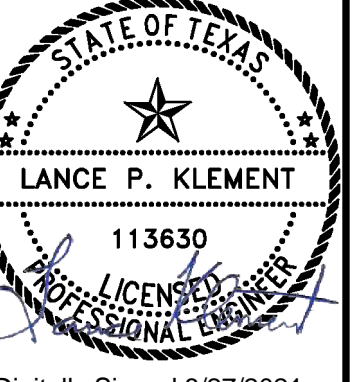
Main table with 18 columns: ABBREV, DESCRIPTION, SHT TYPE, ABBREV, DESCRIPTION, SHT TYPE, ABBREV, DESCRIPTION, SHT TYPE, ABBREV, DESCRIPTION, SHT TYPE, ABBREV, DESCRIPTION, SHT TYPE, ABBREV, DESCRIPTION, SHT TYPE. It lists various electrical and mechanical terms like AMP, ABOVE COUNTER, ABANDON, etc., along with their abbreviations and units.

Professional Engineer Seal for Lance P. Klement, State of Texas, License No. 113630, Digitally Signed 8/27/2021. Includes project title 'ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS', 'TOWN OF ADDISON', 'ADDISON, TEXAS', and drawing details: JOB NO.: 17088170, DATE: SEPT. 2021, DESIGNED BY: JAP, DRAWN BY: EGB, SHEET TYPE LEGEND (U/G, U/S, UG, UGE, UGP), DRAWING NUMBER 01-G003, SHEET NUMBER 03.



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REGISTRATION NO. F-5713



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Table with 3 columns: REV, DATE, DESCRIPTION. It is mostly empty, used for tracking changes to the drawing.

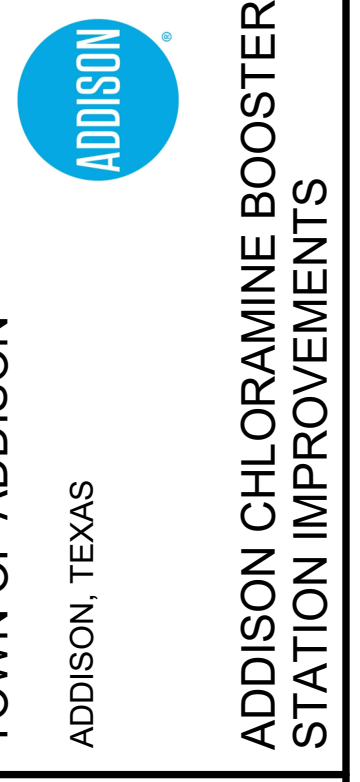


Table with 1 column: ABBREVIATIONS. Lists various abbreviations used in the drawing, such as U/G, U/S, UG, UGE, UGP, etc.



**GENERAL CIVIL NOTES**

- SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR SAFETY, MEANS, OR METHODS OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AGENCIES BEFORE WORK COMMENCES TO VERIFY THE TYPE, LOCATION, PROTECTION REQUIREMENTS, DEPTH OF ALL EXISTING UTILITIES, DRAINAGE FACILITIES, AND OTHER OBSTRUCTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING AND/OR REPLACING ANY SUCH ITEMS DAMAGED DURING CONSTRUCTION.
- CAUTION: UNDERGROUND UTILITIES SHOWN ARE TAKEN FROM EXISTING RECORDS AND ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS AND CONFIRM LOCATIONS OF UTILITIES AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ACCURATELY LOCATE AND UNCOVER ALL EXISTING UTILITIES BEFORE BEGINNING CONSTRUCTION. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. WHERE CROSSING OF EXISTING UTILITIES OCCUR, PROVIDE 12" MINIMUM CLEARANCE EXCEPT WATER MAINS SHALL BE 24". CROSS UNDER ALL WATER MAINS WHERE NOT POSSIBLE TO PROVIDE 18" CLEARANCE.
- SEWER AND WATER SERVICE SHALL BE MAINTAINED DURING ENTIRE CONSTRUCTION PERIOD OR TEMPORARY FACILITIES PROVIDED.
- CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING ACTIVITIES AND ASSOCIATED PERMITS REQUIRED FOR ALL EXCAVATIONS REQUIRED TO COMPLETE THE PROJECT.
- APPROXIMATE LOCATIONS OF OVERHEAD POWER LINES MAY OR MAY NOT BE SHOWN ON PLANS. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VERIFYING ALL LOCATIONS IN THE FIELD AND PLAN WORK IN THESE AREAS ACCORDINGLY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SITE DRAINAGE AND COMPLIANCE WITH ALL GOVERNMENTAL STORM WATER REGULATIONS AND PERMITS (SWPPP) AS REQUIRED. CONTRACTOR SHALL OBTAIN NOI FROM APPROPRIATE STATE BODY PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PERMITS REQUIRED FOR WORK WITHIN STREAMS.
- IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE TRAFFIC CONTROL AND SIGNAGE FOR THE DURATION OF PROJECT AS REQUIRED BY THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - PART VI, AND/OR ALL OTHER APPLICABLE GUIDELINES OF ODOT, COUNTY, CITY OR ANY OTHER AUTHORITIES HAVING JURISDICTION OVER THE PROJECT AREAS. ANY ROAD CLOSURES MUST BE APPROVED BY THE CITY OF ADDISON.
- CONTRACTOR SHALL MAINTAIN TRAFFIC FLOW TO RESIDENCES AND BUSINESS WITH MINIMUM DISRUPTION OF ACCESS.
- ALL STREETS AND DRIVEWAYS SHALL BE OPEN CUT UNLESS NOTED OTHERWISE.
- ALL EXCAVATION BACKFILL OUTSIDE TRAFFIC WAYS SHALL BE COMPACTED TO MIN 95% STANDARD PROCTOR DENSITY TO PREVENT SETTLEMENT.

**PAVING AND GRADING NOTES**

- ALL PAVING MATERIALS AND CONSTRUCTION SHALL MEET THE TXDOT STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
- ANY PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT THE CONTRACTORS EXPENSE.
- ANY DISTURBED AREAS NOT SPECIFICALLY DESIGNATED TO BE GRADED SHALL BE RESTORED TO EQUAL OR BETTER CONDITION AND SHALL BE GRADED TO DRAIN AS APPROVED BY THE ENGINEER.
- FINAL PAVEMENT SURFACES SHALL NOT BE PLACED UNTIL ALL MAJOR CONSTRUCTION ACTIVITIES HAVE CONCLUDED.
- ANY CHANGES TO FINAL GRADE ELEVATIONS AS SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER.
- ALL ASPHALT AND CONCRETE PAVING REMOVED AND REPLACED SHALL BE NEAT SAW CUT.
- ALL OPEN CUT TRAFFIC WAYS (ROADS, PARKING LOTS, DRIVES, ETC.) AND ALL AREAS LYING WITHIN PRISM OF TRAFFIC WAYS, SHALL HAVE CRUSHED STONE BACKFILL COMPACTED WITH VIBRATORY COMPACTOR MAXIMUM 6" LIFTS AND COMPACTED TO MINIMUM 100%-98% MODIFIED PROCTOR DENSITY TO PREVENT SETTLEMENT FOR ITS ENTIRE TRENCH HEIGHT AND WIDTH. COMPACTED "PUG-MIX" SHALL BE USED AND MAINTAINED IN TOP 12" OF TRENCH HEIGHT AS REQUIRED TO PREVENT AGGREGATE LOSS DUE TO TRAFFIC.

**CIVIL LEGEND NOTES**

- GRAY SCALED LINE TYPES AND SYMBOLS INDICATE EXISTING ITEMS. BOLD SCALED LINE TYPES AND SYMBOLS INDICATE PROPOSED ITEMS.
- ADDITIONAL PROCESS LINES MAY BE DENOTED BY A LINE TYPE WITH THE FLOW STREAM IDENTIFIER.

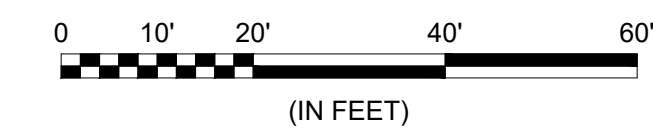
**YARD PIPING NOTES**

- MINIMUM COVER OVER PIPING SHALL BE 3'-0", MEASURED FROM FINISHED GRADE.
- PROVIDE MINIMUM PIPE COVER, AS SPECIFIED. IN GENERAL LAY PIPE TO UNIFORM GRADES BETWEEN THE ELEVATIONS SHOWN, UNLESS OTHERWISE APPROVED. IN SOME CASES, EXISTING CONDITIONS PROHIBIT UNIFORM GRADES BETWEEN THE ELEVATIONS SHOWN, AND FIELD ADJUSTMENTS TO UNIFORM GRADES ARE REQUIRED AS APPROVED BY ENGINEER.
- SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE AS SPECIFIED FOR ADJACENT STRAIGHT RUN OF PIPE.
- ALL JOINTS SHALL BE WATERTIGHT.
- THRUST AT FITTINGS SHALL BE RESISTED BY RESTRAINED JOINTS AS SPECIFIED AND AS REQUIRED TO RESIST THRUST, UNLESS OTHERWISE APPROVED BY ENGINEER. SEE THRUST RESTRAINT DETAILS <sup>1</sup>/<sub>99-C102</sub>.
- CONTRACTOR SHALL LOCATE AND UNCOVER ALL CONNECTIONS TO EXISTING LINES, AND ANY POSSIBLE CONFLICTS WITH PROPOSED FACILITIES AND VERIFY LOCATION, ELEVATION, PIPE MATERIAL, AND PIPE O.D. PRIOR TO ANY CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING BURIED PIPING AND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGED UNDERGROUND FACILITIES.
- ALL SMALL DIAMETER PIPING SHALL BE INSTALLED AS SHOWN ON DRAWINGS WITH ALL FITTINGS AND VALVES AS REQUIRED TO PROVIDE A FUNCTIONAL PIPELINE AS SPECIFIED.
- ALL BURIED VALVES SHALL BE INSTALLED WITH VALVE BOX AS SPECIFIED.
- ALL PIPELINE SHUTDOWNS SHALL BE COORDINATED WITH THE OPERATORS. A WRITTEN WORK PLAN SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER AND TOWN 24 HOURS PRIOR TO ANY SHUTDOWNS.
- ROCK SHALL BE UNDERCUT A MINIMUM OF 4" AND PIPE BEDDED IN STONE. NO SEPARATE PAY ITEM EXISTS FOR ROCK EXCAVATION. ALL EXCAVATION SHALL BE CONSIDERED TO BE UN-CLASSIFIED EXCAVATION AND SUBSIDIARY TO OTHER BID ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF THE EXISTING PIPE, EXISTING MANHOLES, AND ANY EXCESS MATERIALS RESULTING FROM THE WORK.
- WHERE BYPASS PUMPING IS REQUIRED DURING THE PROJECT, PUMPING SHALL BE HELD TO A MINIMUM. ROUND-THE-CLOCK BYPASS PUMPING IS NOT ALLOWED. AT END OF EACH DAYLIGHT CONSTRUCTION PERIOD, EXISTING WATER WILL BE TEMPORARILY ROUTED TO NEW OR EXISTING PIPES WITH FITTINGS, PIPE, HOSE, OR OTHER APPURTENANCES AS REQUIRED AND DITCH LINES SHALL BE BACKFILLED TO EXISTING GRADE. COST OF THIS WORK SHALL BE INCLUDED IN PIPE INSTALLATION UNLESS LISTED AS A SEPARATE BID ITEM.
- CONTRACTOR SHALL PREVENT STORM WATER AND DEBRIS FROM ENTERING PIPES AND MANHOLES AT ALL TIMES. ALL PIPES AND MANHOLES SHALL BE SECURELY PLUGGED AT THE END OF EACH DAY.

**CIVIL LEGEND**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— C —	COMMUNICATION	— TOS —	TOE OF SLOPE
— CATV —	CABLE TV		TREE LINE
— — —	EASEMENT LINE	— UGE —	UNDERGROUND ELECTRIC
— X —	FENCE	— UGT —	UNDERGROUND TELEPHONE
— FP —	FLOODPLAIN	— ••• —	WATER EDGE
— II —	FLOODWAY	— W —	WATER LINE
→	FLOWLINE	— WSL —	WATER SERVICE LINE
— G —	GAS LINE	— W1 —	POTABLE WATER
— OHE —	OVERHEAD ELECTRIC	— W2 —	NON-POTABLE WATER
— PD —	PROCESS DRAIN	— (A) —	INDICATES ABANDONED LINE
— PL —	PROPERTY LINE	— 12" —	12" INDICATES SIZE OF LINE
— RW —	RIGHT-OF-WAY	— ••••• —	ABANDONED PIPE
— SS —	SANITARY SEWER		REMOVED PIPE
— SSL —	SEWER SERVICE LINE		SHRUB/BUSH
— SD —	STORM DRAIN		TREE
— SF —	SILT FENCE		
— TOB —	TOP OF BANK		

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		DEMOLISH
	BOLLARD		EXISTING ASPHALT
	CATCH BASIN/JUNCTION BOX		PROPOSED ASPHALT
	CLEANOUT		
	CONCRETE HEADWALL		
	ELECTRIC BOX		
	ELECTRIC DUCT MARKER		
	ELECTRIC MANHOLE		
	ELECTRIC METER		
	FIBER OPTIC BOX		
	FIBER OPTIC CABLE RISER/PEDESTAL		
	FIBER OPTIC MANHOLE		
	FIRE HYDRANT		
	FLARED END SECTION (FES)		
	GAS METER		
	GAS REGULATOR		
	GUY WIRE ANCHOR		
	IRRIGATION CONTROL VALVE		
	LIGHT POLE		
	MANHOLE		
	MONITORING WELL		
	PROCESS DRAIN MANHOLE		
	PROPERTY PIN		
	RIP RAP		
	SANITARY SEWER MANHOLE		
	SIGN		
	SLOPE DIRECTION INDICATOR		
	SPRINKLER HEAD		
	STORM DRAIN MANHOLE		
	SURVEY CONTROL POINT		
	TELEPHONE JUNCTION BOX		
	TELEPHONE MANHOLE		
	TELEPHONE PEDESTAL		
	TELEVISION PEDESTAL		
	UTILITY POLE		
	VALVE		
	WATER METER		
	YARD HYDRANT/SPIGOT		



SYMBOL INDICATES NORTH DIRECTION

SYMBOL INDICATES A GRAPHICAL BAR SCALE

**CIVIL LEGEND (CONT'D)**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DEMOLISH		EXISTING CONCRETE
	EXISTING ASPHALT		PROPOSED CONCRETE
	PROPOSED ASPHALT		GRAVEL ROAD OR DRIVE

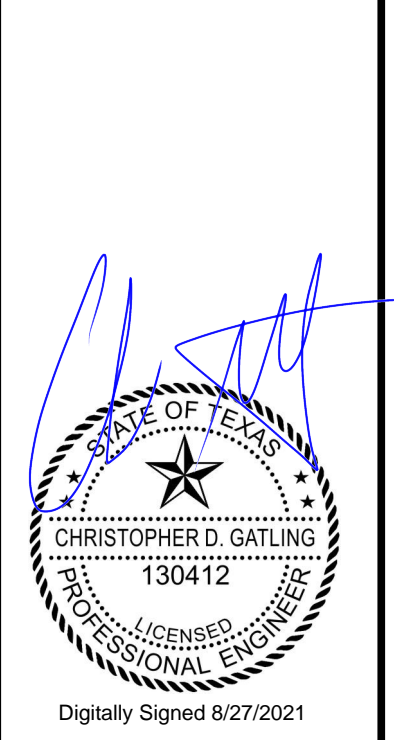
  

ABBREV	DESCRIPTION	ABBREV	DESCRIPTION
ABDN	ABANDON	MJ	MECHANICAL JOINT
AFF	ABOVE FINISHED FLOOR	N	NORTH
ALUM	ALUMINUM SULFATE	NE	NORTHEAST
APPROX	APPROXIMATE	NW	NORTHWEST
ASPH	ASPHALT	NIC	NOT IN CONTRACT
ASSY	ASSEMBLY	NO.#	NUMBER
BC	BACK OF CURB	NTS	NOT TO SCALE
BLDG	BUILDING	NWSL	NORMAL WATER SURFACE LEVEL
BLK	BLOCK	OC	ON CENTER
BM	BENCHMARK	ABBREV	DESCRIPTION
BOT	BOTTOM	OD	OUTSIDE DIAMETER
CI	CAST IRON	PC	POINT OF CURVE
CIP	CAST IRON PIPE	PD	PROCESS DRAIN
CJ	CONSTRUCTION JOINT	PE	PLAIN END
CL	CENTERLINE, CLASS	PI	POINT OF INTERSECTION
CMU	CONCRETE MASONRY UNIT	PL, PLS	PLATE, PLACES
CONC	CONCRETE	PO	PUSH ON
CONN	CONNECTION	PP	POWER POLE
CONT	CONTINUOUS	PRC	POINT OF REVERSE CURVE
CP	CONTROL POINT	PSI	POUNDS PER SQUARE INCH
DI	DUCTILE IRON	PT	POINT OF TANGENT
DIA	DIAMETER	PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE	R, RAD	RADIUS
EA	EACH	RCP	REINFORCED CONCRETE PIPE
EFF	EFFLUENT	RED	REDUCER
EL, ELEV	ELEVATION	REINF	REINFORCEMENT
ELEC	ELECTRICAL	REQD	REQUIRED
EOP	EDGE OF PAVEMENT	RJ	RESTRAINED JOINT
EQ	EQUAL	ROW, R/W	RIGHT-OF-WAY
EX	EXISTING	RP	RADIUS POINT
EXP	EXPANSION	RS	RESILIENT SEAT
FCJ	FLOOR CONSTRUCTION JOINT	RT	RIGHT
FES	FLARED END SECTION	S	SOUTH, SLUDGE
FFE	FINISHED FLOOR ELEVATION	SCH	SCHEDULE
FH	FIRE HYDRANT	SD	STORM DRAIN
FG, FIN GR	FINISH GRADE	SDMH	STORM DRAIN MANHOLE
FL	FLOWLINE	SE	SOUTHEAST
FLG	FLANGED	SECT	SECTION
FRP	FIBERGLASS REINFORCED PIPE	SF	SQUARE FEET
FT	FEET, FOOT	SHT	SHEET
FTG	FOOTING	SPEC	SPECIFICATIONS
G	GUTTER	SQ	SQUARE
GL	GAS LINE	SS	SANITARY SEWER
GR	GRADE	STA	STATION
GV	GATE VALVE	STD	STANDARD
HORIZ	HORIZONTAL	SW	SIDEWALK, SOUTHWEST
HWY	HIGHWAY	T&B	TOP AND BOTTOM
ID	INSIDE DIAMETER	TBM	TEMPORARY BENCHMARK
IN	INCHES	TC	TIME CLOCK, TOP OF CURB
INF	INFLUENT	TEMP	TEMPORARY, TEMPERED
INV	INVERT	THK	THICKNESS
JT	JOINT	TOC	TOP OF CURB
LEN	LENGTH	TS	TOP OF SIDEWALK
LF	LINEAR FEET	TYP	TYPICAL
LG	LONG	UNO	UNLESS NOTED OTHERWISE
LIN	LINEAL, LINEAR	V	VOLT, VALVE
LOC	LOCATION	VERT	VERTICAL
LT	LEFT	VT	VENTILATOR
MANUF	MANUFACTURER	W	WIDTH, WATER
MAX	MAXIMUM	W/	WITH
MGD	MILLION GALLONS PER DAY	W/O	WITHOUT
MH	MANHOLE	WL	WATER LINE
MIN	MINIMUM	WS	WATERSTOP
MISC	MISCELLANEOUS	WTM	WATER TRANSMISSION MAIN
		WWF	WELDED WIRE FABRIC
		X	BY



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REGISTRATION NO. F-5713



REV.	DATE	DESCRIPTION	BY



**CIVIL ABBREVIATIONS AND NOTES LEGEND**

JOB NO.:	17088170
DATE:	SEPT. 2021
DESIGNED BY:	CDG
DRAWN BY:	O.C.
BAR IS ONE INCH ON ORIGINAL DRAWING	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	
DRAWING NUMBER	<b>01-G004</b>
SHEET NUMBER	<b>04</b>

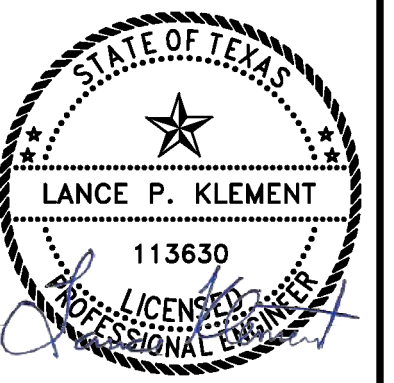
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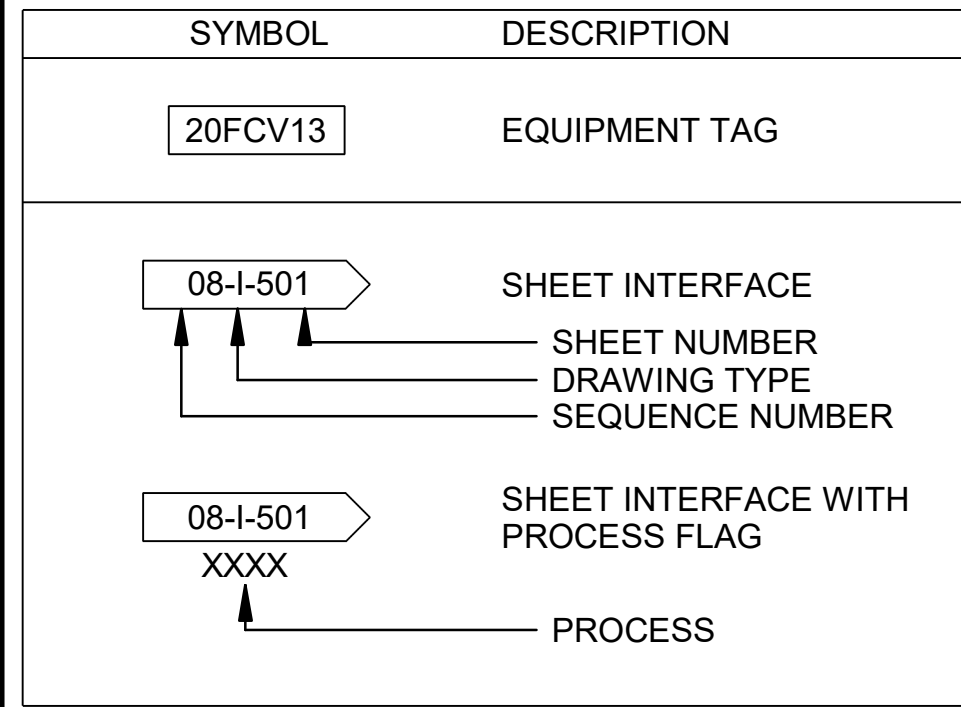
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Digitally Signed 8/27/2021

**IDENTIFICATION, GENERAL**



**PIPING LINE TYPES**

LINE	DESCRIPTION
	PROCESS LINE - PRIMARY
	PROCESS LINE - SECONDARY
	PACKAGE BOUNDARY
	AREA/BUILDING BOUNDARY
	SHOWN ELSEWHERE
	AIR

**PIPING MISCELLANEOUS**

SYMBOL	DESCRIPTION
	SLOPE ARROW
	ARROW DIRECTION DOWN
	LINE HEAT TRACED AND INSULATED ST = STEAM TRACED ET = ELECTRIC TRACED
	OUTSIDE GRADE LEVEL

**MEANING OF FUNCTIONAL INSTRUMENT IDENTIFICATION LETTERS**

FIRST LETTER		SUCCEEDING LETTERS			
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME		USER CHOICE	USER CHOICE	USER CHOICE
C	CONDUCTIVITY (ELECTRICAL)			CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO(FRACTION)			
G	GAUGING(DIMENSIONAL)		GLASS		
H	HAND(MANUALLY INITIATED)				HIGH
I	CURRENT(ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME-SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT(PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE OR INTERMEDIATE
N	USER CHOICE		USER CHOICE	USER CHOICE	USER CHOICE
O	USER CHOICE		ORIFICE(RESTRICTION)		
P	PRESSURE OR VACUUM		POINT(TEST POINT)		
Q	QUANTITY OR EVENT	INTEGRATE OR TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNC.	MULTIFUNCTION
V	VIBRATION OR MECHANICAL ANALYSIS			VALVE, DAMPER, OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE			RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	
JI	SURGE ARRESTOR, SEE SPECIFICATIONS				

**ACCESSORIES AND APPURTENANCES**

SYMBOL	DESCRIPTION
	UNION
	PLUG
	BLIND FLANGE
	HOSE CONNECTION
	SPRAY NOZZLE
	DRAIN
	FLEXIBLE CONNECTION, GENERAL
	FLEXIBLE HOSE
	QUICK CONNECTOR
	THREADED TAP
	FILTER
	'Y' TYPE STRAINER
	STRAINER
	EXPANSION JOINT
	FLOOR CLEANOUT
	GAUGE P = PRESSURE V = VACUUM T = TEMPERATURE dP = PRESSURE DIFFERENTIAL
	SLIDE GATE

**VALVES**

SYMBOL	DESCRIPTION
	CHECK VALVE
	GATE VALVE
	BUTTERFLY VALVE
	BALL CHECK
	BALL VALVE
	PLUG VALVE
	NEEDLE VALVE
	ROTARY VALVE
	KNIFE GATE VALVE
	MUD VALVE
	PINCH VALVE
	THREE WAY VALVE
	FOUR WAY VALVE
	GLOBE VALVE
	CHARACTERIZED OR VEE-BALL VALVE
	STOP CHECK VALVE
	DIAPHRAGM VALVE (SELF-CONTAINED)
	AIR RELIEF
	PRESSURE CONTROL
	PRESSURE RELIEF VALVE
	VACUUM RELIEF VALVE
	STOP GATE

**VALVE OPERATORS**

SYMBOL	DESCRIPTION
	HAND OPERATOR
	HAND OPERATOR (LONG)
	CHAIN OPERATOR
	FLOAT OPERATOR
	AIR DIAPHRAGM OPERATOR
	POSITIONER
	SOLENOID OPERATOR
	CYLINDER OPERATOR
	PRESSURE BALANCED DIAPHRAGM OPERATOR
	MOTOR OPERATOR
	DIGITAL OPERATOR
	ELECTRO-HYDRAULIC OPERATOR
	FAIL ARROWS INDICATE OPEN PORTS
	LIMIT SWITCH

**PROCESS EQUIPMENT**

SYMBOL	DESCRIPTION
	ELECTRIC MOTOR
	ENGINE DRIVE
	VARIABLE SPEED DRIVE
	REDUCED VOLTAGE SOFT STARTER
	FULL VOLTAGE NON-REVERSING STARTER
	CONTROL AND STATUS
	ELECTRIC GENERATOR
	HYDRAULIC MOTOR
	AIR MOTOR
	SHAFT
	COUPLING
	DYNAMIC PUMP
	DYNAMIC COMPRESSOR
	POSITIVE DISPLACEMENT PUMP
	POSITIVE DISPLACEMENT COMPRESSOR
	EDUCTOR/EJECTOR
	HEATER, GENERAL
	HEATER W/FAN (INDUCED DRAFT)
	HEATER W/FAN (FORCED DRAFT)
	HEAT EXCHANGER, GENERAL
	HYDRAULIC CYLINDER
	AIR CYLINDER

**INSTRUMENT PRIMARY ELEMENTS**

SYMBOL	DESCRIPTION
	THREADED TAP
	THERMOWELL
	SIGHT FLOW INDICATOR
	ROTAMETER
	FLOW ORIFICE
	FLOW ORIFICE IN QUICK CHANGE FITTING
	SINGLE PORT PITOT
	VENTURI TUBE
	AVERAGING PITOT STATION
	FLUME
	WEIR
	TURBINE ELEMENT
	POSITIVE DISPLACEMENT FLOWMETER
	VORTEX SENSOR
	TARGET ELEMENT
	MASS FLOWMETER
	SONIC FLOWMETER
	MAGNETIC FLOWMETER
	PADDLE WHEEL FLOWMETER
	pH ELECTRODE ASSEMBLY
	PRESSURE SENSOR
	WATER HAMMER ARRESTER
	ULTRASONIC LEVEL TRANSMITTER
	RADAR LEVEL TRANSMITTER
	FLOAT SWITCH

**AUX INSTRUMENTS OR FUNCTIONS**

SYMBOL	DESCRIPTION
	TEST POINT, TERMINAL BLOCK WITH SLIDING LINK AND MINI-BANANA SOCKETS
	PURGE OR FLUSHING DEVICE
	INTERLOCK LOGIC WITH REFERENCE
	ANNULAR SEAL
	DIAPHRAGM SEAL
	RESET FOR LATCH TYPE OPERATOR
	PANEL MOUNTED PATCHBOARD POINT
	PILOT LIGHT FOR PROCESS SIGNALS
	INSTRUMENTS SHARING COMMON HOUSING
	LOOP POWER SUPPLY
	POWER OF HYDROGEN
	TURB. TURBIDITY

**INSTRUMENTS OR FUNCTIONS**

KEY	PRIMARY LOCATION: OPERATOR ACCESSIBLE	AUXILIARY LOCATION: OPERATOR ACCESSIBLE	LOCATION NOT NORMALLY OPERATOR ACCESSIBLE	FIELD MOUNTED
DISCRETE INSTRUMENTS				
SHARED DISPLAY SHARED CONTROL				
COMPUTER FUNCTION				
PROGRAMMABLE LOGIC CONTROLLER				

**SIGNAL CONDITIONERS**

SYMBOL	DESCRIPTION
	ANALOG TO DIGITAL
	DIGITAL TO ANALOG
	CURRENT TO PRESSURE
	PRESSURE TO CURRENT
	FREQUENCY TO CURRENT
	CURRENT BOOST/ REPEATER
	SUM
	DIFFERENCE
	SQUARE ROOT
	CHARACTERIZATION
	INTEGRATION

**INSTRUMENT LINE TYPES**

LINE	DESCRIPTION
	PROCESS CONNECTION
	UNDEFINED SIGNAL
	PNEUMATIC SIGNAL
	ELECTRIC SIGNAL
	HYDRAULIC SIGNAL
	CAPILLARY OR FILLED TUBE
	ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
	ELECTROMAGNETIC OR SONIC SIGNAL (UNGUIDED)
	INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
	MECHANICAL LINK
	PNEUMATIC BINARY (ON-OFF) SIGNAL
	ELECTRIC BINARY (ON-OFF) SIGNAL

**EQUIPMENT LINE TYPES**

LINE	DESCRIPTION
	PROPOSED OR NEW EQUIPMENT
	EXISTING EQUIPMENT

**INSTRUMENT POWER SUPPLY**

SYMBOL	DESCRIPTION
	POWER SUPPLY, TYPE AND LEVEL SHOWN, ABBREVIATIONS AS FOLLOWS: AS - AIR SUPPLY IA - INSTRUMENT AIR PA - PLANT AIR ES - ELECTRIC SUPPLY GS - GAS SUPPLY

REV	DATE	DESCRIPTION

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

PROCESS & INSTRUMENTATION DIAGRAM LEGEND AND SYMBOLS

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: SAH  
 DRAWN BY: SAH

BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.  
 DRAWING NUMBER  
**01-G005**  
 SHEET NUMBER  
**05**

Revit File: C:\Users\jared@garver.com\Documents\ADDISON\_Celestial Ref PS\_Jared@garver.com.rvt  
 Plot Date: 11/23/2020 4:47:04 PM



Revit File: C:\Users\jaredgarcza\Documents\ADDISON\_Celestial Rd PS\_Jadedgarcza.rvt  
Plot Date: 11/23/2020 4:47:06 PM

**GENERAL NOTES:**

- GENERAL NOTES AND STANDARD DETAILS SHALL NOT REPLACE OR OVER RULE ANY STRUCTURE SPECIFIC NOTE, DETAIL, OR SPECIFICATION. STRUCTURE SPECIFIC NOTES AND DETAILS SHALL GOVERN OVER GENERAL NOTES AND STANDARD DETAILS.
- BUILDING OCCUPANCY CATEGORY----- III
- DESIGN LIVE LOADS - 2012 IBC  
 ROOF WITHOUT REDUCTION----- 20 PSF  
 FLOORS:  
 CORRIDORS----- 100 PSF  
 ASSEMBLY AREAS----- 100 PSF  
 BALCONIES----- 100 PSF  
 RESTROOMS----- 80 PSF  
 OFFICES----- 50 PSF  
 STAIRS----- 100 PSF  
 MOVABLE FILE ROOMS----- 150 PSF  
 INDUSTRIAL AREAS----- 250 PSF  
 EQUIPMENT ROOMS----- 250 PSF  
 AREAS WITH UNRESTRICTED VEHICULAR ACCESS----- AASHTO HS20
- WIND LOAD PARAMETERS - ASCE 7-10  
 BASIC WIND SPEED----- 120 MPH  
 EXPOSURE CATEGORY----- C  
 GCPI +/- 0.18 (ENCLOSED BUILDINGS)
- SEISMIC DESIGN PARAMETERS - IBC 2012  
 IMPORTANCE FACTOR, I----- 1.25  
 SITE CLASS----- D  
 SEISMIC SPECTRAL ACCELERATIONS  
 S<sub>s</sub> ----- 0.101g  
 S<sub>1</sub> ----- 0.053g  
 SEISMIC DESIGN CATEGORY----- B  
 DESIGN SPECTRAL ACCELERATIONS  
 S<sub>DS</sub> ----- 0.107g  
 S<sub>D1</sub> ----- 0.085g  
 RESPONSE MODIFICATION FACTOR, R----- SEE INDIVIDUAL PLANS  
 BASIC SEISMIC FORCE RESISTING SYSTEM----- SEE INDIVIDUAL PLANS  
 SEISMIC RESPONSE COEFFICIENT, C<sub>s</sub>----- SEE INDIVIDUAL PLANS  
 ANALYSIS PROCEDURE----- EQUIVALENT LATERAL FORCE
- SNOW LOADS PARAMETERS - ASCE 7-10  
 GROUND SNOW LOAD, P ----- 5 PSF  
 IMPORTANCE FACTOR, I<sub>G</sub>----- 1.10  
 EXPOSURE FACTOR, C ----- 0.90  
 THERMAL FACTOR, C<sub>e</sub> ----- 1.0  
 SLOPED ROOF SNOW LOAD, P<sub>s</sub> ----- 3.5 PSF
- THE STRUCTURE SHOULD NOT BE CONSIDERED TO BE STABLE DURING CONSTRUCTION UNTIL ALL ELEMENTS ARE IN PLACE AND CONNECTED. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING ALL TEMPORARY CONSTRUCTION BRACING, AS REQUIRED.
- CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION, NEW AND EXISTING, AT ALL STAGES.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ANY PERTINENT WORK. ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE NOTED ON THE SHOP DRAWINGS.
- COORDINATE WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, STRUCTURAL, AND ELECTRICAL DRAWINGS, AND VERIFY THE LOCATIONS AND SIZES OF THE CHASES, OPENING, INSERTS, SLEEVES, FINISHES, CONDUITS, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE DRAWINGS AND EXISTING CONDITIONS TO DETERMINE WHERE OPENINGS ARE REQUIRED IN WALLS AND SLABS.
- STANDARD DETAILS APPLY UNLESS INDICATED OTHERWISE ON SPECIFIC STRUCTURE DRAWINGS.

**STRUCTURAL STEEL NOTES:**

- UNLESS OTHERWISE SPECIFIED, HOT-ROLLED STEEL BUILDING MEMBERS USING W-SHAPES SHALL BE ASTM A992; M-, S-, AND C- SHAPES ASTM A36; SQUARE, RECTANGULAR & ROUND HSS SHAPES ASTM A 500 GRADE B; ANGLES AND MISCELLANEOUS STIFFENER PLATES ASTM A 36.
- ALL SHEAR CONNECTIONS NOT DETAILED OR OTHERWISE NOTED SHALL BE STANDARD AISC WELDED OR AISC BOLTED CONNECTIONS AND SHALL HAVE SUFFICIENT CAPACITY TO SUPPORT THE END REACTION EQUAL TO ONE - HALF THE TOTAL UNIFORM CAPACITY SHOWN IN THE ALLOWABLE UNIFORM LOAD TABLES OF THE AISC ALLOWABLE STRESS DESIGN MANUAL - 13TH EDITION.
- WELDING SHALL CONFORM WITH AWS D1.1 STRUCTURAL WELDING CODE.
- ALL BOLTS FOR BEAM CONNECTIONS SHALL BE ASTM A325 WITH A MINIMUM DIAMETER OF 1/2" UNO. ALL BOLTED CONNECTIONS SHALL BE BEARING TYPE CONNECTIONS UNLESS NOTED AS SLIP CRITICAL. WASHERS SHALL BE INSTALLED UNDER NUTS OF FASTENERS WHEN REQUIRED BY THE SPECIFICATION FOR STRUCTURAL JOINTS.
- ALL ANCHOR RODS SHALL BE ASTM F1554, GRADE 36 UNO.

**GENERAL CONCRETE NOTES:**

- STRUCTURAL CONCRETE FOR BUILDING MEMBERS SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF 4,500 PSI UNO.
- CONCRETE FOR SLABS SUBJECTED TO VEHICULAR WHEEL LOADS SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF 4,500 PSI.
- HOLD SLUMP TO 3 TO 4 INCHES IN ALL FLOOR SLABS.
- ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4".
- NON-PRESTRESSED CONCRETE REINFORCEMENT SHALL CONFORM TO ASTM A 615 GRADE 60.
- REINFORCEMENT LAP SPLICES SHALL CONFORM TO D03/3000-100C.
- CONCRETE COVER OVER REINFORCEMENT SHALL CONFORM TO THE MINIMUM REQUIRED BY D03/3000-101, UNO.
- REINFORCEMENT DETAILING AND PLACEMENT SHALL CONFORM TO ACI 318 AND ACI 315.
- NO REINFORCING BAR SHALL BE WELDED OR FIELD BENT IN ANY MANNER, UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS.
- PROVIDE FULL EMBEDMENT FOR ALL DOWELS. IF NOT OTHERWISE SPECIFIED, DOWEL SIZE AND SPACING SHALL BE THE SAME AS MAIN REINFORCING.
- MECHANICAL EQUIPMENT PADS ON FLOOR SLABS SHALL BE 6" THICK AND REINFORCED WITH #4 @ 12" EW, UNO.
- WATERSTOP PIPE SLEEVES REQUIRED ON ALL WATERTIGHT WALLS AND FLOORS.
- TREMIES REQUIRED ON ALL POURS DEEPER THAN 5 FEET.
- ALL WATERSTOPS TO BE 6" PVC FLAT RIBBED OR 9" PVC CENTER BULB AND PLACED AT ALL WATERTIGHT POURS, UNO. REFER TO DETAILS D03/3000-102A & B FOR WATERSTOP DETAILS.
- ALL WATERTIGHT "HYDRAULIC" CONCRETE STRUCTURES SHALL PASS A 72 HOUR LEAKAGE TEST PRIOR TO BACKFILLING AROUND STRUCTURE.
- WHEN WATERSTOP IS PLACED HORIZONTALLY IN SLABS, THE CONTRACTOR SHALL TEMPORARILY TIE UP OR CLAMP UP THE WATERSTOP UNTIL THE CONCRETE IS PLACED TO SLIGHTLY ABOVE THE DEPTH OF THE WATERSTOP.
- VERTICAL WATERSTOP SHALL BE FULLY EMBEDDED IN SLAB POUR AND WELDED TO ALL ADJACENT WATERSTOP.
- PROVIDE A MINIMUM OF SEVEN (7) DAYS BETWEEN ADJACENT POURS. CONCRETE SHALL MEET OR EXCEED DESIGN COMPRESSIVE STRENGTH PRIOR TO PLACING ADJACENT POURS.
- CONTRACTOR SHALL SUBMIT TO ENGINEER FOR APPROVAL A SCHEDULE AND SEQUENCE OF CONCRETE PLACEMENT. SEQUENCE SHALL INCLUDE PERMITTING CURE TIME BETWEEN PLACEMENTS AT ADJACENT PROPOSED PLACEMENTS.
- WALKWAYS AND SIDEWALKS SHALL BE POURED WITH SLIGHT SLOPE AND NO LOW SPOTS SO THEY WILL DRAIN FREE. ALL SLOPES SHALL COMPLY WITH ADA REQUIREMENTS.
- ALL CONSTRUCTION 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. UNLESS INDICATED OTHERWISE, ALL CONSTRUCTION JOINTS TO BE KEYED. HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE PERMITTED IN WALLS AND BEAMS, UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- SUBSTITUTION OF EXPANSION OR DRILLED AND GROUTED-IN ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY ENGINEER.
- USE MANUFACTURER'S CERTIFIED DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT ANCHORAGE AND DETAILS. VERIFY EQUIPMENT SIZE AND WEIGHTS WITH ENGINEER PRIOR TO CONSTRUCTION OF ANY AND ALL EQUIPMENT PADS.

**FOUNDATION NOTES:**

- DESIGN FOUNDATION BEARING PRESSURE PER GEOTECHNICAL REPORT.
- FLOOR SLAB CONSTRUCTION JOINTS (C.J.) SHALL BE PLACED AS SHOWN ON FOUNDATION PLANS AND SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO CONCRETE PLACEMENT.
- FLOOR SLAB ISOLATION JOINTS SHALL BE 30# FELT UNO.
- CONCRETE FLOOR AND SLAB ON GRADE MAY BE PLACED IN LANES. SPACING OF JOINTS SHALL BE AS SHOWN ON THE FOUNDATION PLAN. WHEN LANE PLACEMENT IS USED, CONSTRUCTION JOINTS SHALL BE USED FOR THE JOINTS BETWEEN LANES. SAW CUT CRACK CONTROL JOINTS SHALL BE PROVIDED ACROSS EACH LANE AT SPACING SHOWN ON PLANS.
- ALL CONCRETE CORNERS SHALL BE CHAMFERED 3/4" ON THE EXTERIOR EXPOSED CORNER.
- COMPACTED GRANULAR FILL OR BASE COURSE ROCK AS INDICATED AND SPECIFIED.
- ALL PRESSURE PIPING BENEATH SLABS SHALL BE CONCRETE ENCASED.
- VAPOR BARRIER REQUIRED BENEATH ALL INTERIOR BUILDING SLABS.

**GENERAL CONCRETE MASONRY NOTES:**

- HOLLOW CMU UNITS SHALL CONFORM TO ASTM C90 TYPE 1 OF THE NOMINAL THICKNESS SHOWN ON THE DRAWINGS. ALL CMU SHALL BE 2 CELL BLOCK AND HAVE A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON NET AREA AT 28 DAYS.
- MORTAR FOR CMU SHALL CONFORM TO ASTM C 270, TYPE S UNO.
- GROUT FOR CMU GROUTED CELLS, LINTELS, COLUMNS, PILASTERS, BOND BEAMS AND BLOCKS WITH EMBEDDED ANCHORS SHALL BE 2,000 PSI PEA GRAVEL CONCRETE UNO.
- CMU REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60. HORIZONTAL JOINT REINFORCEMENT SHALL BE COLD DRAWN WIRE WITH A MINIMUM OF 9 GAUGE LONGITUDINAL WIRE SIZE, UNO, WITH THE TYPE AND SPACING AS SHOWN ON THE DRAWINGS OR SPECIFIED.
- VERTICAL CELLS TO BE FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL NOT LESS THAN 2" X 3" IN PLAN DIMENSIONS.
- FOUNDATION DOWELS SHALL EXTEND INTO THE FOUNDATION CONCRETE A MINIMUM OF THE DEVELOPMENT LENGTH FOR BAR SIZE USED. LAPS OR SPLICES OF REINFORCING STEEL IN MASONRY SHALL BE AS INDICATED BELOW. THERE SHALL BE A FOUNDATION DOWEL FOR EACH VERTICAL WALL REINFORCEMENT.
- NORMAL VERTICAL WALL REINFORCING SHALL EXTEND CONTINUOUSLY FROM THE FOUNDATION TO EMBED AT LEAST 6" INTO THE TOP OF WALL BOND BEAM. AN ADDITIONAL ONE #4 HOOKED DOWEL SHALL BE INSTALLED IN THE TOP OF ALL MASONRY WALLS AT EACH VERTICAL WALL CELL CONTAINING VERTICAL REINFORCING. THE DOWELS SHALL PROJECT 24" INTO THE WALL AND HOOK 6" INTO THE WALL TOP BOND BEAM.
- CONTROL JOINTS SHALL BE OF THE TYPE AND AT THE LOCATIONS SHOWN ON THE DRAWINGS.
- CONTROL JOINTS SHALL BE AS DETAILED ON D04/2200-306. PROVIDE CONTROL JOINTS IN ALL MASONRY WALLS UNO. CONTROL JOINT SPACING SHALL BE AS RECOMMENDED BY THE NATIONAL CONCRETE MASONRY ASSOCIATION WITH A MAXIMUM SPACING OF 25'. SUBMIT JOINT LAYOUT PLAN FOR REVIEW PRIOR TO MASONRY WALL CONSTRUCTION.
- CORNER BLOCKS SHALL BE INTERWOVEN BETWEEN TWO WALLS.
- EVERY PIER OR WALL SECTION WHOSE WIDTH IS 3'-0" OR LESS WILL HAVE HORIZONTAL SHEAR STEEL IN THE FORM OF TIES. REF D04/2200-007.
- PROVIDE (2) ADDITIONAL #5 BARS ALONG SIDES, TOP AND BOTTOM OF ALL CMU WALL OPENINGS. EXTEND REINFORCING 24" BEYOND OPENING, UNO.
- VERTICAL WALL REINFORCING SHALL BE AS FOLLOWS: GROUT CELLS CONTAINING REINFORCEMENT, SOLID FULL HEIGHT UNO.
- UNO, LAP SPLICE #5'S 3'-0"; #4'S 2'-0".

**LEGEND:**

- ⊕ CENTERLINE
- ° DEGREES
- ⌒ FLANGE
- ⊖ GRIDLINE
- % PERCENT
- ⌞ PLATE
- ± PLUS / MINUS
- ⊕ WATERSTOP
- ↔ DIRECTION OF DECK SPAN



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REGISTRATION NO. F-5713



Digitally Signed 8/27/2021

REV	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

**STRUCTURAL GENERAL NOTES**

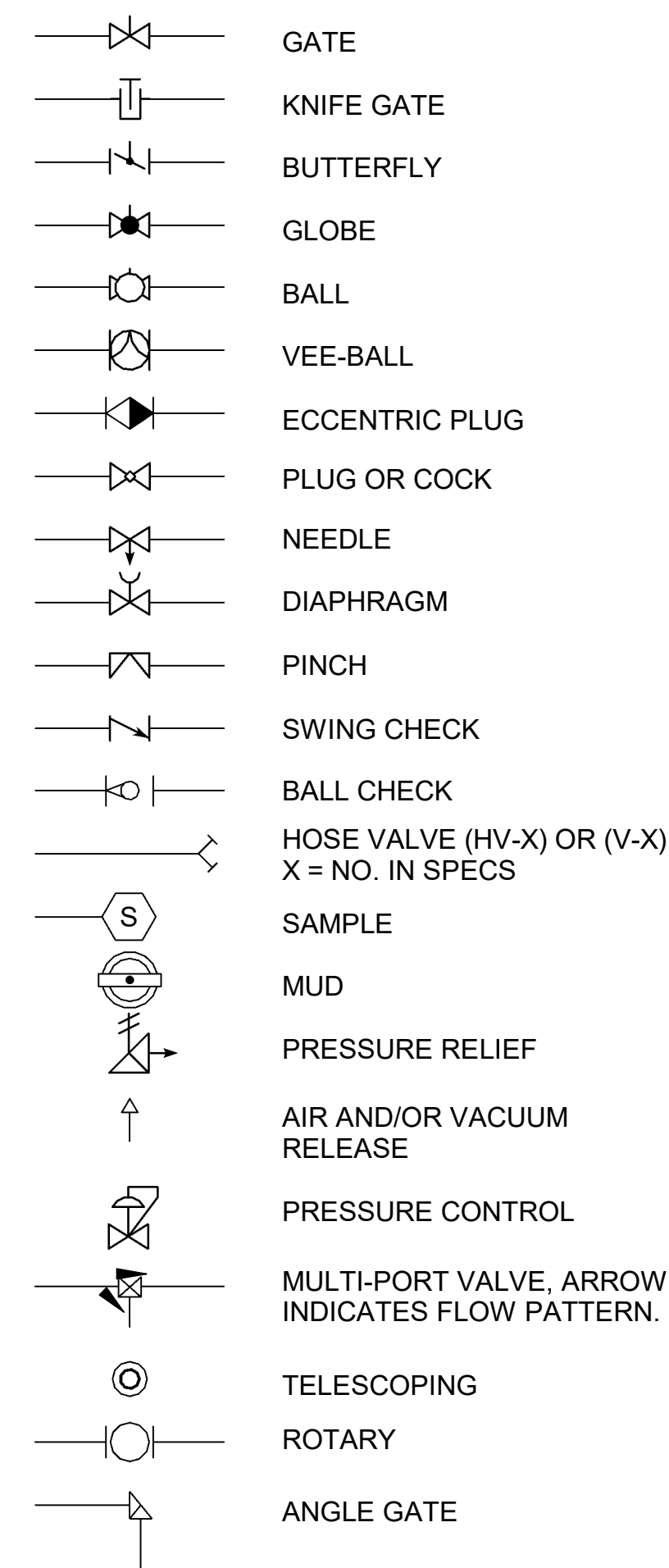
JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: KAM  
 DRAWN BY: EGB

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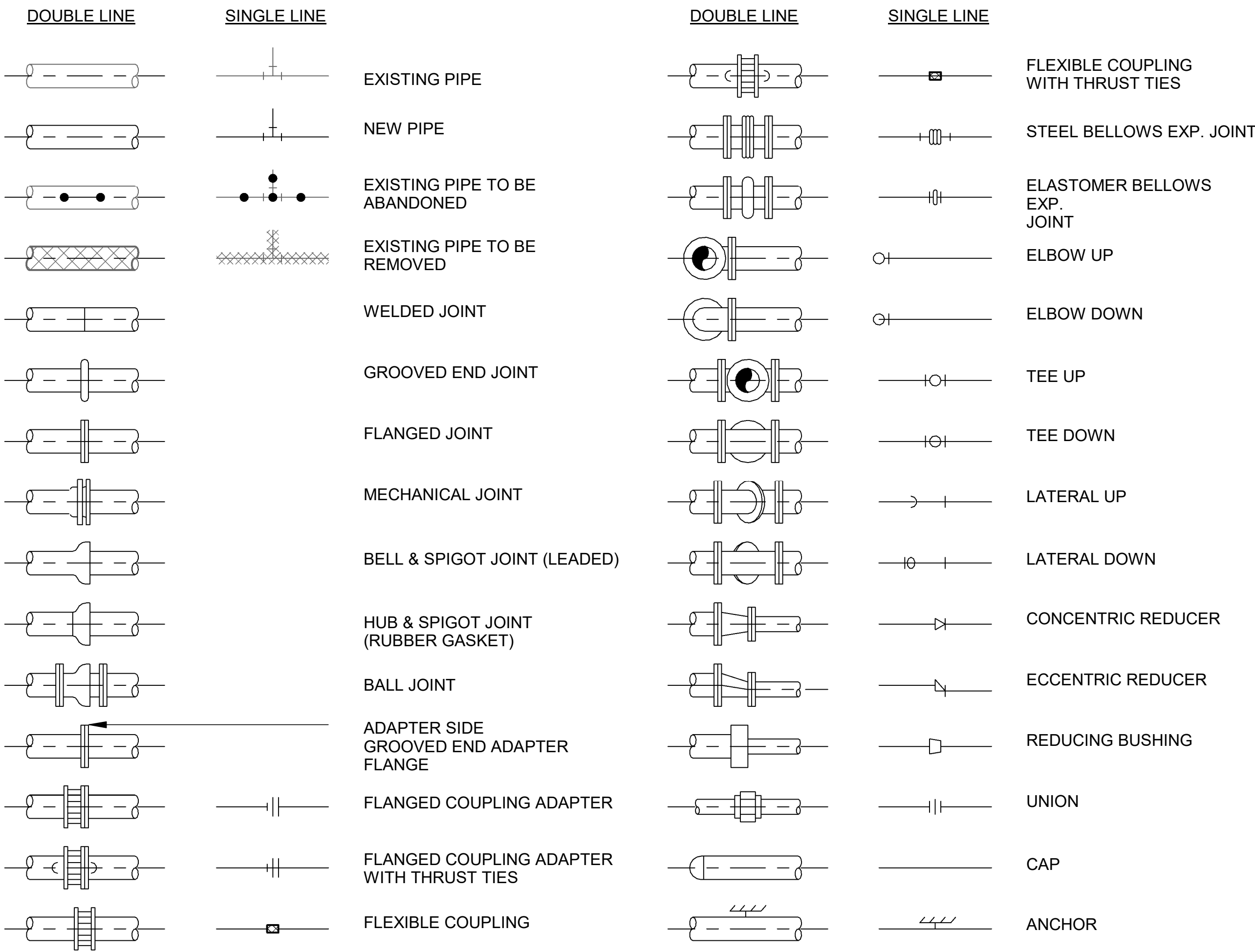
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**01-G006**  
 SHEET NUMBER  
**06**



**VALVE SYMBOLS**



**PIPE AND FITTING SYMBOLS**



**NOTES:**

- ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS; FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
- SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
- EXISTING PIPE AND EQUIPMENT IS SHOWN WITH A DASHED LINE AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN WITH A HEAVY LINE.

**SPECIAL INSTALLATION NOTE:**

INSTALLATION DETAILS FOR DIVISION 26 ELECTRICAL ARE NOT SHOWN ON MECHANICAL DRAWINGS FOR CLARITY. REFER TO DIVISION 26 INSTRUMENT SPECIFICATIONS, INSTRUMENT LIST, AND DESIGN DETAILS. COORDINATE MATERIAL AND INSTALLATION REQUIREMENTS.

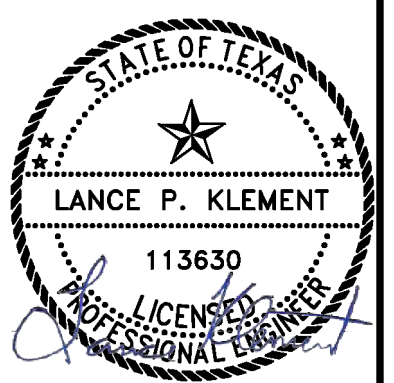
**FLOW STREAM IDENTIFICATION**

ABBREV	DESCRIPTION
AM	AMMONIA
C	CONDENSATE
CE	CLEARWELL EFFLUENT
CI	CLEARWELL INFLUENT
CLS	CHLORINE SOLUTION
HYPO	SODIUM HYPOCHLORITE
LAS	LIQUID AMMONIUM SULFATE
SL	SAMPLE LINE
SS	SANITARY SEWER
V	VENT
W1	WATER, POTABLE



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REGISTRATION NO. F-5713

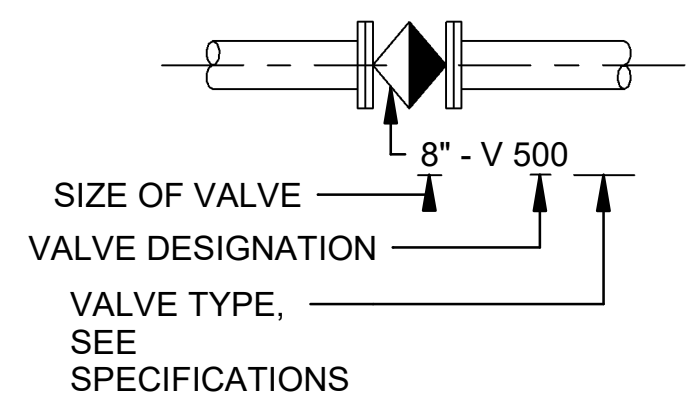


Digitally Signed 8/27/2021

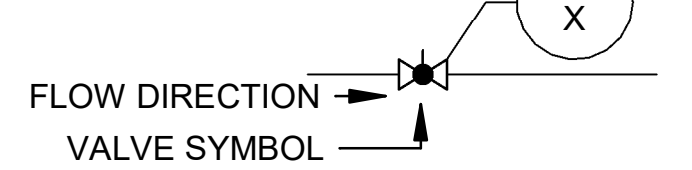
REV	DATE	DESCRIPTION	BY

**VALVE DESIGNATIONS**

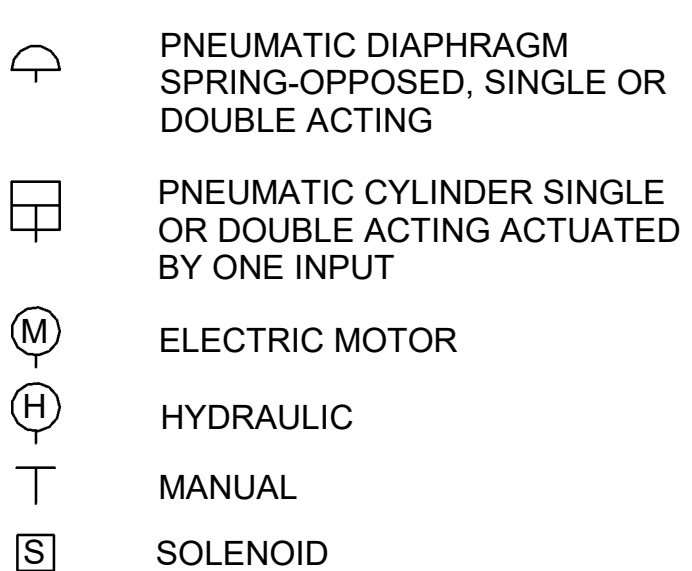
**MANUAL VALVES AND CHECK VALVES**



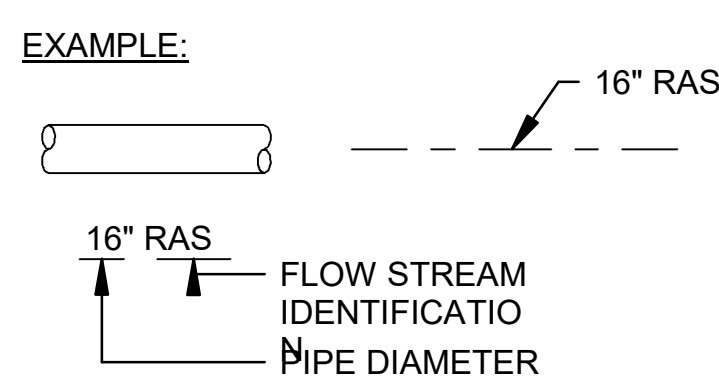
**CONTROL VALVES**



**ACTUATOR SYMBOLS**

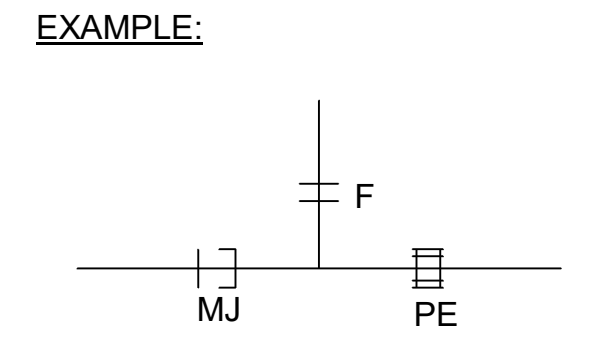


**PIPING DESIGNATION**

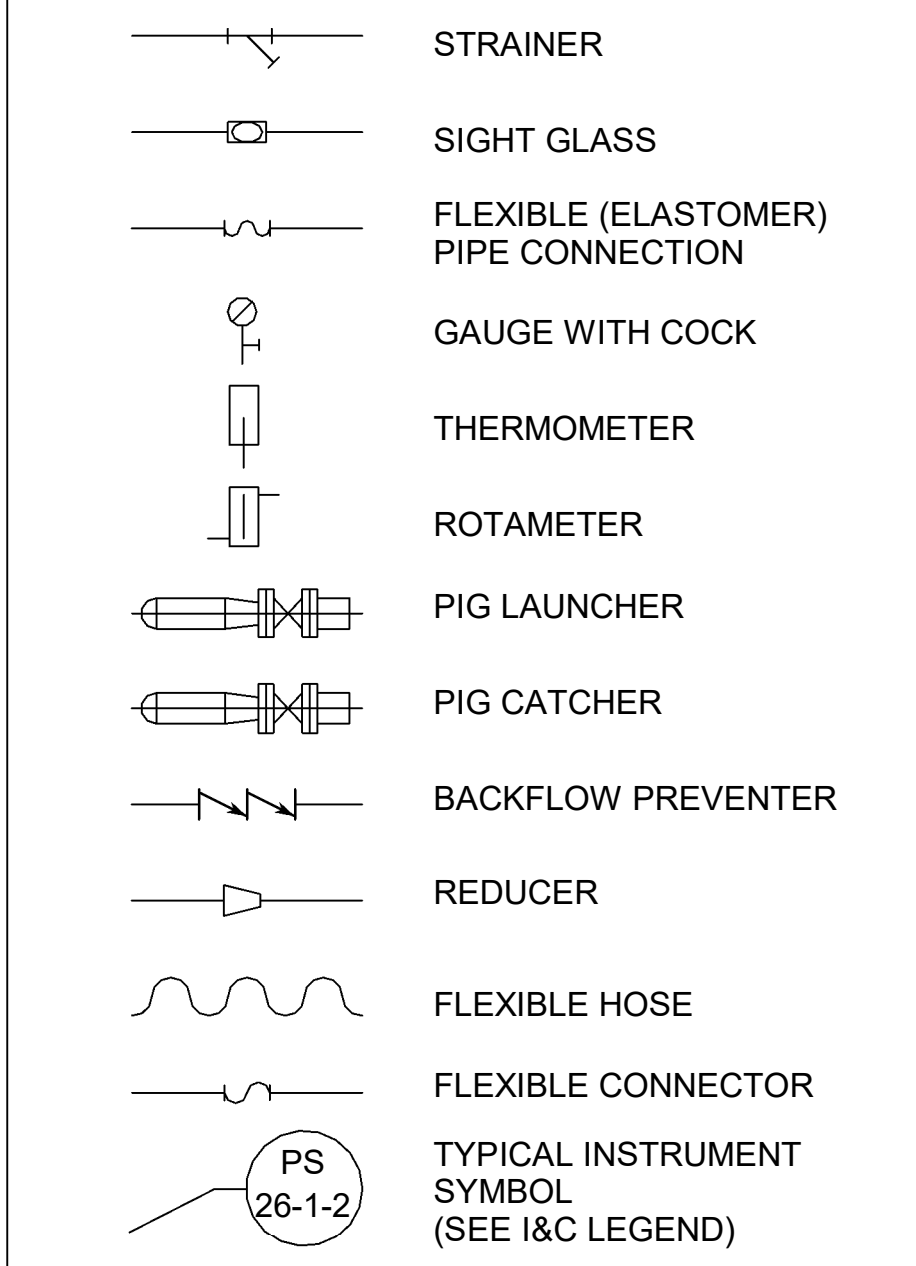


**PIPE FITTING AND END PATTERNS**

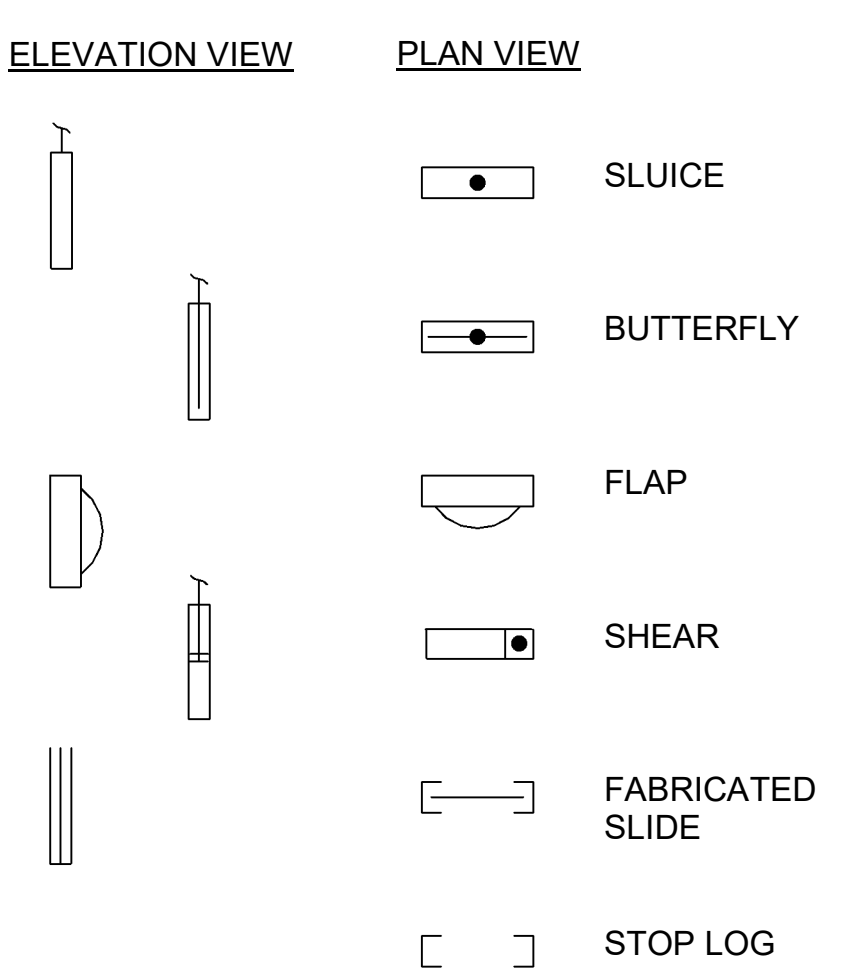
- B BELL
- F FLANGE
- S SPIGOT
- PE PLAIN END
- GE GROOVED END
- MJ MECHANICAL JOINT



**MISCELLANEOUS PIPING SYMBOLS**



**GATE SYMBOLS**



**GENERAL PIPING NOTES:**

- LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
- LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED.
- ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES OR PENETRATION SEALS SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
- ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
- SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
- NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.

Revit File: C:\Users\jdelgado\Documents\ADDISON\_Celestial Rd PS\_Jdelgado.rvt  
Plot Date: 11/23/2020 4:47:08 PM

TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

**PROCESS MECHANICAL NOTES AND LEGENDS**

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: CAT  
DRAWN BY: SAC

BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**01-G007**  
SHEET NUMBER  
**07**



Revit File: C:\Users\jdelagarcza\Documents\ADDISON\_Celestial Rd PS\_Jeddelagarcza.rvt  
 Plot Date: 9/25/2020 5:04:54 PM

**GENERAL NOTES:**

- THESE NOTATIONS ARE INTENDED TO BE GENERAL IN NATURE. THEY MAY OR MAY NOT APPLY TO SOME OR ALL OF THE PLAN SHEETS AND SPECIFICATIONS.
- ALL RACEWAYS AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
- CONDUIT RUNS INDICATED ON THE PLAN SHEETS ARE INTENDED TO BE SCHEMATIC ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD ROUTING ALL CONDUIT RUNS AND SHALL COORDINATE ANY DEVIATION FROM ROUTING AS INDICATED HEREIN WITH THE ENGINEER. ALL CONDUIT SHALL BE INSTALLED IN SUCH A MANNER AS TO PREVENT CONFLICTS WITH EQUIPMENT. EXPOSED CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BEAMS OR STRUCTURAL CONDITIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD ROUTING ALL CONDUITS NOT INDICATED ON THE PLAN SHEETS. THIS INCLUDES CIRCUITS FOR LIGHTING, RECEPTACLES AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
- ALL CONDUITS SHALL BE ROUTED AND SUPPORTED IN SUCH A MANNER AS TO NOT COMPROMISE THE STRUCTURAL INTEGRITY OF WALLS, FLOORS, CEILINGS, AND ROOFS. WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE ADDITIONAL STRUCTURAL SUPPORTING MEMBERS FOR THE INSTALLATION AND SHALL COORDINATE SUCH MEMBERS WITH ENGINEER.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF CONDUIT ENTRANCES FOR ALL EQUIPMENT WITH SHOP DRAWINGS BEFORE STUBBING UP CONDUITS.
- ALL SURFACE MOUNTED PANELS AND PANELBOARDS ON THE INTERIOR OF EXTERIOR WALLS OR IN OTHER LOCATIONS CONSIDERED DAMP OR WET SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4" MINIMUM AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
- PULLBOXES, IF SHOWN ON THE PLANS, ARE SCHEMATIC IN NATURE. THE CONTRACTOR SHALL PROVIDE ADDITIONAL PULLBOXES WHERE REQUIRED TO MAKE A WORKABLE INSTALLATION.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS WHETHER OR NOT THEY ARE REFERENCED ON THE DRAWINGS.
- ALL CONDUIT RUNS PASSING THROUGH EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION AND DEFLECTION TYPE FITTINGS. FOR LOCATIONS OF EXPANSION JOINTS, REFER TO THE STRUCTURAL DRAWINGS.
- THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. IF EQUIPMENT SUPPLIED BY THE MANUFACTURER HAS A LARGER LOAD THAN THE VALUE SHOWN OR INDICATED, THE CABLE, CONDUIT AND ELECTRICAL EQUIPMENT MAY BE ENLARGED AS REQUIRED TO ACCOMMODATE THE HIGHER LOADING. HOWEVER, THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
- ALL MOTOR STARTER CONTROL POWER TRANSFORMERS SHALL BE SIZED TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL LOCAL AND REMOTE ELECTRICAL DEVICES ASSOCIATED WITH CONTROL OF THE MOTOR IN ADDITION TO THE STARTER COIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL LOADING REQUIREMENTS FOR CONTROL POWER TRANSFORMERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR ALL EQUIPMENT INSTALLED.
- MOTOR CONTROL CENTERS AND ALL FREE STANDING PANELS SHALL BE SET ON CONCRETE HOUSEKEEPING PADS WITH LEVELING CHANNELS EMBEDDED IN THE PAD.
- IN GENERAL, SEPARATE POWER, CONTROL AND INSTRUMENTATION WIRING. PROVIDE SEPARATE CONDUIT, PULL AND JUNCTION BOXES. PROVIDE SUITABLE CABLE BARRIER WITHIN PULL OR JUNCTION BOXES WHERE SEPARATION OF WIRING IS NOT SHOWN ON THE DRAWINGS.
- IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, DOORS OR OTHER SIMILAR ITEMS, NO CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO CONFLICT WITH PROPER OPERATION OF SUCH EQUIPMENT.
- CONTRACTOR SHALL FURNISH AND INSTALL ITEMS AS NECESSARY FOR COMPLETE AND FUNCTIONAL SYSTEMS INCLUDING THE CHEMICAL FEED SYSTEMS, MECHANICAL SYSTEMS, AND PLANT INSTRUMENTATION SYSTEM/DISTRIBUTED CONTROL SYSTEM. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED AND SHALL PROVIDE CONDUIT, WIRING AND TERMINATIONS FOR ALL ITEMS AS REQUIRED.
- CONTRACTOR SHALL REFER TO OTHER PLAN SHEETS FOR LOCATIONS OF FIREWALLS. ALL CONDUIT PENETRATIONS IN THESE WALLS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO NOT REDUCE THE RATING OF THE FIREWALL THROUGH THE USE OF BOXES, SEALANTS AND OTHER ACCESSORIES AS MAY BE REQUIRED.
- CONTRACTOR SHALL REFER TO MECHANICAL PLAN SHEETS AND SPECIFICATIONS FOR ITEMS RELATED TO THE MECHANICAL SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ITEMS AS NECESSARY FOR COMPLETE AND OPERABLE MECHANICAL HEREIN INCLUDING, BUT NOT LIMITED TO; CONTROL POWER TRANSFORMERS, STARTERS, THERMOSTATS, CONTROL STATIONS, AND OTHER ELECTRICAL ITEMS AS RELATED TO THE INSTALLATION OF THE MECHANICAL SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DISCONNECTS FOR ALL MECHANICAL MOTORS UNLESS THE EQUIPMENT IS FURNISHED WITH AN INTEGRAL DISCONNECT FROM THE MANUFACTURER. IN ADDITION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL CONDUIT, WIRING AND TERMINATIONS FOR ALL COMPONENTS AS MAY BE NECESSARY FOR THE MECHANICAL SYSTEMS.
- ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS.
- EQUIPMENT LOCKOUTS SHALL BE IN STRICT ACCORDANCE WITH OWNER'S REQUIREMENTS.
- ALL CONDUITS SHALL HAVE A GROUNDING CONDUCTOR, SIZED PER NEC.
- ALL LIGHTING FIXTURES INSTALLED IN INSULATED LOCATIONS SHALL BE RATED FOR SUCH INSTALLATION REGARDLESS OF THE FIXTURE SCHEDULE DESIGNATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NEW SERVICE INSTALLATIONS WITH OWNER, ENGINEER AND SERVICE UTILITY. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AS REQUIRED BY SERVICE UTILITY FOR NEW SERVICE CONNECTIONS.
- UNLESS NOTED OTHERWISE, ALL CONTROL PANELS SHALL BE FABRICATED SUCH THAT ALL OPERATORS AND INDICATING DEVICES INDICATED ON THE SCHEMATICS BE LOCATED ON THE FRONT DOOR OR COVER OF THE PANEL. OPERATING AND INDICATING DEVICES SHALL BE VISIBLE AND OPERABLE WITHOUT HAVING TO OPEN THE CONTROL PANEL.
- DUCT BANKS INDICATED ARE FOR REFERENCE ONLY; THE CONTRACTOR SHALL REVIEW PLAN SHEETS RELATED TO INDIVIDUAL STRUCTURES AND VERIFY CONDUITS THAT MAY BE REQUIRED. THE CONTRACTOR SHALL VERIFY NUMBER OF CONDUITS AS INDICATED IN THE DUCT BANK PRIOR TO INSTALLATION WITH THE ENGINEER. PROVIDE A SPARE CONDUIT, EQUAL IN SIZE TO THE LARGEST CONDUIT IN USE, FOR EACH SET OF FOUR USED CONDUITS IN EACH DUCT BANK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HEAT TRACING FOR ALL EXPOSED WATER LINES TO BE INSTALLED UNDER THIS PROJECT. THE CONTRACTOR SHALL REVIEW OTHER SECTIONS OF THE PLANS AND SPECS AND PROVIDE SUITABLE HEAT TRACING COMPONENTS AS MAY BE REQUIRED, WHETHER INDICATED ON THE ELECTRICAL PLAN SHEETS OR NOT.

**CONTROL SCHEMATIC LEGEND**

- WIRING WITHIN PANEL
- WIRING TO FIELD DEVICE
- PUSHBUTTON SWITCH, NORMALLY OPEN
- PUSHBUTTON SWITCH, NORMALLY CLOSED
- SELECTOR SWITCH, NUMBER OF POSITIONS AND CONTACTS AS SHOWN
- RELAY CONTACT, NORMALLY OPEN
- RELAY CONTACT, NORMALLY CLOSED
- TIME DELAY CONTACT, CLOSE ON ENERGIZATION
- TIME DELAY CONTACT, OPEN ON ENERGIZATION
- TIME DELAY CONTACT, OPEN ON DE-ENERGIZATION
- TIME DELAY CONTACT, CLOSE ON DE-ENERGIZATION
- LEVEL SWITCH
- PRESSURE SWITCH
- LIMIT SWITCH CONTACT, NORMALLY OPEN
- LIMIT SWITCH CONTACT, NORMALLY CLOSED
- LIMIT SWITCH CONTACT, HELD OPEN
- LIMIT SWITCH CONTACT, HELD CLOSED
- RELAY COIL, "TR" INDICATES "TIMING RELAY"
- PILOT LIGHT; "A" INDICATES "AMBER LENS" "G" INDICATES "GREEN LENS" "R" INDICATES "RED LENS"
- SOLENOID
- ELAPSED TIME METER
- TERMINAL BLOCK
- ELECTRICAL CONNECTION
- GROUND CONNECTION TO ENCLOSURE GROUND BAR

**LIGHTING, POWER & SYSTEM LEGEND**

- 1x4 FLUORESCENT LIGHT FIXTURE
- FLUORESCENT LIGHT FIXTURE WITH EMERGENCY LIGHT (EL) BATTERY PACK, 1400 LUMENS MINIMUM FOR 2 LAMPS
- SWITCH, SINGLE POLE
- SWITCH, DOUBLE POLE
- SWITCH, THREE WAY
- SWITCH, FOUR WAY
- SWITCH, DIMMER
- NON-FUSED DISCONNECT SWITCH, SIZE AS NOTED
- COMBINATION DISCONNECT AND MOTOR STARTER, SIZE AS NOTED, FUSED TYPE SHOWN
- FUSED DISCONNECT SWITCH, SIZE AS NOTED
- HANDHOLE, IDENTIFIER SHOWN, REFER TO HANDHOLE SCHEDULE FOR SIZE
- 3/4" x 10" COPPER CLAD GROUND ROD
- 20 AMP DUPLEX RECEPTACLE, MTD. 20" AFF TO BOTTOM, WITH #12 GROUND WIRE, "GFCI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER, "WP" INDICATES WEATHERPROOF WHILE-IN-USE ENCLOSURE AND COVER, BOX INDICATES FLOOR OUTLET WITH RECESSED CAST JUNCTION BOX
- ELECTRICAL PANEL OR EQUIPMENT CABINET, SURFACE MOUNTED, 5'-6" TO TOP OF ENCLOSURE
- ELECTRICAL PANEL OR EQUIPMENT CABINET, RECESSED MOUNTED, 5'-6" TO TOP OF ENCLOSURE
- HOME RUN TO PANEL IN DEDICATED CONDUIT, RECEPTACLES AND EQUIPMENT SHALL HAVE DEDICATED GREEN GROUND WIRE. NUMBER OF ARROWS INDICATES NUMBER OF PHASE CONDUCTORS, LETTER(S) INDICATE NAME OF PANEL, NUMBER(S) INDICATE CIRCUIT NUMBERS
- GROUND
- DATA AND TELEPHONE DUAL OUTLET
- DUCT BANK, IDENTIFIER SHOWN, REFER TO DUCT BANK SCHEDULE FOR SIZE AND CONFIGURATION
- GENERATOR, RATINGS AS SHOWN
- GROUND ROD AND TEST WELL
- AIRTERMINAL
- TRANSFORMER, RATINGS AS SHOWN
- FUSE, CURRENT LIMITING, AMPERE RATING AS SHOWN OR REQUIRED, "BFI" INDICATES "BLOWN FUSE INDICATOR" TYPE
- ELECTRIC MOTOR, HORSEPOWER AS SHOWN
- MOTOR STARTER, SIZE AS SHOWN OR REQUIRED, FVNR UNLESS NOTED
- CIRCUIT BREAKER, TRIP RATING SHOWN, 3-POLE UNLESS NOTED OTHERWISE
- CAPACITOR, KVAR AS SHOWN

**EQUIPMENT LINE TYPES**

- PROPOSED OR NEW EQUIPMENT
- EXISTING EQUIPMENT
- EQUIPMENT PACKAGE
- GROUND RING OR UNDERGROUND

**GENERAL NOTES:**

- SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET BUT NOT BE UTILIZED ON THE PROJECT.
- LIGHTING LEGEND SHOWS EXAMPLE IDENTIFIERS, REFER TO LIGHT FIXTURE SCHEDULE FOR SPECIFIC REQUIREMENTS.

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REGISTRATION NO. F-5713

*Brian Chong*  
 DIGITALLY SIGNED: 8/27/2021

REV	DATE	DESCRIPTION

**ADDISON**

TOWN OF ADDISON  
 ADDISON, TEXAS

ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

**ELECTRICAL GENERAL NOTES**

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: RLC  
 DRAWN BY: JAG

BAR IS ONE INCH ON ORIGINAL DRAWING  
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**01-G008**

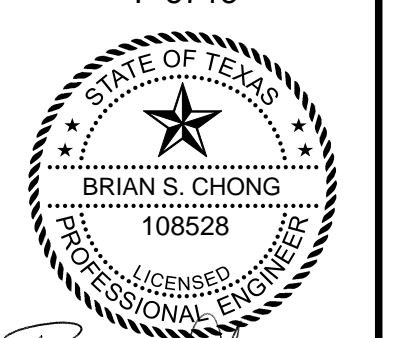
SHEET NUMBER  
**08**



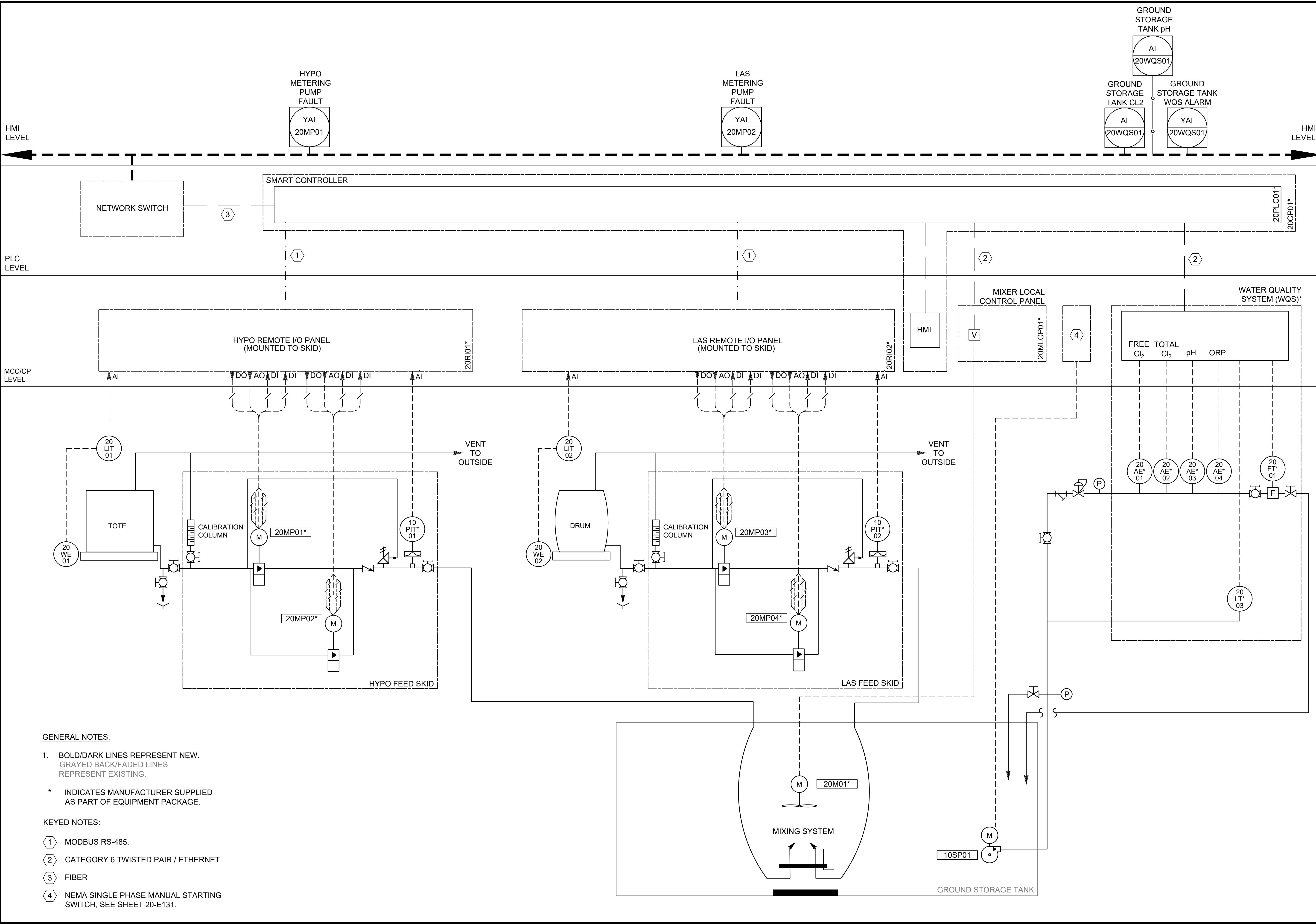


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DIGITALLY SIGNED: 8/27/2021



**GENERAL NOTES:**

1. BOLD/DARK LINES REPRESENT NEW.  
 GRAYED BACK/FADED LINES REPRESENT EXISTING.

\* INDICATES MANUFACTURER SUPPLIED AS PART OF EQUIPMENT PACKAGE.

**KEYED NOTES:**

- (1) MODBUS RS-485.
- (2) CATEGORY 6 TWISTED PAIR / ETHERNET
- (3) FIBER
- (4) NEMA SINGLE PHASE MANUAL STARTING SWITCH, SEE SHEET 20-E131.

REV.	DATE	DESCRIPTION

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

**PROCESS & INSTRUMENTATION DIAGRAM**

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: RLC  
 DRAWN BY: JIV

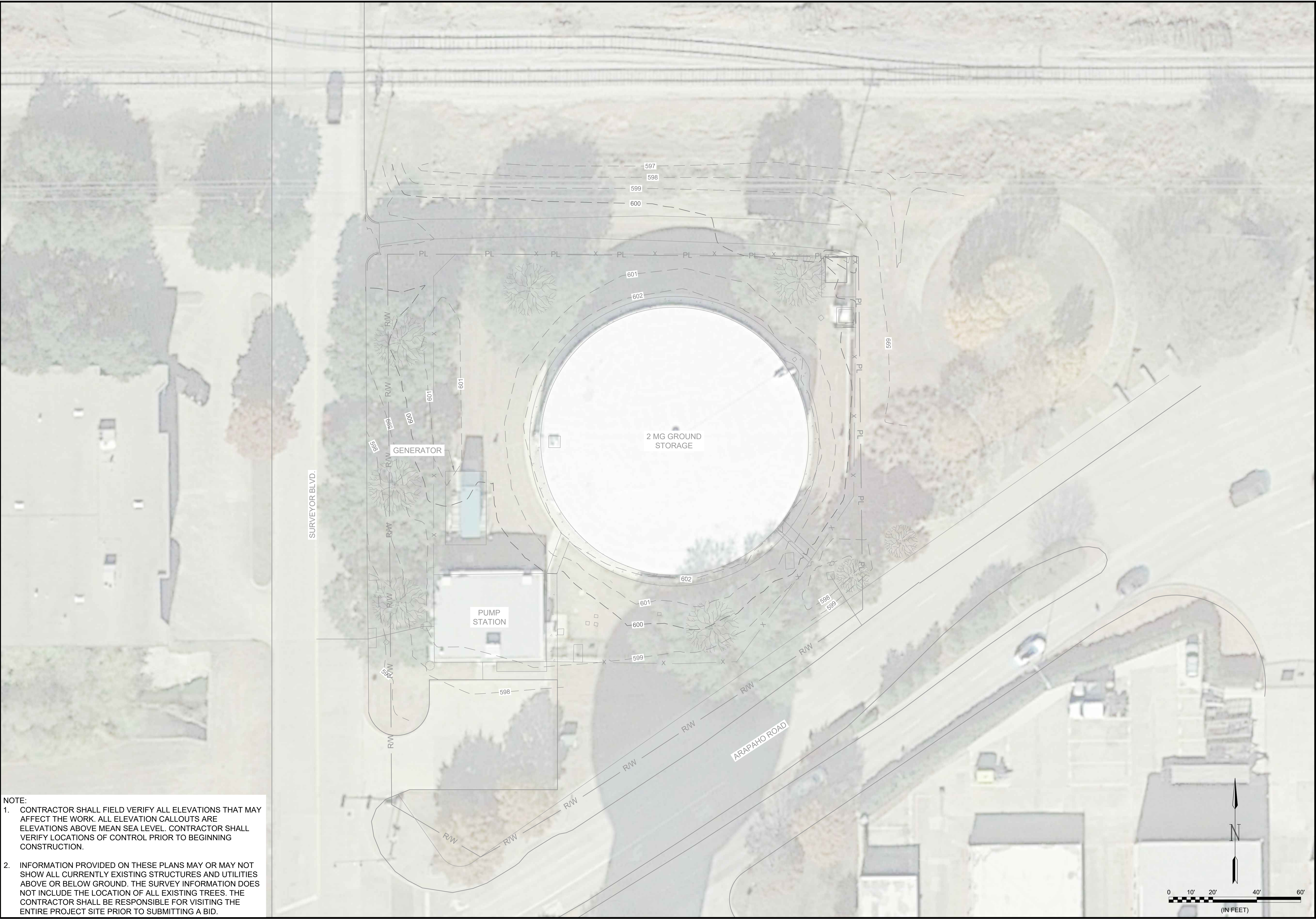
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DRAWING NUMBER  
**08-1101**  
 SHEET NUMBER  
**09**

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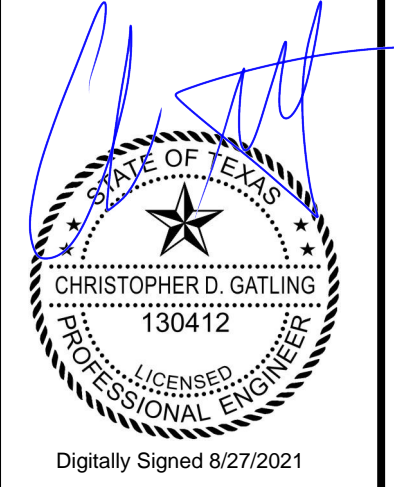
**NOTE:**

1. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS THAT MAY AFFECT THE WORK. ALL ELEVATION CALLOUTS ARE ELEVATIONS ABOVE MEAN SEA LEVEL. CONTRACTOR SHALL VERIFY LOCATIONS OF CONTROL PRIOR TO BEGINNING CONSTRUCTION.
2. INFORMATION PROVIDED ON THESE PLANS MAY OR MAY NOT SHOW ALL CURRENTLY EXISTING STRUCTURES AND UTILITIES ABOVE OR BELOW GROUND. THE SURVEY INFORMATION DOES NOT INCLUDE THE LOCATION OF ALL EXISTING TREES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE ENTIRE PROJECT SITE PRIOR TO SUBMITTING A BID.



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REGISTRATION NO. F-5713



REV.	DATE	DESCRIPTION	BY

**ADDISON**  
 TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

EXISTING SITE PLAN

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: CDG  
 DRAWN BY: O.C.

BAR IS ONE INCH ON ORIGINAL DRAWING  
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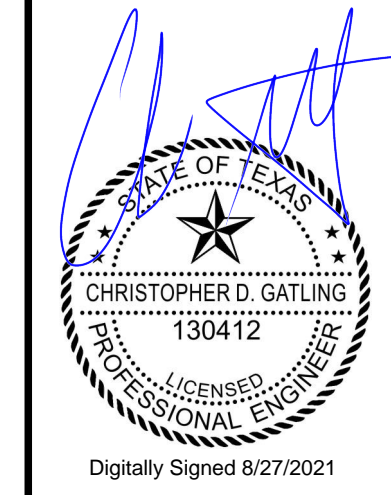
DRAWING NUMBER  
**20-C101**  
 SHEET NUMBER  
**10**





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REGISTRATION NO. F-5713



Digitally Signed 8/27/2021

REV.	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS

**ADDISON**

**ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS**

**SURVEYOR PUMP STATION PROPOSED SITE PLAN**

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: CDG  
 DRAWN BY: O.C.

BAR IS ONE INCH ON ORIGINAL DRAWING  
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DRAWING NUMBER  
**20-C102**  
 SHEET NUMBER  
**11**

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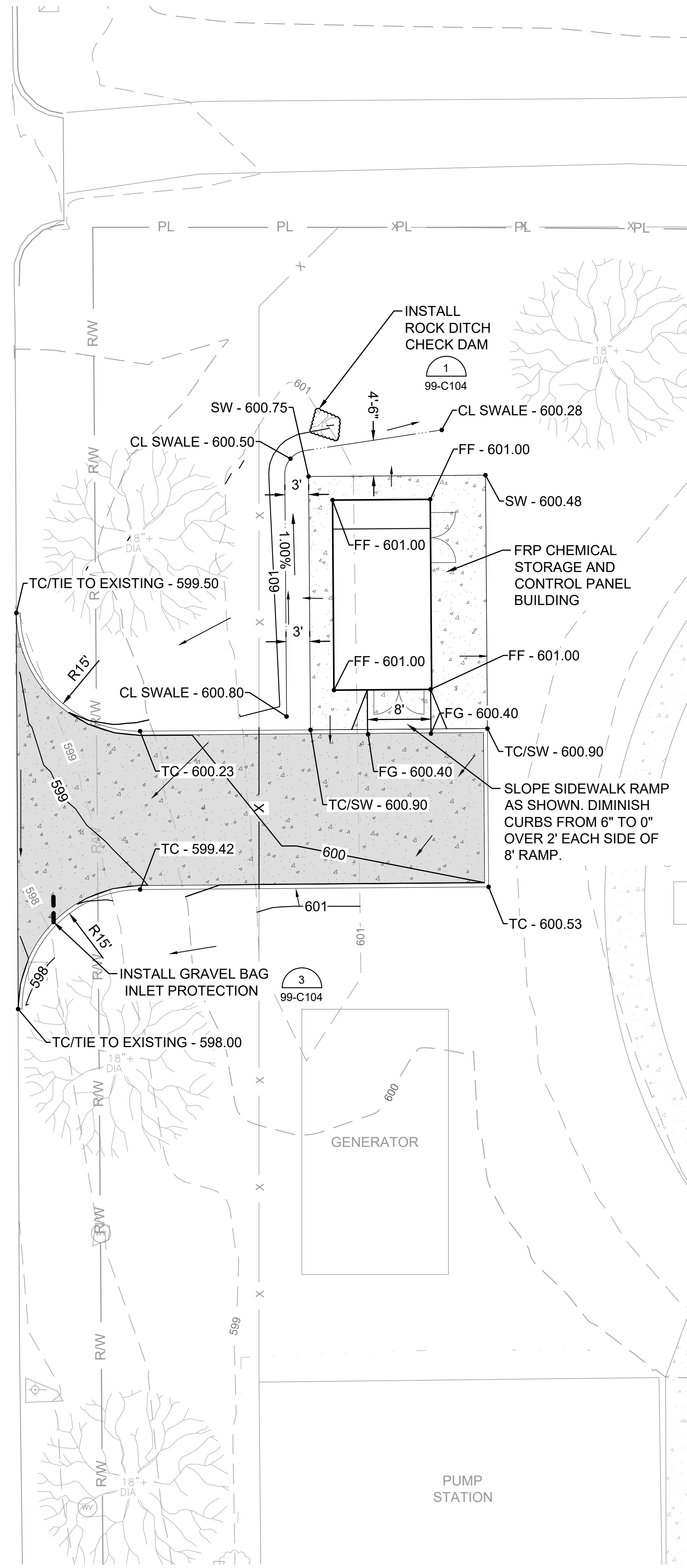
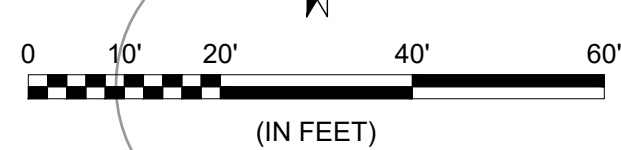
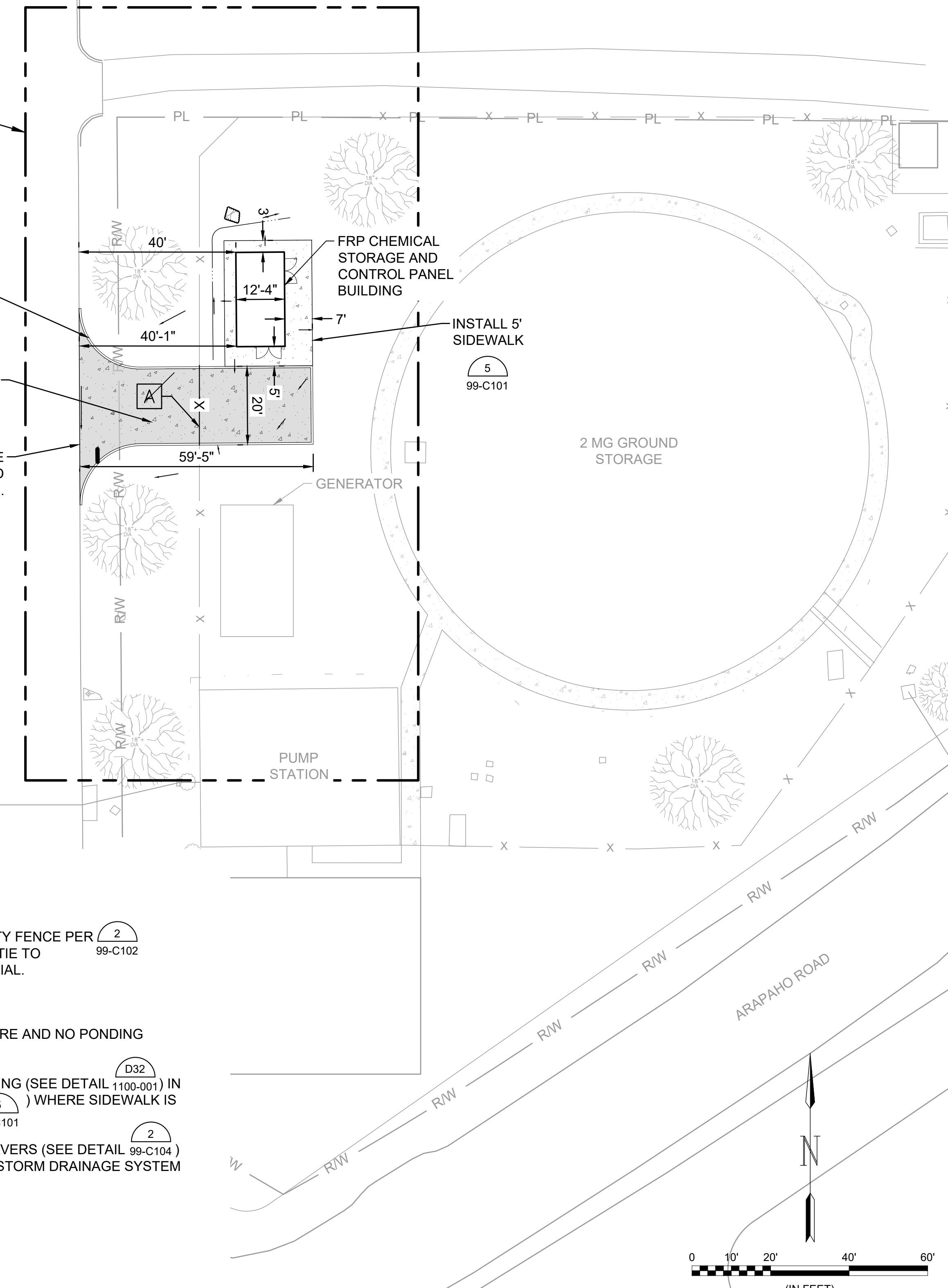
INSET A - SEE THIS SHEET

- EXISTING CONCRETE PAVEMENT
- NEW CONCRETE PAVEMENT D32  
1313-002
- EXISTING CONCRETE SIDEWALK
- NEW CONCRETE SIDEWALK D32  
1000-001

**A** SITE KEY NOTES

SITE KEY NOTES:  
 A. REMOVE EXISTING FENCE PANELS AS NECESSARY. CONSTRUCT NEW SECURITY FENCE PER 2  
99-C102 AND INSTALL 16' WIDE DOUBLE GATE CENTERED IN DRIVEWAY. REPLACE AND TIE TO EXISTING FENCING AS NECESSARY WITH MATCHING FENCE STYLE AND MATERIAL.

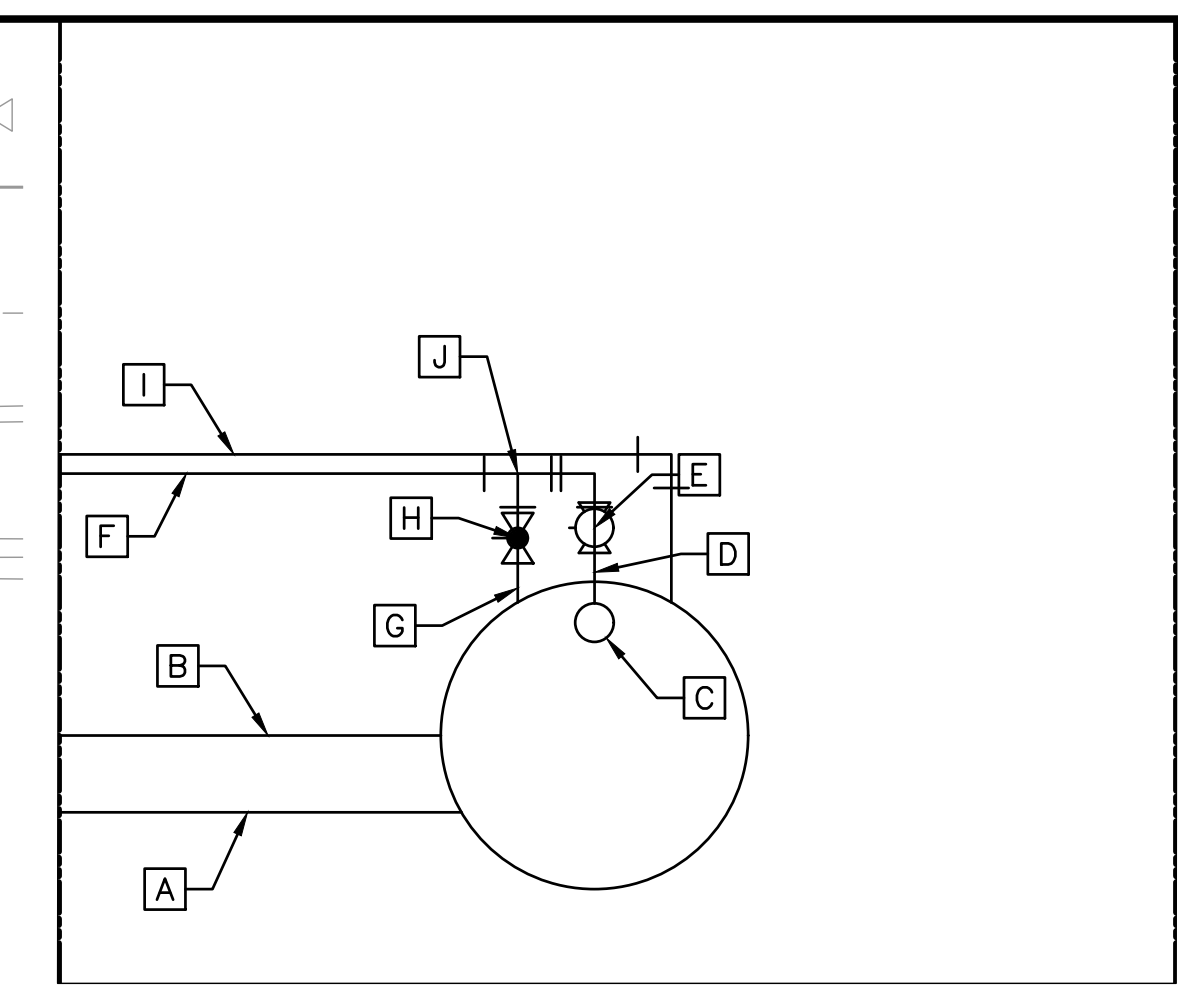
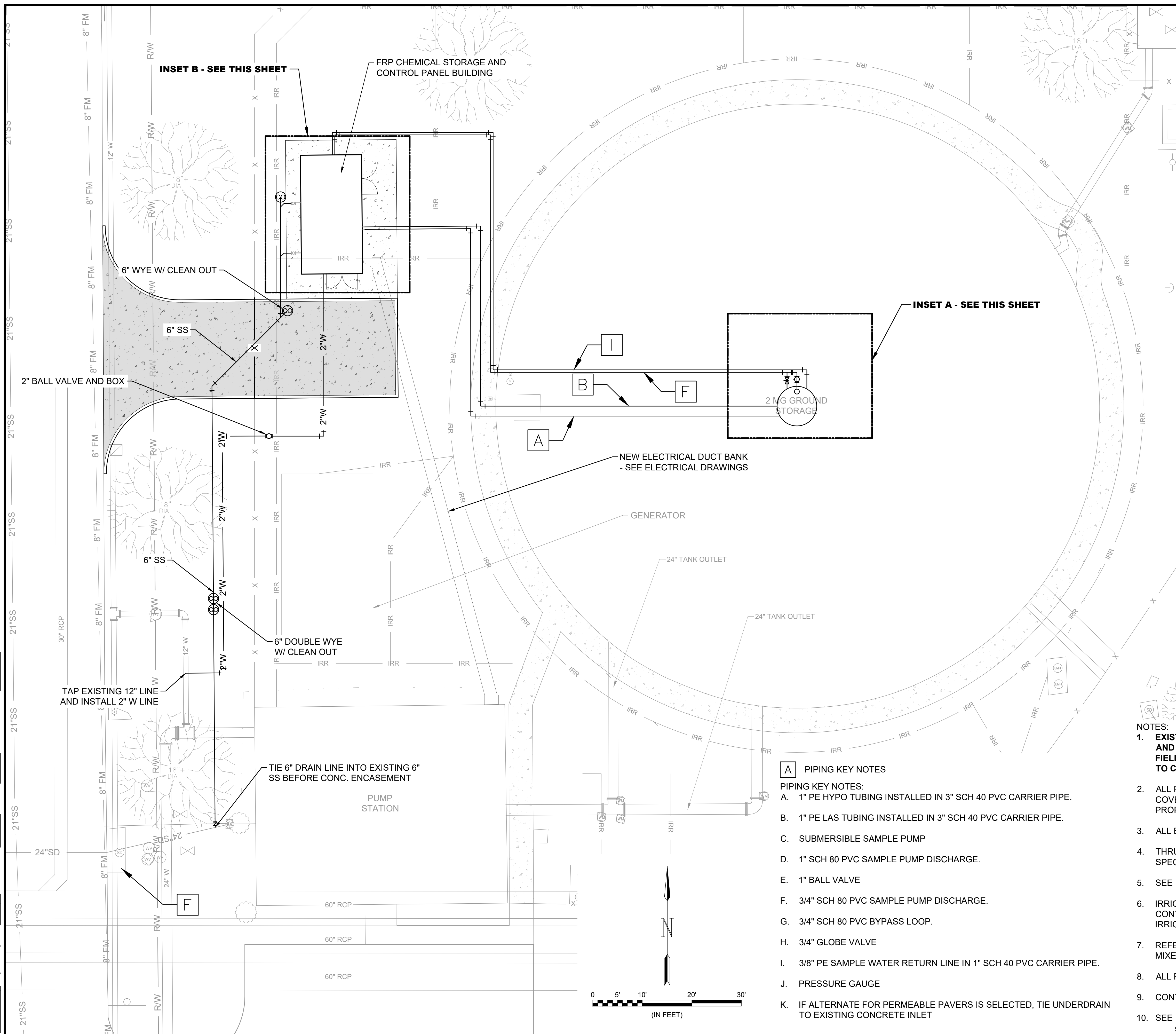
- NOTES:
- CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE AND NO PONDING WATER ON SITE.
  - IF THE APPLICABLE DEDUCTIVE ALTERNATE IS SELECTED, PLACE GRAVEL PAVING (SEE DETAIL D32  
1100-001) IN LIEU OF CONCRETE PAVEMENT. PLACE SIDEWALK TURNDOWN (SEE DETAIL 5  
99-C101) WHERE SIDEWALK IS ADJACENT TO GRAVEL OUTSIDE THE SLOPED RAMP.
  - IF THE APPLICABLE ADDITIVE ALTERNATE IS SELECTED, PLACE PERMEABLE PAVERS (SEE DETAIL 2  
99-C104) IN LIEU OF CONCRETE PAVEMENT. UNDER-DRAIN SHALL BE TIED TO EXISTING STORM DRAINAGE SYSTEM IF SELECTED.



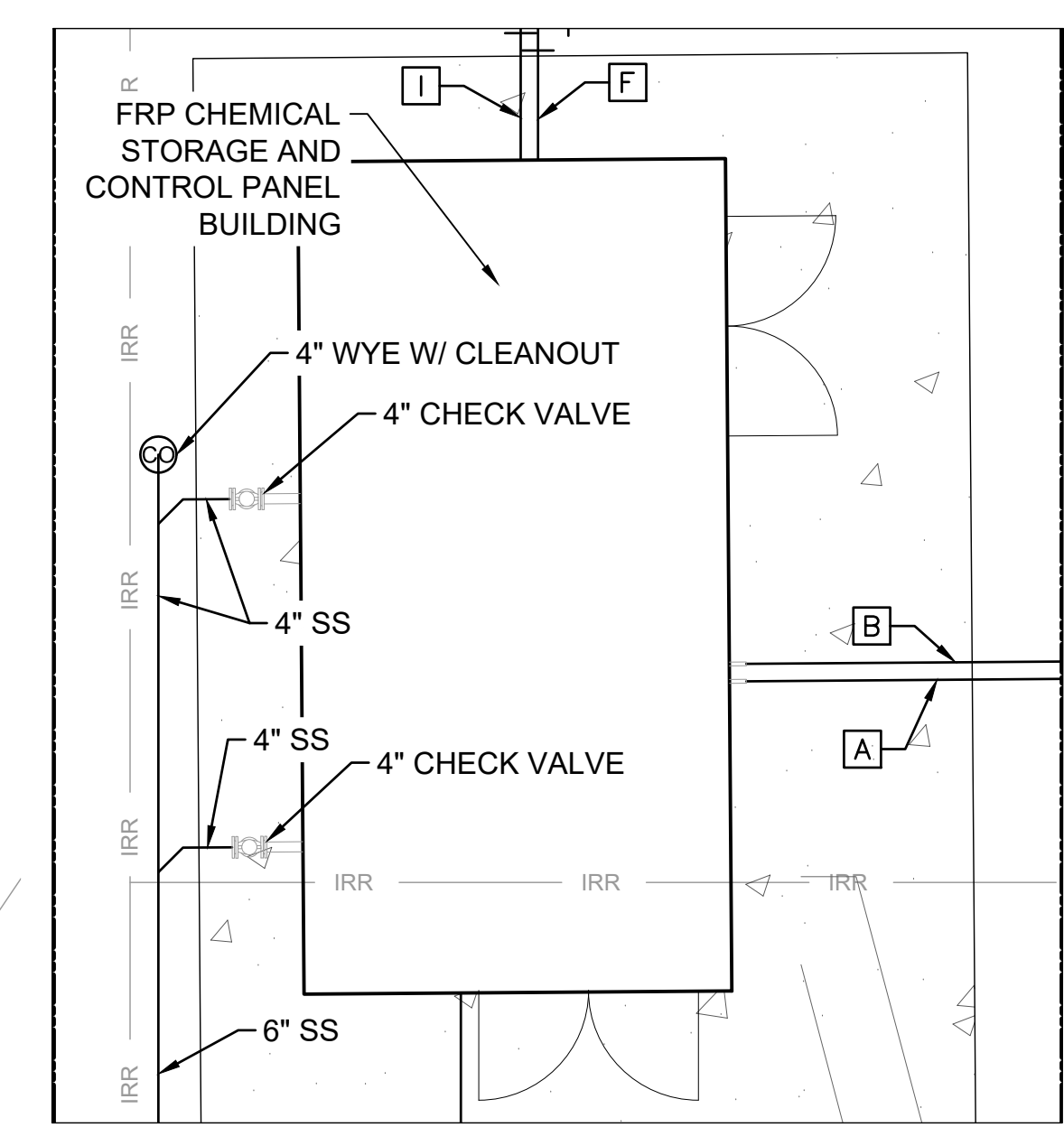
1 INSET A  
 20-C102 20-C102 SCALE: 1" = 10'



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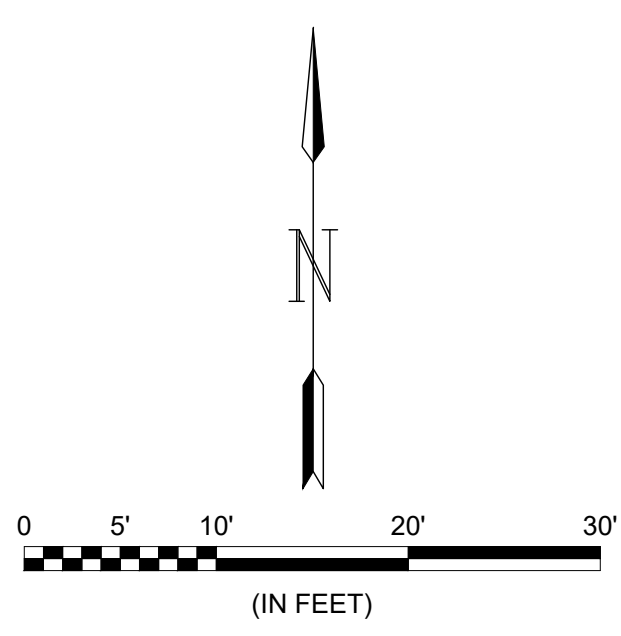
**INSET A**  
 20-C301 | 20-C301 SCALE: 1" = 5'



**INSET B**  
 20-C301 | 20-C301 SCALE: 1" = 5'

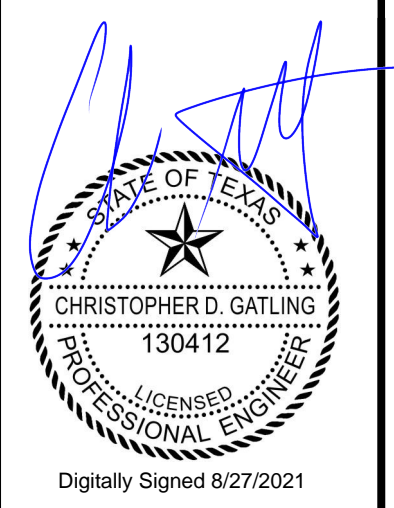
- A PIPING KEY NOTES**
- PIPING KEY NOTES:
- A. 1" PE HYPO TUBING INSTALLED IN 3" SCH 40 PVC CARRIER PIPE.
  - B. 1" PE LAS TUBING INSTALLED IN 3" SCH 40 PVC CARRIER PIPE.
  - C. SUBMERSIBLE SAMPLE PUMP
  - D. 1" SCH 80 PVC SAMPLE PUMP DISCHARGE.
  - E. 1" BALL VALVE
  - F. 3/4" SCH 80 PVC SAMPLE PUMP DISCHARGE.
  - G. 3/4" SCH 80 PVC BYPASS LOOP.
  - H. 3/4" GLOBE VALVE
  - I. 3/8" PE SAMPLE WATER RETURN LINE IN 1" SCH 40 PVC CARRIER PIPE.
  - J. PRESSURE GAUGE
  - K. IF ALTERNATE FOR PERMEABLE PAVERS IS SELECTED, TIE UNDERDRAIN TO EXISTING CONCRETE INLET

- NOTES:**
1. EXISTING PIPING IS SHOWN BASED ON AVAILABLE RECORD DRAWINGS AND INFORMATION PROVIDED TO THE ENGINEER. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND DEPTHS OF ALL PERTINENT LINES PRIOR TO CONSTRUCTION.
  2. ALL PIPES SHALL BE LAID AT A CONSTANT SLOPE WITH MINIMUM 3' OF COVER OR AS REQUIRED TO AVOID CONFLICTS WITH EXISTING AND PROPOSED PIPING.
  3. ALL BURIED VALVES SHALL HAVE VALVE BOX AS SPECIFIED.
  4. THRUST AT FITTINGS SHALL BE RESISTED BY RESTRAINED JOINTS AS SPECIFIED AND AS REQUIRED TO RESIST THRUST. SEE (1) FOR PIPE TRENCH, BEDDING, AND BACKFILL DETAIL.
  5. SEE (1) FOR PIPE TRENCH, BEDDING, AND BACKFILL DETAIL.
  6. IRRIGATION METERS AND HEADS ARE SHOWN AS SURVEYED, CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND RELOCATE IRRIGATION AS NECESSARY.
  7. REFER TO ELECTRICAL DRAWINGS FOR CONDUIT ROUTING FOR TANK MIXER AND SAMPLE PUMP.
  8. ALL PVC CARRIER PIPE BENDS ARE TO BE LONG RADIUS.
  9. CONTRACTOR SHALL INSTALL CHEMICAL PULL BOXES AS NECESSARY.
  10. SEE (2) FOR SINGLE CLEANOUT AND (3) FOR DOUBLE CLEANOUT.



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REGISTRATION NO. F-5713



REV.	DATE	DESCRIPTION	BY



TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

SURVEYOR PUMP STATION YARD PIPING PLAN

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: CDG  
 DRAWN BY: O.C.

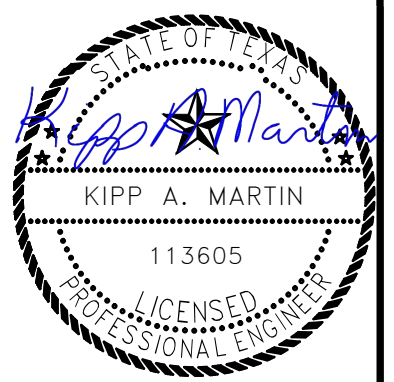
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.  
 DRAWING NUMBER **20-C301**  
 SHEET NUMBER **12**





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REGISTRATION NO.  
 F-5713



Digitally Signed 8/27/2021

REV	DATE	DESCRIPTION	BY

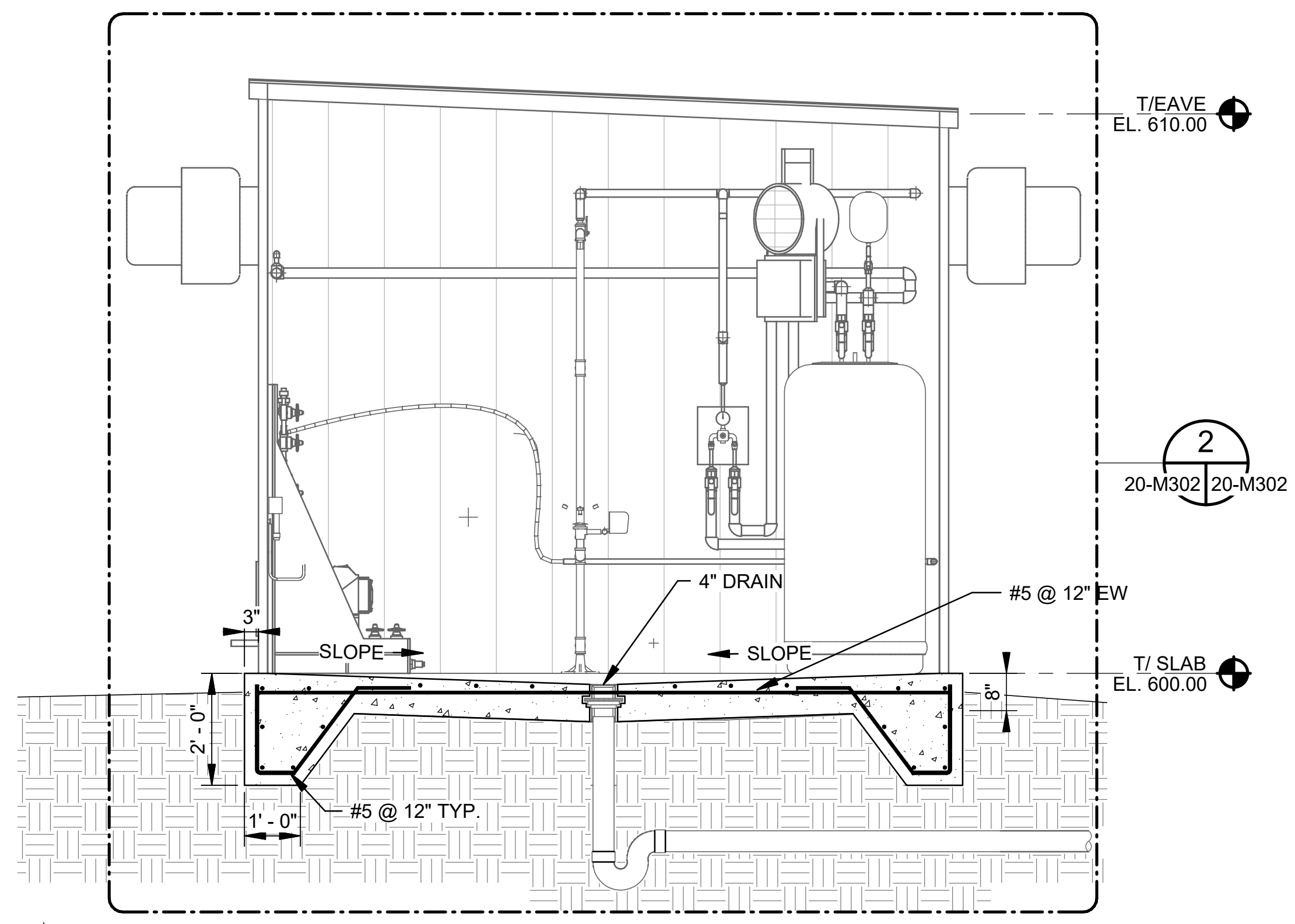
TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON  
 ADDISON CHLORAMINE BOOSTER  
 STATION IMPROVEMENTS

PROCESS  
 FOUNDATION PLAN &  
 FOUNDATION  
 SECTION

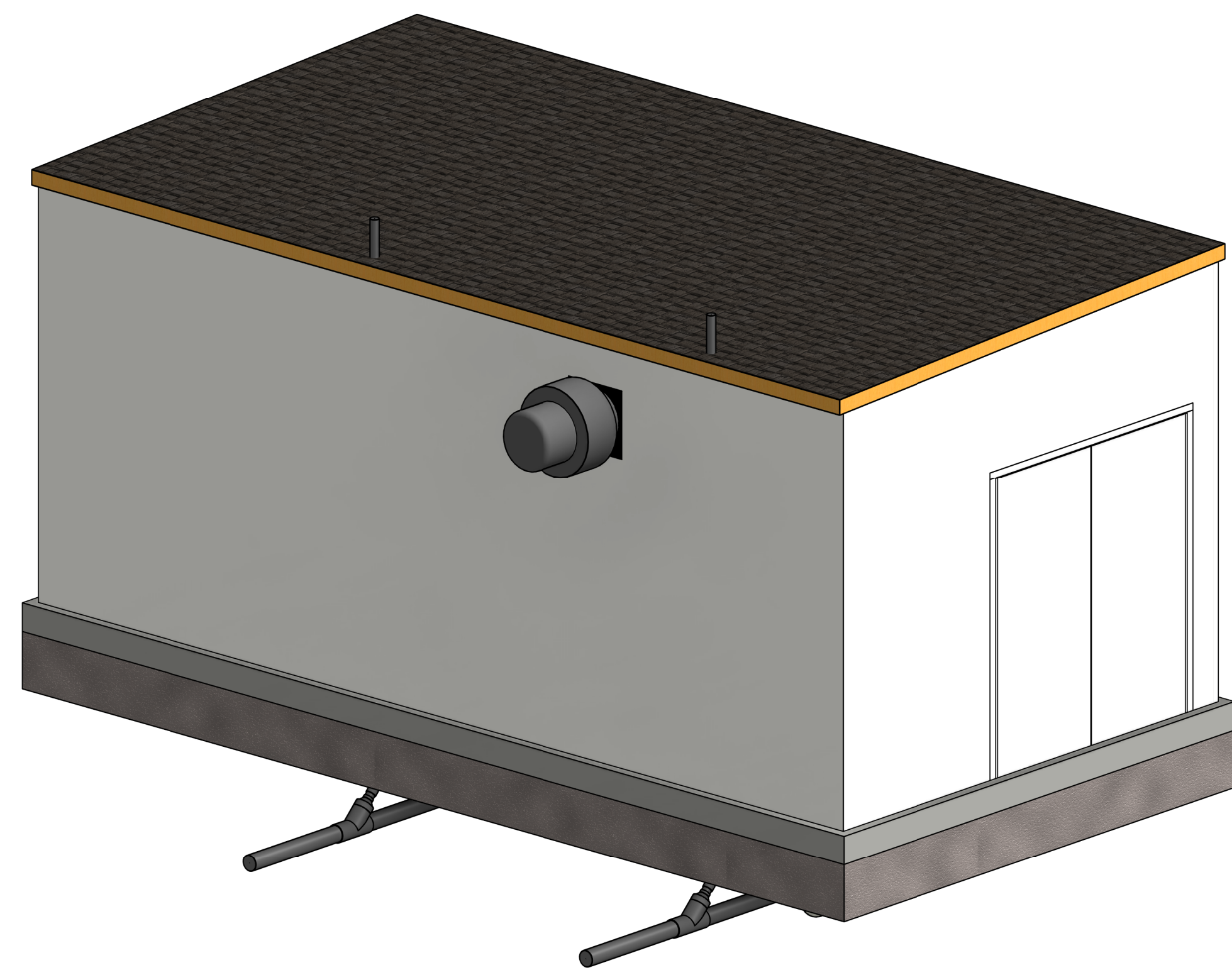
JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: HE  
 DRAWN BY: DGL

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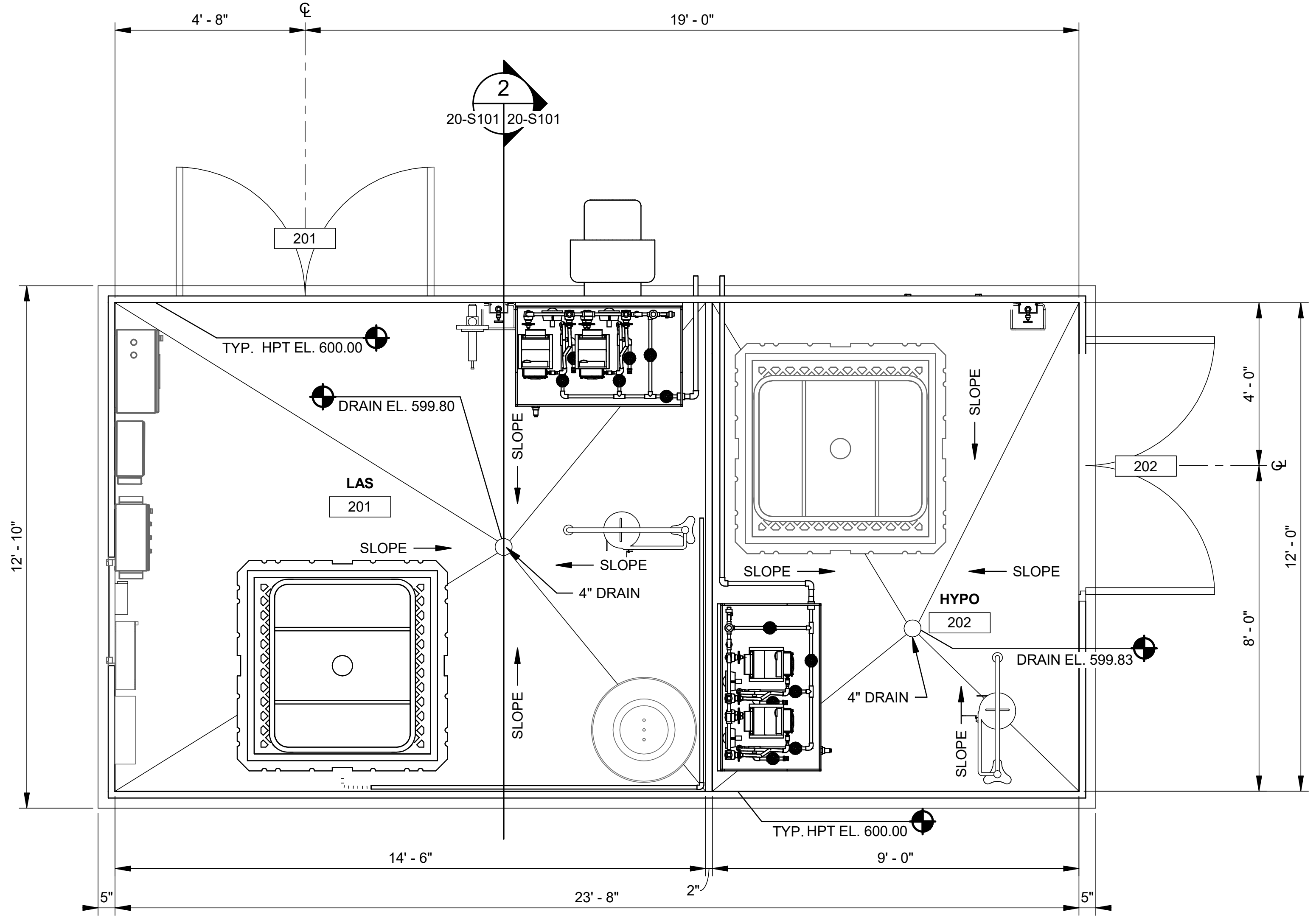
DRAWING NUMBER  
**20-S101**  
 SHEET  
 NUMBER **13**



**PROCESS FOUNDATION SECTION**  
 SCALE: 1/2" = 1'-0"



**ISOMETRIC VIEW**  
 SCALE: NONE



**PROCESS FOUNDATION PLAN**  
 SCALE: 1/2" = 1'-0"

ADDISON - DOOR SCHEDULE															
DOOR NO.	DOOR ELEV.	DOOR			DOOR FRAME			DOOR DETAILS			HARDWARE	COMMENTS:			
		WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	STC	TYPE	MATERIAL	FINISH			HEAD	JAMB	SILL
201	2	6' - 4"	7' - 0"	0' - 2"	FRP	PAINT			FRP	PAINT	PER PBM	PER PBM	PER PBM	TBD	DOOR / HARDWARE PROVIDED BY PREMANUFACTURED BUILDING PROVIDER
202	2	6' - 4"	7' - 0"	0' - 2"	FRP	PAINT			FRP	PAINT	PER PBM	PER PBM	PER PBM	TBD	DOOR / HARDWARE PROVIDED BY PREMANUFACTURED BUILDING PROVIDER

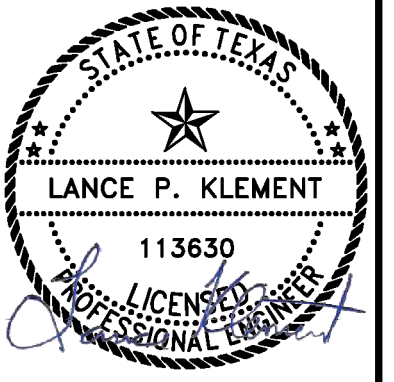
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REGISTRATION NO. F-5713



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REV	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

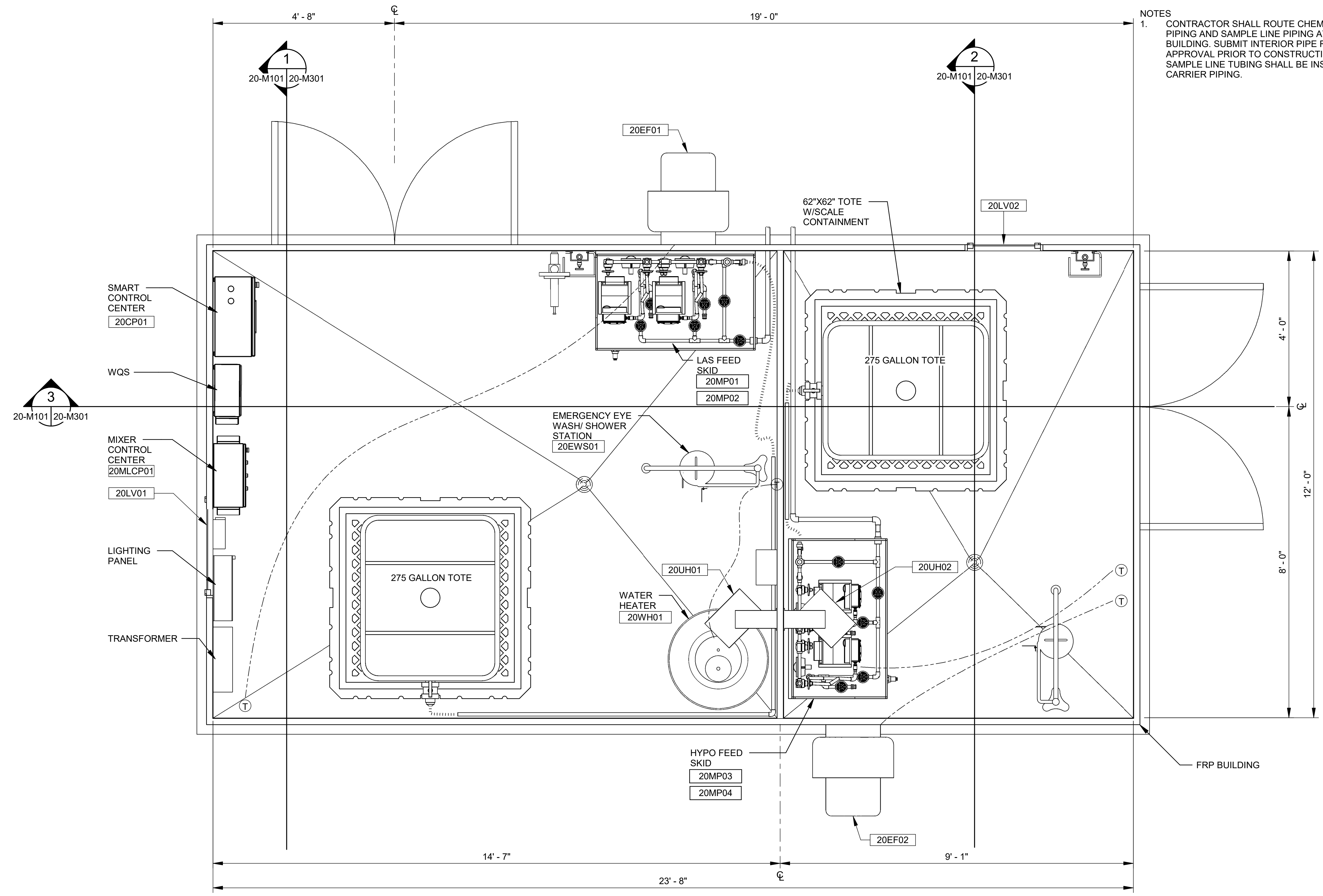
PROCESS MECHANICAL PLAN

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: CAT  
 DRAWN BY: SAC

BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**20-M101**  
 SHEET NUMBER  
**14**

NOTES  
 1. CONTRACTOR SHALL ROUTE CHEMICAL METER PUMP DISCHARGE PIPING AND SAMPLE LINE PIPING AT EYE LEVEL WITHIN THE BUILDING. SUBMIT INTERIOR PIPE ROUTING TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. ALL CHEMICAL TUBING AND SAMPLE LINE TUBING SHALL BE INSTALLED IN 3" SCHED 40 PVC CARRIER PIPING.



**PROCESS MECHANICAL PLAN**  
 SCALE: 3/4" = 1'-0"  
 PROJECT NORTH

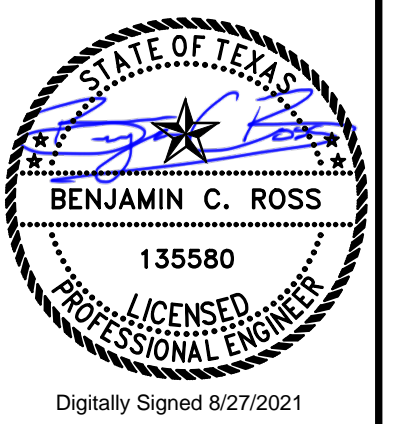
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 Plot Date: 11/23/2020 4:48:42 PM





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REGISTRATION NO. F-5713



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REV	DATE	DESCRIPTION	BY

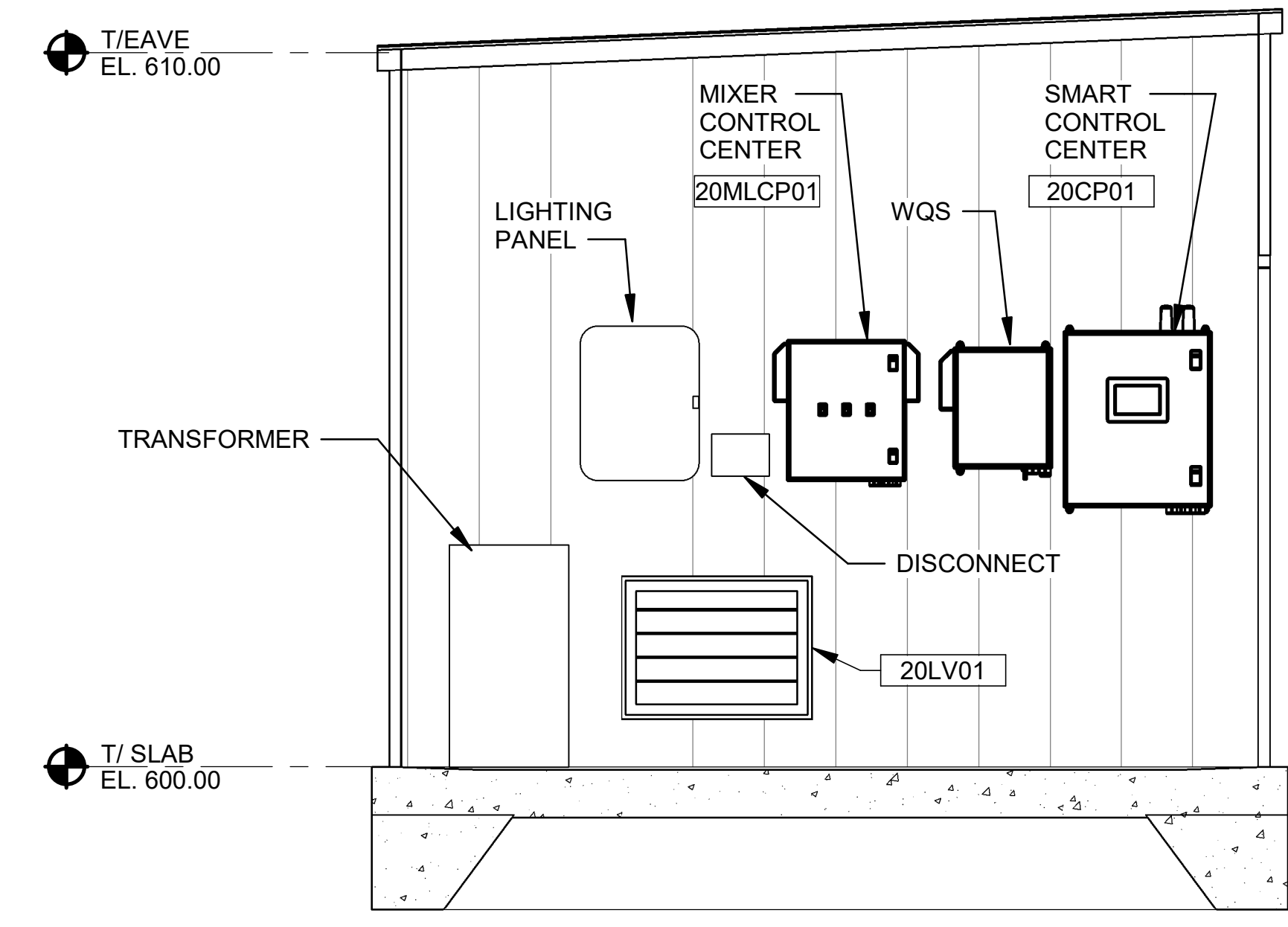
TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

PROCESS MECHANICAL SECTIONS

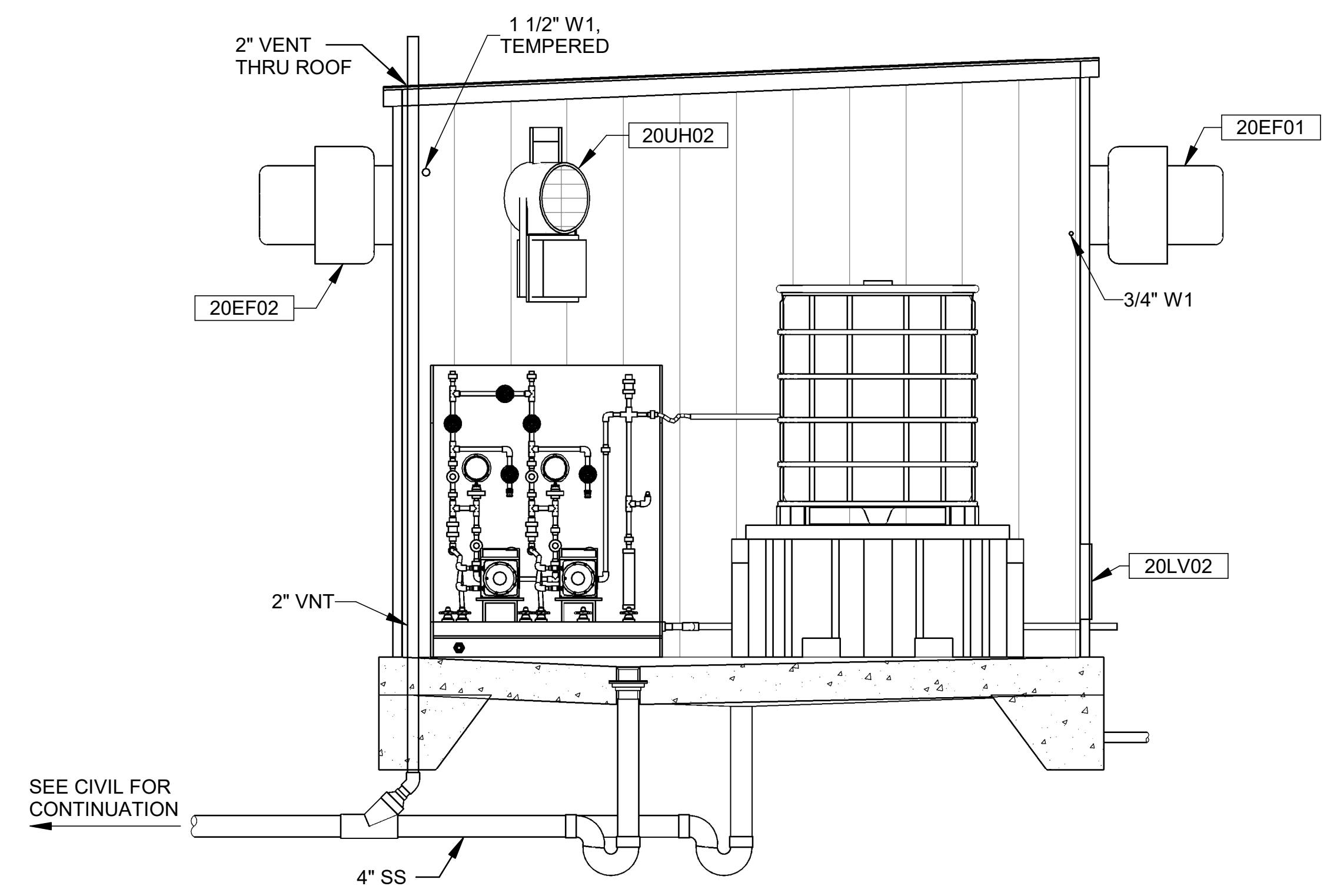
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 DATE: SEPT. 2021  
 DESIGNED BY: CAT  
 DRAWN BY: DGP

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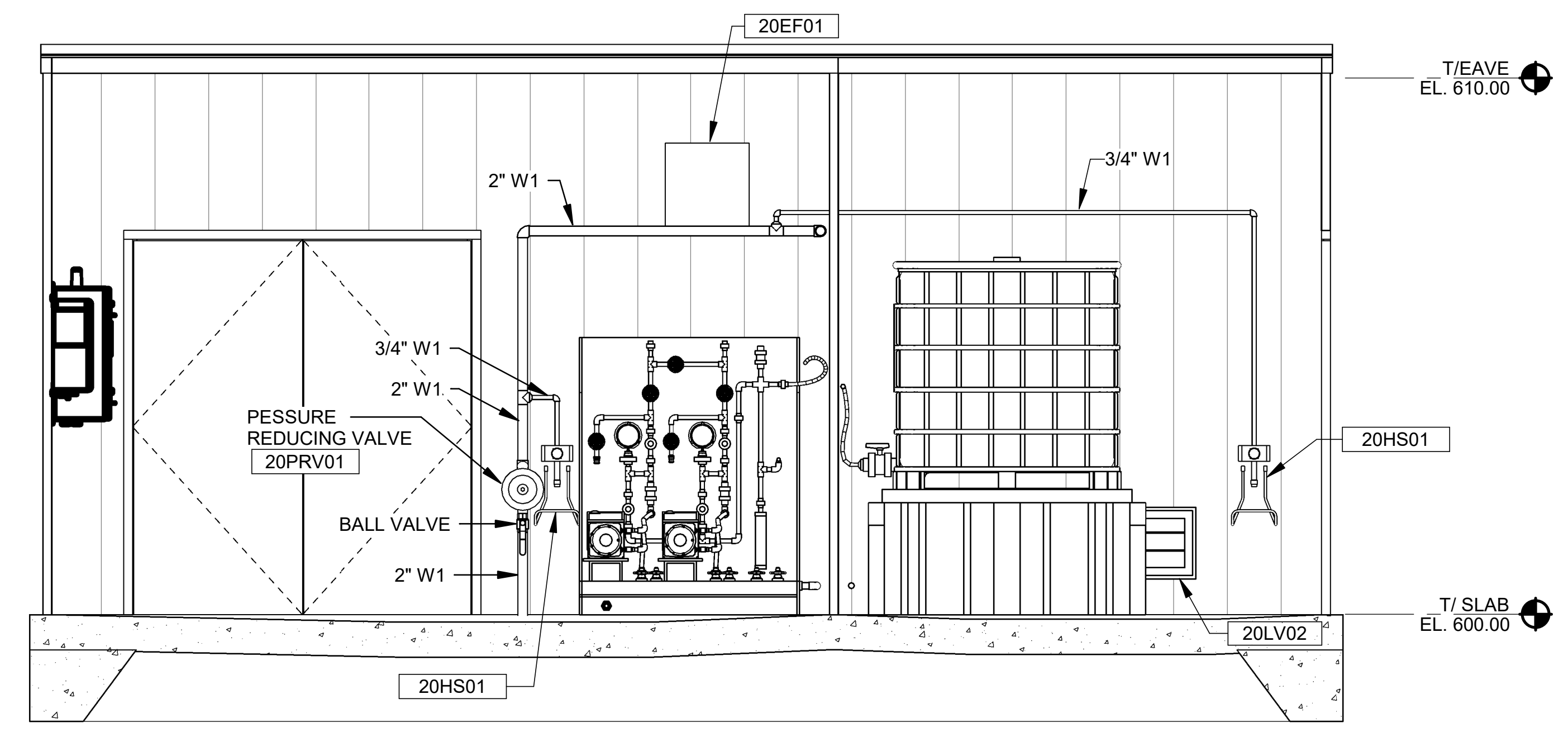
DRAWING NUMBER  
**20-M301**  
 SHEET NUMBER  
**15**



**SECTION 1**  
 20-M101 | 20-M301 SCALE: 1/2" = 1'-0"



**SECTION 2**  
 20-M101 | 20-M301 SCALE: 1/2" = 1'-0"



**SECTION 3**  
 20-M101 | 20-M301 SCALE: 1/2" = 1'-0"

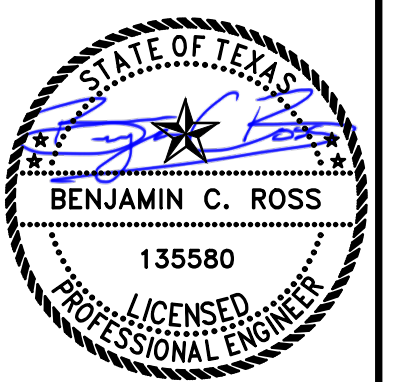
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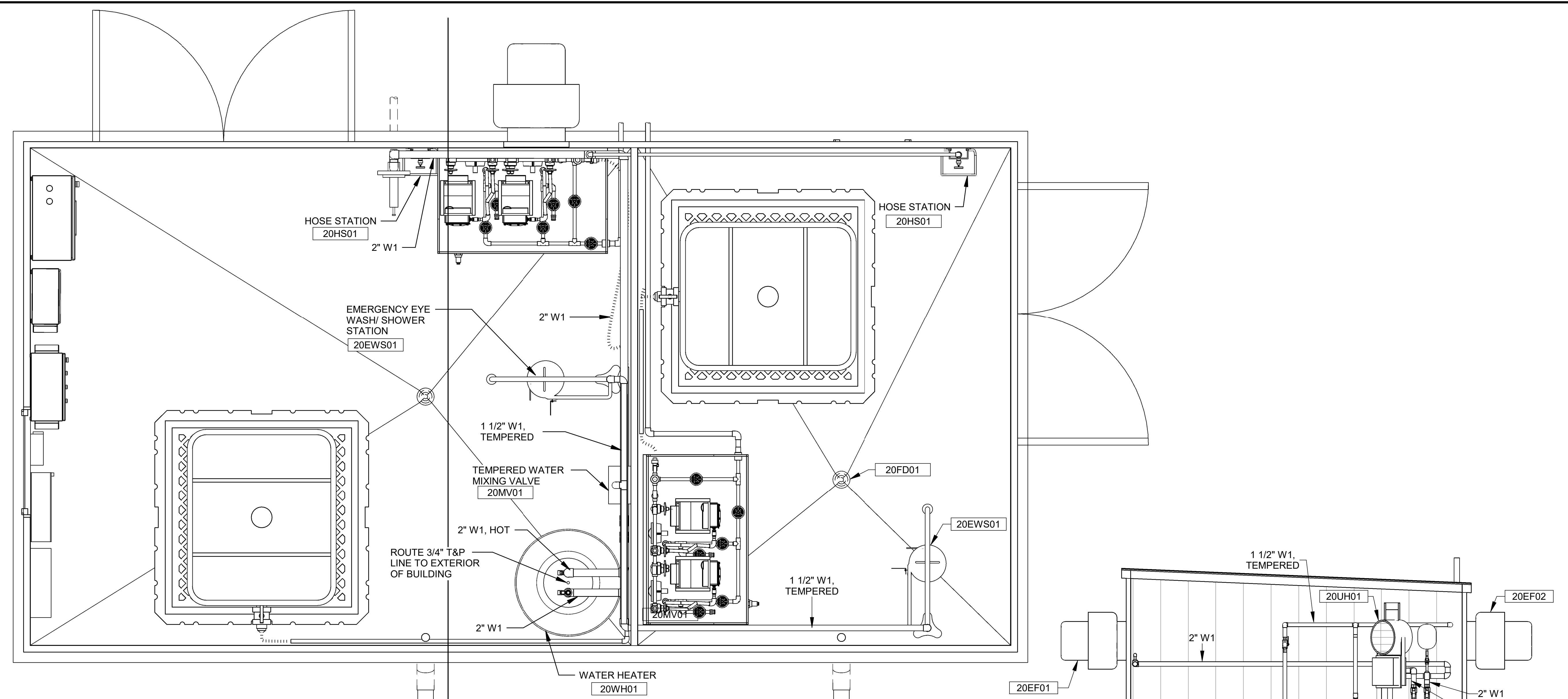
REV	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

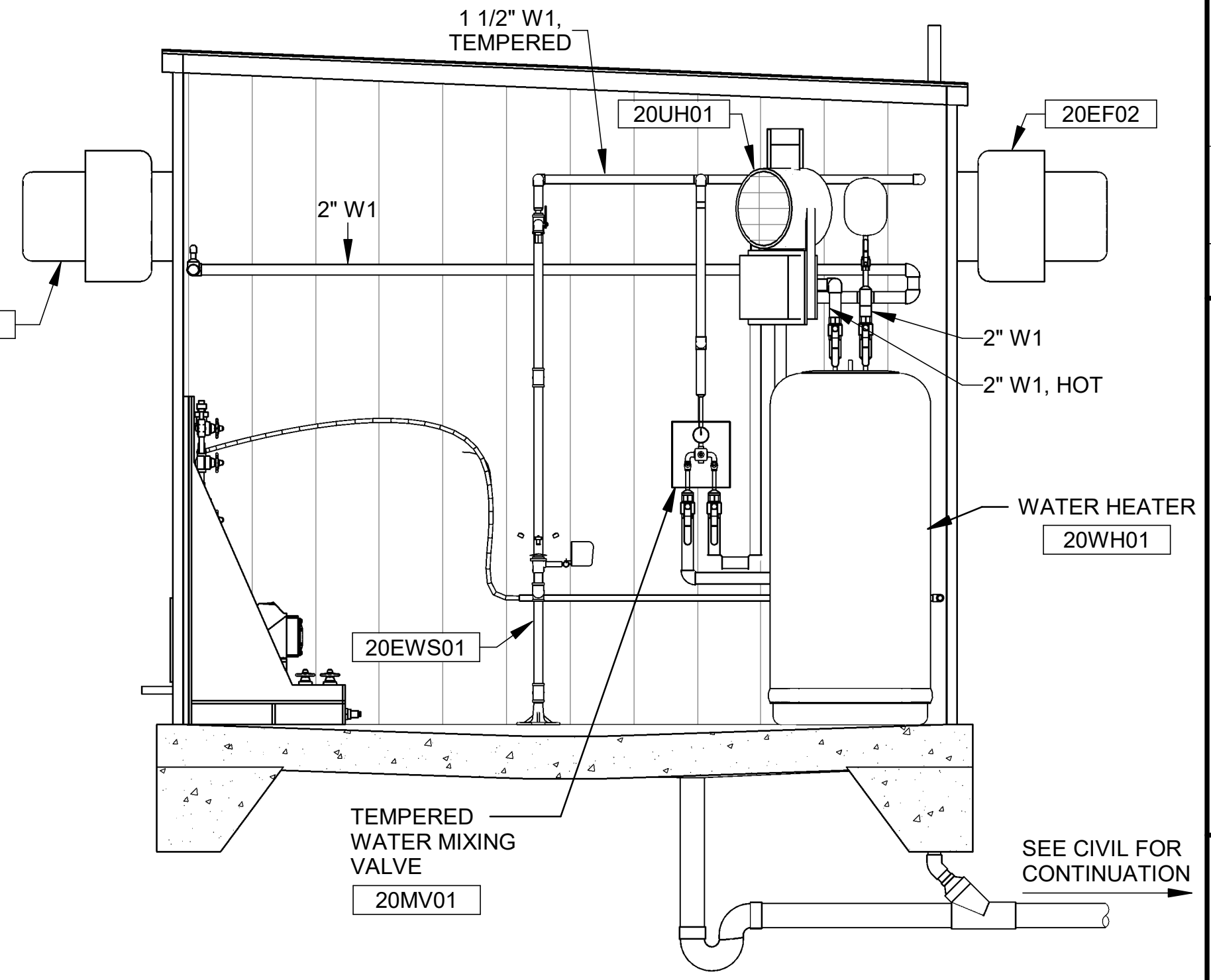
PROCESS PLUMBING PLAN

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: BCR  
 DRAWN BY: DGP

BAR IS ONE INCH ON ORIGINAL DRAWING  
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 DRAWING NUMBER  
**20-M302**  
 SHEET NUMBER  
**16**



**PLUMBING PLAN**  
 SCALE: 3/4" = 1'-0"



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

- NOTES:
1. CONTRACTOR TO PROVIDE CONNECTING FITTINGS FOR THE CHEMICAL TOTE AND PUMP SKID.
  2. SLOPE HORIZONTAL DRAINS AT MINIMUM OF 1/8" PER 12".
  3. ALL FLOOR DRAINS SHALL BE INSTALLED WITH P-TRAP AND TRAP GUARD INSERT.

PLUMBING FIXTURE SCHEDULE				
TAG	DESCRIPTION	MANUFACTURER	MODEL	TYPE COMMENTS
20EWS01	BARRIER-FREE DRENCH SHOWER AND EYE/FACE WASH UNIT	BRADLEY CORPORATION	S19-310BFSS	STAINLESS BOWL AND DUST COVER
20FD01	FLOOR DRAIN WITH ADJUSTABLE TOP	WADE	1100-TS	DUCTILE IRON BODY WITH 7" DUCTILE IRON STRAINER. 4" OUTLET. PROVIDE WITH TRAP GUARD INSERT
20HS01	LEAD FREE SINGLE TEMPERATURE HOSE STATION	LEONARD	SW-75-1571-LF	3/4" INLET AND OUTLET. PROVIDE OUTLET WITH BACKFLOW PREVENTOR AND HEAVY DUTY HOSE RACK
20MV01	THERMOSTATIC MIXING VALVE	BRADLEY CORPORATION	S19-2200	1" INLET CONNECTION. COLD WATER BYPASS, DIAL GAUGE, INLET SHUTOFF VALVES
20PRV01	LEAD FREE REDUCING VALVE	WATTS	LF223	2" INLET AND OUTLET. INITIAL SET PRESSURE: 60 PSI
20WH01	ELECTRIC WATER HEATER W/ CORROSION RESISTANT SHELL	RHEEM	ME105	105 GALLON CAPACITY, 240V/1PH, 12.4 INPUT KW, WATTS PLT20 EXPANSION TANK, BRASS DRAIN VALVE, T&P VALVE, 55 GPH RECOVERY AT 90°F

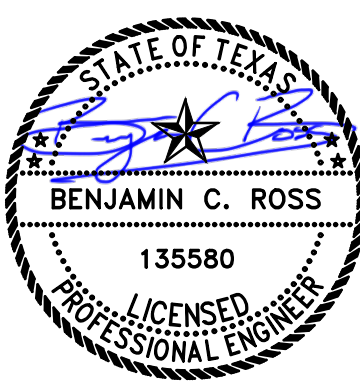
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REGISTRATION NO. F-5713



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REV	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

MECHANICAL SCHEDULES

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: BCR  
 DRAWN BY: DGP

BAR IS ONE INCH ON ORIGINAL DRAWING  
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 DRAWING NUMBER  
**20-M501**  
 SHEET NUMBER  
**17**

FAN SCHEDULE

MARK	AREA SERVED	MANUFACTURER	TYPE	MODEL	AIRFLOW (SCFM)	E.S.P. ("- W.C.)	DRIVE	RPM	MOTOR HP	ELECTRICAL DATA			CONTROLS	MOUNTING HT AFF	WEIGHT (lbs)	ACCESSORIES	NOTES
										VOLTS	PH	HERTZ					
20EF01	LAS ROOM	GREENHECK	CENTRIFUGAL WALL EXHAUST FAN	CUBE-121	1000	0.15	BELT	951	0.25	115	1	60	THERMOSTAT	8' - 0"	61	1, 2, 3, 4	1
20EF02	HYPO ROOM	GREENHECK	CENTRIFUGAL WALL EXHAUST FAN	CUBE-099	400	0.15	BELT	765	0.25	115	1	60	THERMOSTAT	8' - 0"	61	1, 2, 3, 4	2

- ACCESSORIES:**
- PREWIRED STANDARD DISCONNECT
  - MOTORIZED DAMPER
  - ALUMINUM BIRD SCREEN
  - HI-PRO POLYESTER COATING
- NOTES:**
- INTERLOCK WITH 20LV01
  - INTERLOCK WITH 20LV02

UNIT HEATER - ELECTRIC

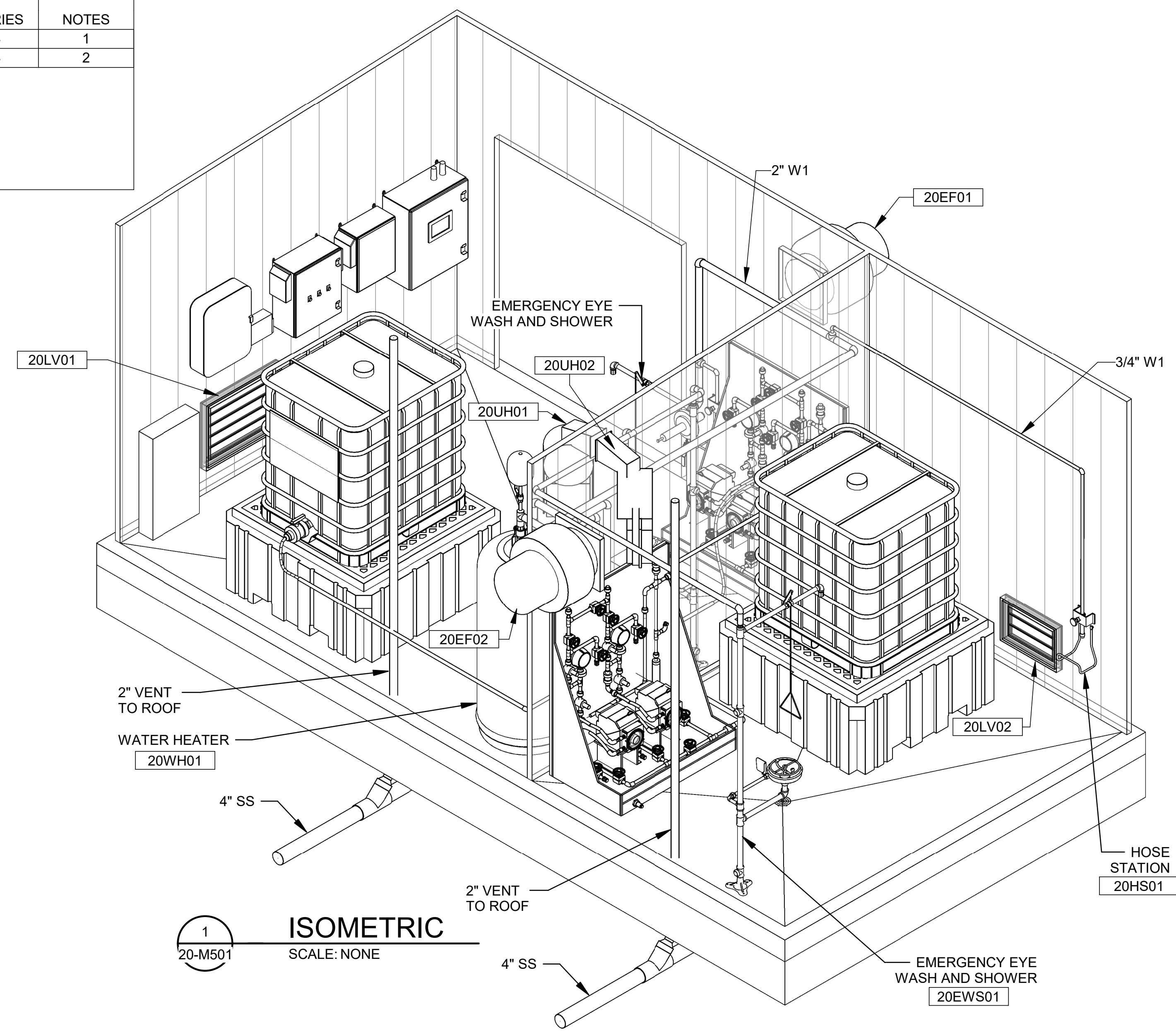
MARK	AREA SERVED	MANUFACTURER	TYPE	MODEL	HEATING DATA			TEMP RISE (°F)	ELECTRICAL DATA			MOUNTING HT AFF	ACCESSORIES
					MBH	KW	CFM		V	PH	FLA		
20UH01	LAS ROOM	CHROMALOX	ELECTRIC, WASHDOWN/CORROSION RESISTANT	HD3D-200	6.8	2	405	21	240	1	8.3	8' - 0"	1, 2, 3
20UH02	HYPO ROOM	CHROMALOX	ELECTRIC, WASHDOWN/CORROSION RESISTANT	HD3D-200	6.8	2	405	21	240	1	8.3	8' - 0"	1, 2, 3

- ACCESSORIES:**
- INTEGRAL DISCONNECT SWITCH KIT
  - REMOTE MOUNTED THERMOSTAT
  - WALL SWIVEL MOUNTING BRACKET KIT

LOUVER SCHEDULE

MARK	AREA SERVED	MANUFACTURER	MODEL	DESCRIPTION	MOUNTING HT AFF	SIZE		ACCESSORIES	NOTES
						WIDE	HT		
20LV01	LAS ROOM	GREENHECK	EAC-601	MOTORIZED COMBINATION LOUVER/DAMPER	0' - 8"	32"	24"	1, 2, 3, 4	1
20LV02	HYPO ROOM	GREENHECK	EAC-601	MOTORIZED COMBINATION LOUVER/DAMPER	0' - 8"	24"	16"	1, 2, 3, 4	2

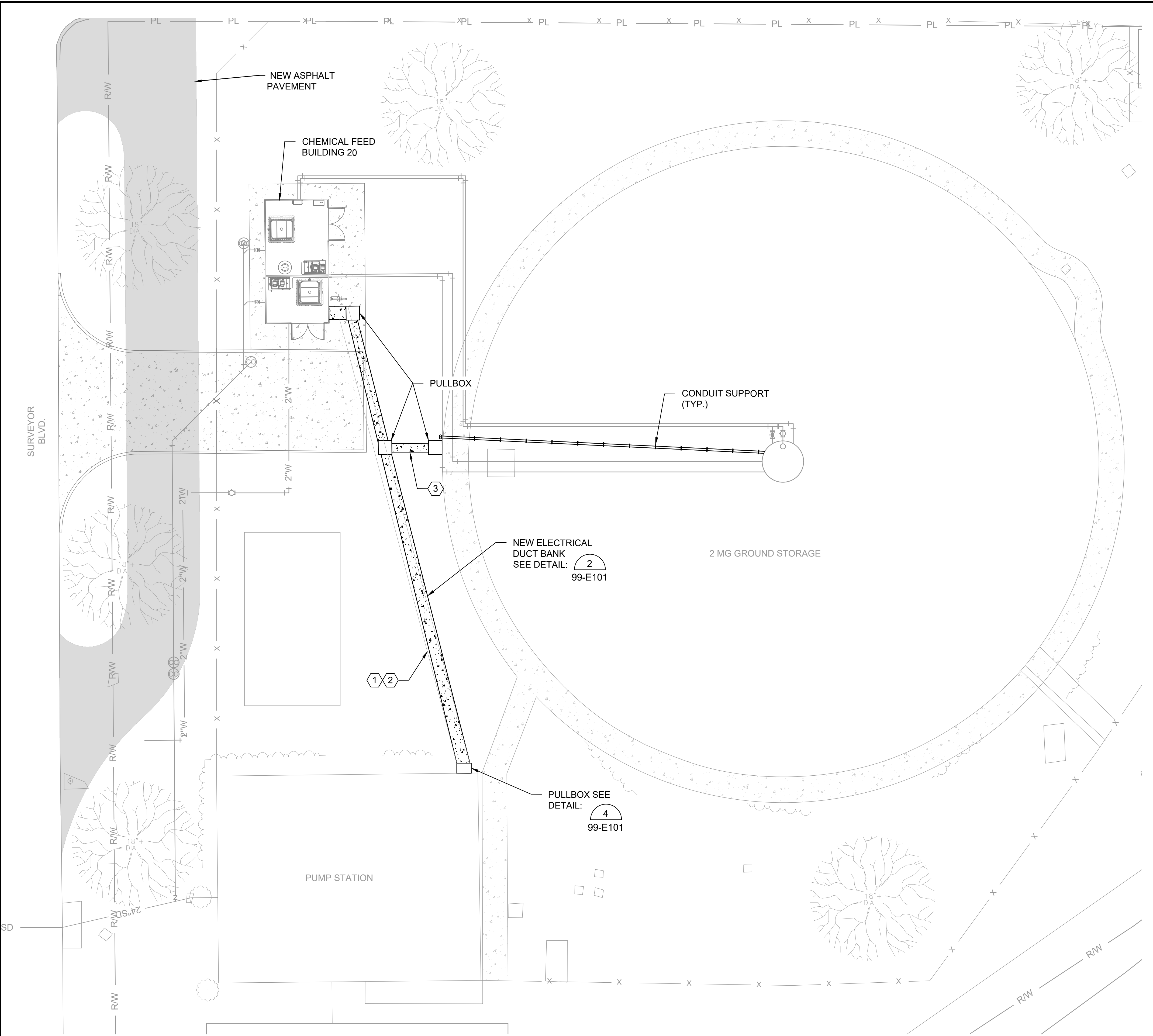
- ACCESSORIES:**
- PREWIRED STANDARD DISCONNECT
  - MOTORIZED DAMPER
  - ALUMINUM INSECT SCREEN
  - HI-PRO POLYESTER COATING
- NOTES:**
- INTERLOCK WITH 20EF01
  - INTERLOCK WITH 20EF02



1  
 20-M501  
**ISOMETRIC**  
 SCALE: NONE



File: \\021717088170 - addison chloramine booster station\Drawings\ACBS-20-E101-SP.dwg, Last Save: 9/29/2020 9:37 AM, Last saved by: CMedina  
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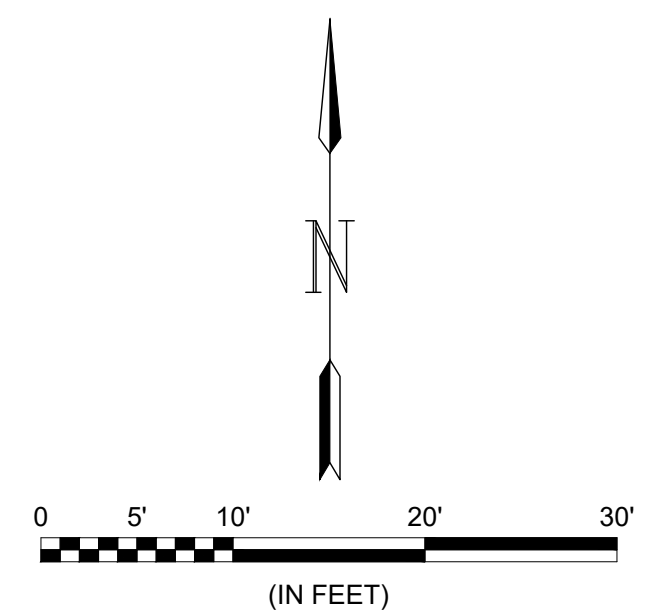
NOTE:  
 SURVEY HAS NOT BEEN COMPLETED FOR THIS SITE. SITE PLAN IS BASED ON AVAILABLE DRAWINGS AND IMAGERY.

**GENERAL NOTES:**

1. REFER TO ELECTRICAL ONE-LINES AND CONDUIT SCHEDULE FOR QUANTITIES AND SIZES OF CONDUITS FOR EACH DUCT BANK INDICATED.
2. FIELD LOCATE FINAL LOCATIONS OF ALL BELOW GRADE CONDUIT.
3. PROVIDE ADDITIONAL PULLBOXES AS REQUIRED FOR A WORKABLE INSTALLATION.
4. REFER TO ELECTRICAL ONELINES FOR QUANTITIES AND SIZES OF CONDUITS FOR EACH DUCT BANK INDICATED.
5. ALL PULLBOXES SHALL BE APPROPRIATELY SIZED BY THE CONTRACTOR AS REQUIRED BY THE NUMBER OF CONDUITS IN THE DUCT BANK FOR A WORKABLE INSTALLATION WITH MINIMUM SIZES AS INDICATED WITHIN THE DETAILS.
6. PROVIDE SEPARATE CONDUITS FOR EACH VOLTAGE TYPE; 480V/120VAC/24VDC.
7. PROVIDE SEPARATE PULLBOXES FOR SIGNAL AND COMMUNICATION CABLES, WHETHER OR NOT SHOWN ON THE DRAWINGS.
8. NUMEROUS UNDERGROUND UTILITIES EXIST THROUGHOUT THE PROJECT SITE. THE CONTRACTOR SHALL MARK, OR CAUSE TO BE MARKED, THE UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
9. COORDINATE ANY POWER OUTAGES REQUIRED FOR CONSTRUCTION WITH OWNER AND UTILITY PRIOR TO INTERRUPTION OF SERVICE.

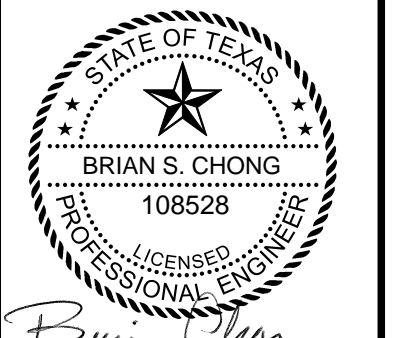
**KEYED NOTES:**

- ① 480VAC POWER FROM MCC IN PUMP STATION BUILDING TO 20DS01 AT NEW CHEMICAL FEED BUILDING 20. REFER TO ONELINE.
- ② (FIBER OPTIC CABLE) 1" C, COMMUNICATION, FROM NETWORK SWITCH IN PUMP STATION BUILDING TO NETWORK PANEL IN NEW CHEMICAL FEED BUILDING 20. REFER TO SCADA INTERCONNECTION DIAGRAM.
- ③ POWER FROM CHEMICAL FEED BUILDING 20 TO NEW SAMPLE PUMP AND NEW MIXER IN EXISTING STORAGE TANK, SEE SHEET 20-E131.



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REGISTRATION NO. F-5713



DIGITALLY SIGNED: 8/27/2021

REV.	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

**ELECTRICAL SITE PLAN**

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: BSC  
 DRAWN BY: CM

BAR IS ONE INCH ON ORIGINAL DRAWING  
 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

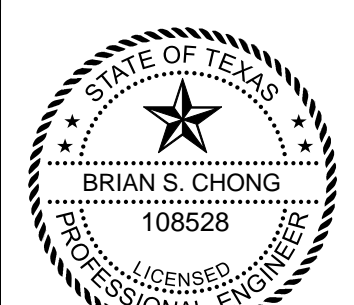
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**20-E101**  
 SHEET NUMBER  
**18**





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REGISTRATION NO. F-5713



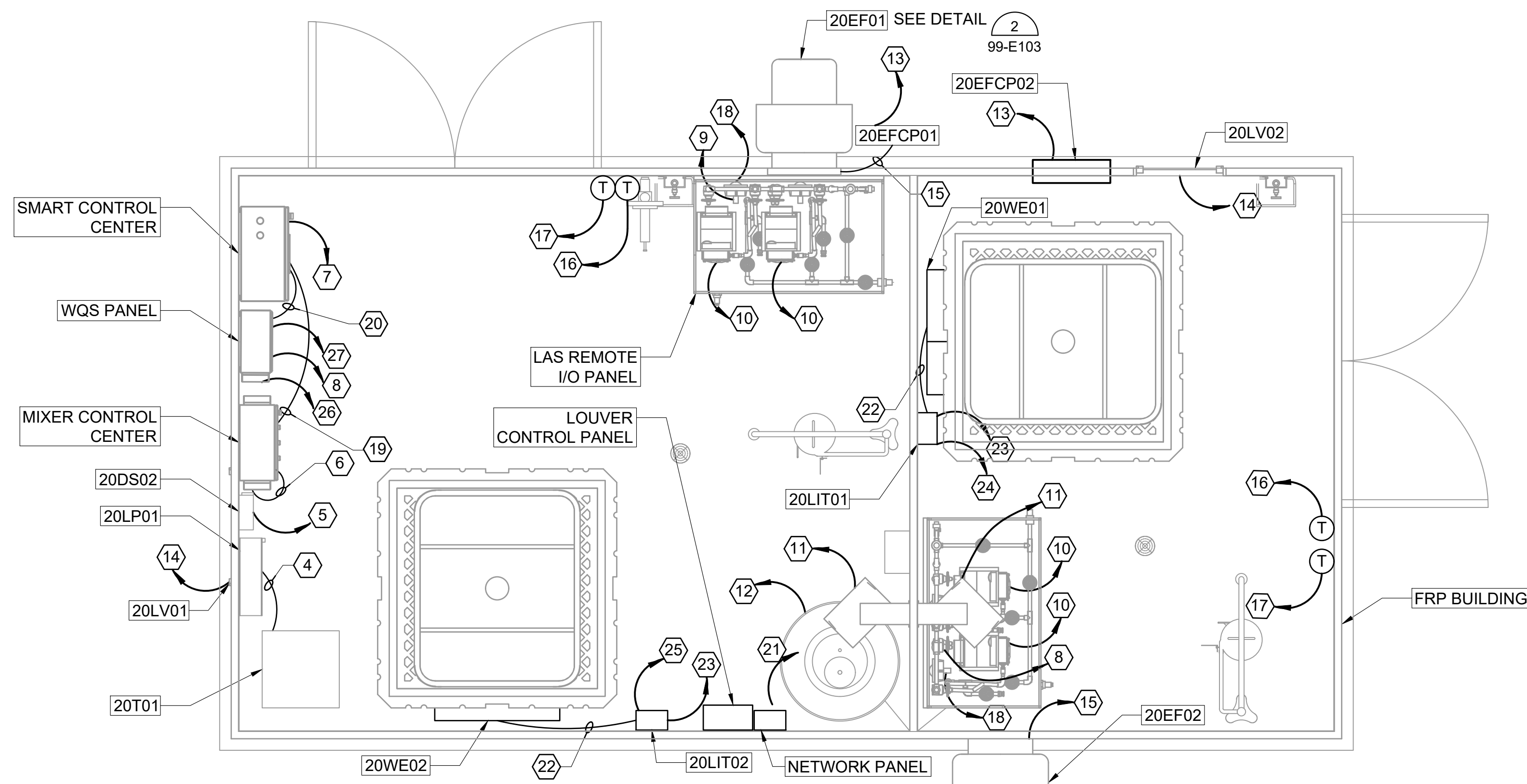
DIGITALLY SIGNED: 8/27/2021

**GENERAL NOTES:**

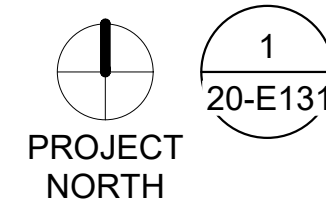
1. ALL CONDUIT FILL AND WIRE BEND RADIUS REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
2. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER IN THE FIELD FOR ALL EQUIPMENT LAYOUTS, CLEARANCES, LOCATIONS AND CONDUIT ROUTINGS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING, TERMINATIONS, ENCLOSURES, AND OTHER ITEMS AS NECESSARY FOR COMPLETE AND FUNCTIONAL SYSTEMS. CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLANS FOR ITEMS AS MAY BE REQUIRED.
4. UNLESS OTHERWISE NOTED, ALL CONDUIT SHALL BE ROUTED EXPOSED. UNLESS OTHERWISE NOTED, ALL CONDUIT AND PORTIONS OF THE CONDUIT SYSTEM SHALL BE ALUMINUM. ALL BOXES, SUPPORTS, HANGERS, UNISTRUT, AND ALL OTHER PORTIONS OF THE CONDUIT ALUMINUM. ALL BELOW GRADE CONDUIT SHALL BE SCHEDULE 40 PVC WITH GALVANIZED ELBOWS IN A CONCRETE DUCTBANK.
5. CONTRACTOR SHALL COORDINATE CONDUIT, WIRE AND INTERCONNECTIONS AS REQUIRED BY EQUIPMENT SUPPLIER. NOT ALL CONNECTIONS SHOWN.
6. CONDUIT ROUTING IS SCHEMATIC ONLY. SOME CONDUIT RUNS OMITTED FOR CLARITY. FIELD COORDINATE ALL CONDUIT ROUTING PRIOR TO INSTALLATION.
7. VERIFY LOCATION OF ALL FIXTURES WITH OWNER AND ENGINEER PRIOR TO INSTALLATION.
8. EMERGENCY EXIT INDICATORS TO BE CONNECTED TO UN-SWITCHED LEG OF CIRCUIT.
9. USE CRIMPED OR BOLTED CONNECTIONS FOR ALL CONNECTIONS BETWEEN CONDUCTORS AND BUILDING SYSTEM COMPONENTS. USE EXOTHERMIC WELDED CONNECTIONS FOR ALL UNDERGROUND PORTIONS OF THE SYSTEM WITH THE EXCEPTION OF GROUND ROD TEST WELLS.
10. BOND GROUND RING TO DUCT BANK GROUND WIRES.
11. MINIMUM LIGHTNING PROTECTION ITEMS SHOWN. FINAL LIGHTNING PROTECTION SYSTEM SHALL BE DEVELOPED AND SUBMITTED BY MASTER INSTALLER/DESIGNER CERTIFIED BY UL OR LPI AS REQUIRED IN SPECIFICATION SECTION 26 41 13.
12. SEE SHEETS 99-E101 THRU 99-E103 FOR GROUNDING STANDARD DETAILS.

**KEYED NOTES:**

- 1 SEE ONE-LINE ON 20-E501 FOR CONDUIT AND CONDUCTORS SIZING.
- 2 TO MAIN DISCONNECT SWITCH 20DS01, 480VAC POWER FROM MCC IN PUMP STATION BUILDING.
- 3 480 VAC POWER FROM MAIN DISCONNECT SWITCH 20DS01 TO 20T01.
- 4 240 VAC POWER FROM 20T01 TO 20LP01.
- 5 (2-#12, #12G) 3/4"C, 240 VAC POWER FROM 20LP01 TO 20DS02.
- 6 (3-#10, #12G) 1"C, 240 VAC POWER FROM 20DS02 TO MIXER CONTROL CENTER.
- 7 (2-#12, #12G) 3/4"C, 120 VAC POWER FROM 20LP01 TO SMART CONTROL PANEL.
- 8 (2-#12, #12G) 3/4"C, 120 VAC POWER FROM 20LP01 TO WQS PANEL.
- 9 (2-#12, #12G) 3/4"C, 120 VAC POWER FROM 20LP01 TO PANEL AT FEED SKID.
- 10 (2-#10, #12G) 3/4"C, 120 VAC POWER FROM 20LP01 TO PWMP AT FEED SKID.
- 11 (2-#12, #12G) 3/4"C, 240 VAC POWER FROM 20LP01 TO 20UH0X.
- 12 (3-#6, #10G) 3/4"C, 120 VAC POWER FROM 20LP01 TO 20WH01.
- 13 (2-#12, #12G) 3/4"C, 120 VAC POWER FROM 20LP01 TO 20EFCP0X.
- 14 (2-#12, #12G) 3/4"C, 120 VAC POWER FROM EFCP01 TO 20LV0X.
- 15 (2-#12, #12G) 3/4"C, 120 VAC POWER FROM EFCP01 TO 20EF0X.
- 16 (MFR.PROVIDED CABLE) 3/4" C, FROM THERMOSTAT TO 20UH0X.
- 17 (MFR.PROVIDED CABLE) 3/4" C, FROM THERMOSTAT TO 20EFCP0X.
- 18 (1 STP CABLE) 3/4"C, MODBUS-485 COMMUNICATION FROM FEED SKID REMOTE I/O PANEL TO SMART CONTROL CENTER.
- 19 (1 STP CABLE) 3/4"C, MODBUS-485 COMMUNICATION FROM MIXER CONTROL CENTER TO SMART CONTROL CENTER.
- 20 (COPPER ETHERNET CABLE) 3/4", ETHERNET COMMUNICATION FROM WQS PANEL TO SMART CONTROL CENTER.
- 21 TO NETWORK PANEL, FIBER COMMUNICATION FROM NETWORK SWITCH IN PUMP STATION BUILDING.
- 22 MANUFACTURER SUPPLIED CABLE FROM 20LIT0X TO 20WE0X.
- 23 (2-#12, #12G) 3/4"C, 120VAC POWER FROM 20LIT0X TO 20LP01.
- 24 (2-#12, #12G) 3/4"C, SIGNAL CABLE FROM 20LIT0X TO HYPO REMOTE I/O PANEL.
- 25 (2-#12, #12G) 3/4"C, SIGNAL CABLE FROM 20LIT0X TO LAS REMOTE I/O PANEL.
- 26 CONTRACTOR SHALL FURNISH AND INSTALL ALLEN BRADLEY 600-TAX216 (OR EQUIVALENT) NEMA SINGLE PHASE MANUAL STARTING SWITCH WITH NEON PILOT LIGHT, TO CONTROL SAMPLE PUMP. (2-#12,#12G) 3/4"C, 120 VAC FROM 20LP01 TO MANUAL STARTING SWITCH.
- 27 (2-#10, #10G) 1"C, 120VAC POWER FROM WATER SAMPLE LINE HEAT TRACE TO 20LP01.
- 28 (3-#10, #10G) 1"C, POWER FROM VFD IN MIXER CONTROL PANEL TO MIXER IN EXISTING STORAGE TANK.
- 29 (3-#10, #10G) 1"C, POWER FROM MANUAL STARTING SWITCH TO SAMPLE PUMP IN EXISTING STORAGE TANK.



**CHEMICAL BUILDING POWER PLAN**



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

TYPICAL 3/4" X 10' COPPERCLAD GROUND ROD (TYP.)

GROUND BAR CONNECTION DETAIL SEE DETAIL: 1 99-E103

AIR TERMINAL (TYP.) SEE DETAIL: 2 99-E102

GROUND ROD AND TEST WELL (TYP.) SEE DETAIL:

SMART CONTROL CENTER

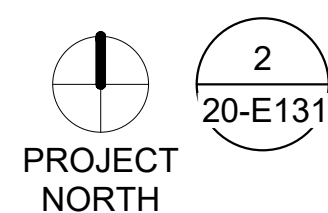
#4/0 BARE TINNED COPPER GROUND WIRE (TYP.)

WQS PANEL

TYPICAL 3/4" X 10' COPPERCLAD GROUND ROD (TYP.)

MIXER CONTROL CENTER

LIGHTNING PROTECTION CONDUCTOR SIZED BY MASTER INSTALLER/DESIGNER.



**CHEMICAL BUILDING LIGHTING PLAN**

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

File: I:\2017\17088170 - addison chloramine booster station\Drawings\ACBS-20-E131-PP.dwg, Last Save: 11/23/2020 2:25 PM, Last saved by: B.Schong, Last plotted by: Medina, Carlos, Plot Style: AECmon.ctb, Plot Scale: 1:1, Plot Date: 11/23/2020 4:03 PM, Plotter used: DWG To PDF, p3

BY	DATE	DESCRIPTION

TOWN OF ADDISON  
ADDISON, TEXAS

ADDISON

ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

CHEMICAL BUILDING ELECTRICAL POWER AND LIGHTING PLAN

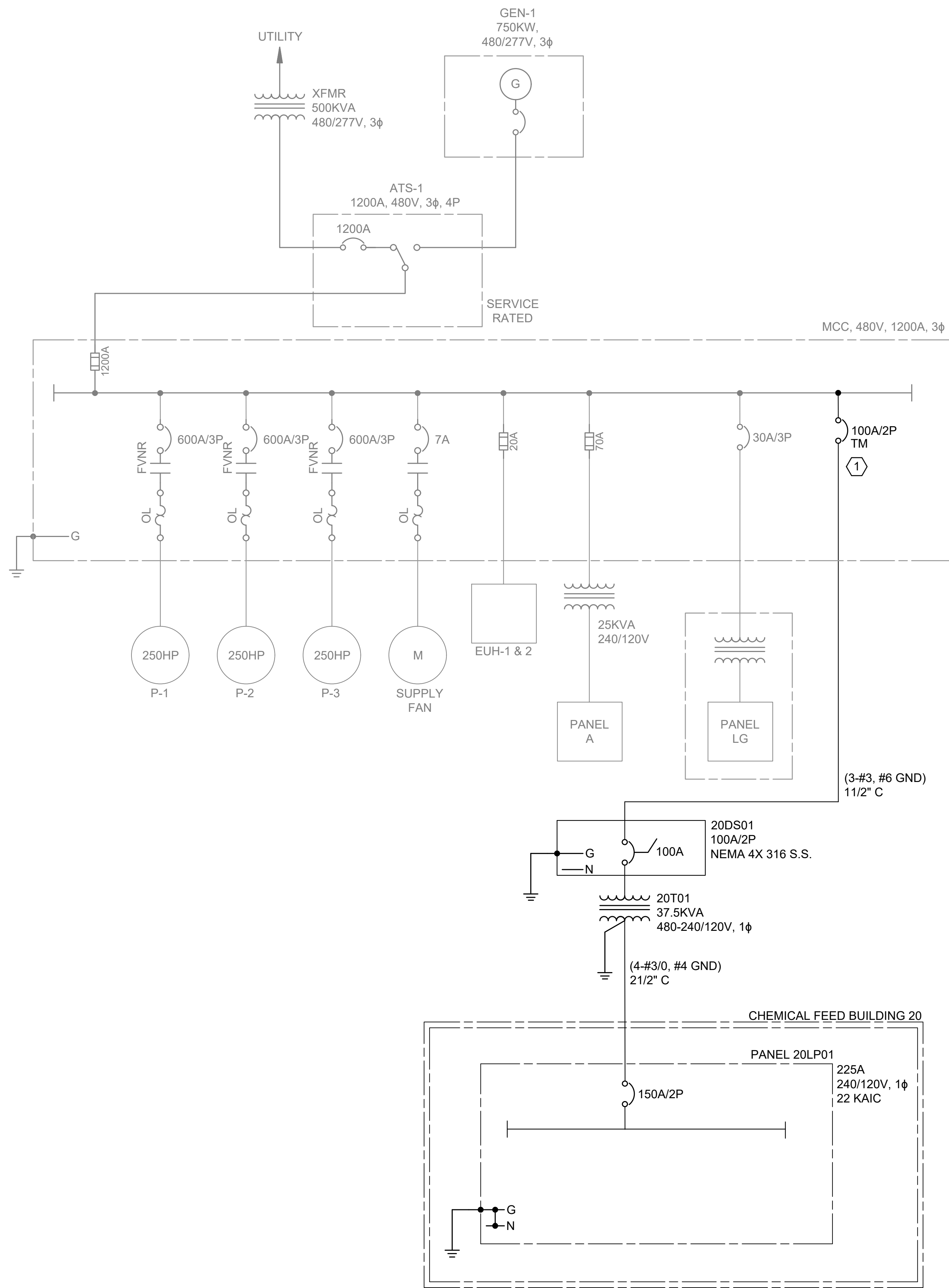
JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: BSC  
DRAWN BY: CM

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DRAWING NUMBER  
**20-E131**

SHEET NUMBER  
**19**





**GENERAL NOTES:**

1. BOLD FONT/LINE REFER TO NEW ITEMS. GRAYED FONT/LINES REFER TO EXISTING ITEMS.
2. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 NATIONAL ELECTRICAL CODE, NFPA 101 LIFE SAFETY CODE, NFPA 70E ELECTRICAL SAFETY CODE, STATE ELECTRICAL CODE, AND LOCAL ELECTRICAL CODE.
3. COORDINATE ALL ELECTRICAL WORK AND POWER OUTAGES WITH OWNER.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING, TERMINATIONS, AND OTHER ITEMS AS NECESSARY. THE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS AND OTHER SECTIONS OF THE PLAN FOR ITEMS AS MAY BE REQUIRED.
5. CONTRACTOR SHALL COORDINATE WIRE, AND INTERCONNECTIONS AS REQUIRED BY EQUIPMENT SUPPLIERS. MAKE ALL REQUIRED CONNECTIONS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NOT ALL CONNECTIONS SHOWN.
6. ALL BELOW GRADE CONDUIT SHALL BE SCHEDULE 40 PVC WITH GALVANIZED ELBOWS.

**KEY NOTES:**

- ① CONTRACTOR SHALL FURNISH AND INSTALL NEW SECTION TO EXISTING MCC, WITH NEW FUSED DISCONNECT TO FEED 20DS01 AT NEW CHEMICAL FEED BUILDING 20.

1  
20-E502

**SURVEYOR PUMP STATION ONE-LINE**  
SCALE: NONE



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TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

ONE-LINE DIAGRAM

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DATE: SEPT. 2021  
DESIGNED BY: BSC  
DRAWN BY: CM

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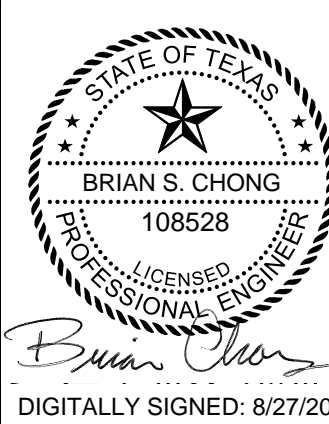
DRAWING NUMBER  
**20-E501**  
SHEET NUMBER  
**20**





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DIGITALLY SIGNED: 8/27/2021

LIGHT FIXTURE SCHEDULE										
MARK	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMPS	SIZE	VOLTAGE	MOUNTING	REMARKS		
A	LITHONIA	ZL1F-L48-4500LM-MDD-120-40K-80CRI-E7W-WH	PENDANT MOUNT LED LUMINAIRE. USE RIGID CONDUIT FOR PENDANT TO PREVENT SWAYING.	LED - 4500 LUMENS	4'Lx3"Wx3"D	120V	CEILING MOUNTED. REFER TO PLAN SHEETS FOR MOUNTING LOCATION.	6	2	38 WATTS PER FIXTURE
B	LITHONIA	WST LED-P1-40K-VV-120-PE-E7WHR-DBDXD	WET LOCATION WALL MOUNTED DOWNLIGHT	LED - 1500 LUMENS	4"Hx17"Wx10"D	120V	WALL MOUNTED. MOUNTING HEIGHTS VARY. REFER TO PLAN SHEETS. CENTER OVER DOOR IF APPLICABLE.	1	6	14 WATTS PER FIXTURE
X	LITHONIA	LQM-S-W-3-120/277-EL N-SD	EXIT LIGHT COMPLETE WITH BATTERY AND CHARGER	LED INCLUDED	8"Hx12"Wx2"D	120V	PROVIDE BRACKET MOUNT. END MOUNT OR BACK MOUNT BRACKETS AS REQUIRED. DO NOT SWITCH.	3	4	1 WATTS PER FIXTURE

**1** LIGHT FIXTURE SCHEDULE  
 20-E601 SCALE: NONE

GENERAL NOTES:

- LAMP COLOR TEMPERATURE SHALL BE 4000K.

KEYED NOTES:

- PROVIDE FIXTURE LISTED AND LABELED FOR WET LOCATION.
- PROVIDE FIXTURE WITH PENDANT STEMS OF LENGTH TO ACCOMPLISH INDICATED MOUNTING HEIGHT ON PLAN SHEETS.
- PROVIDE FIXTURE WITH UNIVERSAL MOUNTING HARDWARE. INSTALL FIXTURE FOR WALL MOUNTING ONLY. PROVIDE FIXTURE WITH SINGLE OR DOUBLE FACE AS INDICATED. PROVIDE ARROWS IF AND AS SHOWN.
- PROVIDE FIXTURE WITH SELF DIAGNOSTICS.
- PROVIDE FIXTURE LISTED AND LABELED FOR DAMP LOCATION.
- 90 MINUTE EMERGENCY OPERATION REQUIRED WHERE INDICATED IN PLAN.

CIRCUIT					LOAD AMPS	DESCRIPTION	NOTES	BREAKER		CKT. #	A	B	CKT. #	BREAKER		NOTES	DESCRIPTION	LOAD AMPS	CIRCUIT					
SETS	WIRE	NEUT.	GND.	COND.				POLE	AMP.					AMP.	POLE				SETS	WIRE	NEUT.	GND.	COND.	
1	#4	#4	#8	1"	51.7	20WH01		2	70	1	A	2	20	2			20UH01	8.3	1	#12	#12	#12	3/4"	
					51.7					3	B	4												
1	#12	#12	#12	3/4"	3.0	EFCP1 EXHAUST FAN CTRL PNL		1	15	5	A	6	20	2			20UH02	8.3	1	#12	#12	#12	3/4"	
1	#12	#12	#12	3/4"	3.0	EFCP2 EXHAUST FAN CTRL PNL		1	15	7	B	8												
1	#12	#12	#12	3/4"	10.0	SMART CONTROL CENTER		1	20	9	A	10	15	1			HYPO FEED SKID	0.8	1	#12	#12	#12	3/4"	
1	#10	-	#10	1"	17.0	MIXER CONTROL CENTER		2	30	11	B	12	15	1			LAS FEED SKID	0.8	1	#12	#12	#12	3/4"	
					17.0					13	A	14	15	1			WATER QUALITY STATION	4.0	1	#12	#12	#12	3/4"	
1	#12	#12	#12	3/4"	0.7	OUTSIDE LIGHTS		1	15	15	B	16	20	1			CHLR FEED SYS BOOST PUMPS	12.5	1	#12	#12	#12	3/4"	
1	#12	#12	#12	3/4"	3.2	ELEC ROOM LIGHTS		1	15	17	A	18	20	1			AMM FEED SYS BOOST PUMPS	12.5	1	#12	#12	#12	3/4"	
1	#12	#12	#12	3/4"	3.0	RECEPTACLES		1	15	19	B	20	15	1			20LIT01	1.7	1	#12	#12	#12	3/4"	
1	#12	#12	#12	3/4"	3.0	RECEPTACLES		1	15	21	A	22	15	1			20LIT02	1.7	1	#12	#12	#12	3/4"	
1	#12	#12	#12	3/4"	3.0	RECEPTACLES		1	15	23	B	24	20	1			WATER SAMPLE PUMP	16.0	1	#10	#10	#12	1"	
					0.0	SPARE		2	30	25	A	26	20	1			HEAT TRACE H2O SAMPLE LINE	8.3	1	#12	#12	#12	3/4"	
					0.0					27	B	28	20	1			SPARE		1					
					0.0	SPACE		1		29	A	30	20	1			SPARE		1					
					0.0	SPACE		1		31	B	32		1			SPACE		1					
					0.0	SPACE		1		33	A	34		1			SPACE		1					
					0.0	SPACE		1		35	B	36		1			SPACE		1					

PANEL NO.:	20LP01
USAGE:	PANELBOARD
LOCATION:	CHEMICAL BUILDING 20
PHASES:	1
L-L VOLTS	240
L-G VOLTS	120
BUS AMPS:	225
MAIN CB AMPS:	150
AIC RATING:	10000 MINIMUM
PROJECT:	ADDISON CHLORAMINE SURVEYOR
CLIENT:	ADDISON
MOUNTING:	SURFACE
PANEL TYPE:	PANELBOARD
ENGINEER:	RLC
PROJECT NO.:	17088170
FED FROM:	20TX01

PANEL NOTES:

- PROVIDE GROUND BUS.
- PROVIDE FULL SIZE NEUTRAL BUS UNLESS NOTED OTHERWISE.

LOAD SUMMARY	CON. KVA	%	DEM. KVA
RECEPTACLES	2.28	code	2.28
MOTORS	4.04	100%	4.04
LIGHTS (INT.)	0.38	125%	0.48
LIGHTS (EXT.)	0.08	125%	0.11
HVAC (HEAT)	4.00	100%	4.00
HVAC (COOL)	0.72	100%	0.72
VENTILATION	0.00	100%	0.00
KITCHEN	0.00	65%	0.00
EMERGENCY	0.00	100%	0.00
MISC.	13.48	100%	13.48
FUTURE	0.00	100%	0.00
OTHER	0.00	100%	0.00
TRACK	0.00	100%	0.00
LARGEST MTR	0.00	25%	0.00
TOTAL KVA	25		25
TOTAL AMPS	104		105

**2** 20LP01 PANEL SCHEDULE  
 20-E601 SCALE: NONE

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BY:			
DESCRIPTION:			
DATE:			
REV:			

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

ELECTRICAL SCHEDULES

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 DATE: SEPT. 2021  
 DESIGNED BY: BSC  
 DRAWN BY: CM

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**20-E601**  
 SHEET NUMBER  
**21**

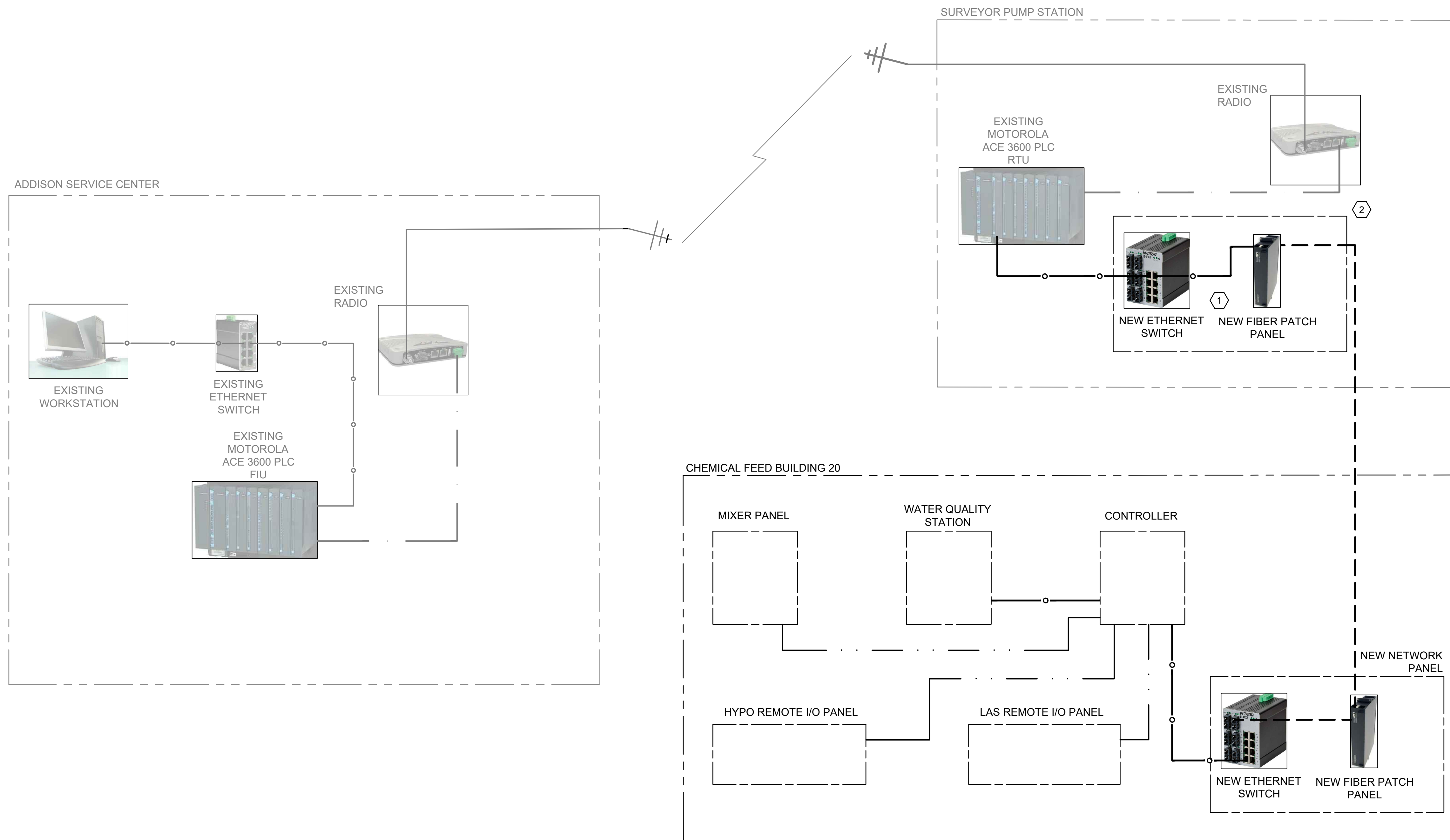


**GENERAL NOTES:**

- EXISTING INSTALLATION HARDWARE AND LINE TYPES ARE LIGHT/FADED. PROPOSED NEW HARDWARE AND LINE TYPES ARE DARK/BOLD.

**KEYED NOTES:**

- PROVIDE AND INSTALL FIBER PATCH PANEL AND ETHERNET SWITCH TO EXISTING PUMP STATION CONTROL PANEL. PROVIDE ALL REQUIRED HARDWARE, POWER, AND WIRES FOR NEW EQUIPMENT.
- COORDINATE NETWORK CONNECTION IN PUMP STATION WITH PRIME CONTROLS (972) 221-4849. MAKE REQUIRED MODIFICATIONS FOR COMMUNICATION BETWEEN SMART CONTROLLER IN CHEMICAL FEED BUILDING AND RTU AS REQUIRED.

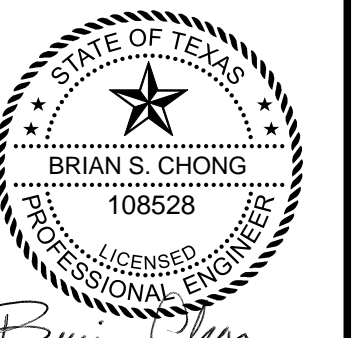


**1**  
E801 **SCADA INTERCONNECTION DIAGRAM**  
SCALE: NONE



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ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

CHEMICAL INJECTION SCADA INTERCONNECTION DIAGRAM

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: RLC  
DRAWN BY: JIV

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DRAWING NUMBER  
**20-E801**  
SHEET NUMBER  
**22**

**LINE TYPES:**

	AREA
	PACKAGE
	FIBER
	MODBUS 485
	RS-232
	CATEGORY 6 TWISTED PAIR/ ETHERNET
	COAX CABLE

File: I:\2017\17088170 - addison chloramine booster station\Drawings\ACBS-20-E801-SA.dwg Last Save: 11/23/2020 1:27 PM Last saved by: BSChong  
Last plotted by: Medina, Carlos Plot Style: AECmonochrome.ctb Plot Scale: 1:1 Plot Date: 11/23/2020 4:03 PM Plotter used: DWG To PDF, pc3



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TOWN OF ADDISON  
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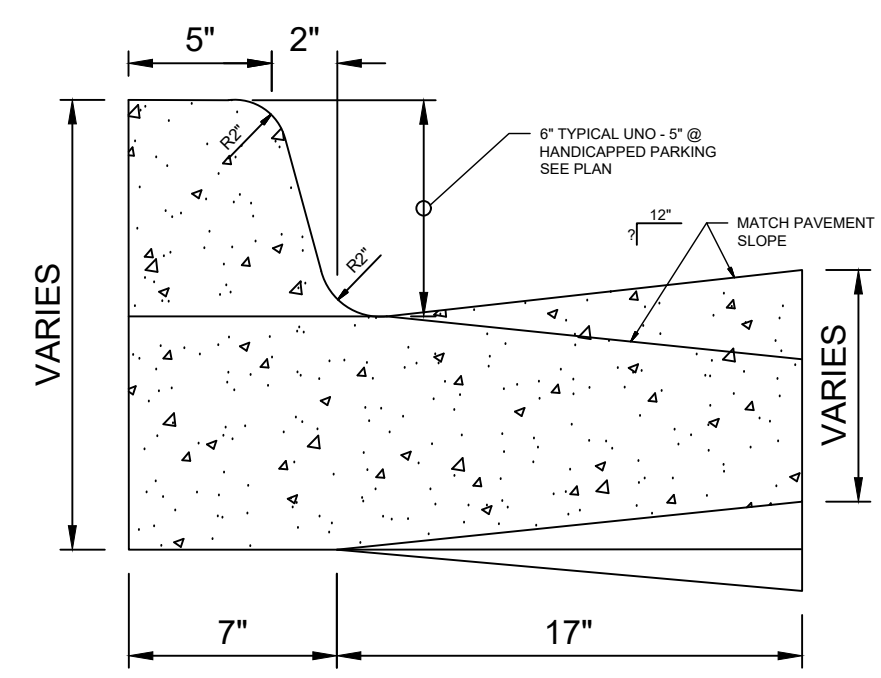
ADDISON  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

CIVIL STANDARD DETAILS I

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: CDG  
DRAWN BY: O.C.

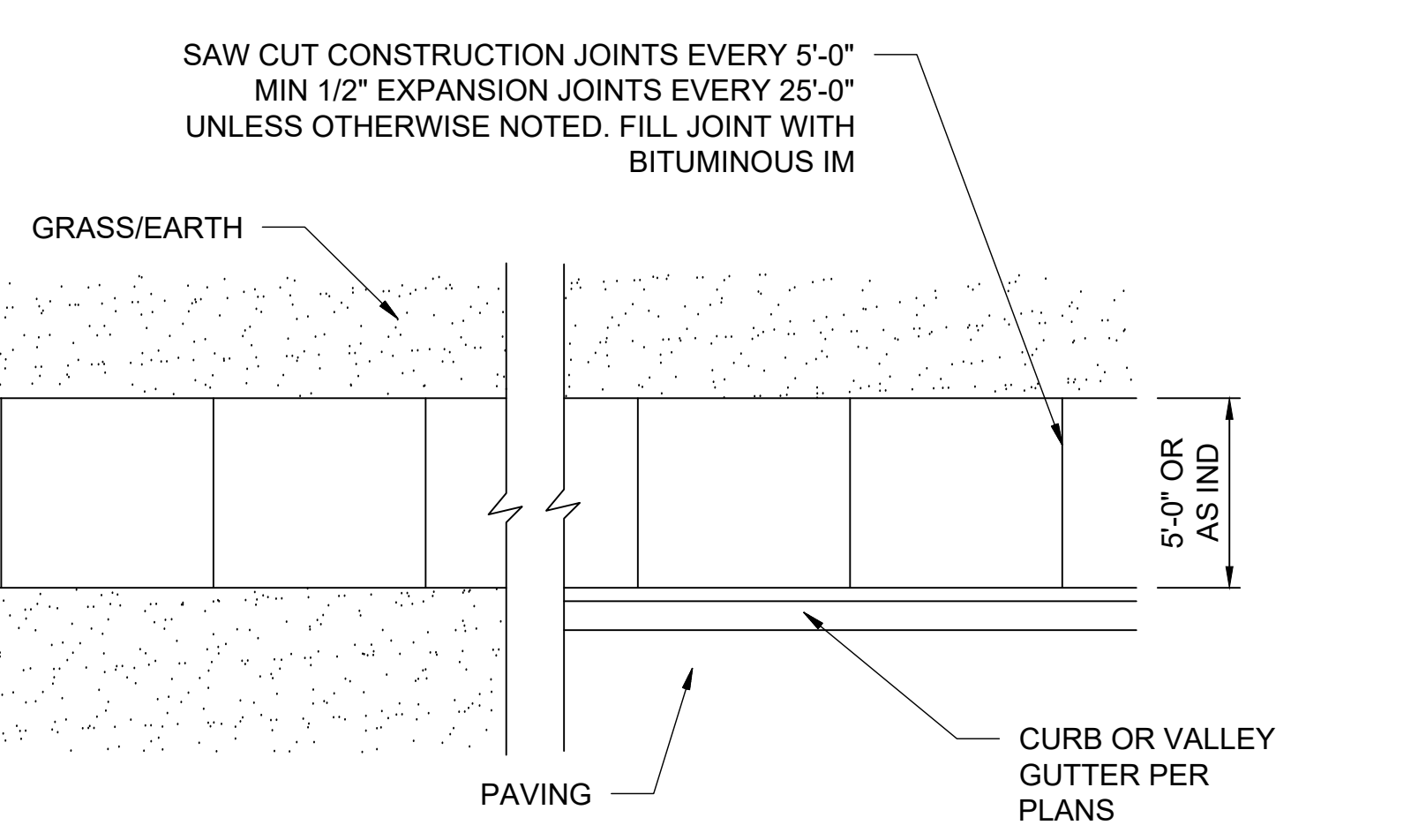
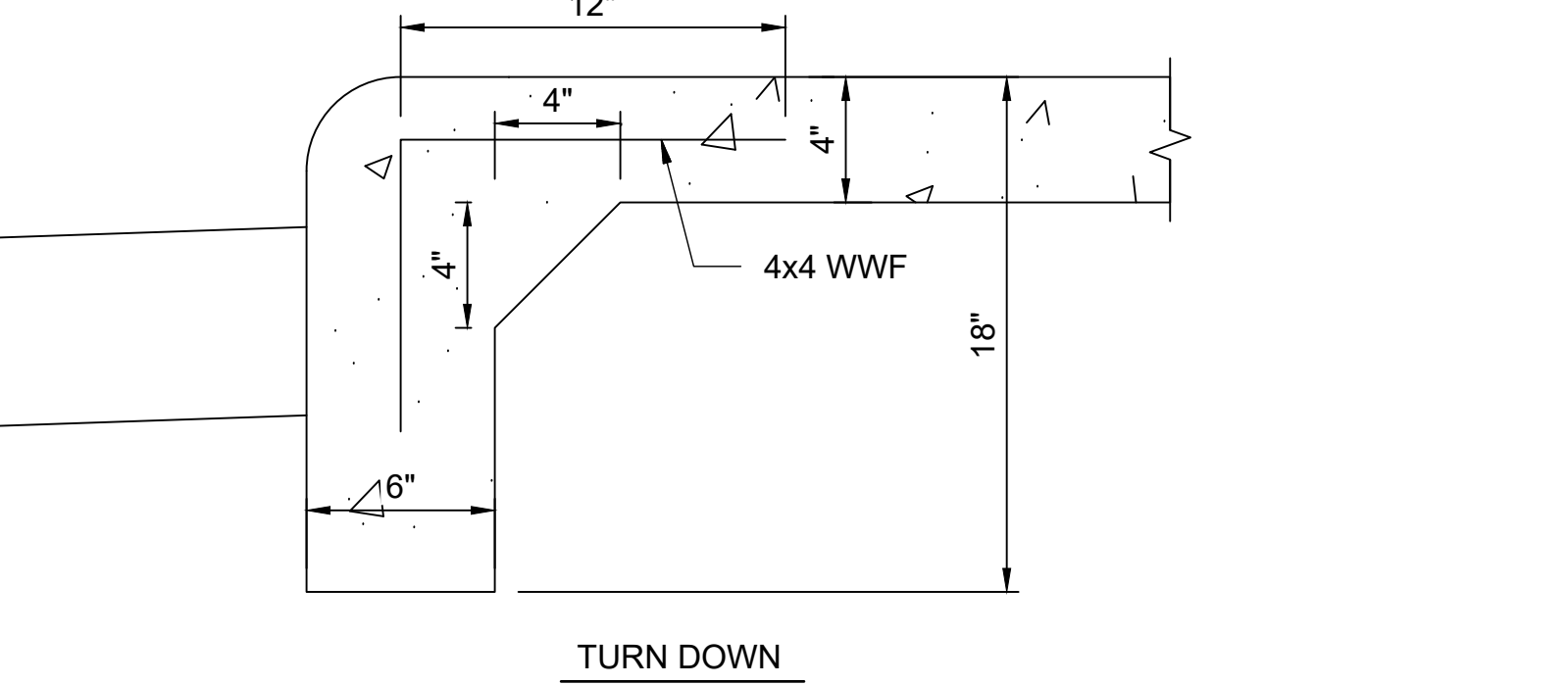
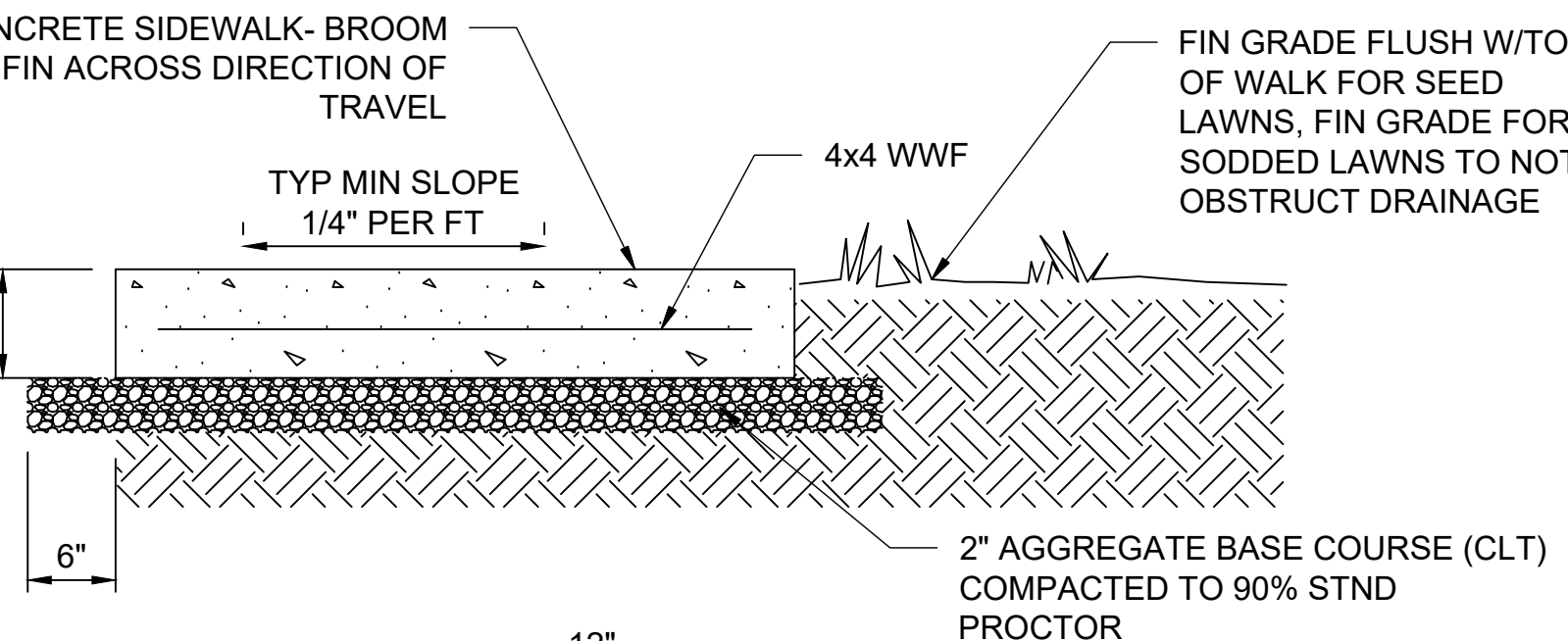
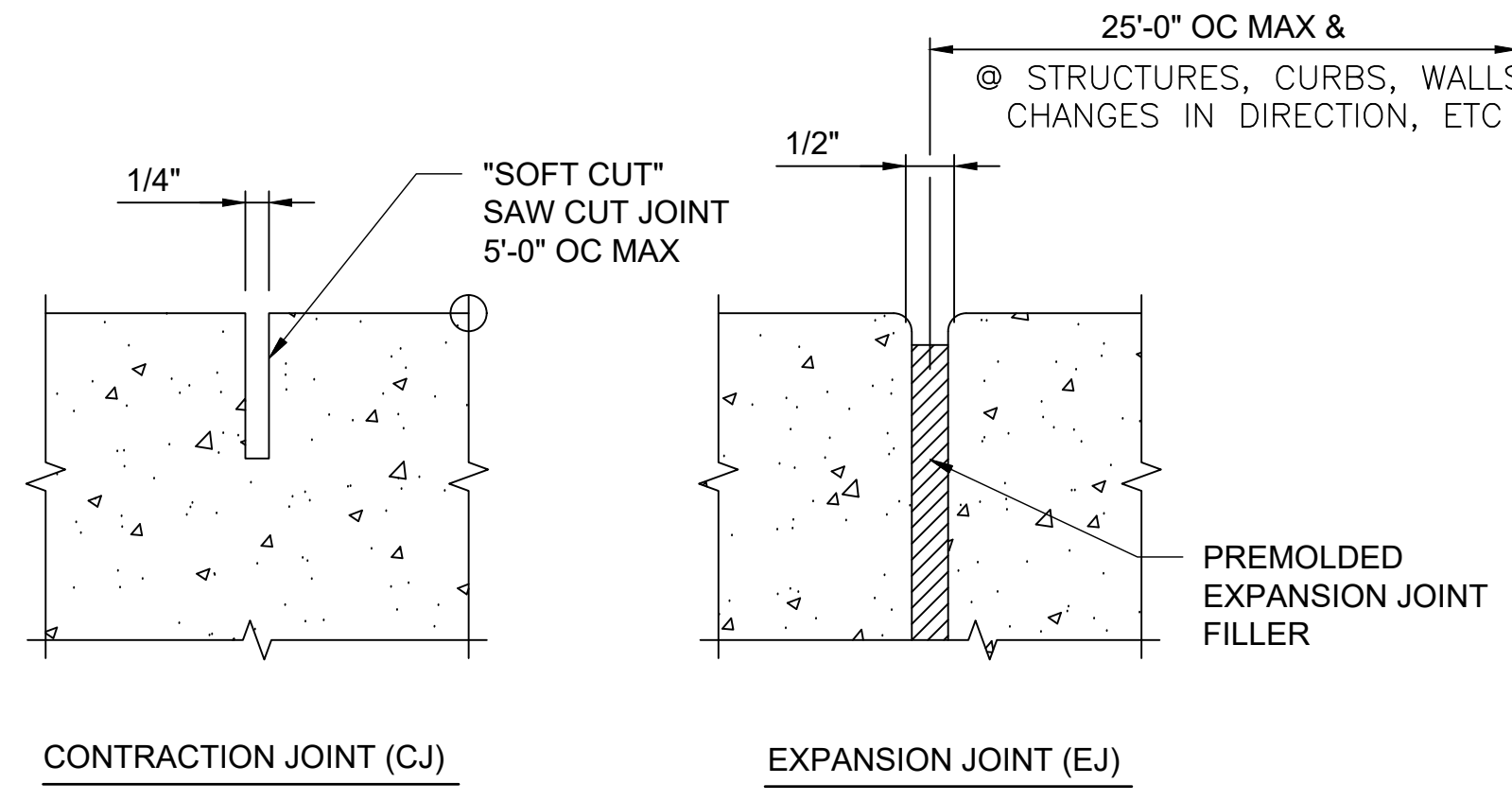
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**99-C101**  
SHEET NUMBER  
**23**



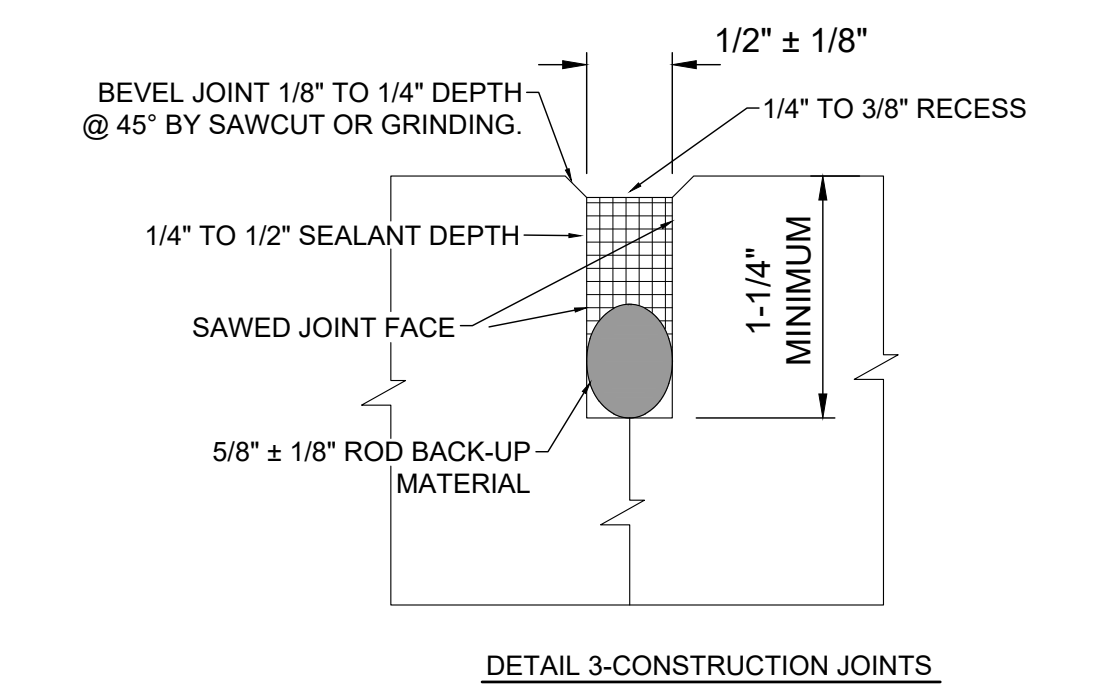
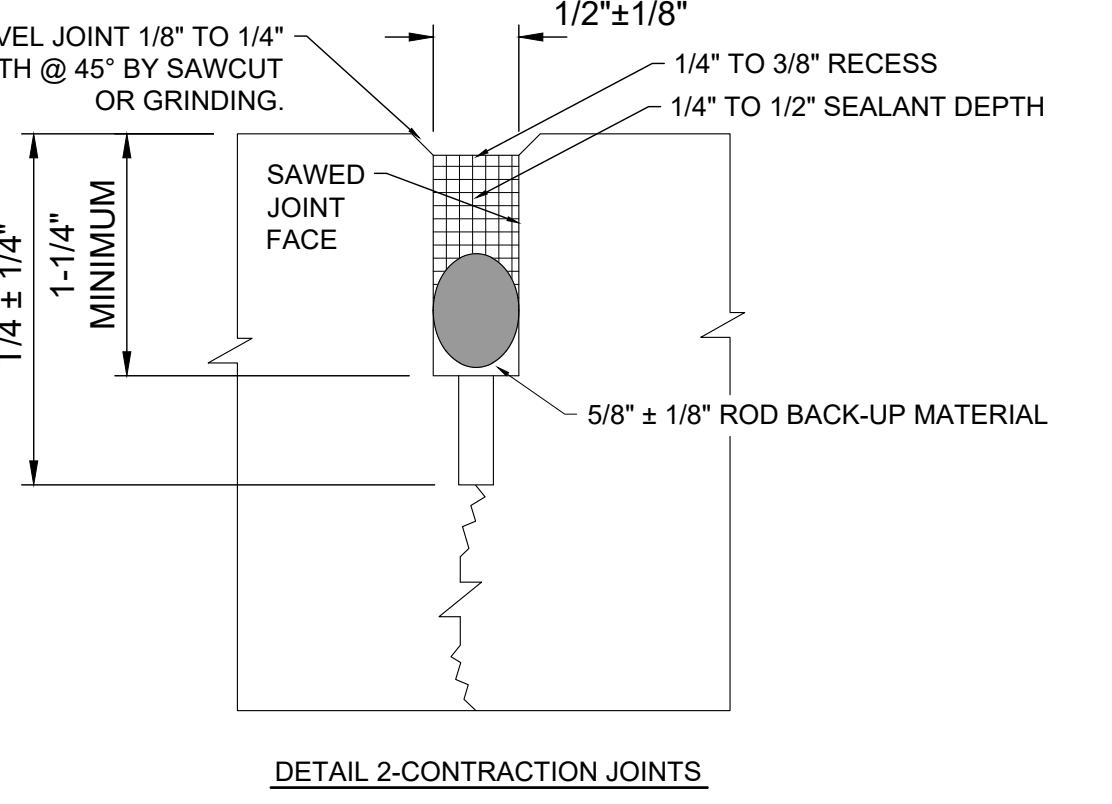
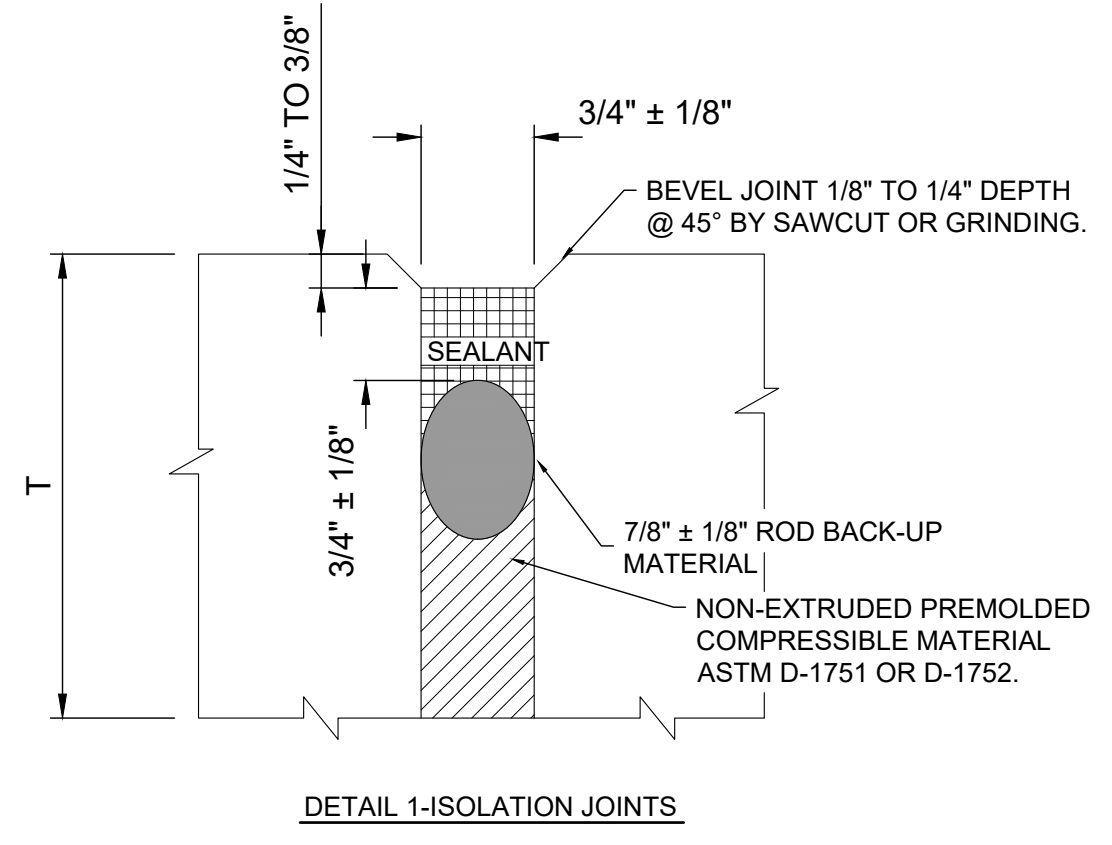
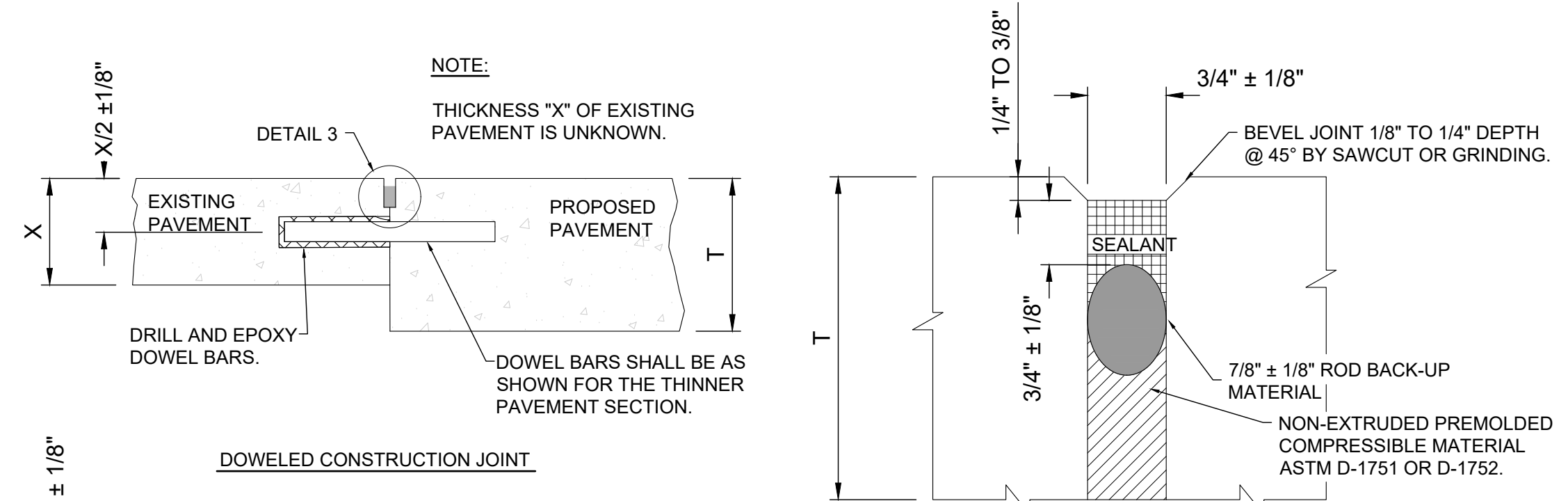
### 1 INTEGRAL CURB AND GUTTER

10-C102 99-C101 SCALE: NONE  
20-C102



### 5 TYPICAL SIDEWALK

10-C102 99-C101 SCALE: NONE  
20-C102



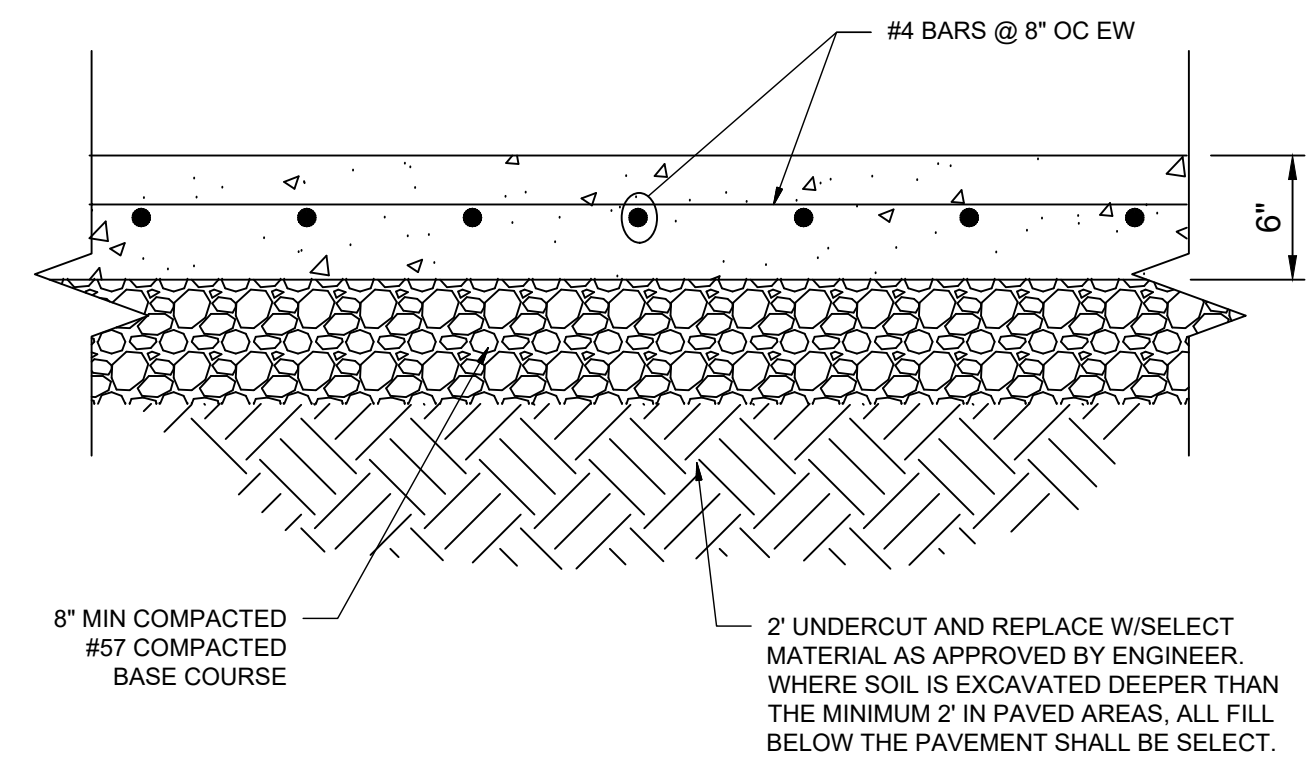
- CONCRETE PAVEMENT JOINTS:**
1. PROVIDE LONGITUDINAL CONTRACTION JOINT ALONG CENTER OF ALL DRIVES
  2. PROVIDE TRANSVERSE CONTRACTION JOINTS AT 15' CENTERS MAX.
  3. PROVIDE CONSTRUCTION JOINTS AT EDGES WHERE EXISTING PAVEMENT MEETS PROPOSED PAVEMENT
  4. PROVIDE JOINT LAYOUT PLAN TO ENGINEER FOR APPROVAL BEFORE BEGINNING CONSTRUCTION

**DOWEL BAR SPECIFICATIONS**

SLAB THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
6" TO 7"	3/4"	18"	12"
8" TO 12"	1"	19"	12"

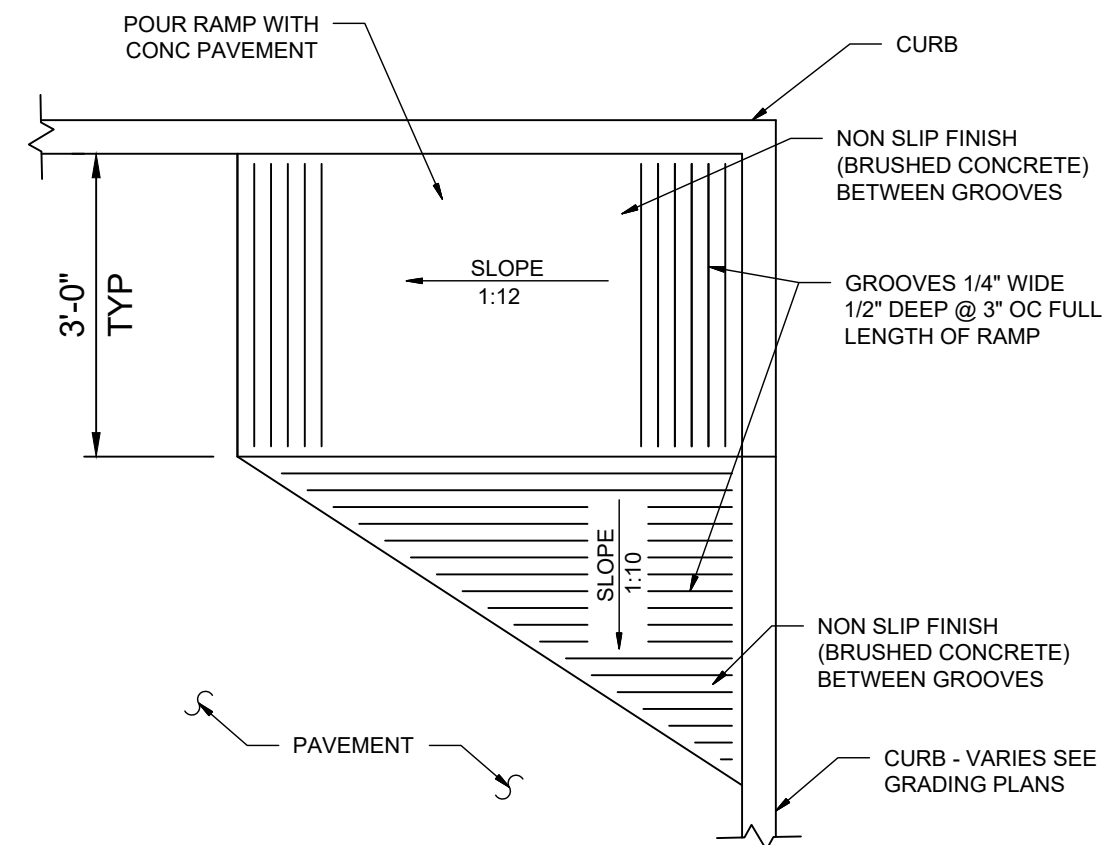
### 4 CONCRETE PAVEMENT JOINTING DETAILS

20-C102 99-C101 SCALE: NONE



### 2 CONCRETE PAVING

10-C102 99-C101 SCALE: NONE  
20-C102

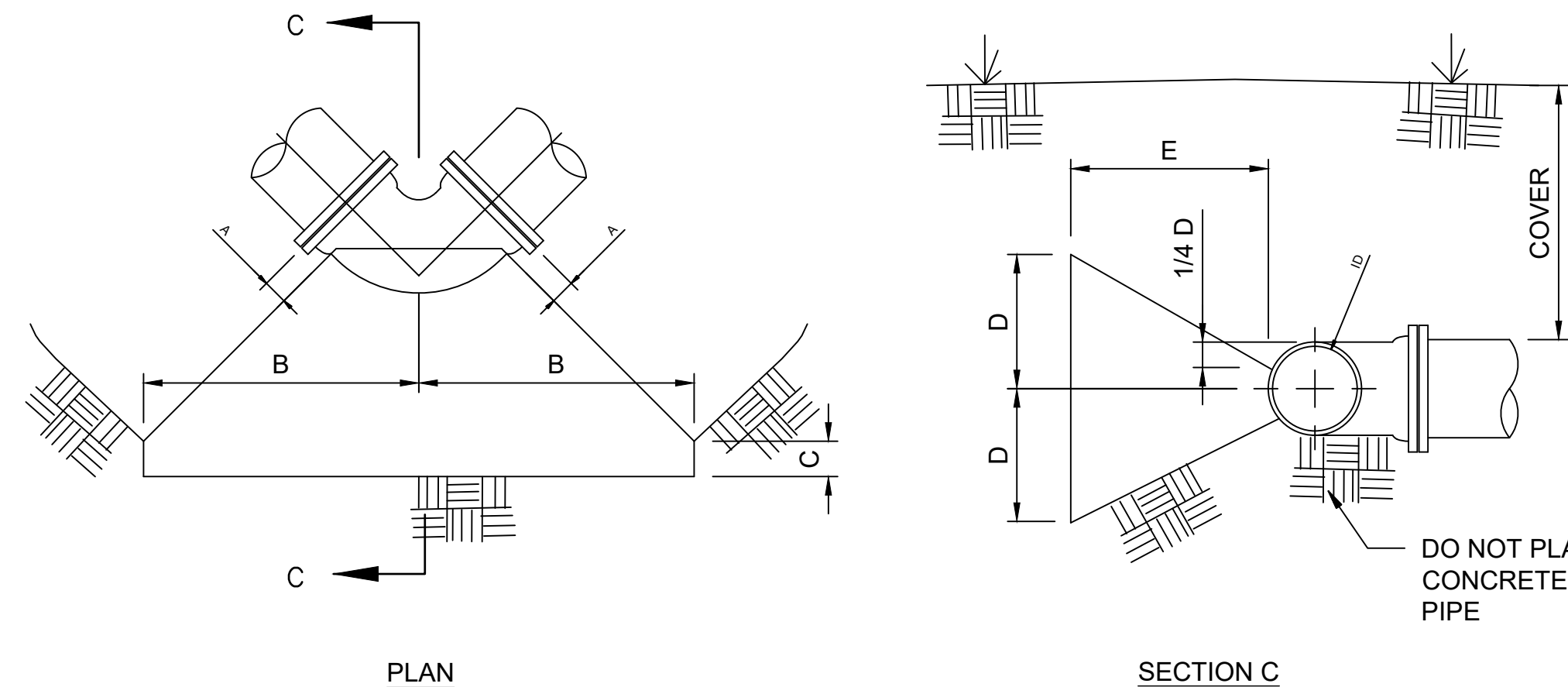


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10-C102 99-C101 SCALE: NONE



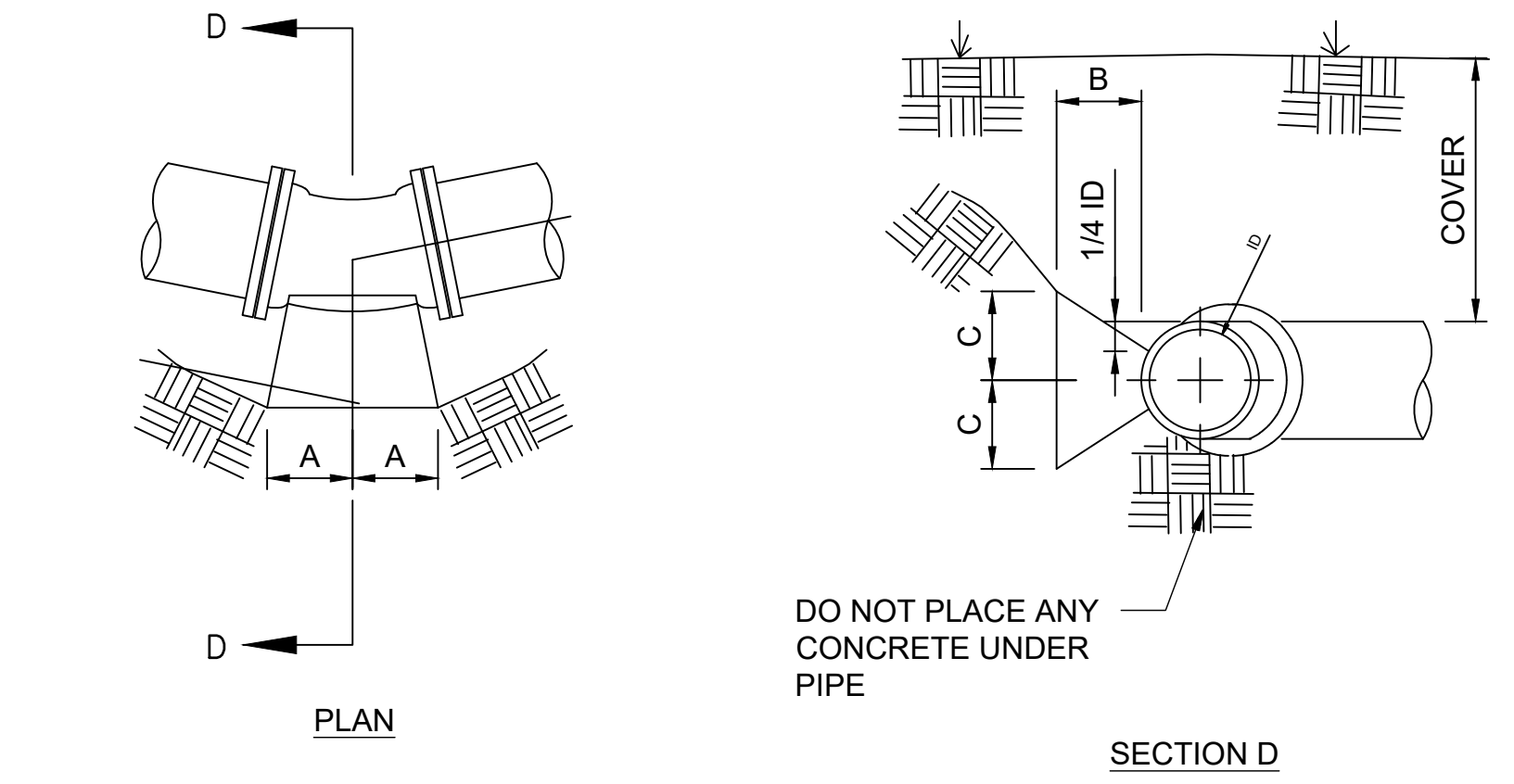
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Last plotted by: Hughes, Angela L., Plot Style: AECmono.ctb, Plot Date: 8/26/2021 2:21 PM, Plotter used: None



**TYPICAL CONCRETE BRACING FOR 90° BENDS**

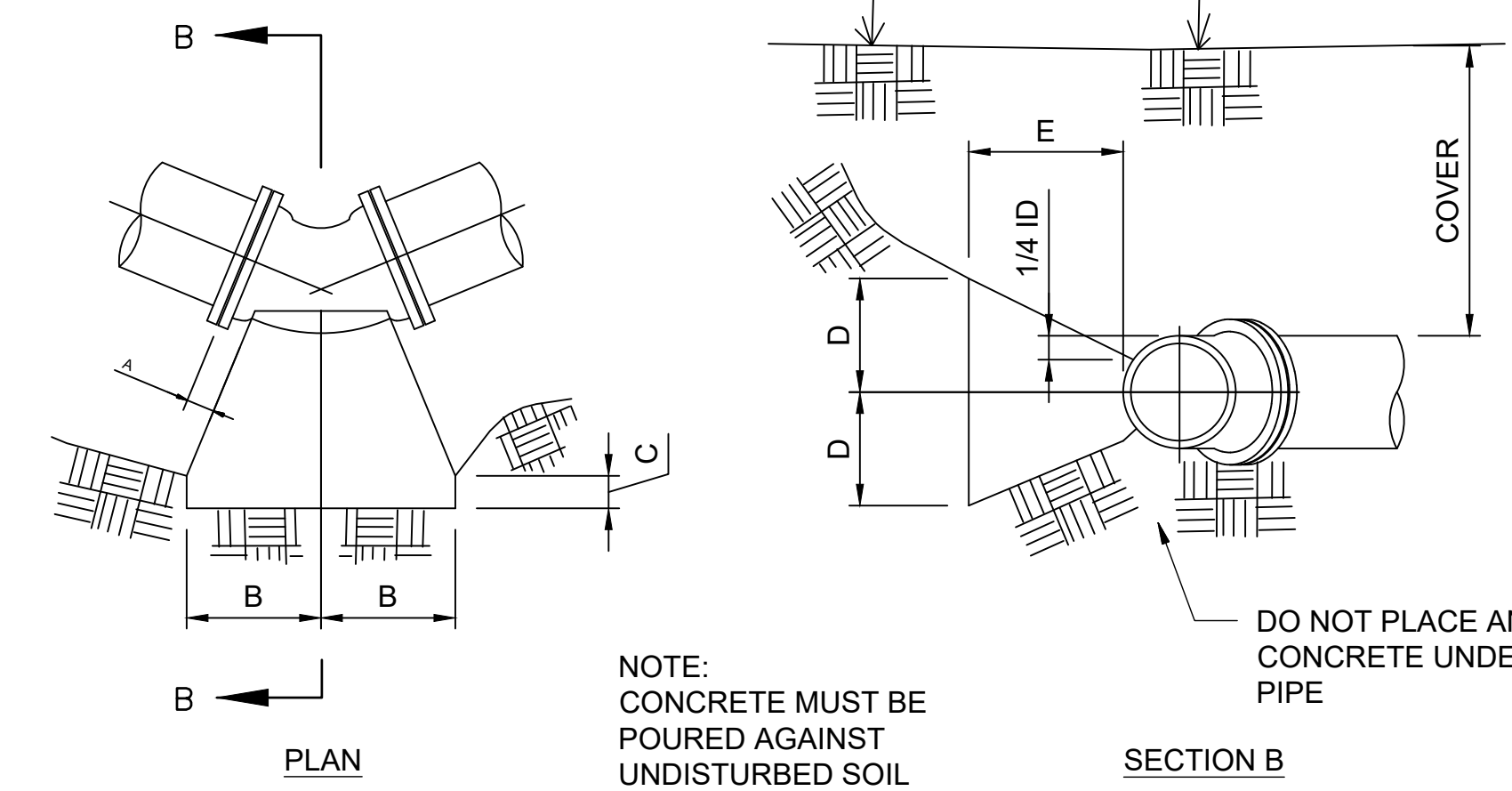
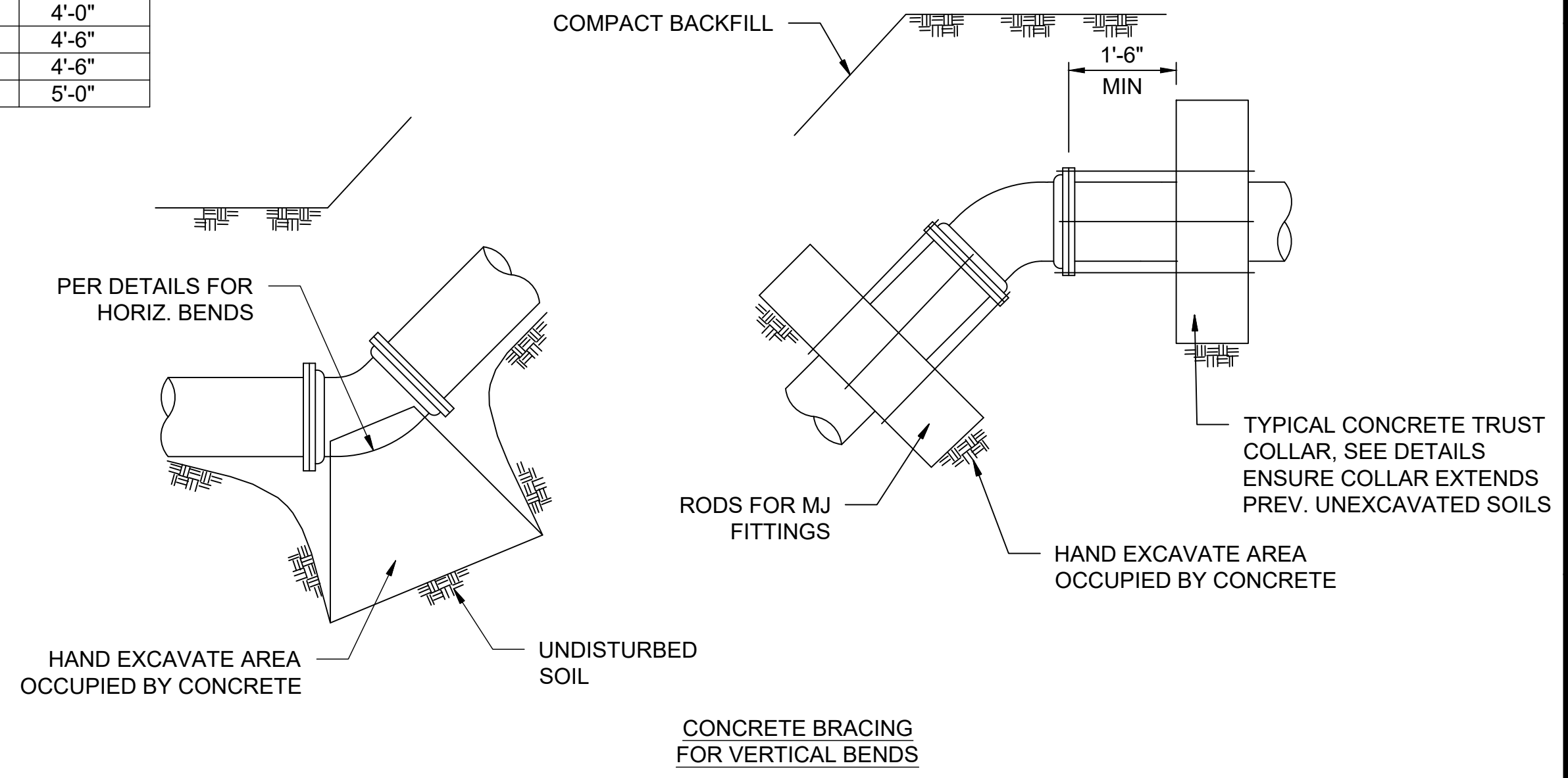
PIPE DIA.	A	B	C	D	E	MIN COVER
4"	4 1/2"	6"	1'-8"	6"	1'-10"	2'-6"
6"	4 1/2"	1'-0"	1'-7"	9"	1'-9"	2'-6"
8"	4 1/2"	1'-3"	1'-6"	1'-0"	1'-9"	2'-6"
10"	4 1/2"	2'-1"	1'-1"	1'-3"	1'-11"	3'-0"
12"	4 1/2"	2'-6"	1'-0"	1'-6"	1'-11"	3'-0"
14"	6"	2'-6"	1'-2"	1'-9"	2'-0"	3'-0"
16"	6"	2'-11"	1'-0"	2'-0"	2'-1"	3'-0"
18"	6"	3'-4"	1'-0"	2'-3"	2'-2"	3'-0"
20"	6"	3'-6"	1'-1"	2'-6"	2'-3"	3'-6"
24"	7"	4'-3"	8"	3'-0"	2'-5"	3'-6"
30"	8"	4'-7"	6"	3'-3"	2'-5"	4'-0"
36"	8"	5'-0"	6"	3'-6"	2'-10"	4'-6"
48"	9"	5'-4"	4"	3'-9"	3'-1"	4'-6"
54"	9"	5'-6"	4"	4'-0"	3'-7"	5'-0"

- GENERAL NOTES:**
- GENERAL DIMENSIONS SHALL BE CONSIDERED AS MINIMUMS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADDITIONAL AS REQUIRED FOR ACTUAL FIELD CONDITIONS ENCOUNTERED. CONTRACTOR TO ENSURE ALL THRUST RESTRAINT IS ADEQUATE.
  - ALL CONCRETE FOR THRUST RESTRAINT SHALL BEAR AGAINST FIRM UNDISTURBED SOILS.
  - CONTRACTOR SHALL WRAP ALL ACCESSORIES BOLTS, NUTS, CONNECTIONS, ETC. IN PLASTIC SUCH THAT THEY CAN BE REMOVED WITHOUT THE NEED FOR CONCRETE REMOVAL.
  - UNLESS IND. OTHERWISE IN PLANS, ALL FITTINGS SHALL BE RJ OR MJ WITH RESTRAINING FOLLOWER GLANDS. RESTRAINING FOLLOWER GLANDS SHALL BE MEGA-LUG, ROMAC, OR EQUAL. RETAINER GLANDS NOT ALLOWED.



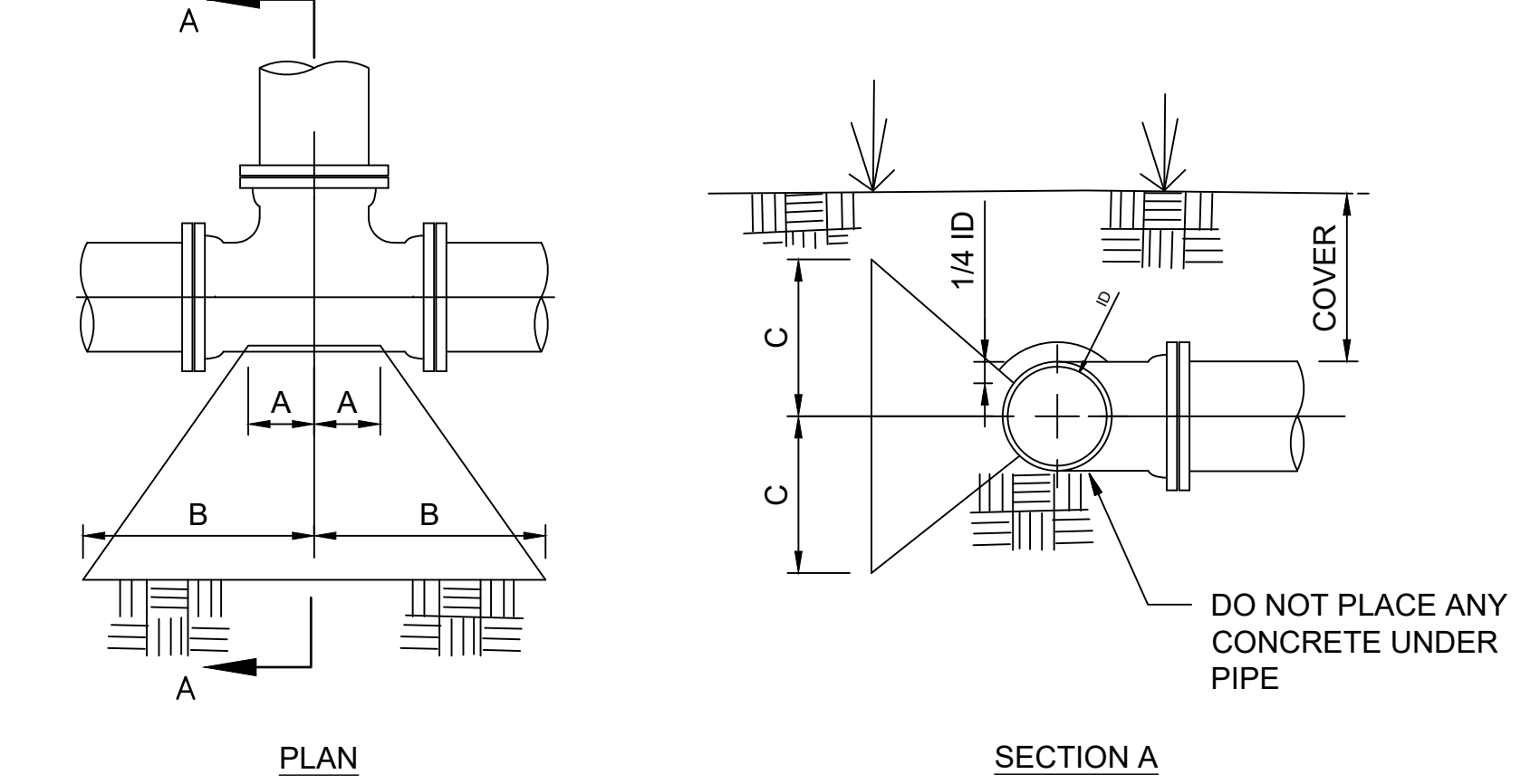
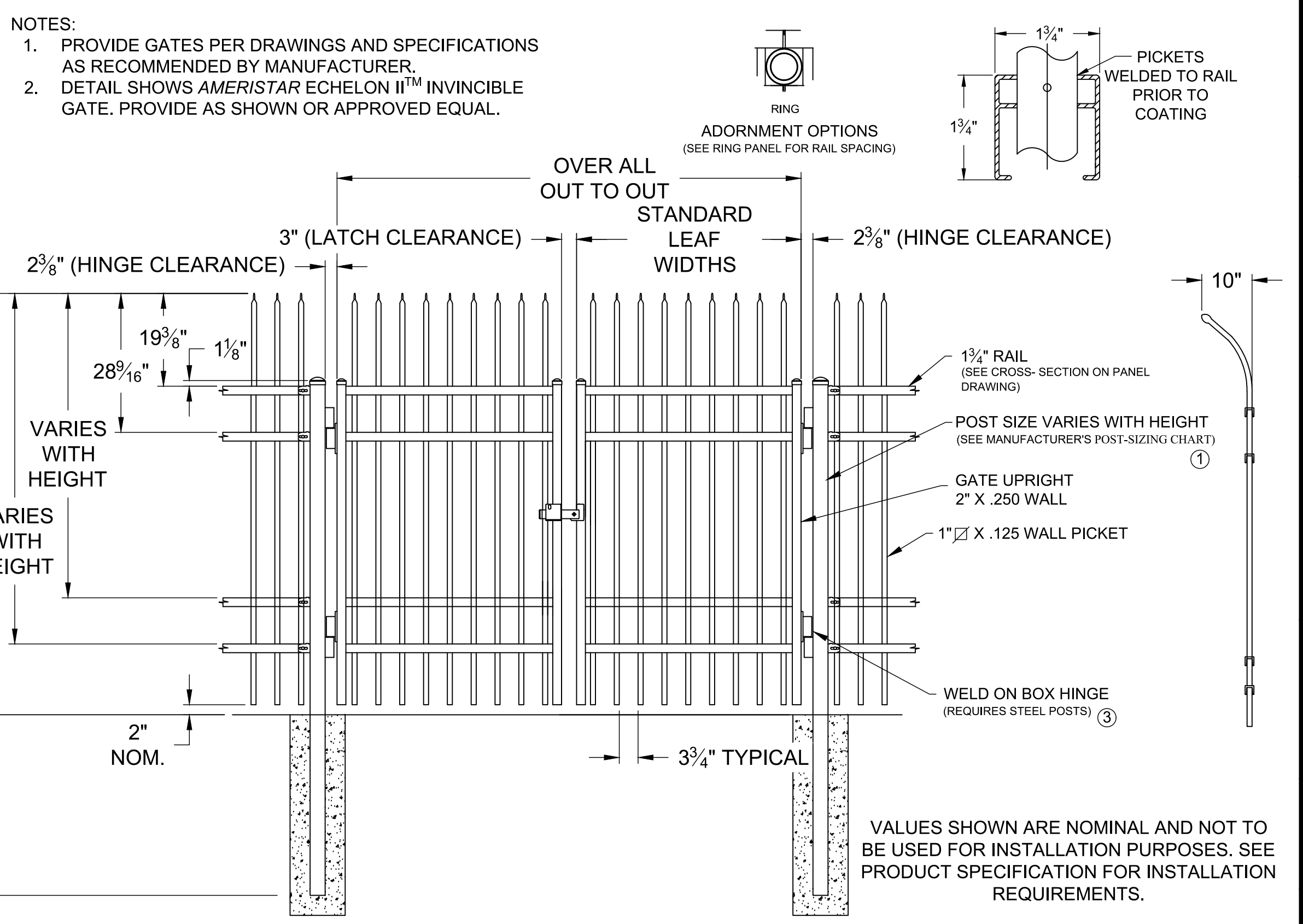
**TYPICAL CONCRETE BRACING 11 1/2° & 22 1/2° BENDS**

PIPE DIA.	22 1/2° BENDS				11 1/2° BENDS			
	A	B	C	MINCOVER	A	B	C	MIN COVER
4"	2"	1'-1"	4"	2'-6"	2"	1'-0"	3"	2'-6"
6"	4"	1'-0"	6"	2'-6"	2"	1'-0"	4"	2'-6"
8"	6"	1'-0"	8"	3'-0"	4"	1'-0"	5"	3'-0"
10"	8"	1'-1"	10"	3'-0"	5"	1'-0"	6"	3'-0"
12"	11"	1'-7"	1'-0"	5'-0"	6"	1'-0"	7"	3'-0"
14"	12"	2'-1"	1'-2"	5'-0"	8"	1'-0"	8"	3'-0"
16"	1'-1"	2'-5"	1'-8"	5'-0"	10"	1'-0"	9"	3'-0"
18"	1'-0"	2'-1"	1'-10"	5'-0"	1'-0"	1'-0"	10"	3'-6"
20"	1'-2"	2'-1"	2'-1"	5'-0"	1'-1"	1'-0"	1'-0"	3'-6"
24"	1'-5"	2'-10"	2'-6"	5'-0"	1'-3"	1'-0"	1'-3"	4'-0"
30"	1'-9"	2'-10"	2'-8"	5'-0"	1'-7"	1'-3"	1'-5"	4'-6"
36"	2'-0"	3'-2"	3'-1"	5'-0"	1'-10"	1'-3"	1'-9"	4'-6"
48"	2'-6"	3'-10"	3'-6"	5'-0"	2'-4"	1'-6"	2'-2"	5'-0"
54"	2'-10"	4'-0"	3'-10"	5'-0"	2'-8"	1'-6"	2'-5"	5'-0"



**TYPICAL CONCRETE BRACING FOR 45° BENDS**

PIPE DIA.	A	B	C	D	E	MIN COVER
4"	4 1/2"	3 1/2"	1'-0"	6"	1'-1"	2'-6"
6"	4 1/2"	6 1/2"	9"	9"	1'-2"	2'-6"
8"	4 1/2"	10"	3"	1'-0"	1'-2"	2'-6"
10"	4 1/2"	1'-1 1/2"	-	1'-3"	1'-4"	3'-0"
12"	6"	1'-4 1/2"	-	1'-6"	1'-8"	3'-0"
14"	6"	1'-4 1/2"	-	1'-9"	1'-8"	3'-0"
16"	6"	1'-7"	-	2'-0"	1'-10"	3'-0"
18"	6"	1'-9 1/2"	-	2'-3"	2'-4"	3'-0"
20"	6"	1'-11"	-	2'-6"	2'-4"	3'-6"
24"	7"	2'-3"	-	3'-0"	2'-10"	3'-6"
30"	8"	2'-6"	-	3'-3"	2'-10"	4'-0"
36"	8"	2'-10"	-	3'-6"	3'-3"	4'-6"
48"	8"	3'-1"	-	3'-9"	3'-6"	4'-6"
54"	9"	3'-4"	-	4'-0"	4'-0"	5'-0"



**TYPICAL CONCRETE BRACING FOR TEES**

PIPE DIA.	A	B	C	MIN COVER
4"	5"	5"	6"	2'-6"
6"	6"	8"	9"	2'-6"
8"	7"	1'-1"	1'-0"	2'-6"
10"	9"	1'-6"	1'-3"	3'-0"
12"	10"	1'-10"	1'-6"	3'-0"
14"	11 1/2"	1'-9"	1'-9"	3'-0"
16"	1'-0 1/2"	2'-0"	2'-0"	3'-0"
18"	1'-2"	2'-4"	2'-3"	3'-0"
20"	1'-3 1/2"	2'-6"	2'-6"	3'-6"
24"	1'-7 1/2"	3'-0"	3'-0"	3'-6"
30"	1'-10"	3'-4"	3'-9"	4'-0"
36"	2'-1"	3'-6"	4'-6"	4'-6"
48"	2'-7"	4'-0"	5'-0"	4'-6"
54"	3'-3"	4'-3"	5'-4"	5'-0"

**1**  
10-C301 | 99-C102 | SCALE: NONE  
20-C301

**2**  
20-C102 | 99-C102 | SCALE: NONE

**THRUST BLOCKING FOR HORIZONTAL BENDS**

**DOUBLE GATE ARRANGEMENT**



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REGISTRATION NO. F-5713

STATE OF TEXAS  
CHRISTOPHER D. GATLING  
130412  
LICENSED PROFESSIONAL ENGINEER  
Digitally Signed 8/27/2021

BY	DESCRIPTION	DATE	REV.

**ADDISON**

TOWN OF ADDISON  
ADDISON, TEXAS

**ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS**

CIVIL STANDARD DETAILS II

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: CDG  
DRAWN BY: O.C.

BAR IS ONE INCH ON ORIGINAL DRAWING  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**99-C102**

SHEET NUMBER  
**24**



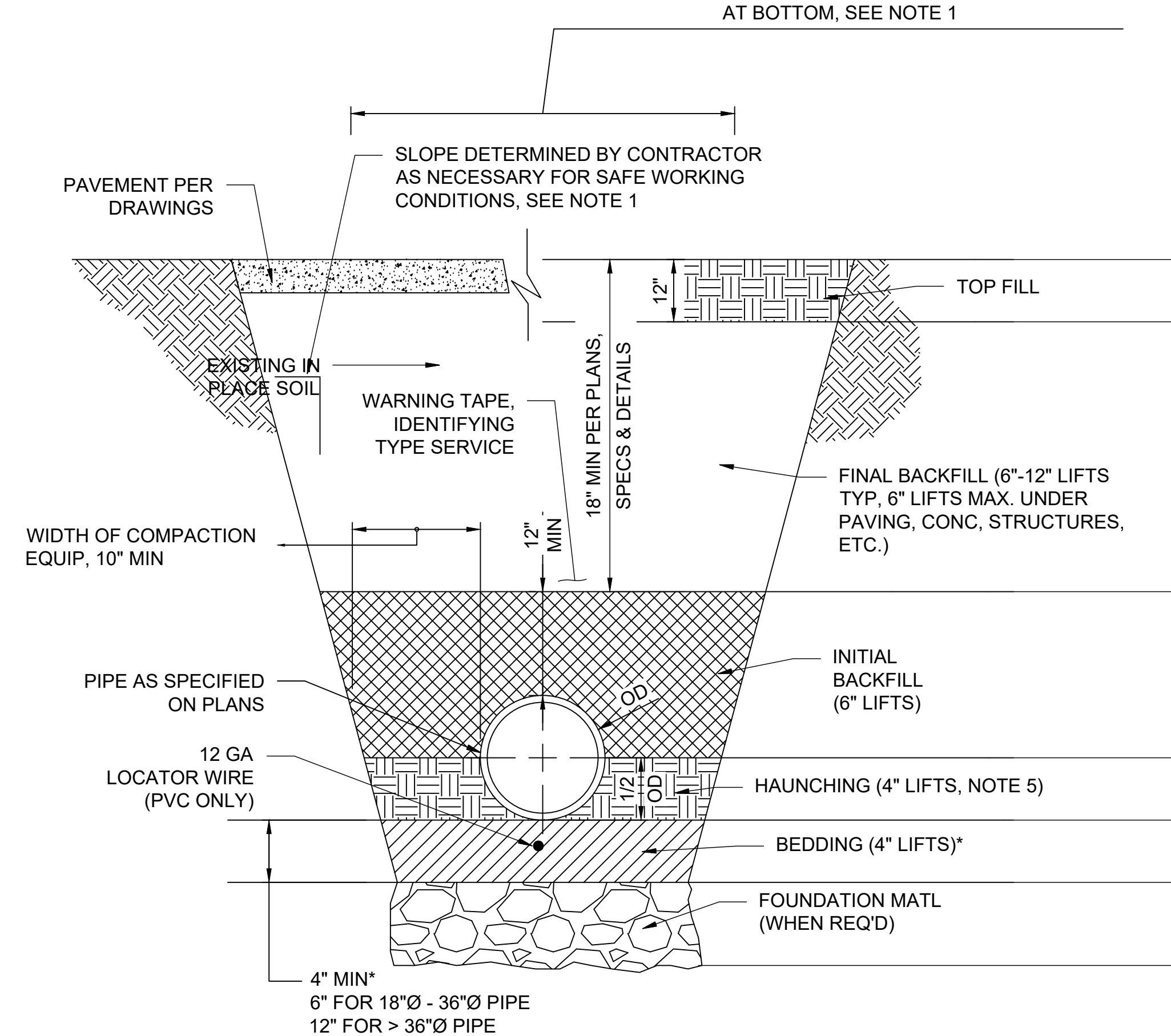
NOTES:

- SLOPE, BENCHING, SHORING, ETC. AS DETERMINED AND DESIGNED BY THE CONTRACTOR. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE OSHA REGULATIONS FOR "OPEN TRENCH EXCAVATIONS".
- BEDDING REQ'D FOR ALL GRAVITY LINES, ALL PVC LINES AND ALL CONCRETE LINES. BEDDING REQUIRED IN ALL AREAS OF ROCK EXCAVATION OR UNSUITABLE SOILS. BELL HOLES REQ'D FOR PIPES > 4" DIA. FOR DUCTILE IRON PRESSURE MAINS, SELECT EARTH MAY BE USED FOR BEDDING IN AREAS OF ROCK EXCAVATION.
- ALL MATERIALS SHALL BE COMPACTED TO MINIMUM 95% MODIFIED PROCTOR DENSITY AT 2%± OPTIMUM MOISTURE CONTENT. MATERIALS UNDER PAVING, CONCRETE, STRUCTURES, ETC. SHALL BE COMPACTED TO TO MIN 98%-100% MODIFIED PROCTOR. MECHANICAL COMPACTION SHALL BE BY VIBRATORY SHEEPSFOOT OR OTHER EQUIP. SPECIFICALLY DESIGNED FOR THE COMPACTION OF EARTH. COMPACTION EQUIP. SHALL BE ON-SITE PRIOR TO BEGINNING OF WORK. MECHANICAL COMPACTION SHALL BE COMPLETED IN LOOSE LIFTS AS SHOWN ON THE DETAIL.
- TEMPORARY COMPACTED PUG-MIX BACKFILL REQ'D UNTIL PAVEMENT PLACEMENT IS COMPLETE. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THIS PUGMIX TO KEEP IT FLUSH WITH THE ADJACENT PAVING, ETC. UNTIL THE FINAL PAVING IS PLACED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ASPHALT OR CONCRETE PATCHES WHEN NEEDED FOR PUBLIC SAFETY AND/OR CONVENIENCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING AND UTILIZE APPROPRIATE MEANS AND METHODS OF CONSTRUCTION TO ENSURE THAT THE ENTIRE AREAS UNDER THE HAUNCHES OF THE PIPE ARE FILLED WITH THE REQUIRED MATERIALS AND COMPACTED APPROPRIATELY.
- ADDITIONAL AND/OR SPECIAL REQUIREMENTS MAY BE REQ'D BY THE PLANS, SPECIFICATIONS AND/OR CONTRACT DOCUMENTS.
- TO THE EXTENT POSSIBLE, AS DETERMINED BY THE CONTRACTOR, TRENCH WALL SHORING METHODS SHALL BE USED IN PAVED AREAS TO MINIMIZE PAVING REPAIR REQUIREMENTS.

MATERIAL DESIGNATION/DESCRIPTOINS TABLE	
DESIGNATION/MATERIALS	DESCRIPTION
1	CRUSHED STONE, ASTM-448 NO. 57 GRADATION
2	CRUSHED STONE, ASTM-448 NO. 67 GRADATION.
3	SELECT EXCAVATED MAT'L REASONABLY DRY (WITHIN LIMITS REQ'D FOR COMPACTION) NO STONES > 1" DIA.
4	EXCAVATED MAT'L REASONABLY DRY (WITHIN LIMITS REQ'D FOR COMPACTION) NO STONES > 12" DIA.
5	SELECT TOPSOIL MAT'L TO SUPPORT VEGETATION, NO STONES OR ROCK ALLOWED
6	PAVEMENT MATCHING EXISTING PAVEMENT OR AS SPECIFIED ON THE PLANS
7	AGGREGATE BASE COARSE OR CONTROLLED LOW STRENGTH FILL

MIN WIDTH = 18", PIPES AND CONDUITS 4" AND SMALLER  
 MIN WIDTH = 12"+O.D., PIPES AND CONDUITS 6" - 18"  
 MIN WIDTH = 24"+O.D., PIPES AND CONDUITS 20" & LARGER

AT BOTTOM, SEE NOTE 1

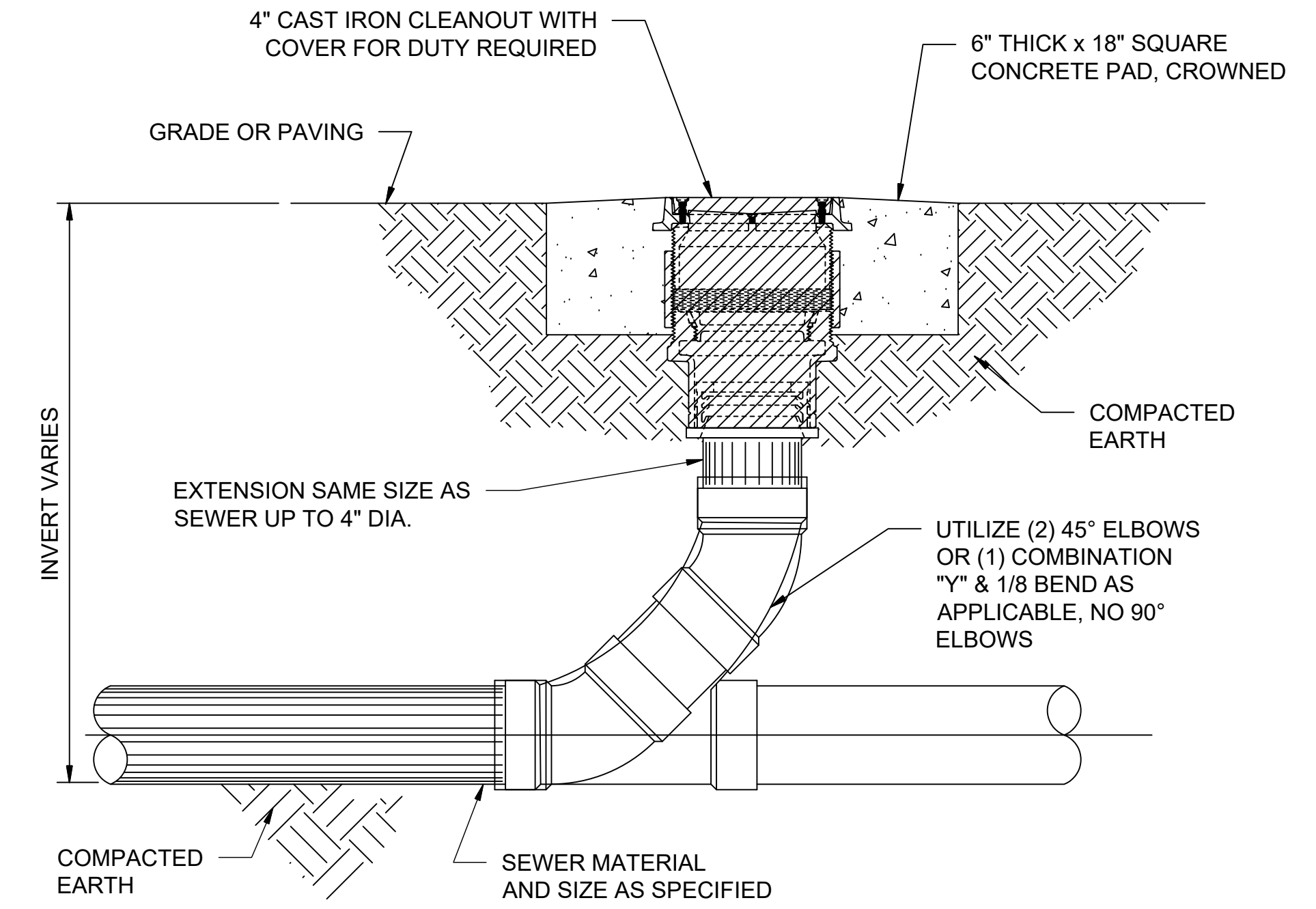


BEDDING/BACKFILL REQUIREMENTS & MAT'L DESIGNATIONS (SEE MATERIAL DESIGNATION/DESCRIPTOINS TABLE)								
PRESSURE MAINS			GRAVITY LINES			PAVED AREAS		
DI	CONC	HDPE, PVC & FRP	DI	CONC	HDPE, PVC & FRP	DI	CONC	HDPE, PVC & FRP
5	5	5	5	5	5	6**	6**	6**
4	4	4	4	4	4	7	7	7
3	3	*** 1/2	3	3	*** 1/2	1	3	*** 1/2
2	3	*** 1/2	2	3	*** 1/2	2	3	*** 1/2
2	1	2	2	1	2	2	1	2
RIP-RAP OR CRUSHED STONE CLASS 1B (USCS IN ASTM D2487)								

\* SEE NOTE 2  
 \*\* SEE NOTE 4  
 \*\*\* LINES SMALLER THAN 18" SHALL BE NO.67 BEDDING, LINES 18" AND LARGER NO.67 OR NO.57 BEDDING.

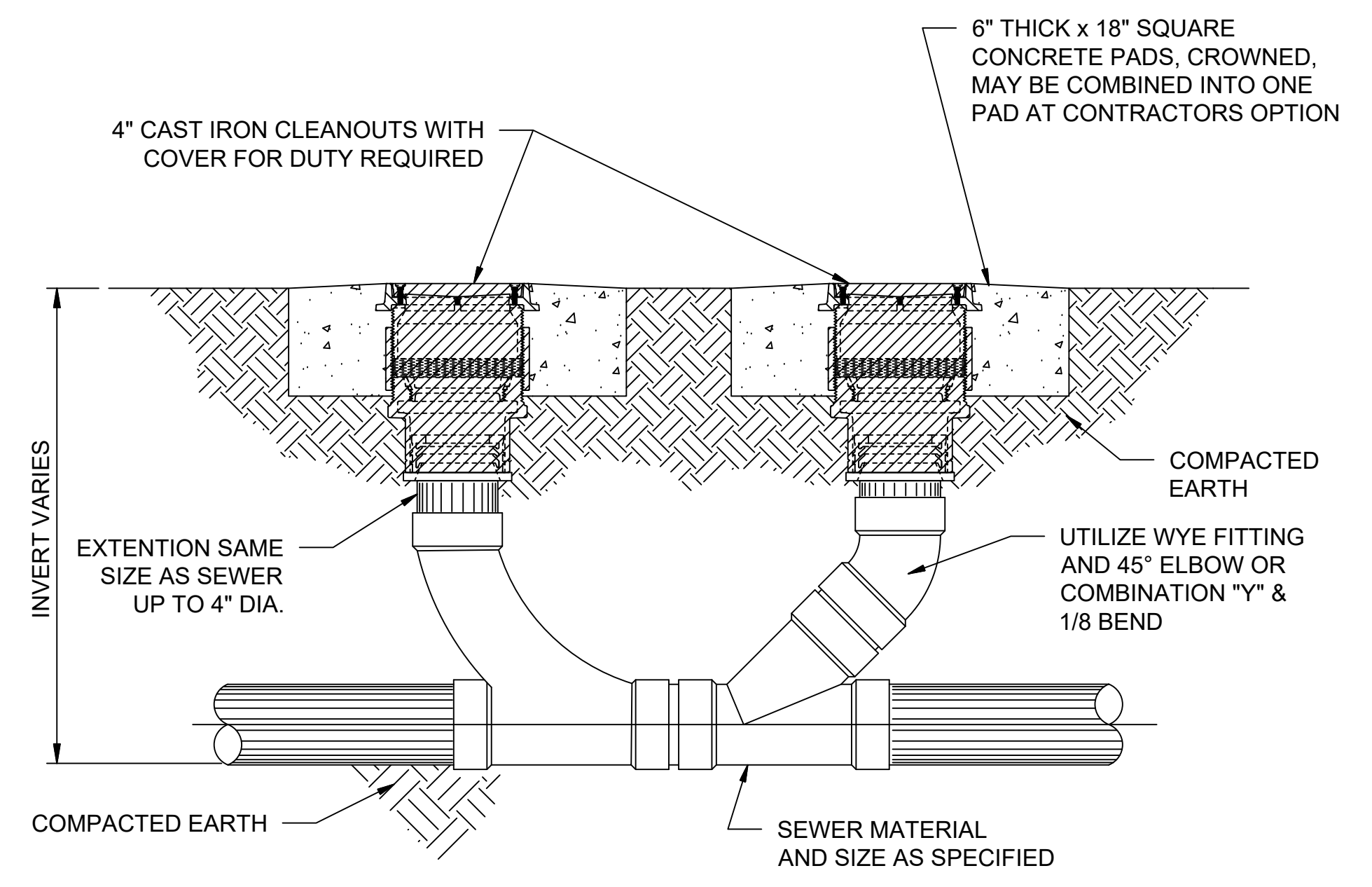
1  
 10-C301|99-C103 SCALE: NONE  
 20-C301

### BEDDING AND BACKFILL FOR TRENCHES



2  
 20-C301|99-C103 SCALE: NONE

### CLEANOUT TO GRADE (COTG) DETAIL



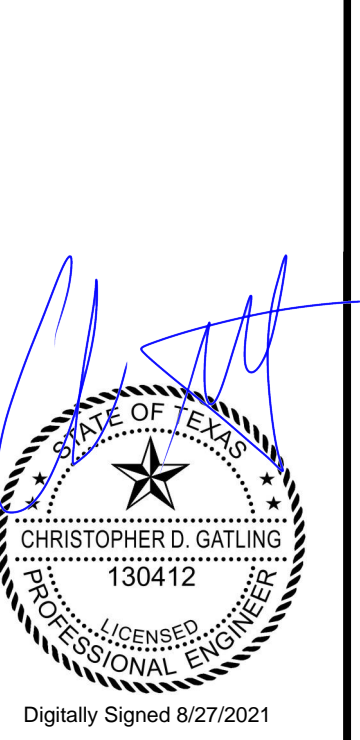
3  
 20-C301|99-C103 SCALE: NONE

### TWO-WAY CLEANOUT TO GRADE (TWCOTG) DETAIL



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REGISTRATION NO. F-5713



Digitally Signed 8/27/2021

BY	DESCRIPTION	DATE	REV.



TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

CIVIL STANDARD DETAILS III

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: CDG  
 DRAWN BY: O.C.

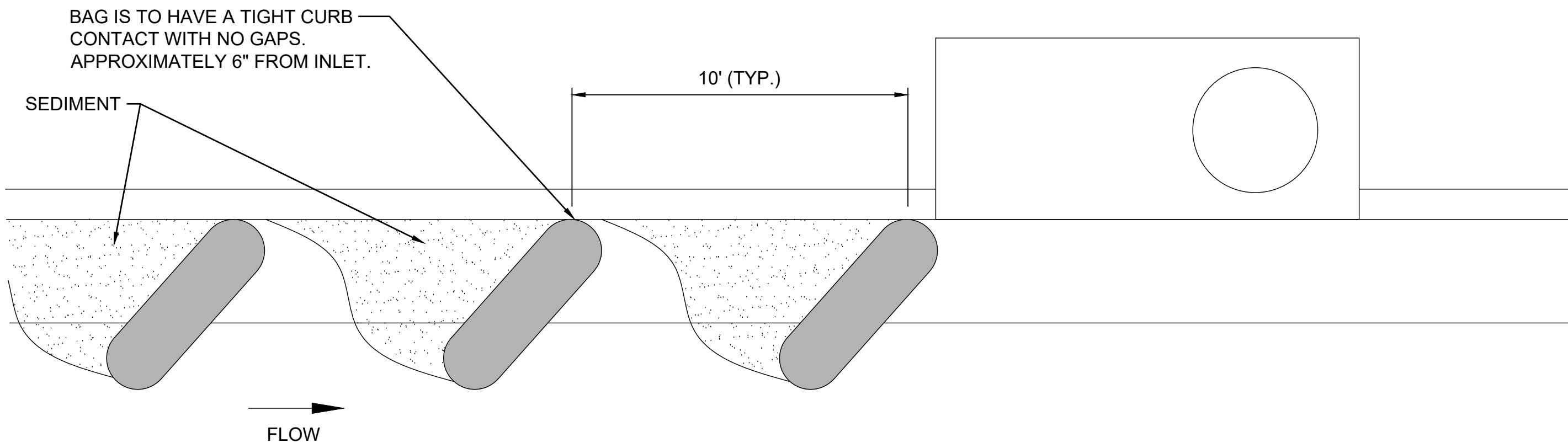
BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**99-C103**  
 SHEET NUMBER  
**25**

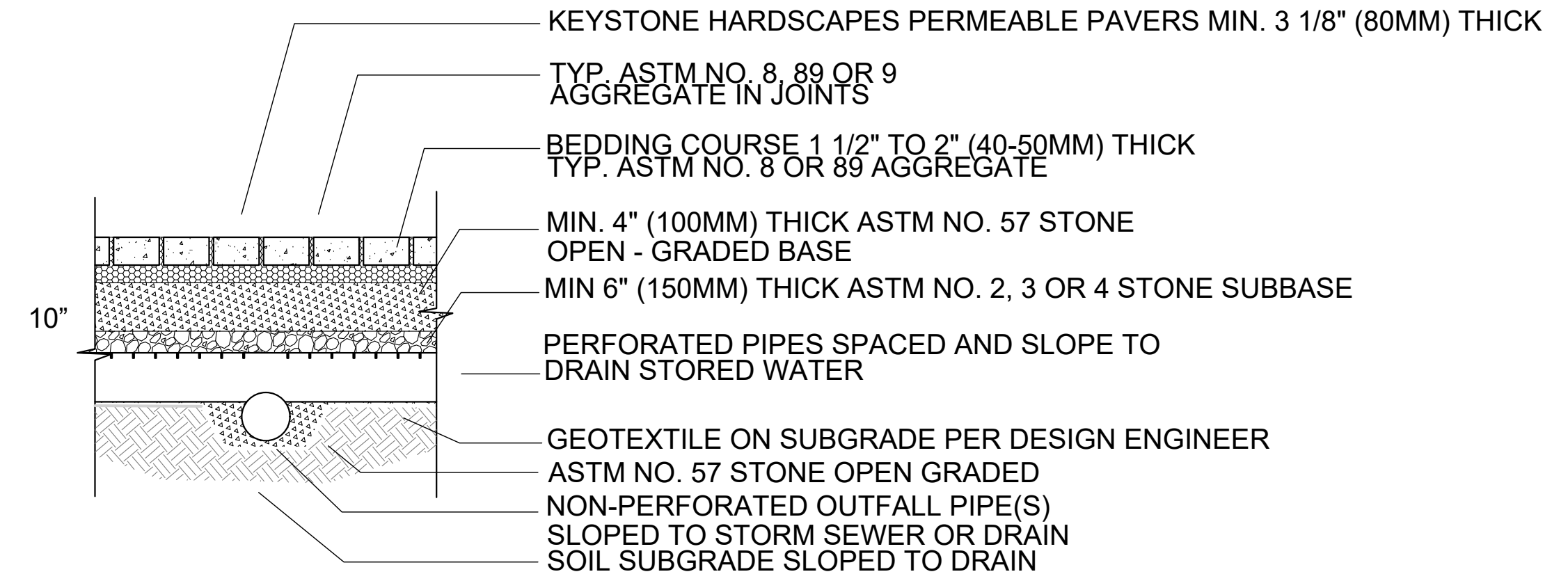
File: L:\2017\17088170 - Addison Chloramine Booster Station\Drawings\ACBS-99-C103-CD.dwg Last Save: 8/26/2021 2:17 PM Last saved by: MAWalker  
 Last plotted by: Hughes, Angela L. Plot Size: AECmono.ctb Plot Date: 8/26/2021 2:21 PM Plotter used: None



NOTE:  
GRAVEL FILTER BAGS TO BE PLACED ALONG CURB AS NEEDED AT APPROXIMATELY 10' INTERVALS.

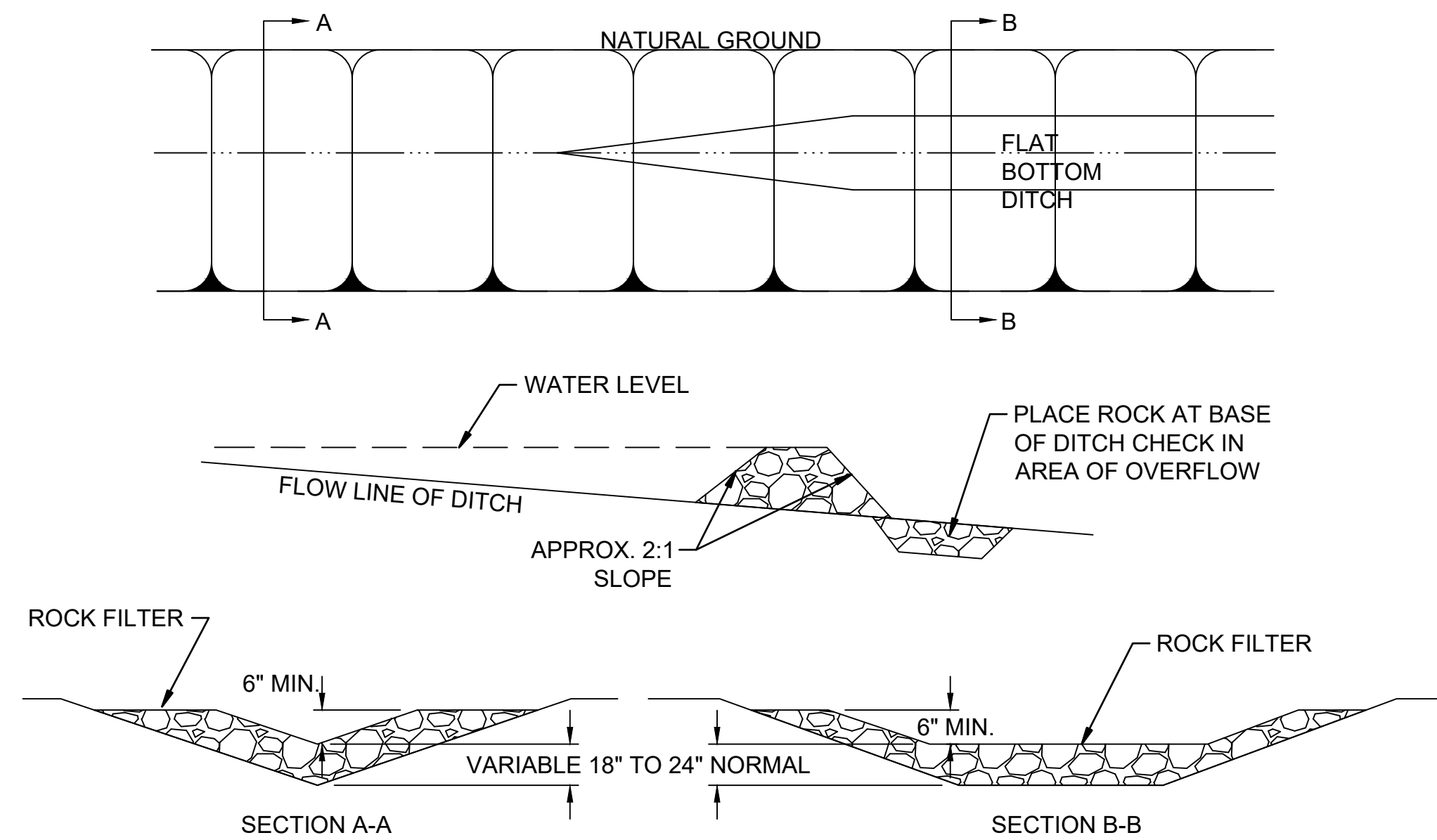


1 ON GRADE CURB INLET SEDIMENT FILTER  
99-C104 SCALE: NONE



NOTES:  
1. CONTACT KEYSTONE HARDSCAPES REPRESENTATIVE FOR DESIGN ASSISTANCE.  
2. 2 3/8" (60mm) THICK PAVERS MAY BE USED IN PEDESTRIAN APPLICATIONS.  
3. NO. 2, 3 OR 4 SUBBASE THICKNESS VARIES WITH DESIGN.  
4. PERFORATED PIPES MAY BE RAISED FOR WATER STORAGE FROM LARGE RAIN EVENTS WITH OUTLET(S) AT LINER BOTTOM TO DRAIN SMALL RAIN EVENTS.

2 PERMEABLE PAVERS  
99-C104 SCALE: NONE



3 ROCK DITCH CHECK DAM  
99-C104 SCALE: NONE



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REGISTRATION NO. F-5713



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REV.	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

CIVIL STANDARD DETAILS IV

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: CDG  
DRAWN BY: O.C.

BAR IS ONE INCH ON ORIGINAL DRAWING  
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DRAWING NUMBER  
**99-C104**  
SHEET NUMBER  
**26**

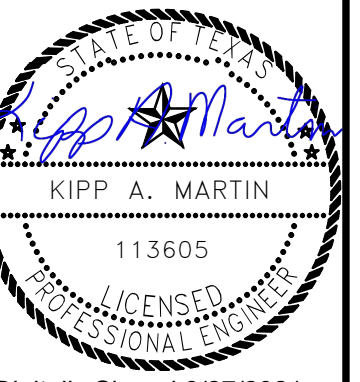


Revit File: C:\Users\jagorpe\OneDrive - Garver\Documents\ADDISON\_Celestial Rd PS\_aegeorgeP59AH.rvt  
 Plot Date: 8/20/2021 10:17:18 AM



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REGISTRATION NO. F-5713



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REV	DATE	DESCRIPTION	BY

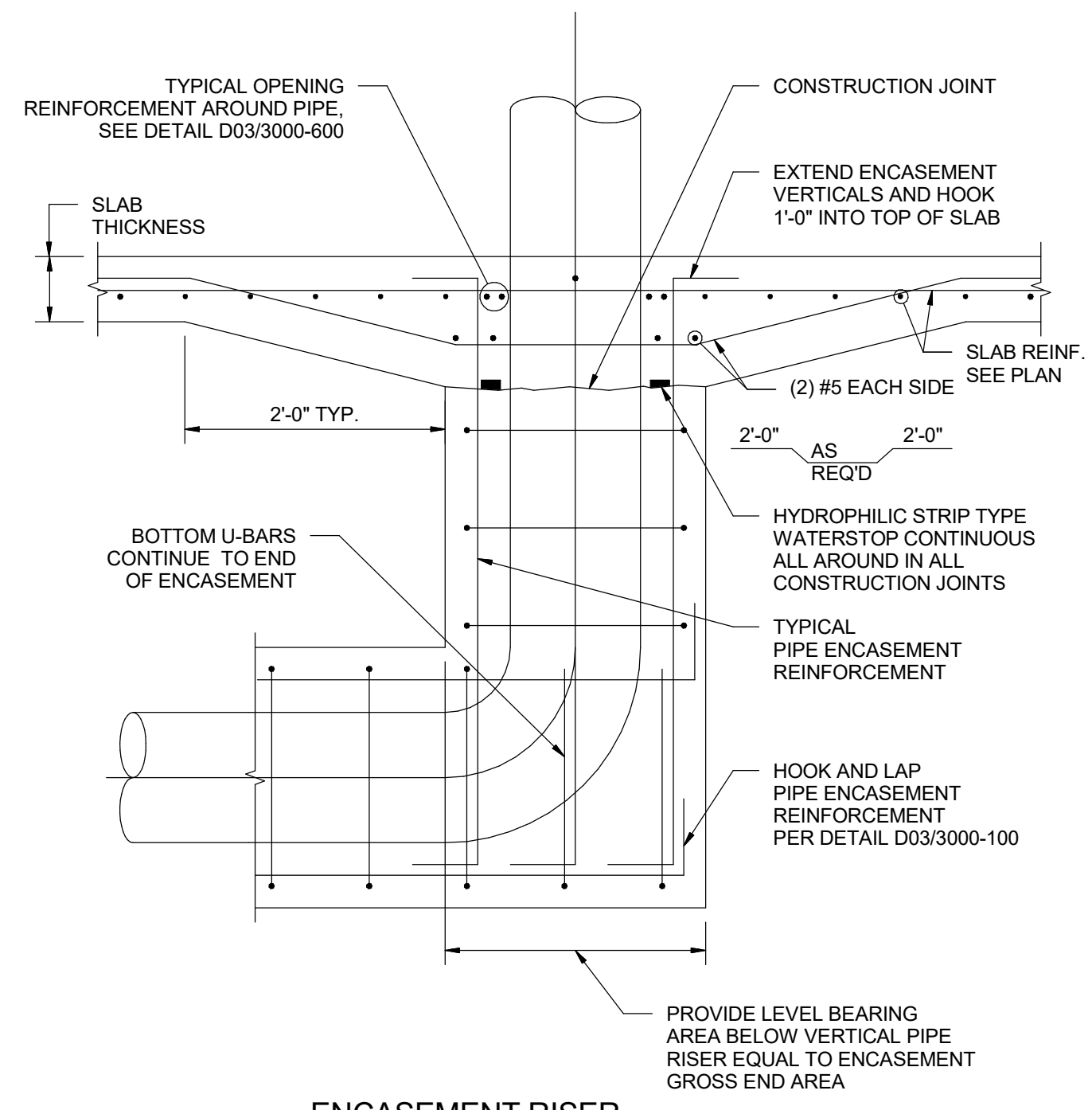
TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

STRUCTURAL STANDARD DETAILS I

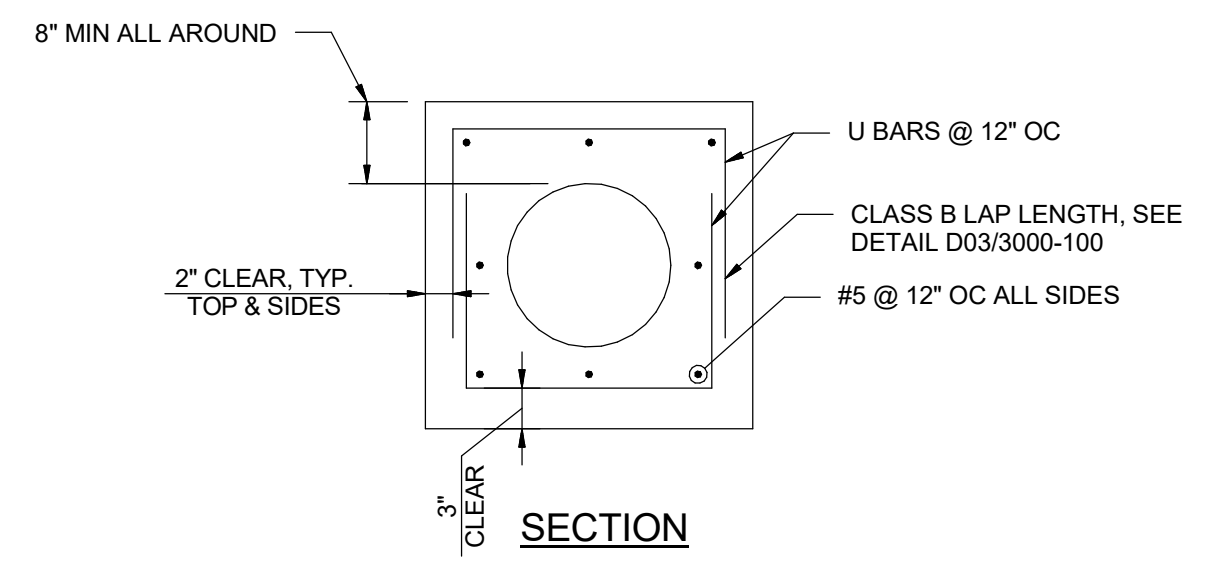
JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: HWE  
 DRAWN BY: DGL

BAR IS ONE INCH ON ORIGINAL DRAWING  
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER  
**99-S101**  
 SHEET NUMBER  
**27**

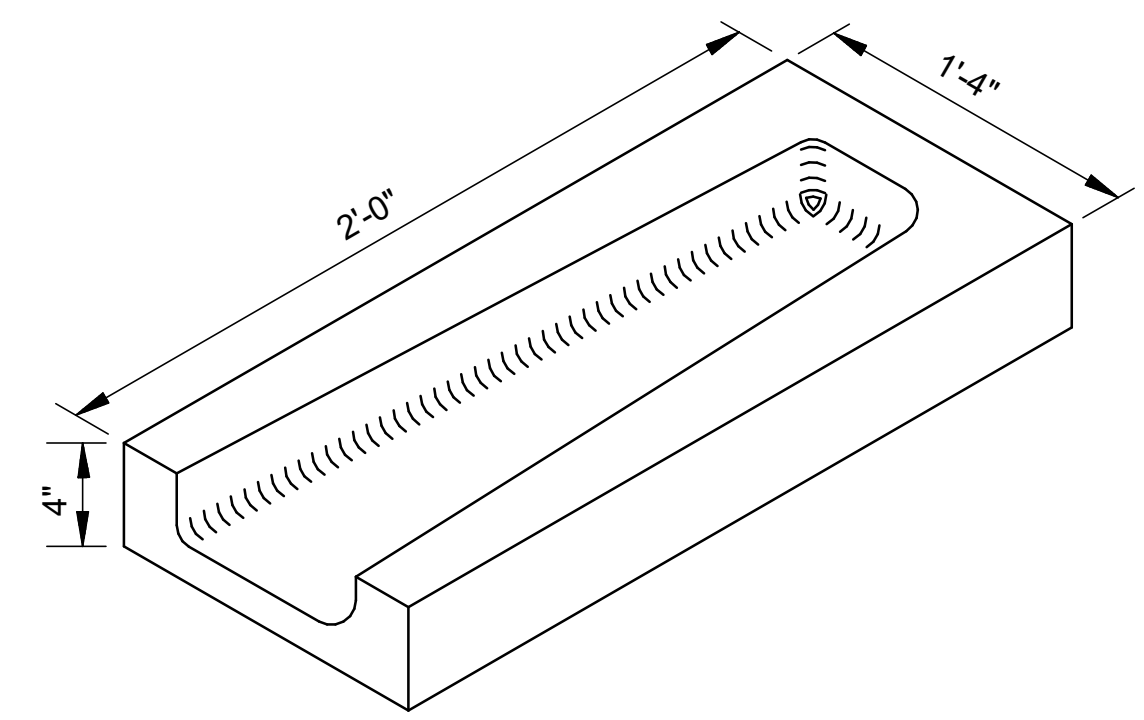


ENCASEMENT RISER



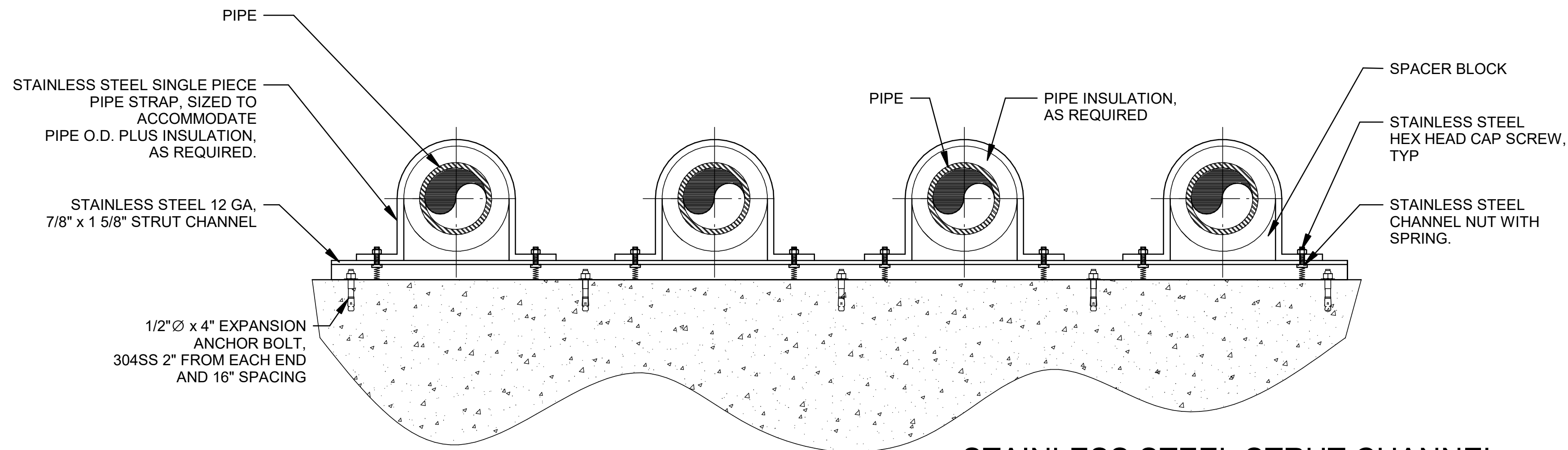
NOTES:  
 1. SECTION APPLIES TO PIPE WITH DIAMETERS 18\"/>

2 CHEMICAL FLUSHING CONNECTION  
 99-S101 SCALE: 1 1/2\"/>



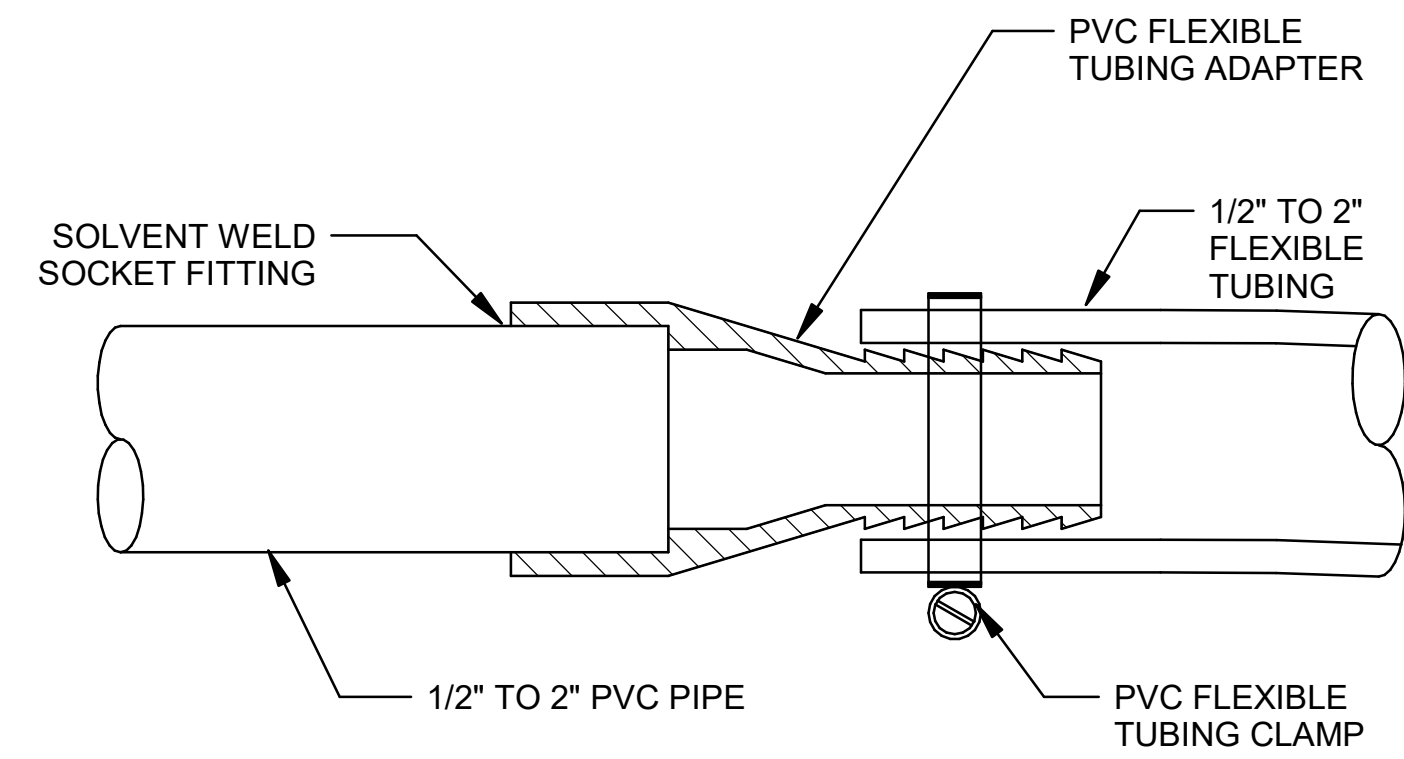
1 CONCRETE SPLASH BLOCK DETAIL  
 99-S101 SCALE: 1 1/2\"/>





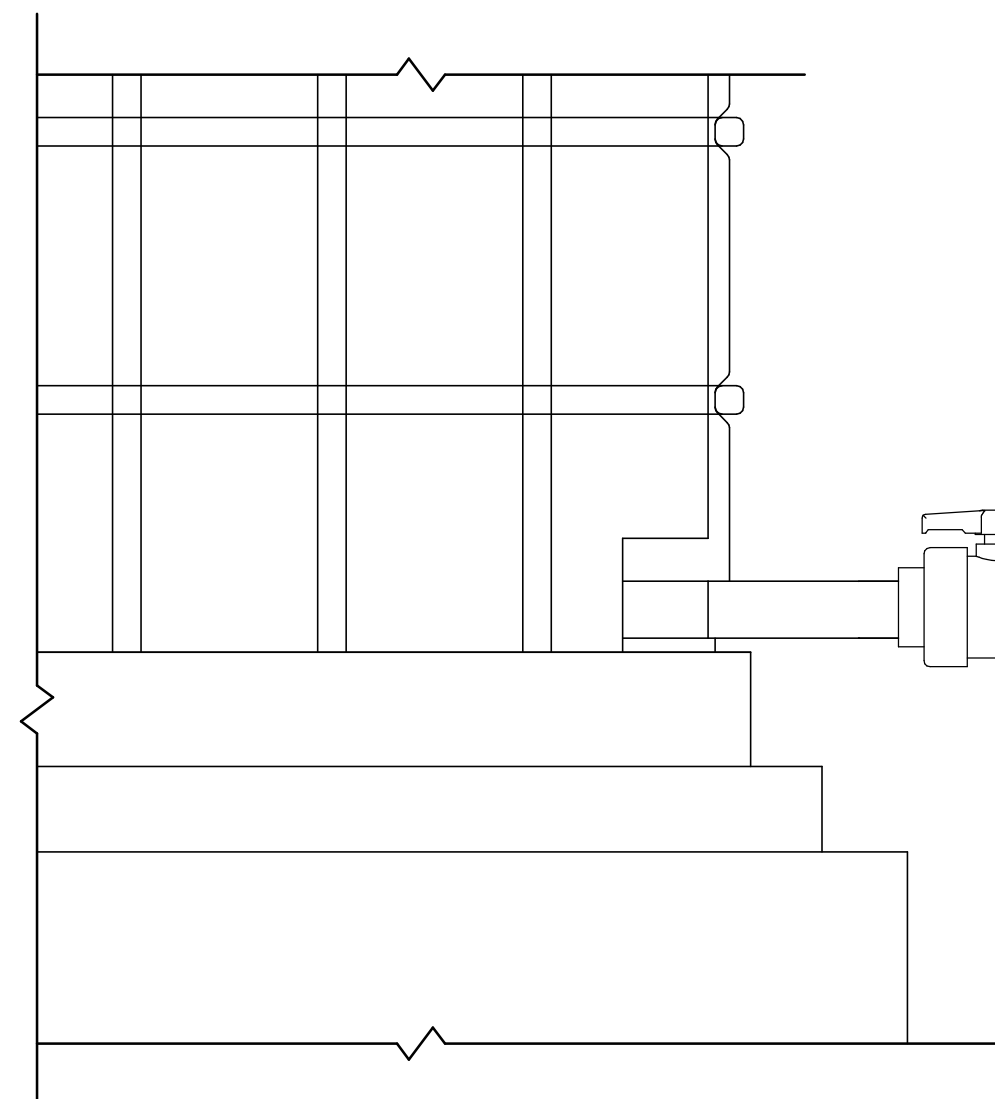
**STAINLESS STEEL STRUT CHANNEL PIPE SUPPORT**

99-M101 SCALE: 1/2" = 1'-0"



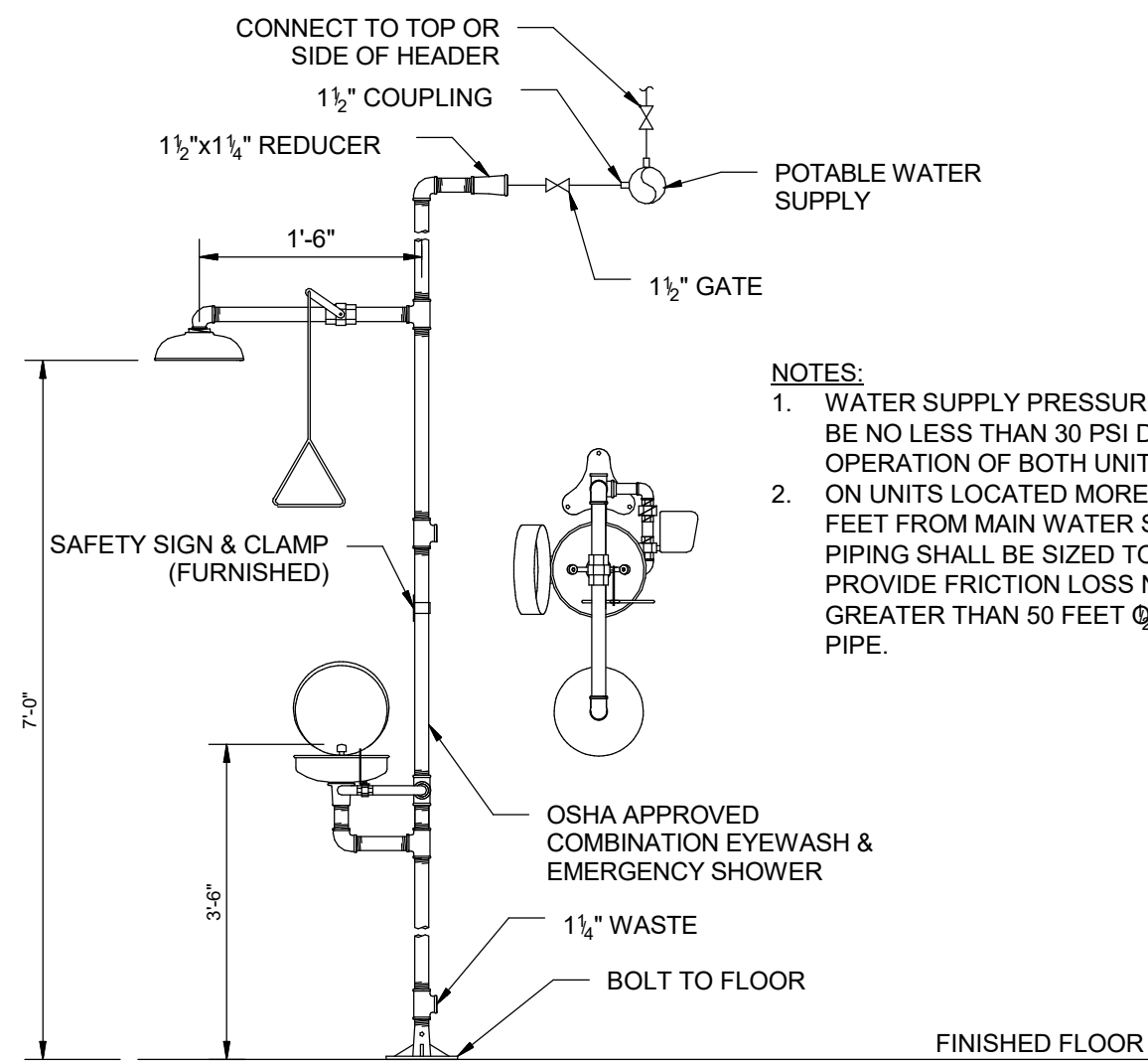
**PVC PIPE TO FLEXIBLE TUBING TRANSITION**

99-M101 SCALE: 1 1/2" = 1'-0"



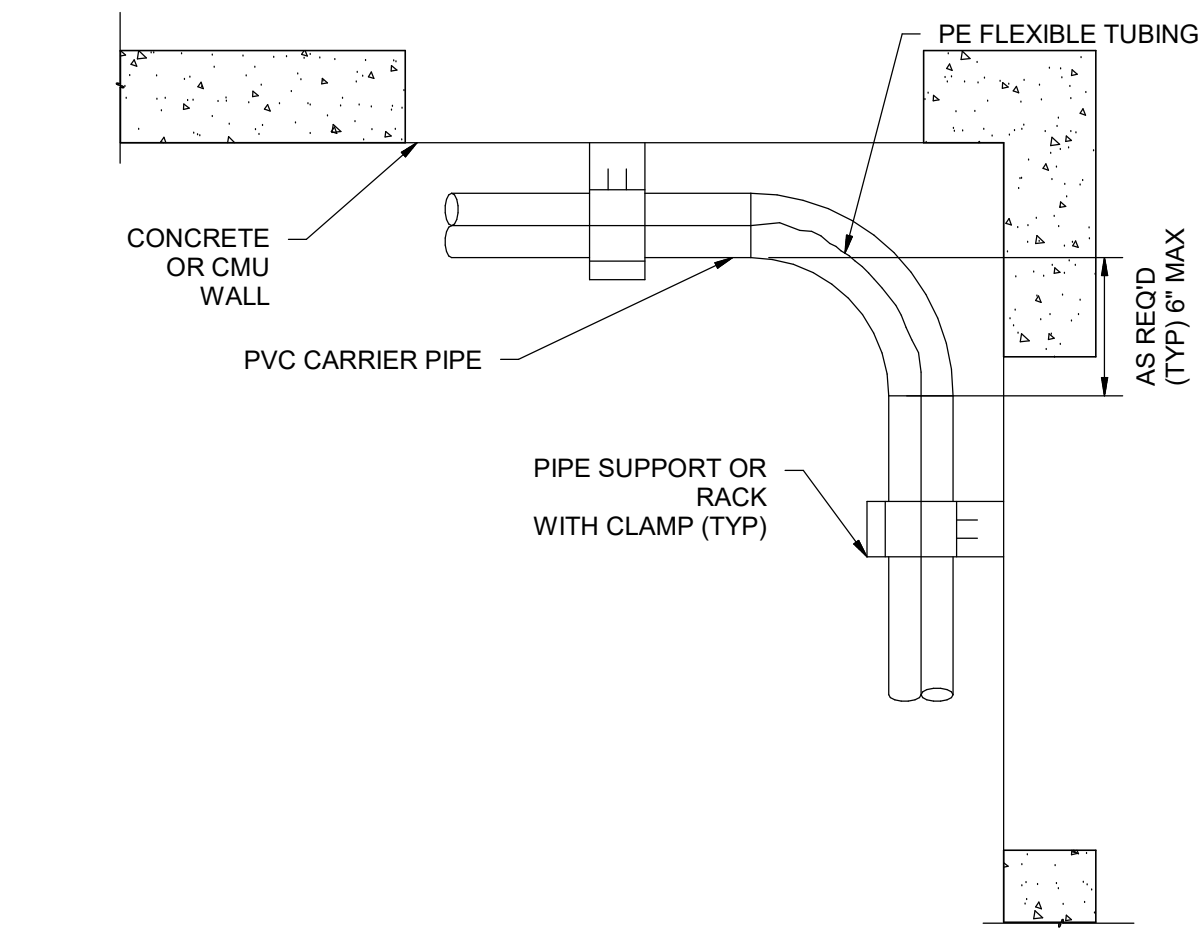
**CHEMICAL FLUSHING CONNECTION**

99-M101 SCALE: 1" = 1'-0"



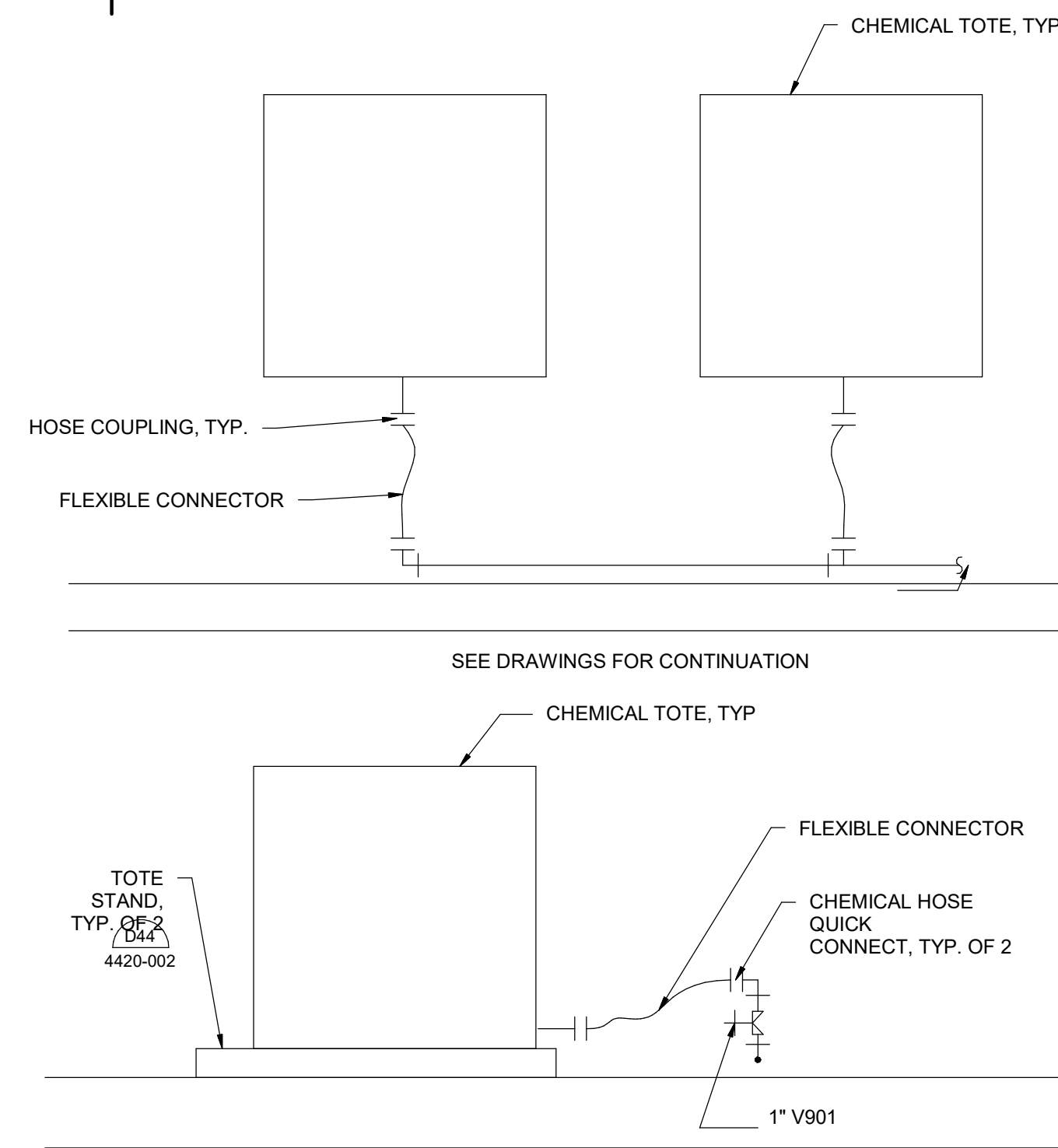
**EMERGENCY EYEWASH & SHOWER**

99-M101 SCALE: 1 1/2" = 1'-0"



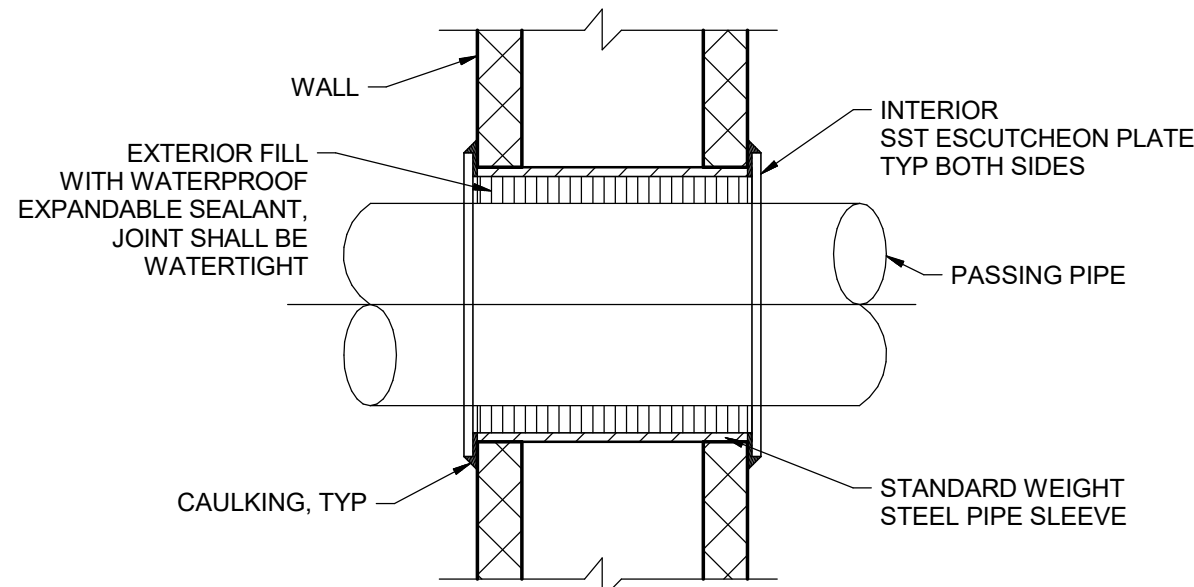
**PVC CARRIER PIPE - ELBOW**

99-M101 SCALE: 1 1/2" = 1'-0"



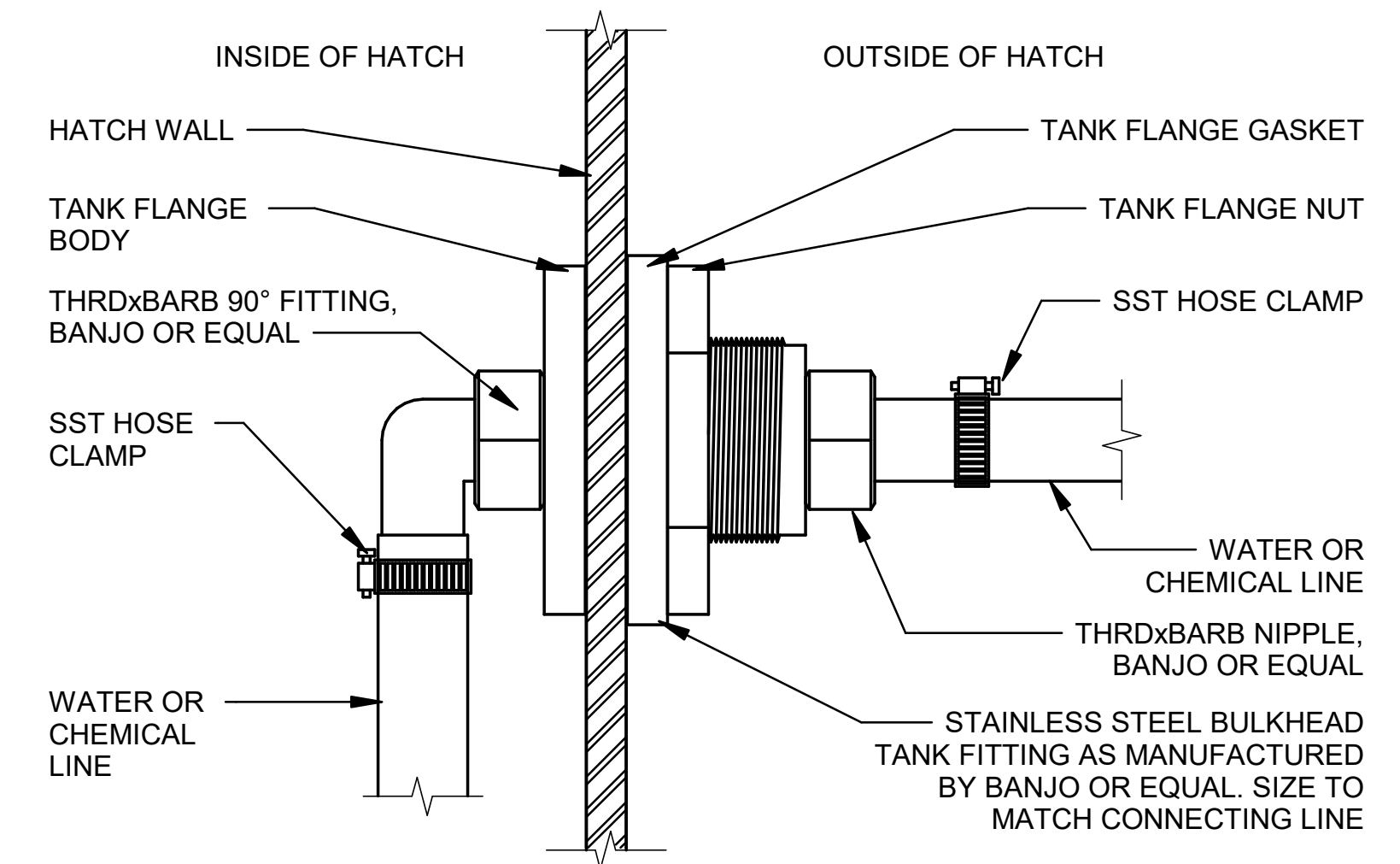
**TOTE CONNECTION - PLAN/SECTION**

99-M101 SCALE: 1 1/2" = 1'-0"



**WALL PIPE PENETRATION**

99-M101 SCALE: 1 1/2" = 1'-0"



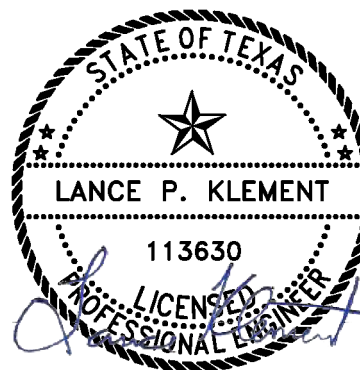
**ROOF VENT PENETRATION**

99-M101 SCALE: NONE



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REGISTRATION NO. F-5713



Digitally Signed 8/27/2021

REV	DATE	DESCRIPTION	BY

**ADDISON**  
TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

MECHANICAL STANDARD DETAILS 1

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: CAT  
DRAWN BY: SAC

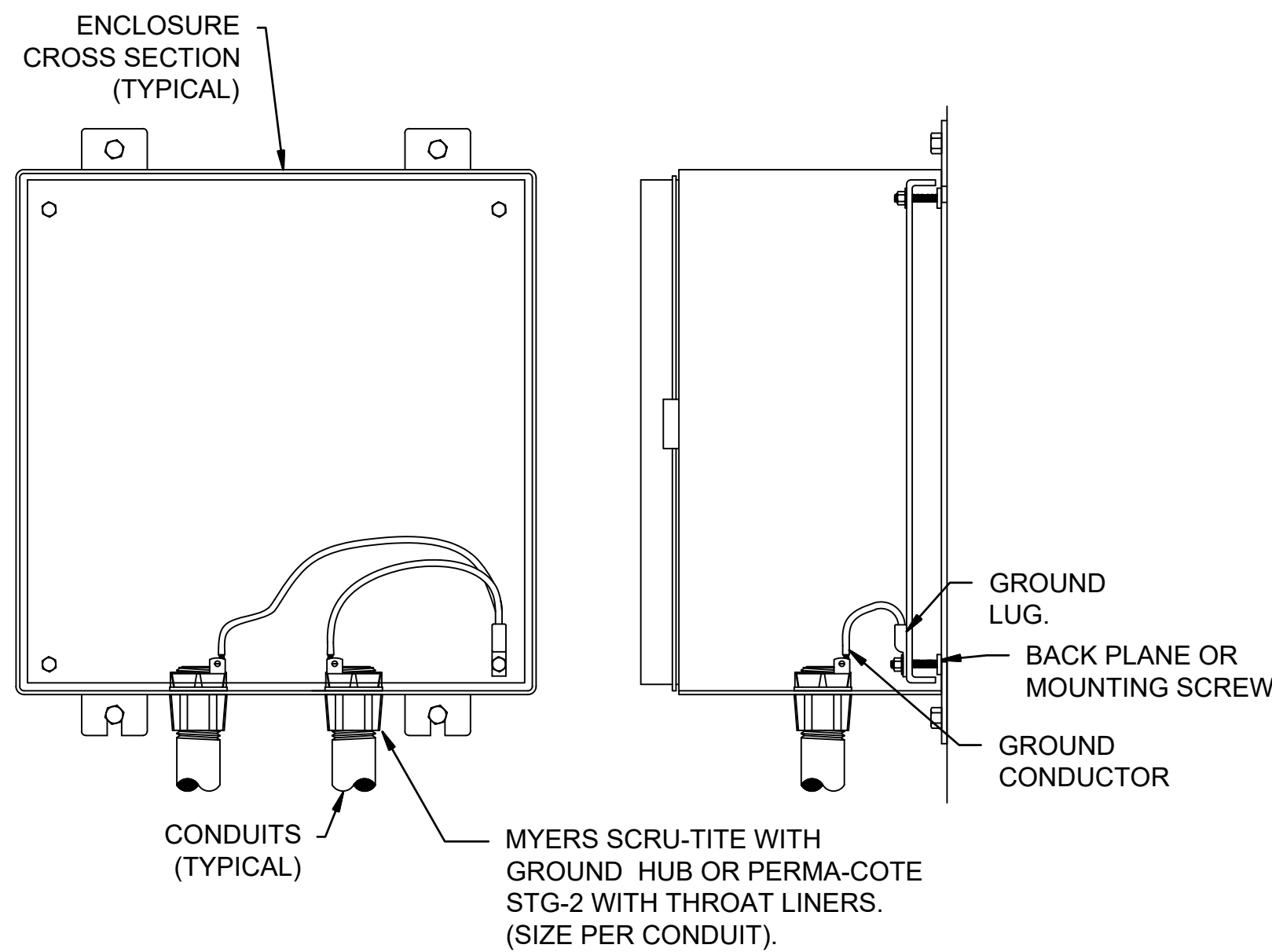
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DRAWING NUMBER

**99-M101**

SHEET NUMBER **28**

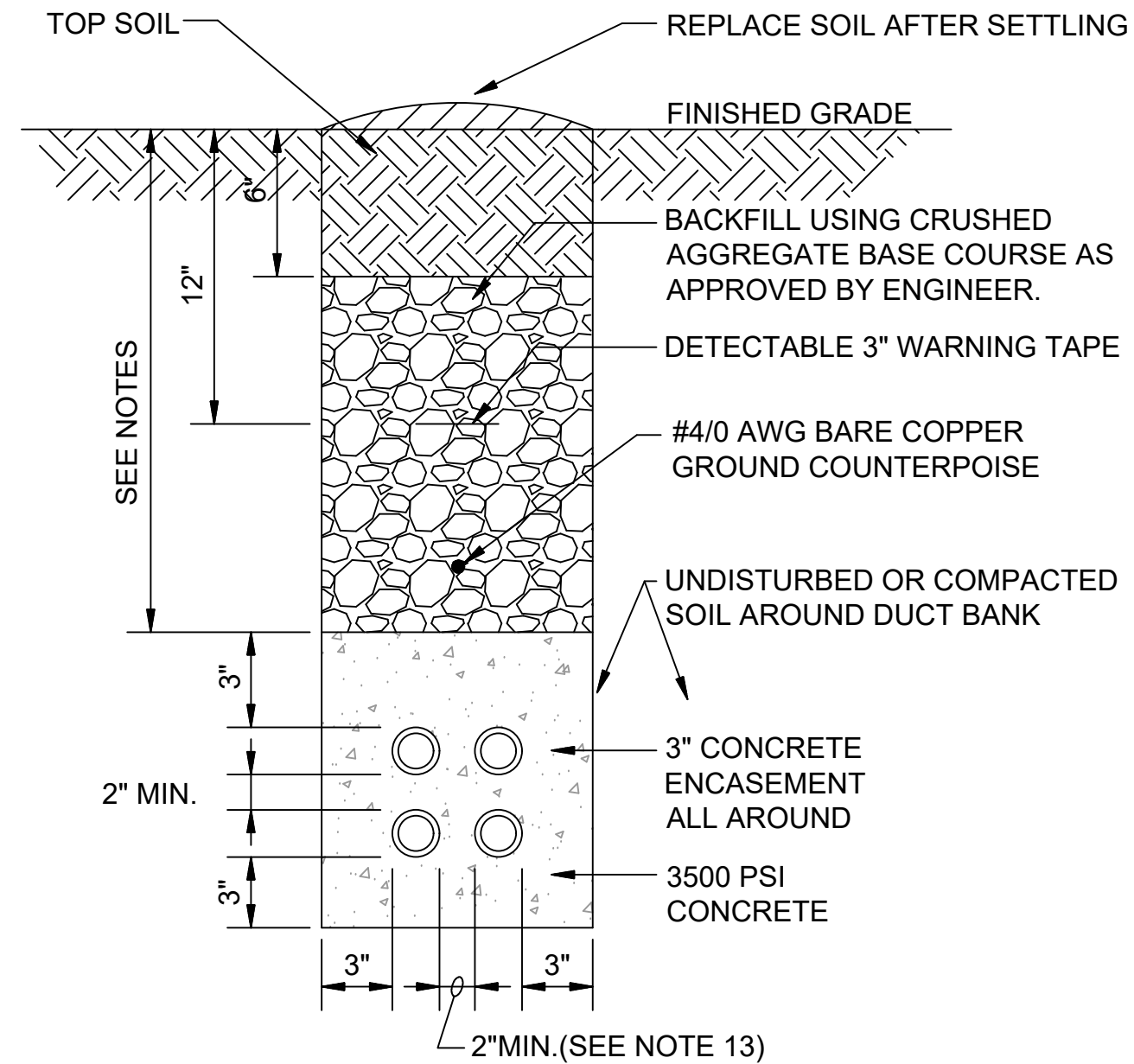




**NOTES:**

1. ALL SERVICE, FEEDER AND CONTROL CONDUITS SHALL BE GROUNDED ON BOTH ENDS.

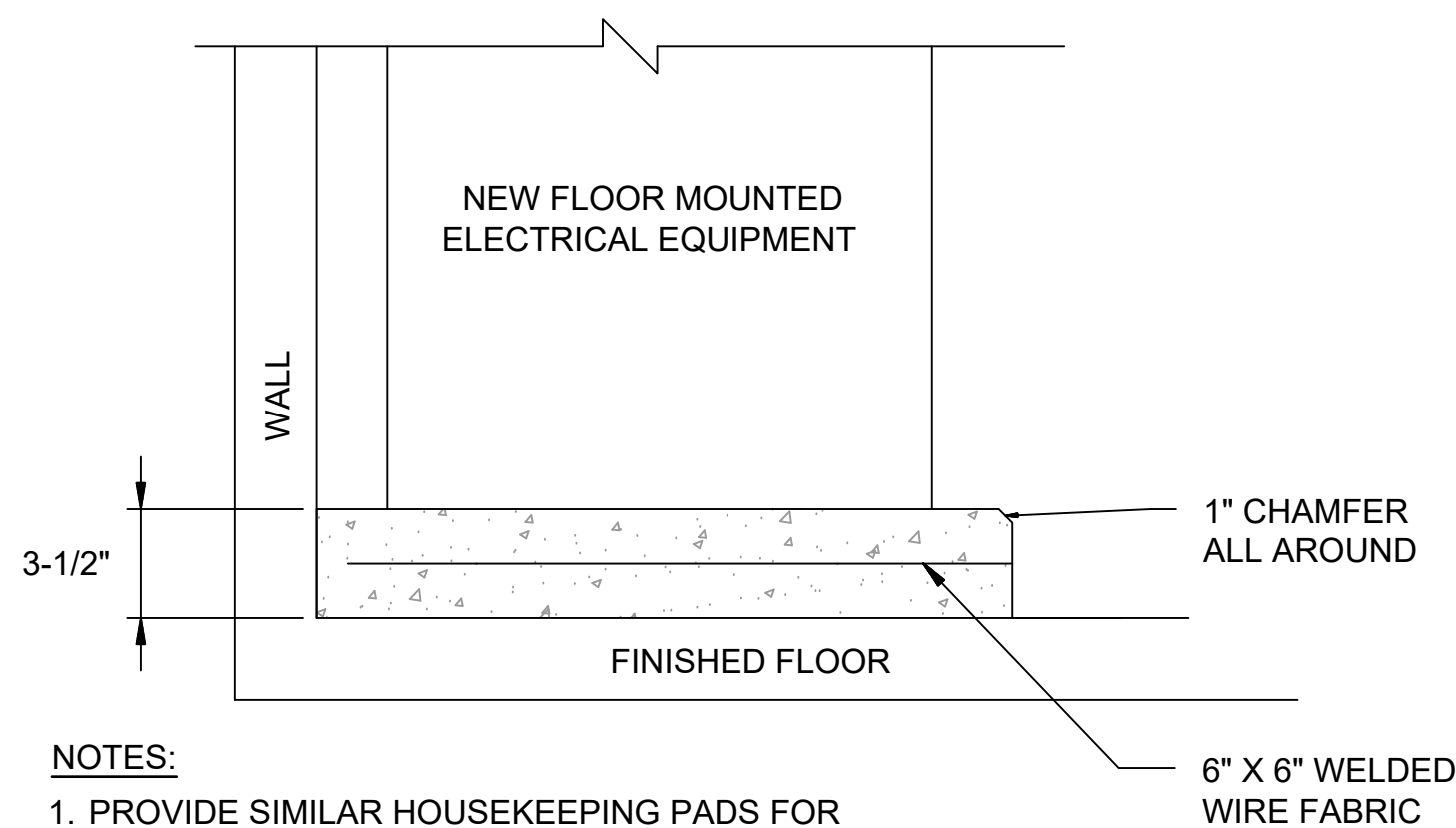
**1 CONDUIT GROUNDING DETAIL**  
99-E101 SCALE: NOT TO SCALE



**2 CONCRETE ENCASED ELECTRICAL DUCT DETAIL**  
99-E101 SCALE: NOT TO SCALE

**NOTES:**

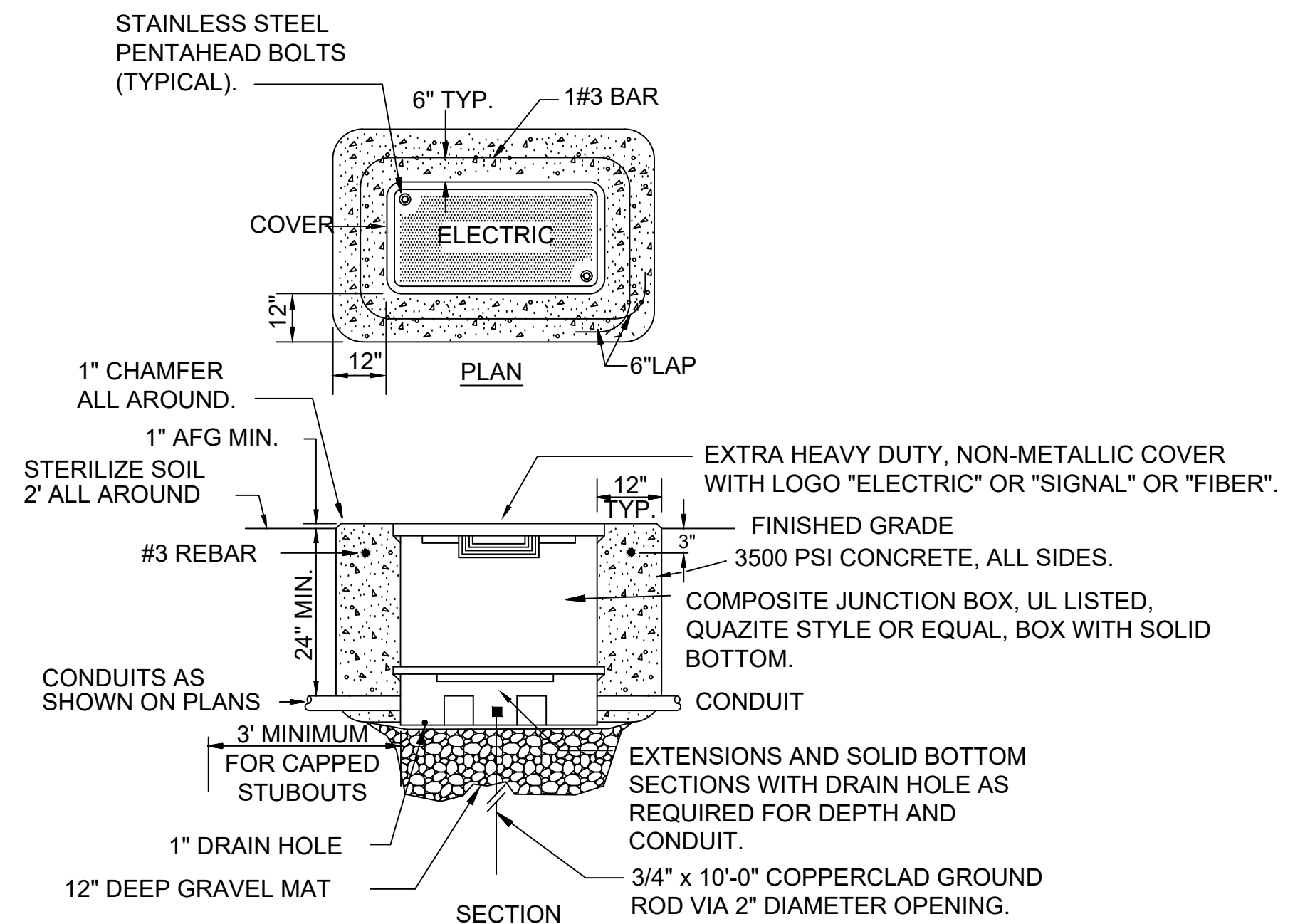
1. CONTRACTOR SHALL STAKE THE DUCT INSTALLATION IN PLAN AND ELEVATION FOR NEW ELECTRICAL DUCTS TO AVOID EXISTING UTILITIES. STAKING PLAN SHALL BE APPROVED BY OWNER AND ENGINEER PRIOR TO WORK.
2. CONTRACTOR SHALL ADJUST THE DEPTH OF THE ELECTRICAL DUCTS AS REQUIRED TO MAINTAIN THE MINIMUM COVER REQUIREMENT INDICATED AND AVOID EXISTING UTILITIES.
3. SIMILAR CONSTRUCTION FOR OTHER DUCT SIZES. SEE ELECTRICAL PLAN SHEETS FOR QUANTITY AND SIZES.
4. INSTALL DUCT CONDUIT SUPPORTS AT 5'-0" O.C. MAXIMUM SPACING. UTILIZE LOCKING COLLARS OR HOLD DOWN BARS WITH ANCHORS TO PREVENT DUCT FLOTATION. (TYPICAL ALL DUCTS).
5. OFFSETS AND BENDS OVER 10 DEGREES AND ELBOWS IN PVC CONDUIT RUNS SHALL BE GRSC.
6. NO PVC SHALL EMERGE FROM THE GROUND OR CONCRETE SLAB OR ENCASEMENT. PVC SHALL CONVERT TO PVC COATED GALVANIZED RIGID STEEL CONDUIT PRIOR TO ITS EMERGENCE UNLESS NOTED OTHERWISE.
7. SPARE PVC COATED GALVANIZED RIGID STEEL CONDUITS SHALL STUB UP 6" ABOVE FINISHED GRADE OR CONCRETE PAD SURFACE AND BE CAPPED WATERTIGHT.
8. INSTALL GROUND RODS AT ENDS OF ELECTRICAL DUCT AND CONNECT TO GROUND RING.
9. INSTALL CONDUCTORS AND CABLES AS NOTED ON DRAWINGS. INSTALL PULL ROPE IN ALL SPARE DUCTS.
10. MINIMUM COVER REQUIREMENT FOR DUCT BANKS UNDER ROADS, DRIVEWAYS AND PARKING LOTS SHALL BE 24".
11. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL SECONDARY SERVICE DUCT BANKS SHALL BE 30".
12. MINIMUM COVER REQUIREMENTS FOR ELECTRICAL PRIMARY SERVICE DUCT BANKS SHALL BE 36".
13. VERTICAL AND HORIZONTAL DISTANCES BETWEEN CONDUITS SHALL BE 3" MINIMUM FOR DUCTS CONTAINING CIRCUITS OVER 600 VOLTS.
14. DUCT BANKS TO EXTEND BELOW FLOOR SLABS.



**NOTES:**

1. PROVIDE SIMILAR HOUSEKEEPING PADS FOR ALL NEW, FLOOR MOUNTED, ELECTRICAL EQUIPMENT INCLUDING SWITCHES, PANELBOARDS AND TRANSFORMERS.
2. INSTALL STAINLESS STEEL EXPANSION ANCHORS AND SECURE ALL EQUIPMENT TO PAD.

**3 ELECTRICAL CONCRETE HOUSEKEEPING PAD DETAIL**  
99-E101 SCALE: NOT TO SCALE



**NOTES:**

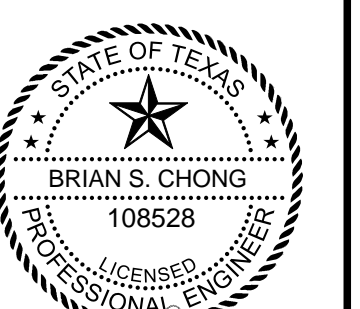
1. UL LISTED PULLBOX AND EXTRA HEAVY-DUTY COVER SHALL BE DESIGNED FOR A TEST LOAD OF 33,750 LBS AND A DESIGN LOAD OF 22,500 LBS.
2. PROVIDE PULLBOX WITH 2-2" C STUBOUTS IN EACH FACE, CAPPED WATERTIGHT.
3. PULLBOX INTERIOR DIMENSIONS SHALL BE 30"L x 17"W x 28"D OR AS REQUIRED FOR NUMBER OF CONDUITS.
4. PROVIDE MINIMUM 3' SLACK CABLE LOOP FOR EACH CABLE.
5. COLOR CODE, TAG AND IDENTIFY ALL CABLES IN UL LISTED PULLBOX.
6. EXACT LOCATION OF EACH UL LISTED PULLBOX SHALL BE APPROVED BY THE OWNER AND ENGINEER.

**4 ELECTRICAL PULLBOX DETAIL**  
99-E101 SCALE: NOT TO SCALE



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REGISTRATION NO. F-5713



DIGITALLY SIGNED: 8/27/2021

REV.	DATE	DESCRIPTION	BY



TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

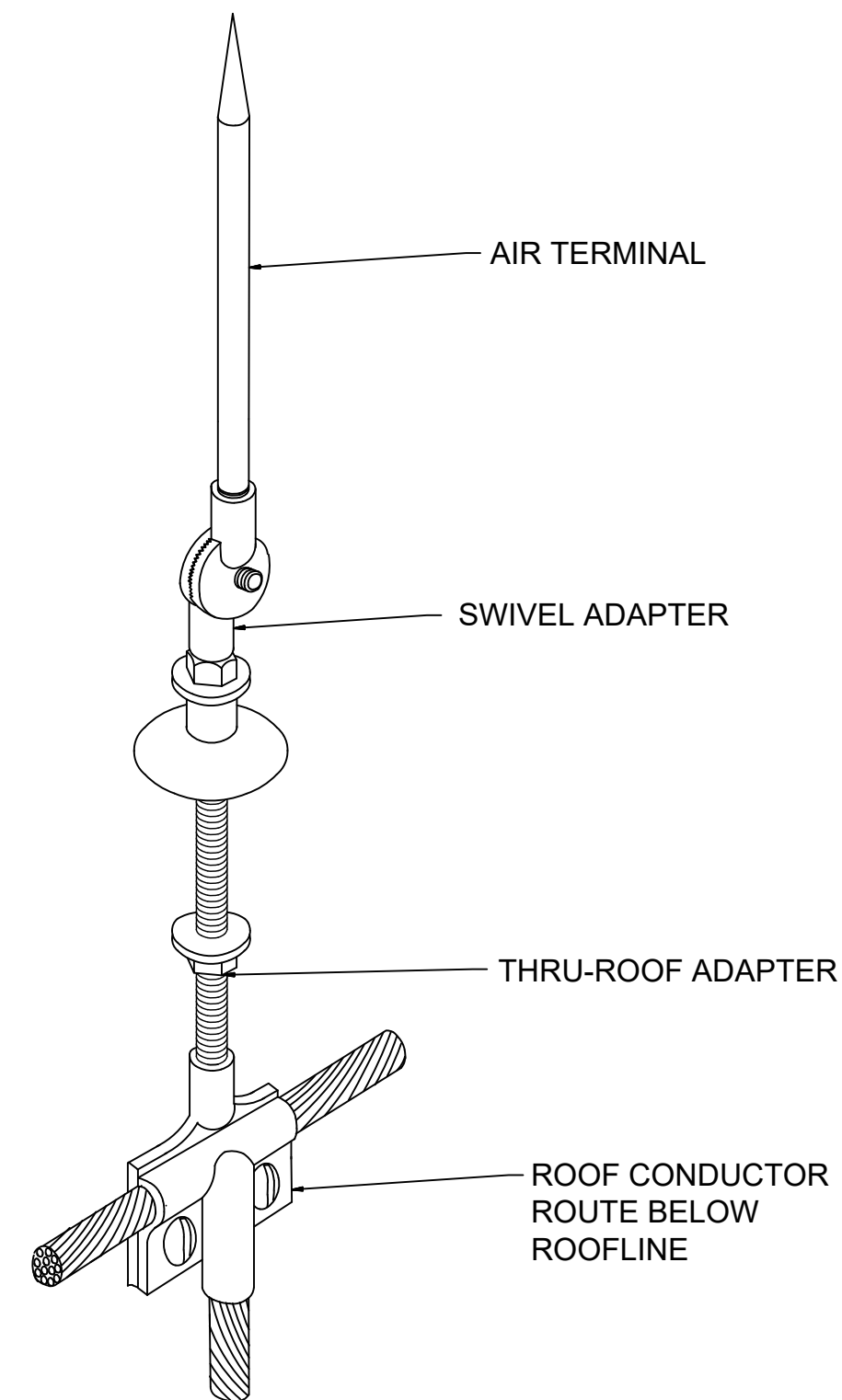
ELECTRICAL STANDARD DETAILS I

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: RLC  
DRAWN BY: RLC

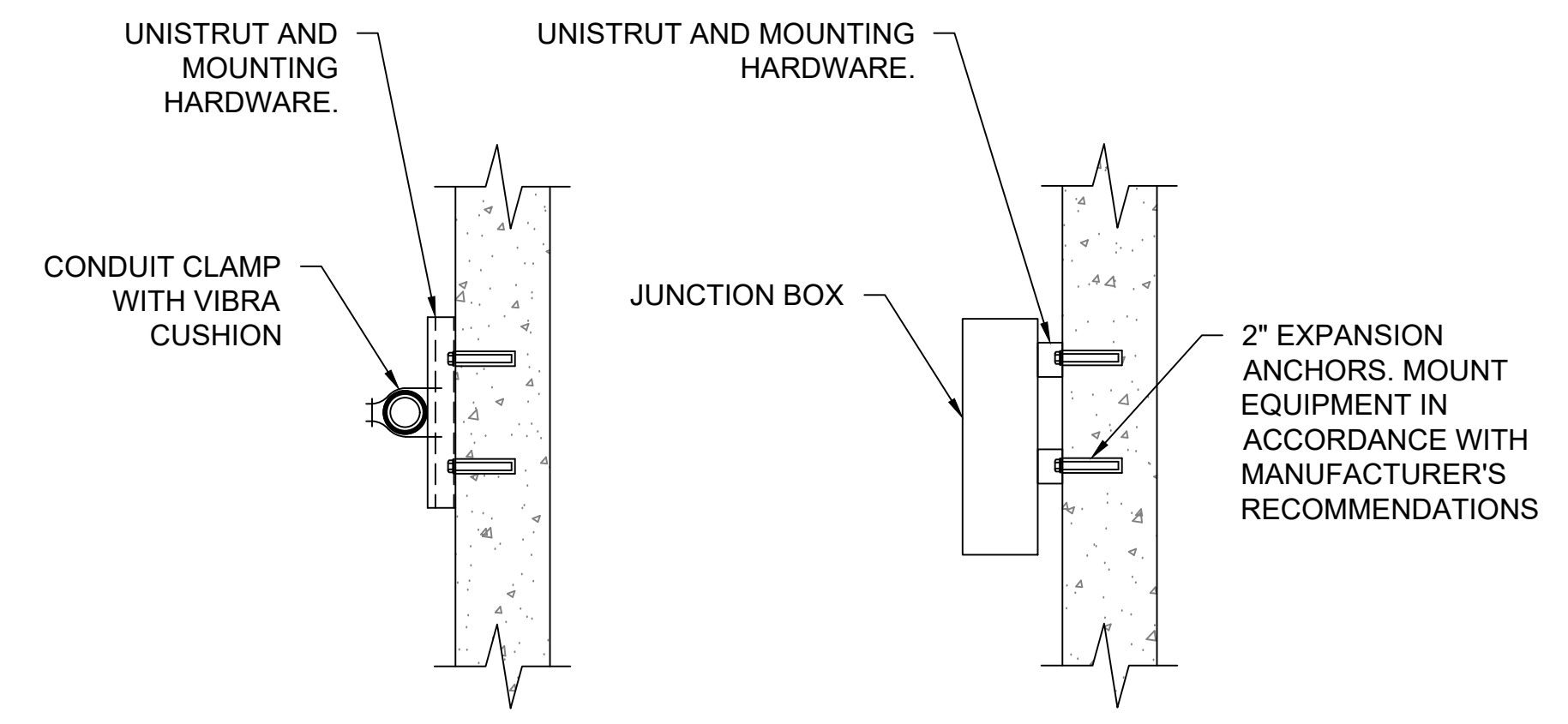
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DRAWING NUMBER  
**99-E101**  
SHEET NUMBER  
**29**



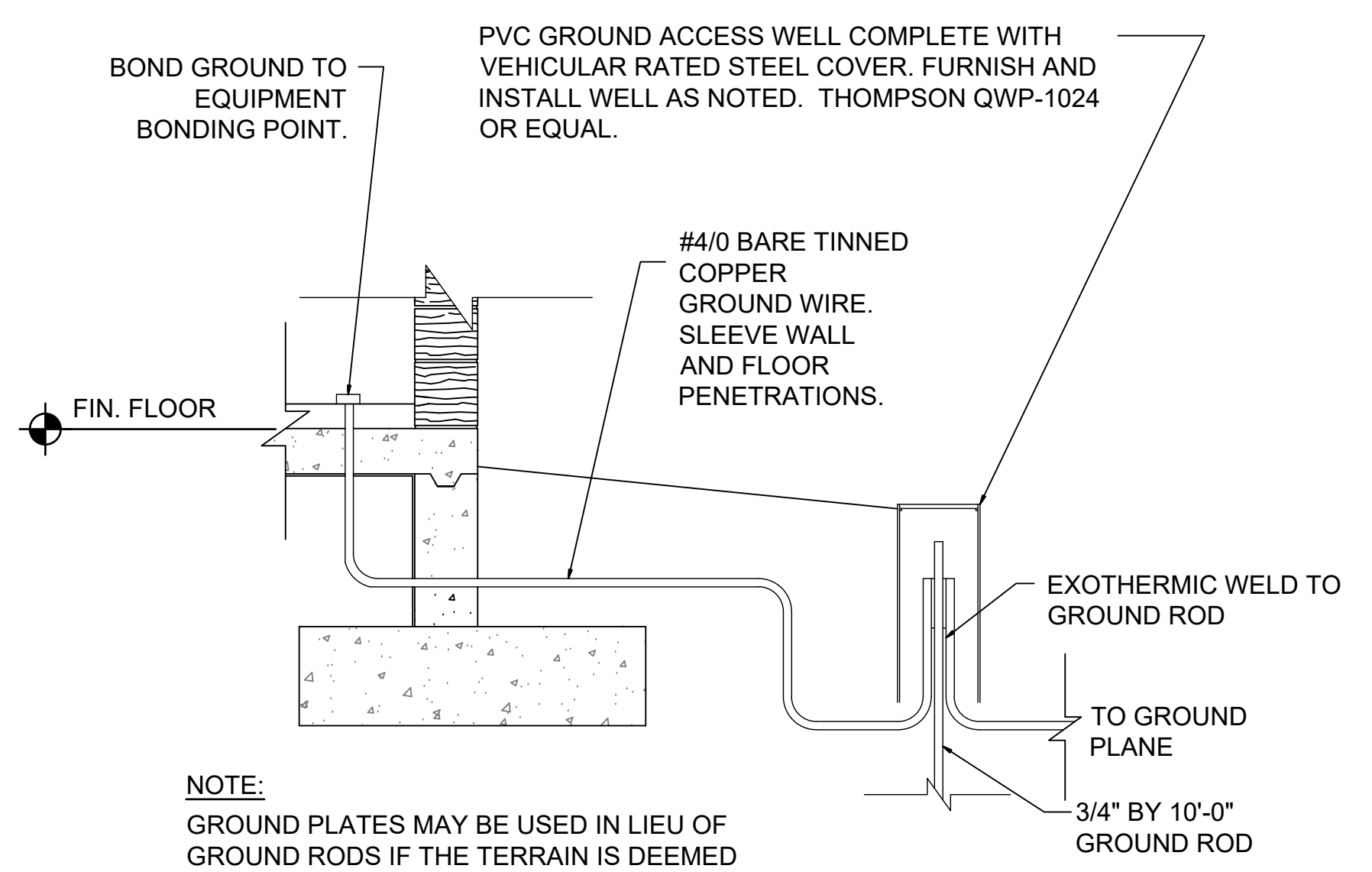


**2** THRU-ROOF POINT ADAPTER  
99-E102 SCALE: NOT TO SCALE



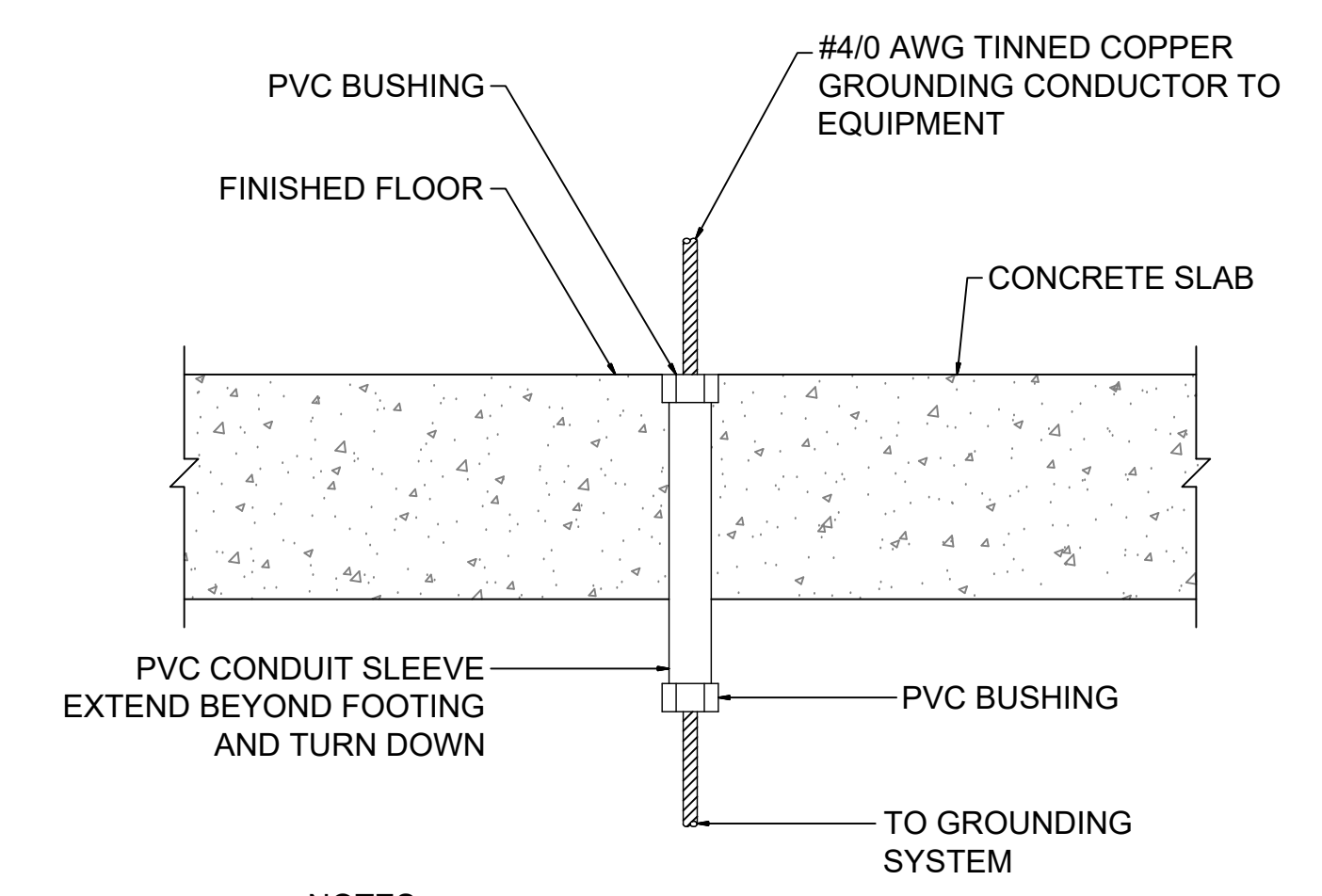
- NOTES:**
1. UNISTRUT AND MOUNTING HARDWARE MATERIAL AS CALLED OUT IN ELECTRICAL PLAN SHEETS AND SPECIFICATIONS.
  2. SINGLE CONDUIT SHOWN. SIMILAR FOR MULTIPLE CONDUITS.
  3. SIMILAR FOR ALL ELECTRICAL ENCLOSURES AND PANELS.

**3** CONDUIT AND JUNCTION BOX SUPPORT DETAIL  
99-E102 SCALE: NOT TO SCALE



**NOTE:**  
GROUND PLATES MAY BE USED IN LIEU OF GROUND RODS IF THE TERRAIN IS DEEMED UNSUITABLE FOR RODS. ACCESS WELLS WILL STILL BE REQUIRED FOR EACH PLATE AND SHALL HAVE A SUITABLE DIAMETER FOR THE INSTALLED PLATE.

**4** GROUND ROD CONNECTION DETAIL  
99-E102 SCALE: NOT TO SCALE



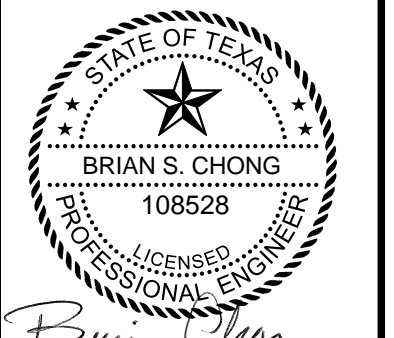
- NOTES:**
1. EXTEND PVC CONDUIT TO TOP OF BASE, OR PEDESTAL FOR BASE, FOR PEDESTAL MOUNTED EQUIPMENT. SUPPORT AT (2) PLACES (MIN).
  2. SEAL ALL SLEEVES TO PREVENT WATER PENETRATION.

**5** GROUNDING CONDUIT SLEEVE DETAIL  
99-E102 SCALE: NOT TO SCALE



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REGISTRATION NO. F-5713



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TOWN OF ADDISON  
ADDISON, TEXAS  
ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

ELECTRICAL STANDARD DETAILS II

JOB NO.: 17088170  
DATE: SEPT. 2021  
DESIGNED BY: RLC  
DRAWN BY: RLC

BAR IS ONE INCH ON ORIGINAL DRAWING  
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DRAWING NUMBER  
**99-E102**  
SHEET NUMBER **30**

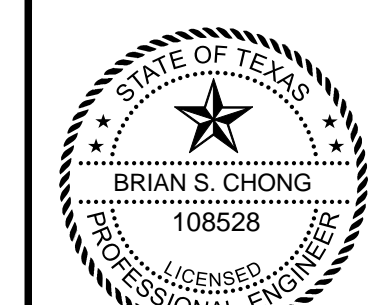
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REGISTRATION NO. F-5713



DIGITALLY SIGNED: 8/27/2021

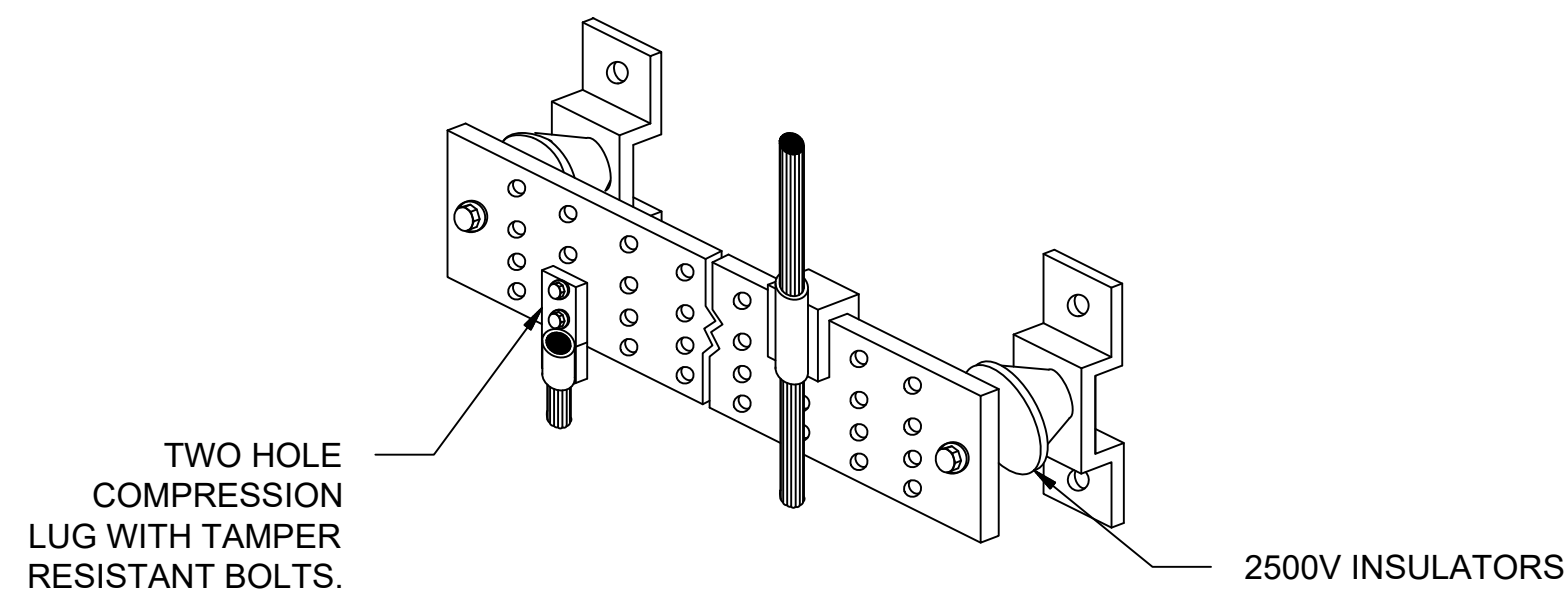
REV.	DATE	DESCRIPTION	BY

TOWN OF ADDISON  
 ADDISON, TEXAS  
 ADDISON CHLORAMINE BOOSTER STATION IMPROVEMENTS

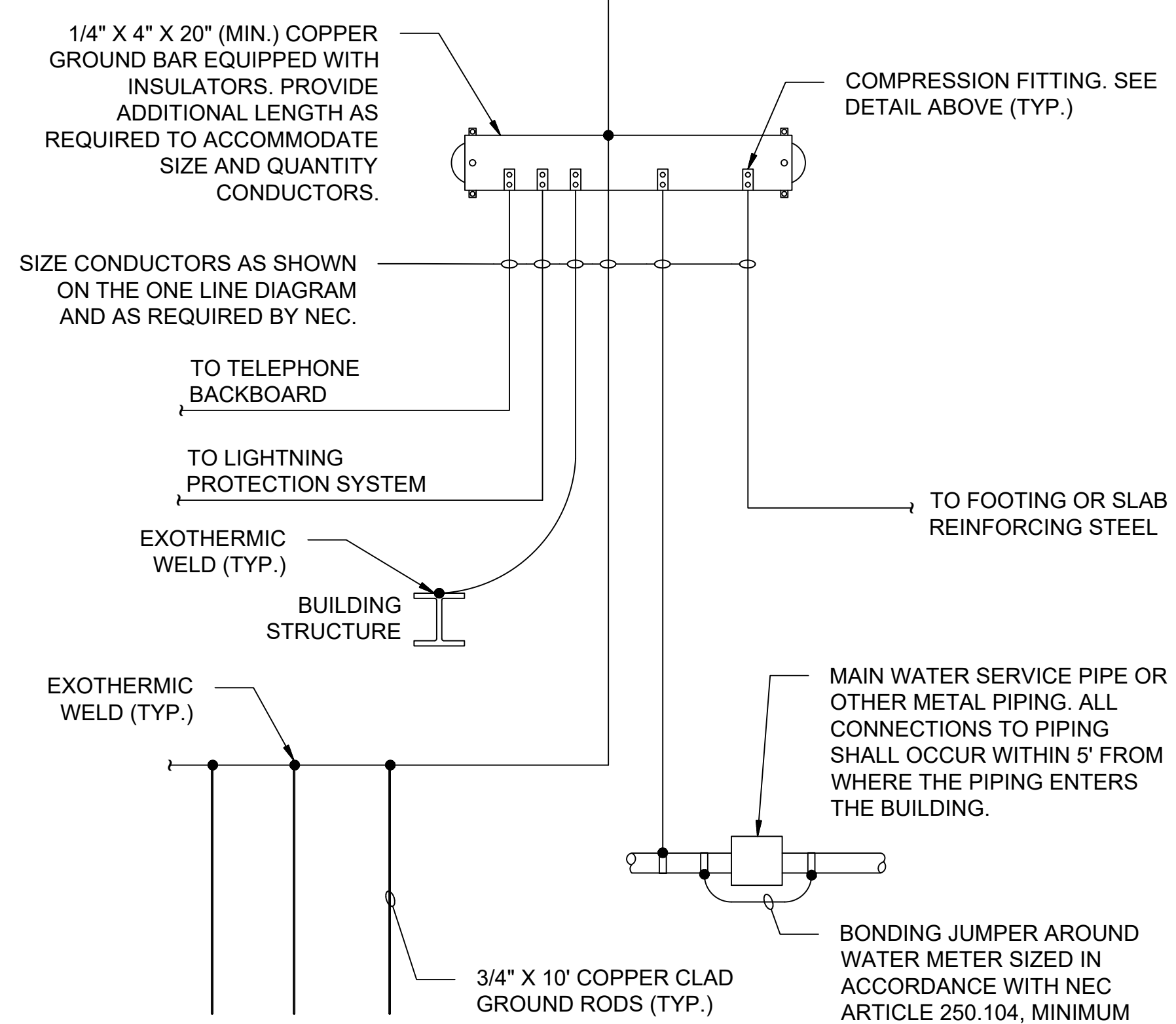
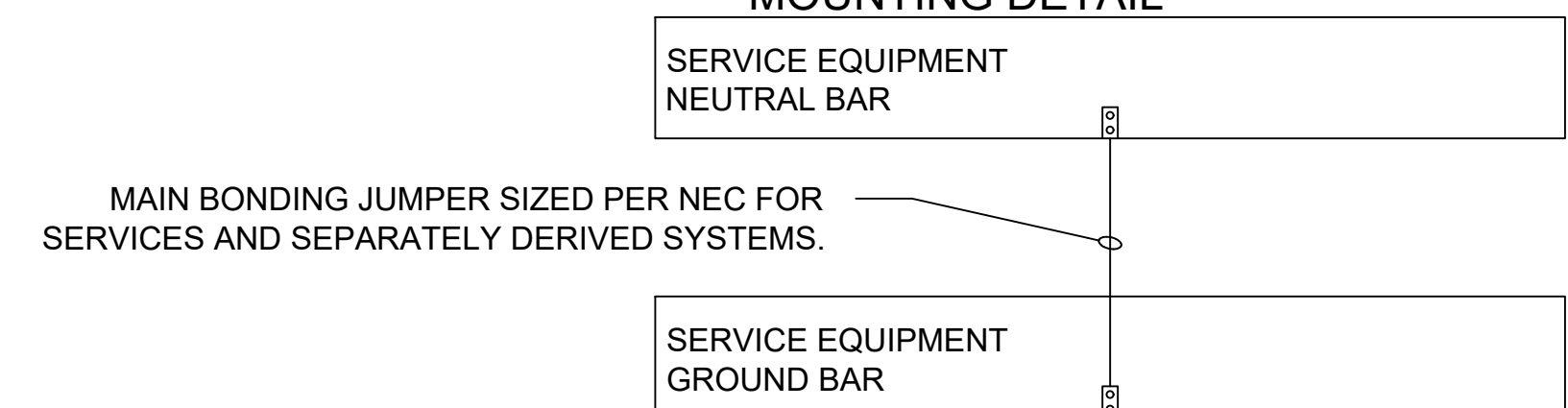
ELECTRICAL STANDARD DETAILS III

JOB NO.: 17088170  
 DATE: SEPT. 2021  
 DESIGNED BY: RLC  
 DRAWN BY: RLC

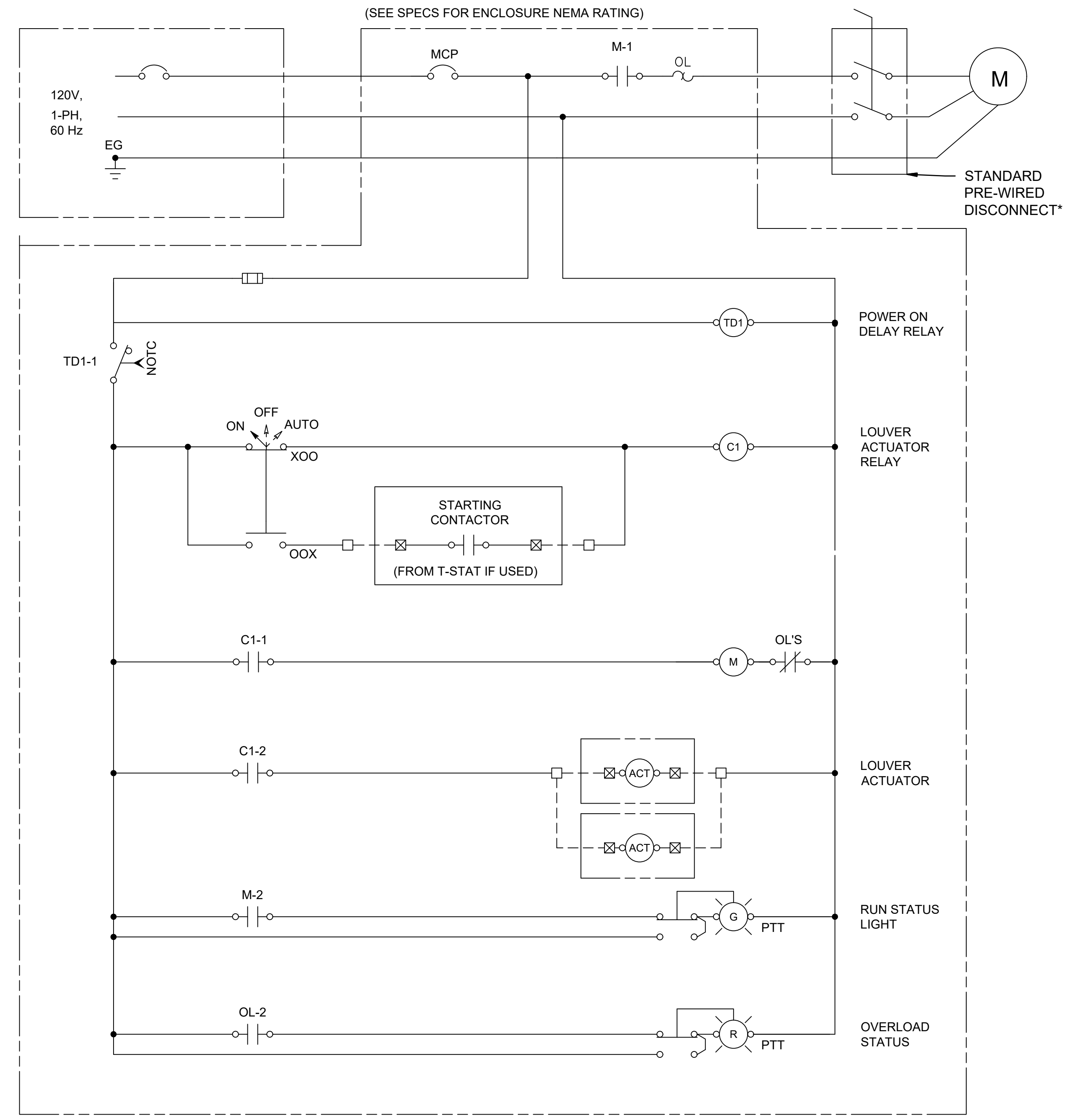
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 DRAWING NUMBER  
**99-E103**  
 SHEET NUMBER  
**31**



**GROUND BAR MOUNTING DETAIL**



**1**  
 99-E103 **GROUND BAR CONNECTION DETAIL**  
 SCALE: NOT TO SCALE



**PROPOSED EXHAUST FAN CONTROL SCHEMATIC (120V, 1 PHASE)**

NOTES:  
 1. COORDINATE T-STAT VOLTAGE REQUIREMENTS WITH MECHANICAL PLANS AND SPECIFICATIONS. PROVIDE LV TRANSFORMER IF REQUIRED. COORDINATE REQUIRED NUMBER OF LOUVERS AND CONTACTS WITH PLAN SHEETS.

\* VENDOR SUPPLIED EQUIPMENT. COORDINATE CONNECTION REQUIREMENTS WITH EQUIPMENT PLANS AND SPECS.

**2**  
 99-E103 **PROPOSED EXHAUST FAN SCHEMATICS**  
 SCALE: NONE

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